



➤ ENABLING MERCHANT PAYMENTS ACCEPTANCE IN THE DIGITAL FINANCIAL ECOSYSTEMS

ITU-T FOCUS GROUP ON DIGITAL FINANCIAL SERVICES



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ITU-T Focus Group Digital Financial Services

**Enabling Merchant Payments Acceptance in the
Digital Financial Ecosystems**

Focus Group Technical Report

ITU-T

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Deliverables of focus groups can take the form of technical reports, specifications, etc., and aim to provide material for consideration by the parent group in its standardization activities. Deliverables of focus groups are not ITU-T Recommendations.

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Enabling Merchant Payments Acceptance in the Digital Financial Ecosystems

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Executive Summary

Enabling merchant acceptance of digital payments is increasingly seen as a key element of the overall development of the DFS ecosystem. Broad merchant acceptance will help achieve digital liquidity by enabling poor consumers to spend a meaningful amount of the money they receive or deposit into digital wallets, eliminating or reducing the need to incur cash-out costs.

Countries throughout the developing world, however, are finding that there are considerable challenges in attaining merchant acceptance of digital payments. This Report provides an analysis of some of the challenges, and provides insight into some of the solutions in merchant payments.

The first section of the report defines and describes the merchant payments value chain. This section also provides a definitive categorization of merchant segments, and recognizes that the needs of each merchant segment are quite distinct. Various economic models for the provision of merchant acceptance are defined and discussed, and policy considerations for regulators are noted.

The second section of the report looks at various business models and structures used by providers of merchant services, and includes an extensive list of those services that are currently in the market.

Part I: Merchants and Payments Acceptors in the Digital Financial Services Ecosystem

1 Introduction

The Merchant and Payments Acceptor workstream within the ITU DFS Ecosystem Working Group is charged with describing the merchant services value chain, developing a segmentation scheme for different types of payments acceptors, and identifying the payments-related attributes of each segment. The workstream also identified critical success factors for DFS adoption, and has developed some ideas for policy makers to consider on ways to accelerate the adoption of electronic payments acceptance.

A note on terminology: the term “merchant” is used occasionally throughout this paper to refer to “payments acceptors” in general: any enterprise, large or small, which receives payments for goods or services. The term includes billers, schools, governments, transit, farmers, etc. – not just retail stores. Payments acceptors may sell in-person, remotely, or, very commonly, both in-person and remotely.

1.1 Goals of Digital Payments Acceptance

Enabling merchant acceptance of digital payments is increasingly seen as a key element of the overall development of the DFS ecosystem. Broad merchant acceptance will help achieve digital liquidity by enabling poor consumers to spend a meaningful amount of the money they receive or deposit into digital wallets, eliminating or reducing the need to incur cash-out costs.

Other goals include:

- Helping overall commerce in developing countries grow; helping small and/or poor merchants find new customers (locally and beyond their current geographies) and generate more through participation in new payments-enabled commerce platforms; helping these merchants increase the number of sales from existing customers
- Increasing long term tax collections
- Reducing the risks of merchants carrying and holding cash

The importance of reaching a critical mass of merchants/payment acceptors in the ecosystem cannot be overestimated. Without meaningful places to use/spend monies contained in their digital wallets, consumers (and to some extent any business) will be forced to utilize time consuming and costly cash-out mechanisms, which in turn creates disincentives to receive electronic payments in the first place. In fact, it is generally accepted that the merchant/payment acceptance “leg of the stool” has been an inhibitor to the growth and success of many failed and/or struggling payment system.

Said differently, “**digital liquidity**” and the associated “network effect” is critical to ensure that the overall goals and growth of any electronic payment system are realized. Keeping electronic money “in the system” – i.e., creating velocity is critical to keeping transaction costs low, not just the economy of scale driven processing costs of the system itself, but also the “all in” costs when factoring in CICO/agent fees. Digital liquidity will reduce the demand for expensive CICO services.

For the poor, merchant acceptance is particularly important since the poor don’t have bank accounts to transfer and hold electronic funds received, while at the same time, can least afford CICO / agent fees. And even if a government or other entity was successful in getting consumers to open accounts via bulk payments, without a robust payment acceptance network, the cash management problem just gets transferred from the payer to the agents.

It is important to note that the notion of critical mass of merchants/payment acceptors entails a sufficient number and type of merchants such that the customer can displace a meaningful portion of their cash-based purchases with electronic payments. For example, while payment schemes anchored in transit have the potential to incent consumers to open accounts and have the potential to

generate a large number of transactions, transit applications alone will not make a meaningful impact on the total number cash transactions conducted by the poor.

1.2 Assumptions

The workstream made a number of assumptions about the ecosystem in developing this paper. Assumptions include:

- All but the smallest of merchant segments will have at least “semi-smart” phones
- Most countries will move towards some type of interoperability between domestic mobile wallet schemes
- Most, but not necessarily all, merchants will highly value (and perhaps even require) immediate access to funds
- Most merchant segments have both an in-person (POS) and remote (eCommerce, etc.) component: the balance of these within each segment may shift with the adoption of electronic payments
- User requirements for merchants and other payments acceptors will vary by segment: this includes technology, ERP integration requirements, economics, etc.
- Merchants will want to accept any and all cost-effective payment types that their customers want to use; adding additional payment schemes must be easy for sales staff to understand/work with, and would optimally be accessible through a single device and even have a single/consolidated settlement
- Merchants should not be required to / incented to agree to exclusivity; rather they should be encouraged to accept competing forms of digital payments.

1.3 Hypotheses

In developing the value chain and segmentation scheme, the work stream tested the following hypotheses about the evolution of digital payments acceptance.

- No single factor/benefit will be sufficient to incent merchant adoption of the payment scheme; some combination of benefits such as new customers, more sales from existing customers, reduction of cash on hand, interest earned on eMoney balances, etc. will be required
- Sellers should be willing to pay for those and other features/benefits that produce more revenue
- Broad adoption of electronic payments will enable new types of commerce, particularly for merchants that would then be able to sell products and services remotely
- Payments will eventually become an embedded enabler in broader commerce and/or community platforms that will provide benefits to payment acceptors
- Some tax-related accommodations may be required from governments, particularly in the early stages, so as to not disincent smaller, and perhaps even larger, merchant adoption
- Very poor merchants will not pay for face-to-face electronic payments, nor will their poor customers
- Participation in electronic payment schemes may help merchants secure some level of credit since lenders will be more willing to lend with better data. In addition lenders' risk could be reduced and operating costs lowered with electronic loan payments (e.g., payments made from electronic wallet balances/tapping into the settlement stream).

2 The Payments Acceptance Value Chain

There are a number of different terms for those entities that enable merchants to accept electronic transactions. In the card-centric world, these entities are commonly known as “acquirers”, “merchant service providers”, and other terms. In the context of digital wallets, merchant service providers could be MNOs, banks, or other non-bank financial services providers. These entities, and perhaps others in a typical DFS ecosystem, perform a variety of functions, many or all of which are required to enable merchants to accept transactions. It is important to note that some functions, such as underwriting, may be optional, depending on the payment system design and rules.

There are no hard and fast rules about what types of entities are better positioned to perform the various merchant service functions, although the goal would be to have a robust, competitive merchant services marketplace in order to drive down costs and facilitate innovation. Having said that, there are a number of guidelines that should be considered in evaluating the merchant services value chain.

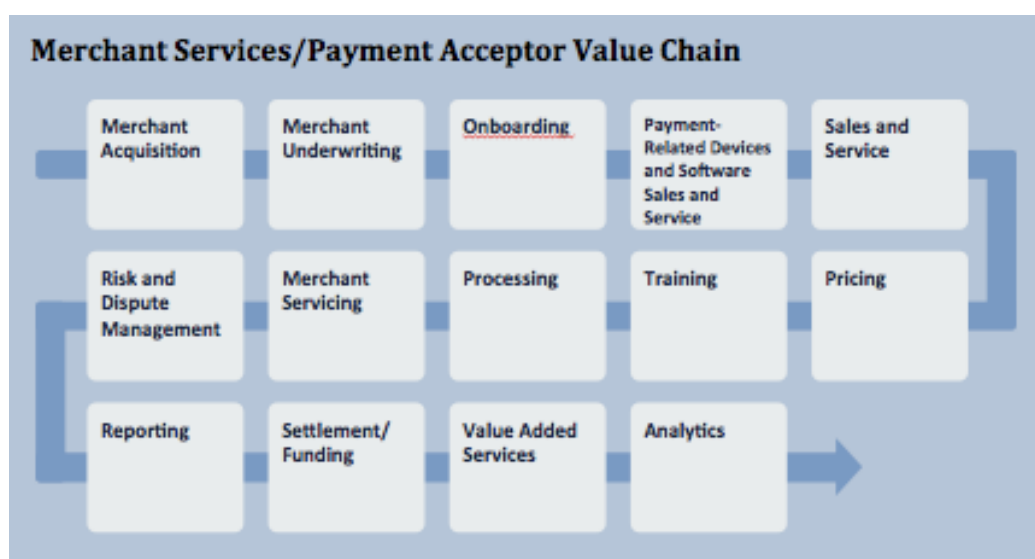


Figure 1 – Merchant Services/ Payment Acceptor Value Chain

2.1.1 Merchant Acquisition

This function focuses on the sales and marketing processes by which merchants are solicited and signed up to accept payments in one or more payment systems. In many parts of the world, merchants will sign up to accept transactions from a number of often competing payment systems, all through a single provider. In other cases, a provider will only sign up and enable the merchant in one, or just a subset of available payment schemes in that market.

Given that assumption, and also assuming that it would not be cost-prohibitive and operationally acceptable to do so, merchants would like to take all popular forms / brands of digital payments. Accordingly, it would make the most economic sense that the sales forces calling on merchants are able to enable multiple, competitive products. Those sales forces could be those of banks, MNOs, and other entities. As noted, merchants should not be required to sign exclusivity agreements for any given payment scheme.

2.1.2 Merchant Underwriting

This can be an optional function, depending on the design and rules of the system. Having said that, merchants can affect the overall quality and integrity of the payment scheme, and thus must be

vettted in some fashion. The depth and breadth of that vetting process can vary widely depending on the particular characteristics of the particular scheme. For example, if the merchant is privy to or may somehow gain access to sensitive information (account numbers, passwords, etc.) that would argue for more thorough up front screening of merchants in addition to normal risk management activities described below. Another example of merchant underwriting could be ensuring that the merchant is a legitimate merchant entity (versus a shell company that exists only to perpetrate fraud) and that the principals have not been barred/expelled from that scheme in the past for wrongdoing.

2.1.3 Onboarding

After a merchant agrees to accept payments in the scheme and passes any upfront underwriting processes, they must then be provisioned into the payment system(s). For example, irrespective of where the information is held and by whom, information such as the merchant's physical address, proprietor's name and perhaps ID number, type of merchant, expected average transaction amount (important for ongoing risk management), etc. must be gathered and input into the applicable database(s).

Optimally, both the underwriting and onboarding processes should only have to be performed once, versus redundant processes by the various payment schemes. This would require use of a trusted entity with access to relevant information from a variety of sources. In addition, this process could be aided by utilizing a common merchant identifier within and across payment schemes. Also, a common merchant identifier could also make it easier for merchants to switch providers, fostering a more competitive marketplace.

2.1.4 Technology

Payment-related devices and software sales and service – some schemes could require or offer the option of using specialized hardware and software to process transactions – for example, special smart phone applications, phone peripherals, dedicated payment terminals, ecommerce payment modules, etc. In many/most schemes, a provider is need to help configure the merchants' payment acceptance hardware and software to properly accept, process, and communicate transactions to the system. Sometimes this can be part of the onboarding process or can be performed by a separate entity.

As with some other functions, the notion of which type of organization is best to perform this function is principally driven by who is best positioned to offer the merchant a device and/or software that can accept competing schemes via a single device and/or user interface (i.e., the schemes should be interoperable at the point of sale device level). Ideally, merchants should not have to purchase multiple devices to support multiple payment schemes and sales staff should not have to learn different payment processing procedures; rather, the service and interfaces should be constructed such that it will be transparent to the merchant and clerks which scheme is used by the customer.

This does not mean that the schemes will necessarily need to all agree on a common user point of sale technology for all merchants. Rather, which technology is employed (NFC, bar code, sonic signals, etc.) will likely be a function of the type of device the merchant is using (smart phone, feature phone, etc.) combined with which type of device the customer has.

2.1.5 Pricing

Schemes vary widely in how transaction services are priced to payment acceptors. In some cases, the merchant service provider essentially marks up a wholesale rate from the scheme to generate explicit profits. In other cases, end prices to merchants could be set by the government or by the scheme itself, sometimes varying based on type of merchant, how much volume the merchant processes, etc. Some schemes may have different pricing structures, such as prepaid eMoneys vs. bill to carrier models.

2.1.6 Training

Merchants and their staff will usually need some sort of training/education regarding how to consummate a transaction, issue refunds and adjustments, become familiar with the settlement/funding process, etc.

2.1.7 Processing

While the actual mechanics and flows may be different, at least one entity is responsible for ensuring that the transaction is accurately transported from the point of sale/point of customer interaction to the central processing system. In many card-centric schemes, the acquirer will provide the telecommunications links from the merchant site to the schemes central processing center, directly and/or via the acquirer's own processing facility.

Note that in some cases, a merchant may accept transactions from more than one payment scheme, and just send all transactions to its merchant service provider; that provider would often be responsible ensuring that each transaction is appropriately routed and settled (see below).

2.1.8 Merchant Servicing

Merchants will invariably have a wide variety of questions regarding products and services, as well as regarding potential problems with funding, equipment, etc. Most questions can generally be handled by first-line customer service representatives on the phone (often the most expensive channel), via email, or via text messages. Automated voice response systems can often be used to answer some basic questions, such as the last x day's sales.

2.1.9 Risk and Dispute Management

As discussed above and in much more detail in a separate section of this report, merchants can introduce risk into the system, particularly when they accept payment for goods and services delivered at a later time. Payment systems that do not allow for customer disputes (e.g., the customer paid the wrong person, paid the wrong amount, never received the goods) will reduce or eliminate much of the risk and customer service costs.

2.1.10 Reporting

Simple but effective reporting is critically important, particularly when money is involved. While costly paper reports may be necessary in some cases, simple reporting can be provided by SMS (e.g., show the last 10 transactions, day's total, etc.), automated voice response systems, web interfaces, and live customer service representatives (usually the most expensive option). Clear reporting will also reduce merchant service calls.

As is the theme with the other value chain functions discussed above, organizations best positioned to provide services most aligned with merchant needs will be those that can make the complexity of the underlying schemes as transparent and easy to deal with as possible to the merchant. For example, reporting that takes all the activity from the various payment schemes and consolidates it into an easily digestible format. Similarly, it would be advantageous if the merchant/sales clerks were able to be trained once by a single entity on how to accept digital payments across schemes. It would be advantageous if the merchant had a single point of contact for questions or problems across the schemes.

2.1.11 Settlement/Funding

Merchants can get paid for their sales in a variety of ways and by a variety of entities. In some systems, the acquirer or merchant service provider is paid by the scheme and then passes those funds to the merchants via direct deposit to a bank account, a deposit to mobile wallet, etc. In other cases, the scheme itself may pay the merchant directly. Settlement/funding timeframes (e.g.,

immediate, T+1, T+2, etc.) will also vary from system to system and may depend on the type of merchant, volume, settlement means, and other factors.

While the timing of when merchants receive their funds may vary by scheme, it would be advantageous if each provider could settle into to a single wallet or account (MNO, bank, etc.). One key issue that payment systems have to consider is what types of entities are, and are not allowed to handle and hold, settlement funds, even temporarily.

2.1.12 Value Added Services

In many cases, the core payment services themselves may not be particularly profitable for the providers, particularly for certain classes of merchants and/or transaction types. Merchant service providers, and even the payment schemes themselves, may offer a variety of ancillary products and services to leverage their merchant relationships. Examples of value added/ancillary services include merchant loans (often facilitated by data generated by electronic transactions and the ability to tap into settlement flows for payment), POS equipment sales and rentals, customer loyalty programs, data analytics, marketing services, as well as payroll and other business services.

2.1.13 Analytics

In general, value-added analytics (versus simple reporting) can be performed by the merchant service providers or by third parties otherwise ancillary to the merchant services value chain. Data mining/analytics is usually an “offline” function that can take place after the actual transactions, and by specialists that just need access to the transaction and other relevant data.

3 Merchant and Payment Acceptor Segmentation

The following is a segmentation scheme for merchants/payment acceptors in a developing marketplace. Some of the segments represent poor merchants, others are larger enterprises. All of them serve poor consumers.

Note that all segments may have both face-to-face and remote commerce transactions; some will have prepaid, post-paid, and/or “pay as you go” models. This is why “eCommerce” or “mobile commerce” is not called out as a separate segment: rather it is a channel used by some merchants within each of the segments.

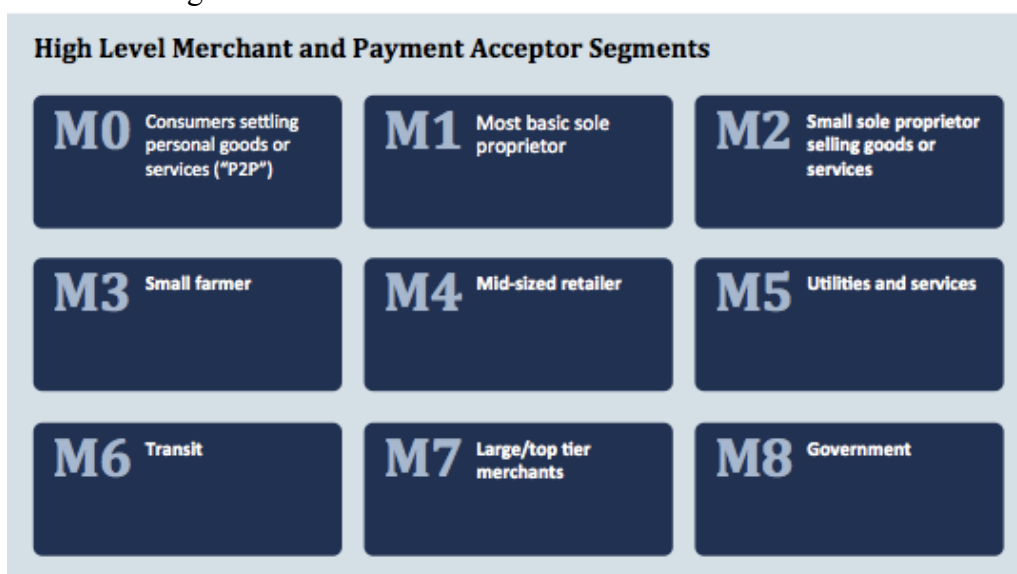


Figure 2 – High Level Merchant and Payment Acceptor Segments

This section describes the key payment-related attributes and assumptions of each segment:

- Technology (e.g., feature/semi-smart/smart phones, PCs, POS, etc.)
- Key function and feature requirements
- Economics/cost sensitivity
- Appetite for risk and need to manage risk
- Operational Assumptions

3.1 M0: P2P

This segment represents consumers settling personal goods or services (“P2P”). It recognizes the fact that many poor consumers are merchants: either selling goods or their own labor in exchange for payment. Practically speaking, the payment transactions in this segment are unlikely to be distinguishable from domestic remittances.

3.1.1 Technology

- The lowest common denominator, low cost feature phones, will be the predominant form factor
- Users will likely conduct transactions via SMS and USSD interactions

3.1.2 Key function and feature requirements

- Ease of use (and, if possible, use of icons vs. words)
- Immediate funds availability
- Cross carrier utility (users in this segment will likely carry multiple SIM cards in order to take advantage of the lowest possible rates)
- Must be easy to enrol as a merchant (in the unlikely event that anything beyond P2P processes are required)
- Cash in/cash out agents

3.1.3 Economics/cost sensitivity

- We assume that poor people will not pay for electronic transactions, as either payors or payees
- Since costs are so critical, transactions should not utilize much/any data costs (any costs should be somehow subsidized/covered by other revenue streams)
- Low cost CICO transactions are essential, particularly in the early stages of rollout

3.1.4 Appetite for risk and need to manage risk

- Most transactions will be low value and face-to-face, posing little financial or reputational risk on the system
- Will likely require only “light weight” know your customer account set-up

3.1.5 Operational assumptions

- Must be easy to enrol as a merchant (to the unlikely event that anything beyond P2P processes are required)

3.2 M1: Sole Proprietor

This segment includes merchants selling goods or services, often in a marketplace or stall. This segment may have only slight, often indiscernible, differences from segment M0.

3.2.1 Technology

- Similar to P2P transactions, the lowest common denominator, low cost feature phones, will be the predominant form factor
- Users will likely conduct transactions via SMS and USSD interactions, but some buyers will likely be initiating payments on smart or semi-smart phones
- Single till, single employee such that personal phone can be used for business purposes as well

3.2.2 Key function and feature requirements

- Similar to M0:
- Ease of use (and, if possible, use of icons vs. words)
- Immediate funds availability
- Cross carrier utility (users in this segment will likely carry multiple SIM cards in order to take advantage of the lowest possible rates)
- Must be easy to enrol as a merchant (to the unlikely extent that anything beyond P2P processes are required)
- Cash in/cash out agents
- Could be taking remote (i.e., phone) orders for delivery
- Might also be taking remote payments for small credits extended to customers
- Unlikely to have a bank account, so would not be utilizing any eMoney/bank transfer capabilities

3.2.3 Economics/cost sensitivity

- Similar to M0
- Since costs are so critical, transactions should not utilize much/any data costs (any costs should be somehow subsidized/covered by other revenue streams)
- Low cost CICO transactions are essential, particularly in the early stages of rollout
- Like M0, we assume that poor people will not pay for electronic transactions, as either payors or payees, BUT may be willing to pay a small amount for remote transactions to the extent that they can generate incremental sales

3.2.4 Appetite for risk and need to manage risk

- Similar to M0
- Most transactions will be low value and face-to-face, posing little financial or reputational risk on the system
- Will likely require only “light weight” know your customer account set-up

3.2.5 Operational assumptions

- Similar to M0 - must be easy to enrol as a merchant (to the unlikely extent that anything beyond P2P processes are required)
- Some tax-related accommodations may be required from governments, particularly in the early stages, so as to not disincent merchant adoption

3.3 M2: Small Shop

This segment includes merchants with some kind of shop: there may be family members or occasional employees active in the enterprise.

3.3.1 Technology

- While single till, may have employees/family fill-in working in store/selling when owner not present; therefore, likely to have a separate feature phone dedicated to business (since others will have access/possession of the phone at times)
- Note that any dedicated store phones will likely have cash-out and spending restrictions; this also presumes that the “store” phone number defines a store account that is distinct from the proprietor’s personal account
- May use “merchant wallet” as settlement to buy inventory
- Similar to M0 and M1 transactions, the lowest common denominator, low cost feature phones, will be the predominant form factor. However, in the future, may have access to an inexpensive (US\$360 - \$6100) smart phone or semi-smart phone
- Users will likely conduct transactions via SMS and USSD interactions, but some buyers will likely be initiating payments on smart or semi-smart phones

3.3.2 Key function and feature requirements

- May have rudimentary ecommerce / remote order transactions in the future
- May place some, but still low value on data
- Immediate funds availability, but perhaps to a slightly lesser extent than M0 and M1
- Cross scheme utility – must be able to accept payments from multiple schemes; should be transparent to the merchant which scheme the customer is using (as feasible)
- Some access to cash in/cash out agents
- Similar to M1:
- Could be taking remote (i.e., phone) orders for delivery
- Might also be taking remote payments for small credits extended to customers
- Some, perhaps small, likelihood that the merchant will have a bank account, so may need to utilize eMoney/bank transfer capabilities

3.3.3 Economics/cost sensitivity

- Cost sensitive, but perhaps less so than M1
- May be willing to pay a small amount for remote transactions to the extent that they can generate incremental sales

3.3.4 Appetite for risk and need to manage risk

- Could have more volume and higher value transactions than M1, but still unlikely to pose meaningful financial or reputational risk on the system
- Like M1, will likely require only “light weight” know your customer account set-up

3.3.5 Operational assumptions

- May have access to a bank account for some/all settlement, but not necessarily
Similar to M1
- Must be easy to enrol as a merchant (to the unlikely extent that anything beyond P2P processes are required)
- Some tax-related accommodations may be required from governments, particularly in the early stages, so as to not disincite merchant adoption

3.4 M3: Small Farmer

This segment represents a mixture of “subsistence” and abundance farmers. Some amount of B2B sales to small and mid-sized markets/resellers; may already be using apps such as mFisheries and MFarm that provide up-to-date market prices for their produce via text messages and dedicated apps, and sometimes act as payment intermediary between buyers and individual/group sellers. It is important to note that many small farmers also have characteristics of individuals – in addition to being farmers, they often hold other jobs such as laborers.

3.4.1 Technology

- Similar to M0, M1 and M2, the lowest common denominator will be a meaningful mix of low cost feature phones; however, more likely to have a growing number of smart or semi-smart phones
- Likely to have a mix of using personal as well as dedicated “business” phones
- May use “merchant wallet” as settlement to buy inputs/supplies

3.4.2 Key function and feature requirements

- May be receiving agricultural subsidies – enabling spend-capabilities from those funds could be a meaningful value-add
- Could have rudimentary ecommerce / remote order transactions in the future
- Ability to interface with growing number of marketplaces and apps that support individual and coop selling
- Immediate funds availability, but perhaps to a slightly lesser extent than M2
- Cross scheme utility – must be able to accept payments from multiple schemes; should be transparent to the merchant which scheme the customer is using (as feasible)
- Some access to cash in/cash out agents
- Similar to M1 and M2:
- Could be taking remote (i.e., phone) orders for delivery
- Might also be taking remote payments for small credits extended to customers
- Some, perhaps small, likelihood that the merchant will have a bank account, so may need to utilize eMoney/bank transfer capabilities

3.4.3 Economics/cost sensitivity

- Cost sensitive, but perhaps less so than smaller segments
- May be willing to pay a small amount for remote transactions to the extent that they can generate incremental sales

3.4.4 Appetite for risk and need to manage risk

- Likely to have higher value transactions than M1 and M2
- Unlikely to pose meaningful financial or reputational risk on the system

3.4.5 Operational assumptions

- Largely cash on delivery today
- May have access to a bank account for some/all settlement, but not necessarily
- Similar to M1 and M2
- Must be easy to enrol as a merchant but will likely put up with more friction than other segments

- Some tax-related accommodations may be required from governments, particularly in the early stages, so as to not disincen merchant adoption

3.5 M4: Mid-Sized Retailer

- Rural and urban retailers with multiple tills

3.5.1 Technology

- Low cost/low feature electronic cash registers
- Today, each till would have a dedicated phone, likely a feature phone
- Owner may have access to a personal computer

3.5.2 Key function and feature requirements

- Could have rudimentary ecommerce / remote order transactions in the future
- May use “merchant wallet” as settlement to buy inputs/supplies or even pay employees
- Immediate funds availability not critical (i.e., next day may be acceptable in many circumstances)
- Cross scheme utility – must be able to accept payments from multiple schemes; should be transparent to the merchant which scheme the customer is using (as feasible)
- Will likely settle to a bank account (versus using cash in/cash out agents)
- Similar to M1 – M3:
- Could be taking remote (i.e., phone) orders for delivery
- Might also be taking remote payments for small credits extended to customers

3.5.3 Economics/cost sensitivity

- Cost sensitive, but likely less so than smaller segments
- May be willing to pay a small amount for remote transactions to the extent that they can generate incremental sales

3.5.4 Appetite for risk and need to manage risk

- Likely to have higher value transactions than M1 and M2
- Unlikely to pose meaningful financial or reputational risk on the system

3.5.5 Operational assumptions

- Largely cash today
- Could be surcharging eMoney transactions
- Similar to M1 and M2
- Some tax-related accommodations may be required from governments, particularly in the early stages, so as to not disincen merchant adoption

3.6 M5: Utilities and Services

This segment includes utility billers, schools, and a wide range of service providers such as hospitals and clinics. This excludes small or personal service providers, who are included in M0.

3.6.1 Technology

- In many ways, a traditional “biller” with PCs and sometimes more sophisticated “enterprise” systems

3.6.2 Key function and feature requirements

- Ability to accept, post, and confirm eMoney payments originating from a range of interfaces – from feature phones, smart/semi-smart phones, mobile and desktop browsers, etc., without the receiving party needing a mobile phone
- Real-time or near real-time confirmations important; next day funding usually acceptable
- Remote transactions
- Pay as you go models
- Direct bank settlement

3.6.3 Economics/cost sensitivity

- Much less cost-sensitive than small sellers
- May be willing to pay to receive payments (at minimum, unlikely to surcharge sender)

3.6.4 Appetite for risk and need to manage risk

- Many transactions with senders with ongoing relationships – unlikely to have meaningful levels of disputes

3.6.5 Operational Assumptions

- Payments may be taken over the phone, face-to-face, or remotely
- Need interfaces to billing/receivables systems

3.7 M6: Transit

This segment includes both large mass-transit systems and small operators providing taxi or mini-van services.

3.7.1 Technology

- Technology required to collect fares on a ride-by-ride basis from feature phone users would likely require displaying a QR code on the phone (one time rides, monthly passes, etc.) that could be read and validated by the fare collector; smart phones with NFC be viable technology solutions

3.7.2 Key function and feature requirements

- Transaction processing speeds
- Auto-top up (but may not be relevant in all cases for BoP)

3.7.3 Economics/cost sensitivity

- May be willing to pay to be paid assuming eMoney solution could reduce shrinkage and cash handling costs, and increase fares collected
- Payors (riders) unlikely to shoulder transaction costs

3.7.4 Appetite for risk and need to manage risk

- Considered low risk transactions

3.7.5 Operational Assumptions

- Real time or near real time processing may be required to prevent double use
- EMoney procedures could be slower than cash and paper tickets

3.8 M7: Large/Top Tier Merchants

3.8.1 Technology

- Less willing to keep dedicated phones at each till
- More likely to have card-accepting terminals/ECRs
- PCs and/or store servers

3.8.2 Key function and feature requirements

- Remote orders via phones and PCs, COD
- May offer some credit to customers
- Direct bank settlement

3.8.3 Economics/cost sensitivity

- More accustomed to paying for electronic (e.g., card) transactions
- Less likely to surcharge eMoney transactions
- May be willing to pay for customer acquisition and loyalty services
- Next day funds availability acceptable

3.8.4 Appetite for risk and need to manage risk

- Must be protected against fraud for remote orders

3.8.5 Operational Assumptions

- Will need to be easy to reconcile eMoney transactions with POS systems and bank deposits

3.9 M8: Government

3.9.1 Technology

- Likely a mix of manual and more sophisticated PC and higher systems
- Will need to interact with lowest common denominator of consumers' technology

3.9.2 Key function and feature requirements

- Ability to accept payments from SMBs could be a big benefit

3.9.3 Economics/cost sensitivity

- Unlikely to surcharge eMoney transactions
- Next day funds availability acceptable

3.9.4 Appetite for risk and need to manage risk

- Low/no risk transactions

3.9.5 Operational Assumptions

- Could reduce cash shrinkage and cash handling costs
- Transactions could occur face-to-face, remotely, and via third party agents

4 Payments Acceptance Economic Models

The question of the economic model, or business case, for merchants and other payments acceptors in emerging markets is challenging. In the developed world, provider revenues from merchant payments – often in the form of merchant discount fees – is sufficient to cover many of the overall

costs, and profit requirements, of providers. Some of this is distributed to consumer providers through the mechanism known as interchange.

Applying this business model to developing markets will work in some cases, and not in others. The biggest obstacle is the very large base of small merchants (segments M0 through M3), who are unlikely to pay a fee simply for electronic payments, and may be unwilling to pay a fee under any circumstances. Given a financial inclusion objective of reaching “digital liquidity” and the eventual move away from cash, this is a problem that needs to be solved.

4.1 Merchant Payments Revenue Sources

4.1.1 Merchant Pays

- The most obvious source of revenue is a simple fee charged to the merchant by the merchant services provider. Often, this is expressed as a “percent of value”; sometimes as a combination of a fixed fee and a “percent of value”. The merchant, of course, will compare this cost to his or her cost of accepting cash, and may not factor in the “hidden” costs of cash (theft, lost sales, etc.)
- If a merchant is accepting a payment from a digital wallet being used in a P2P mode, or in a merchant payment mode, the merchant may incur “cash-out” fees when turning the received digital payment into cash. (This is why, in another report by this ITU Focus Group, the use of digital funds for B2B supplier payments is investigated as a means of reducing merchant costs and improving digital liquidity.)

4.1.2 Buyer Pays

- In the developed world, there is rarely an explicit fee for a consumer to use a payment method at a merchant. However, in both developed and developing world, a merchant may pass on part of their costs to a buyer – either as a “surcharge” or as a simple increase in the purchase price. These practices may or may not be permissible according to the rules of the payment system the merchant is using, or according to law and regulation.
- If the buyer is using a digital wallet in a P2P mode to buy something at the merchant, the buyer may incur transfer fees for making the payment.
- Note that a related issue is the fact that many merchants also act as agents, and can earn a cash-out commission; this leads some merchants to refuse to take eMoney, as they hope a buying consumer will cash-out, and then pay for a purchase in cash.

4.1.3 Subsidies

There are a number of examples in the payments industry of the costs of payments being absorbed by a provider in exchange for the ability to realize revenues from other customers or from other products sold to the customer (in this case, the merchant) in question. Some of these subsidies are:

- Airtime Subsidy – a merchant services provider may realize sufficient revenue from its voice and data business with a merchant to absorb some costs of providing merchant services.
- Merchant Lending – a merchant services provider may be able to lend to a merchant, or provide various other value-added merchant services. Merchant lending in particular is emerging as an important consideration.
- Consumer Lending – a merchant services provider may be able to lend to a merchant’s customers – either directly or in partnership with another DFS provider.
- Rich/Poor Cross Subsidies – a merchant services provider may be able to accrue sufficient revenue from its larger and more affluent merchants to cover the cost of providing merchant acceptance services to smaller or poorer merchants at essentially no cost to them.

Implicit in a strategy to use this kind of subsidization is a belief that it is hard to identify those smaller/poorer merchants who are likely to turn into larger or more affluent merchants over time. A related idea is to have more revenue come from high-value, rather than low value transactions.

- Account Balances – in a high interest rate environment, merchant services providers may be able to obtain sufficient revenue from holding merchant funds for a period of time prior to making the funds available to the merchant.
- Government Subsidies – governments looking to quickly enable large numbers of merchants for payments acceptance may choose to subsidize some costs: this could come in the form of tax incentives of various kinds.
- Provider Bundling – the cost of payments may be absorbed by a commerce platform as part of its costs in supplying the platform. This is emerging as a very significant factor for merchant providers of goods and services in all segments, and is discussed further in a section below.
- Trading and arbitrage – a merchant services provider may, either directly or through partnership with another provider, realize trading profits on currency sufficient to offset the costs of merchant payments. The most obvious example of this is with cross-border (cross-currency) transactions, particularly remote (eCommerce, mCommerce) transactions, where foreign exchange arbitrage opportunities may be considerable. In another example, trading in currency vs. airtime may create arbitrage opportunities.

The various revenue sources may or may not be tightly coupled with a particular payment product or payment system. Interchange, for example, is commonly used in card payments, and is specified as a rule in the private operating rules of many card networks. Other revenue sources may be used or not by individual merchant services providers as a part of their business model. The chart below shows how these revenue sources intersect with payments systems:

Table 1 – Type of Payment System

	Type of Payment System					
	Cards		Digital Wallet		Bill to Carrier	Credit Transfer
	Open Loop	Closed Loop	Closed Loop	Open Loop ¹		
Merchant Discount Fee ²						
Merchant cash-out fees						
Buyer surcharge						
Buyer transfer fees						
Airtime Subsidy						
Merchant Lending						
Consumer Lending						
Rich/Poor Subsidy						

¹ WITH INTEROPERABILITY
² WITH OR WITHOUT INTERCHANGE

	Type of Payment System					
	Cards		Digital Wallet		Bill to Carrier	Credit Transfer
	Open Loop	Closed Loop	Closed Loop	Open Loop ¹		
Account Balances						
Government Subsidies						
Provider Bundling						
FX Arbitrage						
Airtime Arbitrage						

4.2 Costs to Merchant Services Providers

The costs of providing merchant payments acceptance is partially determined by the payment system being used by the provider, and partially to choices that the provider makes. Costs include:

4.2.1 Transaction Processing

The merchant services provider needs to process the transaction. This includes delivering it to a payment switch (if required), accounting for the transaction on its own books, and managing the clearing and settlement of the transaction. It may choose to use a processor to do these tasks, or handle the tasks itself (in-house).

4.2.2 Interchange

If the payment system being used specifies interchange as a component, the merchant services provider will be either directly or indirectly responsible for paying this cost to the system (and, in turn, to the buyer’s DFS provider).

4.2.3 Merchant Acquisition

The merchant needs to be signed up for payments acceptance: this can be done either in person or online. Payments system rules may put requirements on merchant services providers governing their responsibilities.

4.2.4 Merchant Onboarding

Once signed up, the merchant needs to be enabled to use the service. There may be technical and training components to this.

4.2.5 Credit

If payment system rules specify that the merchant services provider is responsible to the system for the behavior of its merchants, then the cost of managing this, and making payments on behalf of merchants in certain circumstances, becomes a cost to the merchant services provider.

4.2.6 Fraud

There will be situations in which the merchant services provider is responsible for fraud committed by or against their merchant customers: again, the extent of this is determined by payments system rules.

4.2.7 Float

If the merchant services provider makes funds available to a merchant before collecting them from the payments system, there is a cost of float to the provider.

4.2.8 Customer Service

The merchant services provider needs to be able to respond to and resolve inquiries and problems relating to the service – these may be operational, technical, or related to fraud.

4.2.9 Marketing

The merchant services provider may choose to take actions to promote the use of its products by the merchant community and/or their customers.

4.3 Electronic Commerce Platforms

The advent of electronic commerce platforms is of particular interest to the question of merchant payments economic models. As noted before, merchants and payments acceptors are willing to “pay to be paid” if the new payment method brings them significantly more revenue (new customers or more revenue from existing customers). New platforms, including social platforms, may accomplish this for many types of merchants. In addition, payments may become “embedded” in various forms of electronic commerce platforms. The merchant decides to sell on the platform, and pays some type of commission or fee to the platform, that is not explicitly a fee for the payment, but which covers the platform’s cost in providing the payment. These new platforms are expected to become important in all of the different identified segments.

The two table below demonstrates how, on a segment by segment basis, how new commerce platforms might have an effect on the segment. The first table shows, for each segment, what the current environment for selling – in person and remotely – might look like.

Table 2 – New Commerce Platforms by Segment

Segment	Selling: Current Environment	
	POS (Face to Face)	Remote (eCommerce, mCommerce)
M0 P2P	Cash is the norm. Some use of mobile eMoney on feature phones but constrained due to costs	Minimal
M1 Sole Prop	Cash is the norm. Some use of mobile eMoneys on feature phones but usage discouraged or surcharged, reducing usage	Low/minimal; could be accepting phoned-in orders for delivery
M2 Small Shop	Has booth or shack with dedicated feature phone (others may be working in store)	May have small ecommerce element now or in near term Probably not serving BOP today with remote sales but could in future
M3 Small Farmer	Likely to have a b2b component selling to coops/stores today (lower case “b’s”) but still mostly cash on delivery	May be joining ecommerce platforms of agricultural coops; may also be receiving subsidies electronically or otherwise
M4 Mid Size Retailer	Multiple tills staffed by multiple employees. More likely to accept eMoney transactions today, but still predominately cash. May extend small amounts of credit to customers	Urban stores in particular may have limited ecommerce capabilities incl. shopping carts
M5 Services	Prepaid, postpaid, and pay as you go models Mostly cash payments requiring	Prepaid, postpaid, and pay as you go models Limited remote via online banking (not

Segment	Selling: Current Environment	
	POS (Face to Face)	Remote (eCommerce, mCommerce)
	travel to office or via third parties	BOP) and some mobile services
M6 Transit	Cash Electronic payments may reduce speed at point of interaction	Could facilitate prepaid pack of tickets ordered by phone/SMS
M7 Large Retailer	Big box /multi-lane/ upscale retailers, hotels, and restaurants generally accept cash, cards (not universally but much more prevalent), and eMoneys	Omni-channel airlines, and “Amazon equivalents” selling remotely exist in many parts of the developing world, but may not be serving BOP

The second table shows how electronic commerce platforms may change this. It also addresses the issue of how these new commerce platforms may change the ways in which merchants deal with banks.

Table 3 – Impact of New Commerce Platforms

Segment	Possible Impact of Electronic Commerce Platforms	Possible Impact on Banking
M0 P2P	Ad hoc/on demand sale of labor e.g., labor marketplaces such as Task Rabbit where parties discover and contract with each other (may require smart phones)	Neutral/Negative: Would likely reduce the need for / usage of traditional bank accounts for the poor
M1 Sole Prop	Could spark and increase in local remote orders and delivery Merchants could more easily extend small credits to customers (attract new customers, increase revenue from existing customers)	Neutral/Negative: Would likely reduce the need for / usage of traditional bank accounts for the poor
M2 Small Shop	New payment-enabled commerce platforms should increase ecommerce activity. As with smaller segments, could spur some level of credit extension to customers. Transaction data may be of value but not clear that it could be monetized; may be just an added incentive for adoption	Neutral/Negative: Would likely reduce the need for / usage of traditional bank accounts for the poor
M3 Small Farmer	Could expand market with ecommerce Extension of credit more feasible/attractive to lenders with electronic payments data	Neutral/Positive: Could increase bank balances, transfers between bank accounts and eMoneys, and possibly increase SMB lending for banks
M4 Mid Size Retailer	Could spur electronic payments to employees and suppliers Possible enabling of/increase in remote commerce. Extension of credit more feasible/attractive to lenders with data	Neutral/Positive: Could increase bank balances, transfers between bank accounts and eMoneys, and possibly increase SMB lending for banks
M5 Services	Growth in "pay as you go" for services Could enable government or third party co-payments or subsidies more easily	Positive: would reduce cash processing and enable more revenue-generating transactions (assuming “receiver pays” scenario)

M6 Transit	If transaction speed problem solved, would likely reduce theft, reduce cash handling costs, and perhaps increase fare collections	Positive: would reduce cash processing and enable more revenue-generating transactions (assuming “receiver pays” scenario)
M7 Large Retailer	Increase in omni-channel marketing and sales likely Data commerce becomes more powerful and could generate some level of meaningful revenues for providers	Positive: would reduce cash processing and enable more revenue-generating electronic transactions (assuming “receiver pays” scenario)
M8 Government	Could accelerate overall adoption of electronic payments across segments	Positive: would reduce cash processing and enable more revenue-generating electronic transactions

4.4 Priority Segments and Supporting Business Models

Which merchant segments are the most important to pursue, keeping the goals of financial inclusion in mind? The table below presents some suggestions for clusters of segments to pursue.

- Larger merchants where the merchant-discount-fee revenue model used in the developed world may apply
- Mid-sized merchants where revenue from associated lending (merchant or consumer) and/or rich/poor subsidies is likely to form the most significant part of the business model
- Smaller merchants where a combination of rich/poor subsidies and government support may apply

Table 4 – Priority Segments for Financial Inclusion and Supporting Revenue Models

Priority Segments for Financial Inclusion and Supporting Revenue Models									
Segment	M0	M1	M2	M3	M4	M5	M6	M7	M8
	P2P	Sole Prop	Small Shop	Small Farmer	Mid Size Retailer	Services	Transit	Large Retailer	Government
Merchant Discount Fee					These merchant sectors are likely pay if electronic payments bring more business				
Merchant Cash-Out Fees									
Buyer Surcharge									
Buyer Transfer Fees									
Airtime Subsidy									
Merchant Lending		Smaller merchants need capital and digital payments form a basis for lending							
Consumer Lending			Helping consumers buy more through direct lending					Lending	
Rich/Poor Subsidy	Revenues from larger merchants support costs								
Account Balances									
Government Subsidies	Tax subsidies and direct subsidies may be necessary to incent smaller merchant participation						Usage Fees		Usage Fees
Provider Bundling									
FX Arbitrage									
Airtime Arbitrage									

5 Policy Considerations for Financial Inclusion

Policy makers and other organizations in a position to influence how the digital payments ecosystem evolves may want to consider the following points:

- Merchant acceptance of payment from consumer digital wallets will be a critical enabling component in reaching “digital liquidity” amongst consumers, and reducing the costs and risks associated with “cash-in, cash out”.
- Interoperability at the payment acceptor level and open payment platforms (standards, APIs, etc.) are key components to not only help achieve digital liquidity, but also to help ensure providers compete on both price and innovation.
- Poor customers of eMoney systems may never be profitable on a standalone basis, but financial inclusion and associated benefits to BoP populations are important to governments for a number of reasons (e.g., building / growing a credit system that can grow the economy). Therefore, government entities that directly and indirectly pay for other payment systems (e.g., cash) should consider analogous support for eMoney systems serving poor payment users (senders and receivers).
- Some tax-related accommodations may be required from governments, particularly in the early stages, so as to not disincent smaller, and perhaps even larger, merchant adoption. Governments should also consider the possibility that once electronic transactions become more prevalent, the visibility of transaction for tax-related purposes will likely increase.
- The merchant landscape is very broad, and the requirements of each segment can be quite different. Policy makers should anticipate and welcome a robust and competitive marketplace of merchant services providers, both large and small. Some of these merchant services providers will be direct participants in payments systems; some may access them through relationships with other participants. But it is essential that easy and open access to interoperable, low cost payments systems is made available to merchant services providers.
- Shared services, such as fraud management, can be a particularly important way to achieve success, particularly for those that benefit all participants, require economies of scale, and which are not thought to be sources of competitive differentiation.
- Successful merchant service providers will likely have a variety of organizational forms and should be allowed to compete on level playing fields.
- Merchant services providers working exclusively with smaller and poorer merchants will not be able to sustain business models from transaction fees alone. These providers will extend their offering to merchants to include a variety of services, most critically the provision of credit to merchants and in some situations to their customers.
- While not in themselves sufficient to achieve digital liquidity, government entities may want to look for opportunities to move bulk payment and related transactions to eMoney systems in order to help those systems reach critical mass.
- Other policy interventions, such as expanded use of digital IDs, could also be important contributors to achieving critical mass and digital liquidity. Two components of digital ID’s are particularly important for the viability of a merchant services marketplace. One is a persistent identity for merchants, enabling the detection and identification of fraudulent merchants. The other is a biometric component to the identity of a business owner, again to enable the control of payments and credit fraud.

Part II: Driving Acceptance by Merchants and Other Payments Acceptors

6 Introduction

eMoney has significantly impacted payment system development around the globe, bringing financial services to populations that were previously excluded. There is widespread recognition of the tremendous potential of eMoney deployments to continue evolving and providing previously excluded populations with economically viable access to a range of financial services. To date the success of eMoney deployments has been driven by Mobile Phone top ups and Person to Person (P2P) payment services. These services have been supported through the establishment by eMoney Operators (MMOs) of extensive Cash-in Cash-out (CICO) networks, the most expensive element in eMoney deployments. Yet, it is merchant payments—which will facilitate commerce—that holds the potential to drive explosive growth and provide additional benefits in eMoney deployments. Some estimates conservatively put the potential at 16 merchant payment transactions for each P2P transaction.³ Yet, merchant acceptance as formal Person to Merchant (P2M) payments through eMoney is still very nascent, non-existent in many deployments, or is transacted informally as P2P payments. Growth in P2M payments is critical because of the tremendous impact it can provide to the continued development enabled by the creation of digital liquidity – the maintenance by households and firms of electronic stores of value. While the importance of financial deepening through greater access to financial services has long been recognized in economic growth theory,⁴ recent studies have shown and estimated the positive impact of electronic payments on Total Factor Productivity and economic growth,⁵ reinforcing the value of these efforts.

6.1 Overview

This report seeks to provide a better understanding nascent merchant acceptance in eMoney deployments. Digital Merchant acceptance is critical to its development, most importantly because of the tremendous size of potential acceptance volumes and the Digital Liquidity that acceptance would generate. We advance understanding by providing a structured approach and identifying different models that have emerged to support merchant acceptance and models that could potentially emerge. In examining these models, their characteristics are highlighted, especially those aspects presenting barriers to growth or supporting the scaling of these services. By focusing on nascent acceptance we can better understand the emerging lessons, and glean early insights into opportunities to catalyze additional merchant acceptance. Finally, relevant lessons for the growth of merchant acceptance will be highlighted.

6.2 Disruption in Financial Services

To provide additional context, we need to step back to understand why eMoney has emerged in the first place and how it has evolved. Before the first eMoney scheme was launched by Vodafone, the UK's Department of International Development (DFID) staff observed that Kenyans were circulating airtime through their mobile phones to remit something that could be converted into money back to their families and friends, leading to the development of a mobile system that allows the remittance of actual money. There are a number of factors that have enabled the emergence of eMoney deployments. First, there continues to be unmet demand for financial services in many countries. Second, the costs of providing these services has limited the ability to meet demand. Furthermore, recent technological developments have reduced the cost of delivering financial services. In addition, regulations have been put in place that enabled the emergence of eMoney. And finally, there has been an adoption of innovative business models that has facilitated the growth of eMoney deployments. This section will briefly touch on each of these factors.

3 LYONS, B AND SCHIFF, A (2014), "EMONEY MERCHANT PAYMENTS-WHAT DOES THE FUTURE HOLD?", HELIX SERIES ON DIGITAL FINANCE IN THE FIELD, JUNE 2014.

4 MCKINNON, R.I. (1973), MONEY AND CAPITAL IN ECONOMIC DEVELOPMENT. WASHINGTON, D.C.: THE BROOKINGS INSTITUTE. ; GURLEY, J.G. AND E.S. SHAW (1967). "FINANCIAL STRUCTURE AND ECONOMIC DEVELOPMENT". ECONOMIC DEVELOPMENT AND CULTURAL CHANGE, 15(31): 257-268.

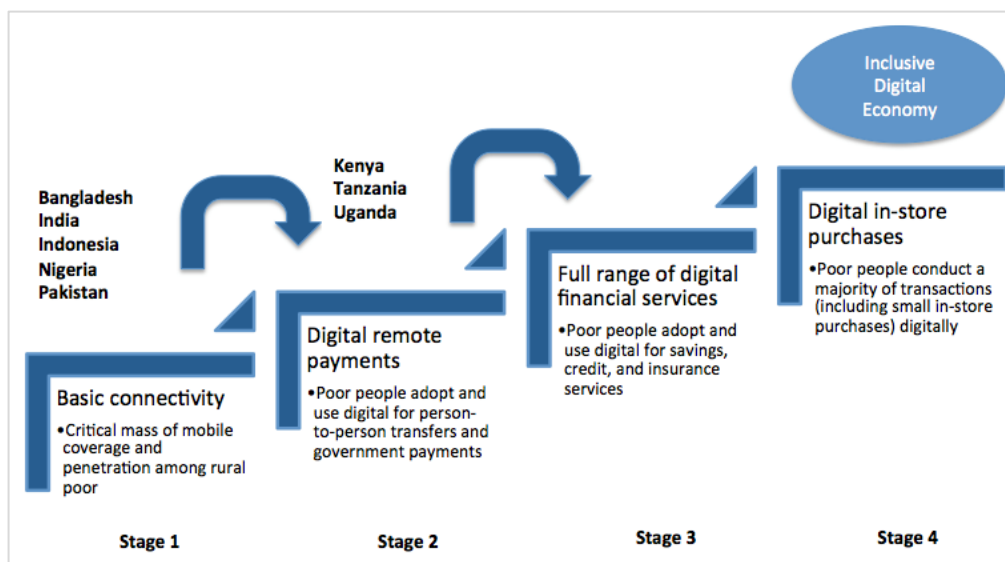
5 BECK, T., PAMUK, H., PAMARATTAN, R., AND URAS, B. (2015) "EMONEY, TRADE CREDIT AND ECONOMIC DEVELOPMENT", CEPR DISCUSSION PAPER NO. DP 10848, SEPT. 2015.

A significant portion of the world’s population remains unbanked, having little access to transaction services and financial products, their unsecured cash continuing to circulate informally. At an individual level financial services would provide safety and convenience while expanding individual choice sets. At a societal level, these services would enable greater factor productivity, deepen financial systems, and improve welfare distribution and tax collection.

Concerted efforts since the 1960s have sought to improve the delivery of financial services. Targeted credit programs emerged to finance the seed packets and fertilizer associated with the Green Revolution.⁶ These efforts evolved into a focus on Microcredit, Microfinance and most recently Digital Financial Services.⁷ The constant has been a focus on technology and innovative business arrangements to drive cost efficiencies in the delivery of financial services.

The development of mobile phone technology provides an effective and low cost platform for continued efforts to provide cost effective financial services to meet the latent demand of under and unbanked populations around the globe. Feature phones have become almost ubiquitous, while the promise of the low cost smartphones comes closer to becoming a reality. Mobile phones have provided the necessary digital connectivity and a critical mass user base. Leveraging this platform innovators have been able to leverage USSD and SIM card technology to enable low cost eMoney services. Furthermore, smart phones with continuously declining prices and associated computational power, offer tremendous potential because of their ability to deploy new applications and support new capabilities.

Regulators have established enabling environments that have facilitated the emergence and growth of eMoney. First, they established a level playing field of providers, allowing non-financial institutions as well as financial institutions to become mobile wallet providers. This benefited MNOs who are particularly well positioned in their distribution and marketing channels to get at the far reaches of bottom of the pyramid merchant users. Secondly, they created guidelines for successfully mitigating institutional risks and liquidity risks through prudential requirements, consumer protections, and minimum capital requirements. And thirdly, they have established customer due diligence measures for eMoney.⁸ This clarity has fostered a willingness by business to invest and innovate.



6 AGENCY FOR INTERNATIONAL DEVELOPMENT (A.I.D.) (1973), SPRING REVIEW OF SMALL FARMER CREDIT, 20 VOLUMES. WASHINGTON D. C.: A.I.D.

7 MILES, ANN (2015), MASTERCARD FOUNDATION, FROM MICROFINANCE TO FINANCIAL INCLUSION: REFLECTIONS ON 20 YEARS, 16 NOVEMBER 2015, BLOG POST ON CGAP SITE.

8 DI CASTRI, S. (2013). EMONEY: ENABLING REGULATORY SOLUTIONS. AVAILABLE AT SSRN 2302726.

Figure 3 – A Digital Pathway to Financial Inclusion. Bill and Melinda Gates Foundation, Radcliffe, D and Voorhies, R. (2012)

As pointed out by Radcliffe and Voorhies in their pathways to Financial Inclusion, merchant acceptance is an important evolution of eMoney schemes. In many deployments P2P services have created an active user base. This active user base has begun to develop some degree of digital liquidity and would benefit from additional services, such as merchant acceptance, that leverages this liquidity, thusly setting the stage for the emergence of merchant acceptance.

In considering the emergence of merchant acceptance in eMoney deployments there are several relevant technological and business model innovations to highlight. There has been an emergence of low cost interfaces at the POI (Point of Interaction) to enable merchant payments, these include: USSD technology, In-APP payment, MPOS (Mobile Point of Sale), QR (Quick Response) codes and NFC (Near Field Communication) technology. For example, MPOS has allowed the use of Smart Phones and recently feature phones, for card based merchant payments. With QR codes a consumer scans a merchant code with their phone to enable merchant payments, another low cost POI innovation. These POI technologies provide MMOs the opportunity to expand into merchant acceptance. In addition, they provide merchant acquirers—a critical player in the card centric four party model—a potential opportunity to move down market and profitability reach a previously unserved market.

Other relevant technological advances for expanding merchant acceptance include advances in data processing and transmission, which enable deployment of capabilities to provide more robust merchant value propositions (e.g., working capital loans, inventory management). These and other benefits of electronics payments such as minimizing the risk of theft and greater transparency provide further incentives to the adoption of merchant payments.

These technological advances, while promising, may need to be combined with new business models to realize their full potential. Some of the acceptance technologies can be deployed through push payments, which offers the prospect of a lower payments cost structure. Another innovation is to lever Payment Facilitators to enable acceptance. This business model changes the nature of the merchant relationship, enabling reductions in on-boarding, risk management, and the equipment costs necessary to enable viable acceptance of electronic payments.

These observations about technology and business models have a number of implications for the emergence of merchant acceptance in eMoney deployments. These are outlined in the next section and ultimately examined in models and corresponding deployment.

7 Hypotheses

A number of hypothesis were generated in this work, some of which were answered, others are still outstanding and await further deployment development and insight. The hypotheses include:

- A variety of approaches will emerge to support merchant acceptance, each with its own unique Business Model, Transaction Flow and Pricing;
- Given the recent emergence of merchant acceptance we expect to see various pricing approaches deployed;
- Purchase transactions will be characterized by push and pull approaches;
- Third parties are likely to emerge and play a role in more fragmented markets where they can lower the transaction costs associated with in-house arrangements;
- To expand eMoney services beyond P2P services to enable P2M payments, the deployment of new technology will create an incentive to work with specialized third parties to deploy and service POI capabilities as well as train store staff in their use;

- Movement towards open loop systems, at the POI, will drive the introduction of 3rd party players who can enable merchant acceptance for multiple payment types;
- The drive for scale and its corresponding revenue opportunities, coupled with the improved economics achieved by Payment Facilitators, will drive their emergence in the near future;

8 Overview of Key Model Characteristics

This effort focuses on key model characteristics and the identification of generalizable models in eMoney deployments to drive merchant acceptance. Such models can be used to classify experiences, thereby identifying general characteristics, considerations and potential issues. This would enable us to better understand issues that MMOs are grappling with in nascent merchant acceptance and focus attention on critical issues. Several dimensions are explored below, these include: 1) Business Model; 2) Deployment Openness; 3) Transaction Flow; and 4) Pricing.

8.1 Business Model

Three models (In-House, MSP and Merchant Acquirer) are used to characterize the nature of merchant acceptance that has been observed in MM deployments. The models are based on the execution of necessary tasks across the merchant acceptance value chain. These models are described in more detail in the next section.

Open or Closed Deployment: The MMO deployments examined were for the most part closed loop. In this approach the institution issuing or deploying the wallets is also enabling merchant acceptance. All activity remains on the provider’s rails and there is no interaction or interoperability with other providers. In an open loop deployment, on the other hand, a merchant would not be limited to acceptance by one payment type, but could instead support the acceptance of multiple payment types.

Transaction Flow: There are two approaches to initiating payment transactions, 1) Push Payments; and 2) Pull Payments. In a push transaction, a consumer initiates, the payment for merchant goods or services, by transferring funds to the merchant. This can be done by sending funds to a merchant code or leveraging a merchant QR code. The merchant will then receive confirmation of the transaction activity allowing the transaction to be completed. Pull payments require a merchant to seek authorization that a consumer has funds available. With this authorization the merchant will execute the transaction and funds are ultimately cleared and then settled to the merchant’s account.

Pricing: In most cases the merchant pays for acceptance. There is no standardized pricing as MMOs have been experimenting with the best pricing approach. But in general the pricing is a percentage rate based on the transaction size, with the fees being split by the actors in the value chain. In some cases there has been some experimentation with consumer pay approaches, but this does not appear to be widespread.

Table 5 – High Level Overview of Key Deployment Characteristics

Deployment	Business Model	Closed or Open Loop ⁹	Transaction Flow ¹⁰	Pricing
EcoCash (Zimbabwe)	Acquirer Model	Open loop	Pull Payments	Merchant pays to accept (Fee ranges between 1.25% and 2% according to size of transaction) ¹¹

⁹ PYMNTS.COM (2015), FINANCIAL INCLUSION TRACKER. RETRIEVED FROM [HTTP://WWW.PYMNTS.COM/WP-CONTENT/UPLOADS/2015/08/FINANCIAL-INCLUSION-TRACKER-AUGUST-.PDF](http://www.pymnts.com/wp-content/uploads/2015/08/financial-inclusion-tracker-august-.pdf)

¹⁰ KOPO KOPO REPRESENTATIVE. INTERVIEW. 27 OCT 2015

¹¹ ECONET WEBSITE [HTTPS://WWW.ECONET.CO.ZW/ECOCASH/MERCHANT-CHARGES](https://www.econet.co.zw/ecocash/merchant-charges)

ZAAD (Somaliland)	In-house Model	Closed loop	Push Payments	Free to accept until it reaches 40% activity rate; ZAAD due to revisit pricing model ¹²
M-Pesa (Kenya)	In-house Model	Closed loop	Push Payments	Merchant pays to accept (1% MDR where Kopo Kopo is present; close to 0% MDR where only Safaricom is present due to downward pressure) ¹³
Easypaisa (Pakistan)	MSP Model	Closed loop	Pull Payments	Merchant pays to accept (1% MDR) ¹⁴

8.2 Overview of Operational Models Observed

This section characterizes the key deployment models that have been identified. It focused on the acceptance value chain and leverages some of the key activities necessary to support card acceptance to shed light on nascent eMoney merchant acceptance and in so doing provides a consistent approach to understanding these necessary activities, who performs them and how they are performed. The key elements for defining the model relates to the distribution of key activities across the value chain. The activities include the following:

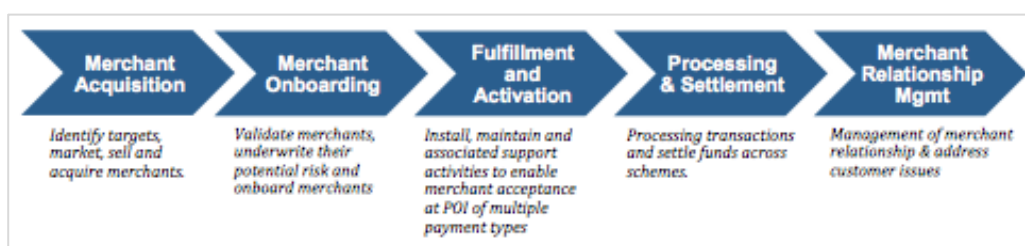


Figure 4 – Key Elements of eMoney Merchant Acceptance Value Chain

- **Merchant Acquisition:** The process of finding value creating customers, marketing and selling them suitable products in order to increase the size of the customer base;
- **Merchant On-boarding:** Validate merchant identity and underwrite merchant potential for risk;
- **Fulfillment & Activation:** Set up new customer account, install, activate and maintain the merchant POI as well as perform associated support activities for acceptance and provide necessary training;
- **Processing and Settlement:** Provide connectivity to accepted payment types, process transactions and settle funds;
- **Merchant Relationship Management:** The activities required to manage, monitor and retain the relationships with a merchant such as complaint or fraud handling;

8.3 Overview of eMoney Merchant Acceptance Models

12 PÉNICAUD, C., & MCGRATH, F. (2013). INNOVATIVE INCLUSION: HOW TELESOM ZAAD BROUGHT EMONEY TO SOMALILAND. GSMA EMONEY FOR THE UNBANKED BLOG. [HTTP://WWW.GSMA.COM/MOBILEFORDEVELOPMENT/WP-CONTENT/UPLOADS/2013/07/TELESOM-SOMALILAND.PDF](http://www.gsma.com/mobilefordevelopment/wp-content/uploads/2013/07/TELESOM-SOMALILAND.PDF).

13 MASTERCARD REPRESENTATIVE. PHONE INTERVIEW. 12 NOV 2015.

14 EASYPAYSA WEBSITE [HTTP://WWW.EASYPAYSA.COM.PK/EN/SERVICES/EASY-PAY](http://www.easypaisa.com.pk/en/services/easy-pay)

By applying the value chain, three models supporting merchant acceptance deployments emerge. First is the in-house model, characterized by a MMO performing all activities In-house. The second model leverages a third party, termed here a Merchant Service Provider, to perform activities across the value chain and whose range of activities determines their value proposition. Finally, the merchant acquirer model, in which a MMO contracts with a traditional Merchant Acquirer to drive acceptance at the POI (Point of Interaction). Merchant acceptance is nascent and evolving, driven by both technological innovation and new business models. As some deployments may be pursuing multiple models, these models may not be mutually exclusive and there may be new models that emerge as merchant acceptance continues to gain momentum. The models are highlighted in the table below and are detailed in this section.

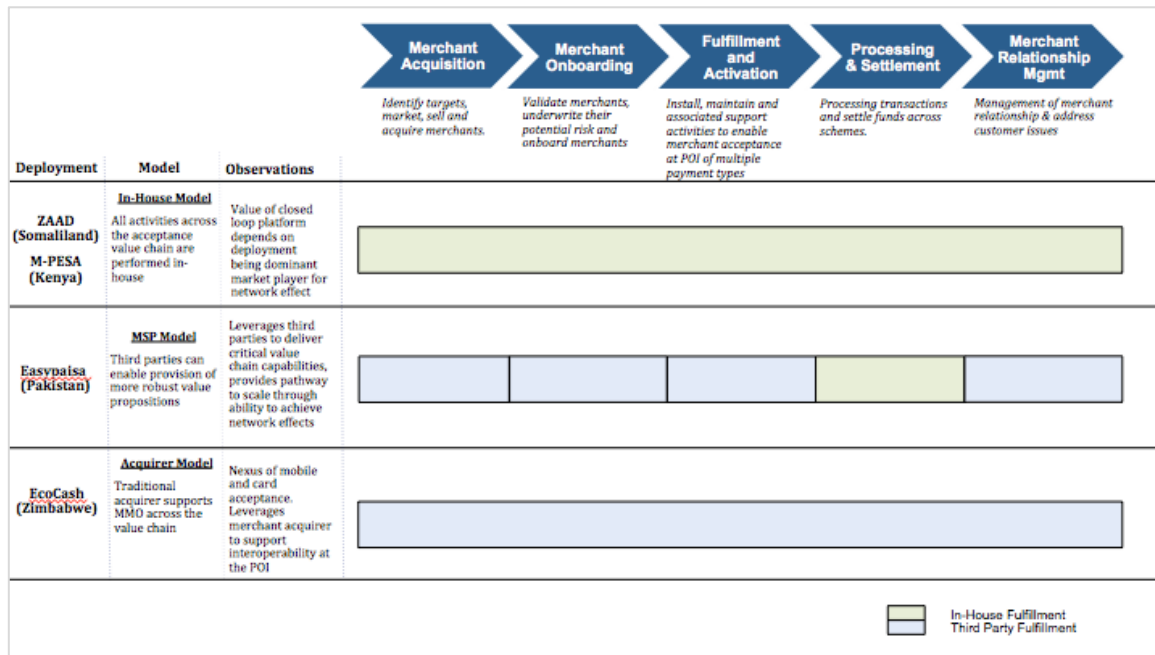


Figure 5 – e-Money Merchant Acceptance Models

8.3.1.1 Model One: In-House Model

In-house merchant acceptance deployments are characterized by MMOs performing all activities across the value chain and are typically closed loop deployments. This model is observed where the MMO is a dominant market player or where the deployment is a response to unique market circumstance. Safaricom had significant market dominance before the debut of its eMoney wallet, M-PESA and was able to draw significant funding from DFID to support its inception and piloting phase. Other in-house approaches include Telesom, the only telecommunications provider in Somaliland at the time it launched its eMoney scheme ZAAD, responding to the countries hyperinflationary crisis. ZAAD may be considered an outlier, because in some ways it was a response to unique market circumstances. From another perspective, it was a company dedicated to improving its country’s well-being and growing its own infrastructure, while making itself indispensable by filling the void of a traditional banking sector.¹⁵

15 CAMNER, G., PULVER, C., & SJÖBLOM, E. (2009). WHAT MAKES A SUCCESSFUL EMONEY IMPLEMENTATION? LEARNINGS FROM M-PESA IN KENYA AND TANZANIA. LONDON: GSM, AVAILABLE AT: WWW.GSMWORLD.COM/OUR-WORK/MOBILE_PLANET/MOBILE_MONEY_FOR_THE_UNBANKED/, ACCESSED. ; PÉNICAUD, C., & MCGRATH, F. (2013). INNOVATIVE INCLUSION: HOW TELESOM ZAAD BROUGHT EMONEY TO SOMALILAND. GSM EMONEY FOR THE UNBANKED BLOG. HTTP://WWW.GSMA.COM/MOBILEFORDEVELOPMENT/WP-CONTENT/UPLOADS/2013/07/TELESOM-SOMALILAND.PDF

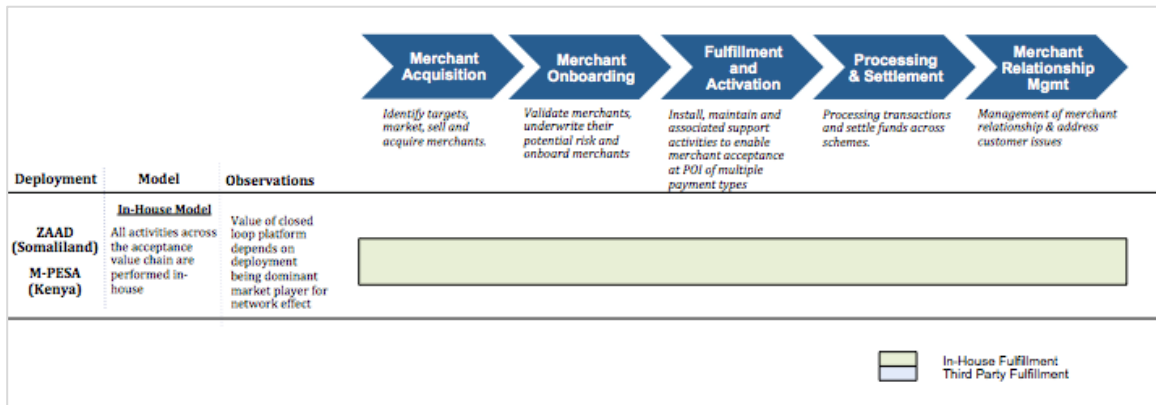


Figure 6 – Overview of In-House Merchant Acceptance Model

In deployments by MMOs with a dominant market position, there is little appetite to outsource merchant activities. In fact, interviews with donor representatives highlighted the strategic importance of merchant relationships as strategic differentiators for MMOs, driving the desire to manage these activities in-house. In deployments, where market dominance is not enjoyed, pressures will emerge to enable acceptance of other payment types to achieve network effects. This will drive inter-operability at the POI and support the emergence of neutral third party players able to cost effectively support the acceptance of several payment types, thereby enabling open loop functionality to expand acceptance.

It should be noted that M-PESA originally pursued the acquisition of merchants leveraging a third party provider, Kopo Kopo, Inc.¹⁶ In this case, the motivation for using a third party may have been the need to define a path forward into merchant acceptance for a first mover. However, a point was likely reached where Safaricom, given its monopoly, could move activities in-house and not have to share revenues. In this case, not having to support another payment type negated the downside of moving these activities in-house. Currently, Safaricom uses its own direct sales representatives (DSRs) and offers them a tiered commission structure tied to merchants acquired and corresponding volume to incent more aggressive merchant acquisition. ZAAD also uses its own employees, known as “dealers” to recruit and supervise merchants, allowing them to quickly identify weaknesses in their supply of services to the merchant and in their value chain.

Pricing within this model varies by deployment. ZAAD does not charge merchants a fee for payment acceptance, though it was poised to change its fee structure and never did. ZAAD also provided its handsets to merchants for free, dropping this approach when merchants demonstrated a willingness to pay for the POI to accept payments. M-PESA charges for Lipa Na M-PESA for the same reason that there is demand from customers to use merchant payments.¹⁷

¹⁶ WILLS, ADAMS (2011), “CASE STUDY: KOPO KOPO,” GSMA INTELLIGENCE MOBILE FOR DEVELOPMENT, [HTTP://WWW.M4DIMPACT.COM/ANALYSIS/CASE-STUDIES/KOPO-KOPO](http://www.m4dimpact.com/analysis/case-studies/kopo-kopo)

¹⁷ CAMNER, G., PULVER, C., & SJÖBLÖM, E. (2009). WHAT MAKES A SUCCESSFUL EMONEY IMPLEMENTATION? LEARNINGS FROM M-PESA IN KENYA AND TANZANIA. LONDON: GMSA, AVAILABLE AT: [WWW.GSMWORLD.COM/OUR-WORK/MOBILE_PLANET/MOBILE MONEY FOR THE UNBANKED/](http://www.gsmworld.com/our-work/mobile-planet/mobile-money-for-the-unbanked/), ACCESSED. ; PÉNICAUD, C., & MCGRATH, F. (2013). INNOVATIVE INCLUSION: HOW TELESOM ZAAD BROUGHT EMONEY TO SOMALILAND. GSMA EMONEY FOR THE UNBANKED BLOG. [HTTP://WWW.GSMA.COM/MOBILEFORDEVELOPMENT/WP-CONTENT/UPLOADS/2013/07/TELESOM-SOMALILAND.PDF](http://www.gsma.com/mobilefordevelopment/wp-content/uploads/2013/07/TELESOM-SOMALILAND.PDF)

With respect to transaction processing and funds settlement, in closed loop systems, MMOs track all transactions in their book of record - credits and debits are tracked and appropriate entries are made to reflect the prices of goods and services as well as subsequent transfer of value. In such a closed loop system, there is no need to transfer funds to another bank. All funds are held in pool accounts and adjustments are made to accounts in the corresponding book of record.

M-PESA Merchant Acceptance

Merchant Value Proposition	Acceptance Penetration	
<ul style="list-style-type: none"> • M-PESA acceptance • The value-added service Grow, provided via Kopo Kopo, is a merchant cash advance that requires no personal guarantee, no late fees, and no penalties 	<ul style="list-style-type: none"> • 100,000 merchants accepting M-PESA • 20,000 are labelled Kopo Kopo merchants from initial deployment model • 80,000 acquired directly by Safaricom • 19.8% of merchants actively accept on a 30-day basis in 2014 • 4% of M-PESA wallet holders currently execute P2M transaction using Lipa na M-PESA 	
Success Factors		Challenges
<ul style="list-style-type: none"> • Regulatory guidelines allow for 3rd party provision of agent players, resulting in faster scaling of merchant acceptance • Early involvement of Kopo Kopo provided blueprint for merchant acceptance; some activities subsequently brought in-house • Distribution of airtime top-up provided channel deployment of merchant acceptance • Tiered model rewarded direct sales representatives that promoted Lipa na M-PESA, resulting in high acquisition rates 		<ul style="list-style-type: none"> • First-to-market costs • Merchant must cover all capital costs associated with acceptance • Agent-to-merchant strategy generated perverse incentives to cash out
Acceptance Partnerships	Pricing/Flows	
<ul style="list-style-type: none"> • Initially focused on merchant acquisition, Kopo Kopo's partnership evolved to focus on VAS to relevant segments 	<ul style="list-style-type: none"> • Kopo kopo and Safaricom share equally the 1% merchant discount fee per transaction when Kopo Kopo is present • Lipa na M-PESA close to 0% merchant discount fee (started at 3%) 	
Competitive Landscape and Implications for Growth		
<ul style="list-style-type: none"> • M-PESA dominating market structure provides little need to participate with other entities across the value chain • Strategy for merchant acceptance has hinged on ability to transform some agent locations into acceptance locations, but pricing will have to evolve • Banks having tripled their proportion of agents in the market since last year (2014) <ul style="list-style-type: none"> • M-PESA does not own or partner with a bank, unlike other hybrid models and so cannot leverage bank expertise • Continued competitor success would require more robust interoperability • May also compel merchants to accept other wallets 		

Figure 7 – M-PESA Merchant Acceptance

8.3.1.2 Model Two: MSP (Merchant Service Provider) Approach

New providers have emerged on the acceptance landscape to propel the expansion of eMoney into merchant payments. These third party providers, which we call Merchant Service Providers partner with MMOs to fulfill critical activities across the merchant acceptance value chain to enable merchants to accept electronic payments. The support provided by MSPs can vary and there may be multiple providers supporting activities across the value chain for a single deployment.

A number of potential variations may emerge from this model. The MSP can have responsibility for a narrowly defined set of activities such as acquiring merchants, then passing the relationship and corresponding contract on to the MMO. At the other end of the spectrum that MSP can also play a broad role across the value chain. For example, KEENU, was contracted by Easypaisa, to provide merchant recruiting, on-boarding and education, furthermore they activate merchant POIs, directly manage the merchant relationship, and provide value-added services.¹⁸

In many cases MMOs don't have expertise in building merchant networks, managing merchant accounts, or maintaining merchant relationships through value-added services. MMOs that prefer not to heavily invest in building the merchant network themselves benefit from relationships with merchant aggregators. We define a merchant aggregator as an entity with pre-existing merchant relationships, in which supporting merchant acceptance is a natural extension or complement to

¹⁸ TELENOR PAKISTAN (2015), EASYPAISA AND KEENU LAUNCH EASYPAY NFC PAYMENTS AT DOLMEN MALL AND OCEAN MALL IN KARACHI [PRESS RELEASE]. RETRIEVED FROM [HTTPS://WWW.TELENOR.COM.PK/ABOUT-NEWS-EVENTS/EASYPAISA-KEENU-LAUNCH-EASYPAY-NFC-PAYMENT](https://www.telenor.com.pk/about-news-events/easypaisa-keenu-launch-easypay-nfc-payment). ; MASTERCARD REPRESENTATIVE. PHONE INTERVIEW. 24 NOV 2015.

core activities. This represents another broad approach to outsourcing activities across the value chain.

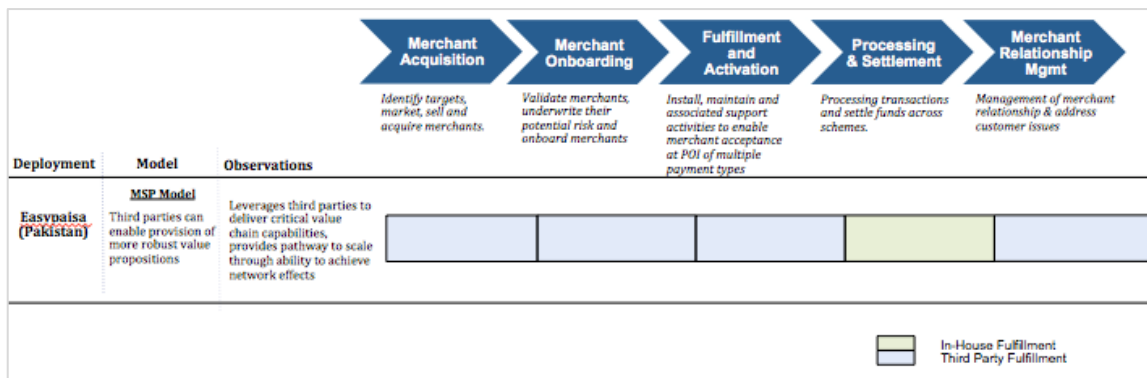


Figure 8 – Overview of MSP Merchant Acceptance Model

In some countries, the presence of multiple wallet providers may promote the emergence of third parties to operate between networks as they can connect closed loop eMoney schemes and create interoperability at the POI, driving a network effect. This may occur to satisfy a government initiative to develop a payment ecosystem,¹⁹ a company’s own commitment to generating merchant interoperability, or a company’s desire to expand into a space where merchant payments are already prevalent.

Probably the strongest case, however, for MSPs, has been their provision of value-added services such as working capital or loyalty programs which provide merchants with attractive value propositions for accepting electronic payments, beyond core payment acceptance offerings. They can also provide upgrades to POI technology, a capability requiring skills and expertise that the MMO may not possess. These roles are often difficult for MMOs to fulfill because it may not be core function of their business.

Developed acceptance markets have seen MSPs such as ISOs (Independent Sales Organizations) compensated by their merchant acquirer partners through distinct mechanism and we would expect to see similar approaches emerge as eMoney deployments expand merchant acceptance. To incentivize high volume or a focus on low hanging fruit MMOs could offer a commission or bounty for acquired merchants. Alternatively, a residual can be paid to the ISO based on the quality of the acquired merchant in turn determined by associated spend volumes. In addition, the merchant may leverage additional services the ISO may supply. It is possible for the ISO to play a role beyond account acquisition, which will affect incentives. Finally, it is possible to have several third parties active across the value chain; a sign of increased specialization in merchant acceptance.

Technological change contributed to the use of an MSP by Easypaisa in Pakistan. Telenor decided to adopt an NFC enabled POS device to enable merchant acceptance. This technology is a material change from that used to enable P2P payments, driven mainly by OTC transactions by agents on behalf of customers. Telenor contracted KEENU for the support necessary to enable acceptance through a technology with which they had no experience.²⁰ Given its background in payment services KEENU is able to provide this support as well as a number of additional services across the value chain.

19 EXAMPLES, THOUGH NOT EXPLORED IN THIS PAPER, INCLUDE A HANDFUL OF CENTRAL BANK LED PAYMENT PLATFORMS; BETTER THANK CASH ALLIANCE REPRESENTATIVE. PHONE INTERVIEW. 23 OCT 2015.

20 MASTERCARD REPRESENTATIVE. PHONE INTERVIEW. 24 NOV 2015.

In Kenya, Kopo Kopo played a similar role as KEENU and has evolved to play that role in other contexts. Kopo Kopo built and expanded M-PESA’s initial merchant network. It succeeded and continues to provide value-added-services, such as loyalty program and merchant cash advances to the approximately 20,000 merchant it retains a direct relationship with under Safaricom. Kopo Kopo continues to efforts to provide value added products and service to M-PESA merchants. In other countries, such as Ghana, Kopo Kopo has become a white label provider of its Paywith platform to Ecobank.²¹ Its basic value merchant acceptance value proposition includes enabling merchants to enjoy greater transaction security and payment settlement services. More sophisticated value-added-services allow merchants to keep on-going transaction records, provide customer tracking (including loyalty) and credit service (Grow), and to provide merchants with visibility into their business.

Easypaisa Merchant Acceptance	
Merchant Value Proposition	Acceptance Penetration
<ul style="list-style-type: none"> Easypay was deployed by Easypaisa to accept electronic payments through POI Keenu, a value chain partner and POS provider, enables merchants to process conventional credit/debit cards, as well as NFC-based contactless solutions and loyalty solutions 	<ul style="list-style-type: none"> 60,000 acceptance locations, including online merchants
Success Factors	Challenges
<ul style="list-style-type: none"> Government initiatives have improved smartphone infrastructure and boosted mobile payment culture creating an increase in consumer demand for digital payments Merchants understand the benefits of digitizing cash and they have a good relationship with Easypaisa Interoperability and expansion of digital financial services enabled Easypaisa to drive digital liquidity Online platform provides direct channel to recruit and onboard merchants 	<ul style="list-style-type: none"> Merchant payments require a higher level of KYC, which is expensive for Easypaisa and not compatible with the customer’s typical OTC experience OTC model limits development of payment ecosystem Recent legislation requires engaging a third party to perform merchant acquisition Intensive investment in building and maintaining agent network merchant acceptance
Value Chain Partners	Pricing/Flows
<ul style="list-style-type: none"> Keenu provides NFC compatible POS terminals and access to secure network for transacting Bank of Punjab processes and settles transactions 	<ul style="list-style-type: none"> No set up for merchant Instant settlement with Easypay (mobile account) 1% Easypay (mobile account) transaction fee
Competitive Landscape and Implications for Growth	
<ul style="list-style-type: none"> 60% of Pakistan’s adult population have access to a mobile phone (31% smartphone) and 10.3% formal account penetration Highly competitive landscape with other banks providing branchless banking services and one other competing telecommunications company Easypay’s mPOS device accepts several card types, MasterCard, UnionPay, and Visa, but at a higher cost to the merchant (3%) <ul style="list-style-type: none"> Easypaisa issued its own ATM card that can only be used for withdrawals Merchant payment acceptance is still extremely limited and providers of merchant acceptance VAS are not very active in Pakistan <ul style="list-style-type: none"> Competition between mobile money operators is at the agent level and not [yet] the merchant level 	

Figure 9 – Easypaisa Merchant Acceptance

8.3.1.2.1 Evolutionary Pathways for the MSP Model

Because of the potential for variation in the MSP model it is possible to imagine that as eMoney deployments continue to evolve to support merchant acceptance this model will experience some variation as deployments mature. While too early to describe what these variations might look like, several factors can already be identified as drivers of model variation going forward, these include: 1) adoption of new technology to support merchant acceptance; 2) the adoption of open loop approaches; and 3) the use of Payment Facilitators to support merchant acceptance.

One driver of new technology adoption has been the deployment by MMOs of POIs for merchant acceptance. In many cases MMOs have opted for technology that reflects an extension of their P2P capabilities to drive merchant acceptance. However, there are a number of cases where a fundamental change in technological approach has been adopted. Beyond mobile wallets this has meant the adoption of physical terminals, both traditional terminals and NFC enabled terminals. In

21 WAKOBA, SAM (2014), EXCLUSIVE: KOPO KOPO GOES INTERNATIONAL: READY TO INTEGRATE MERCHANTS FROM EVERYWHERE. RETRIEVED FROM [HTTP://TECHMORAN.COM/KOPO-KOPO-GOES-INTERNATIONAL-READY-TO-INTEGRATE-MOBILE-MONEY-PAYMENTS-FOR-MERCHANTS-FROM-EVERYWHERE/#\\$THASH.HAQDCNXI.DPBS](http://TECHMORAN.COM/KOPO-KOPO-GOES-INTERNATIONAL-READY-TO-INTEGRATE-MOBILE-MONEY-PAYMENTS-FOR-MERCHANTS-FROM-EVERYWHERE/#$THASH.HAQDCNXI.DPBS);

the case of POS terminals, this has meant the corresponding distribution of companion cards with traditional payment scheme marks. In the case of NFC terminals, there has been a consequent distribution of NFC stickers to customers in lieu of a robust base of NFC phones.

The MSP model is likely to take hold in markets with multiple wallet providers. While closed loop structures remain dominant, processing and settlement can still be expected to be executed in-house by MMOs. However, there will be pressure to accept payment types or acceptance marks to drive acceptance by enabling a more robust merchant value proposition. This move towards open loop structures or interoperability at the POI, will force changes in the current approaches to in-house processing and settlement capabilities.

One such avenue for open loop development is the establishment of Payment Facilitator arrangements. Payment facilitators exist in the card space to drive low cost acceptance, through cost reducing innovations in on-boarding, risk assessment and POI deployment. The operative development in the evolution towards open loop structures would be the provision of processing and settlement capabilities. A technological savvy MSP or Merchant Aggregator would be the ideal PF candidate. In addition to support of processing and settlement, the PF plays several critical roles across the value chain including market development, merchant of record, risk underwriting and management, as well as provider of value added services. The MMO would earn revenue through incremental merchant purchase volumes generated by the partnership while the PF owns the customer relationship, providing processing services to its merchants. Though a merchant acquirer would be necessary, the PF would do the heavy lifting – aggregating merchants and routing authorization requests to its acquiring partner within the market, as well as providing the back-end processing necessary to settle directly with sub-merchants.²²

In each of these cases the expertise of third parties is likely required. This expertise can both enable the deployment of these technologies as well as the realization of their full potential. Furthermore, there will be adoptions and innovations as these technologies are applied to eMoney deployments to realize their full potential, resulting in further business model innovation.

8.3.1.3 Model Three-Merchant Acquirer Approach

The third model, exemplified by EcoCash in Zimbabwe, illustrates the deployment of the merchant acquisition model found in card acceptance. In this model, a merchant acquirer performs all activities across the value chain to enable merchant acceptance. The MMOs responsibility would end with the issuance of mobile wallets and or companion cards as well as transaction authorization in pull payments. This model supports interoperability by facilitating the acceptance of multiple payment types at merchants. It drives scale by coordinating flows between a number of issuers or MMOs on one side and merchants and their corresponding providers on the other side.

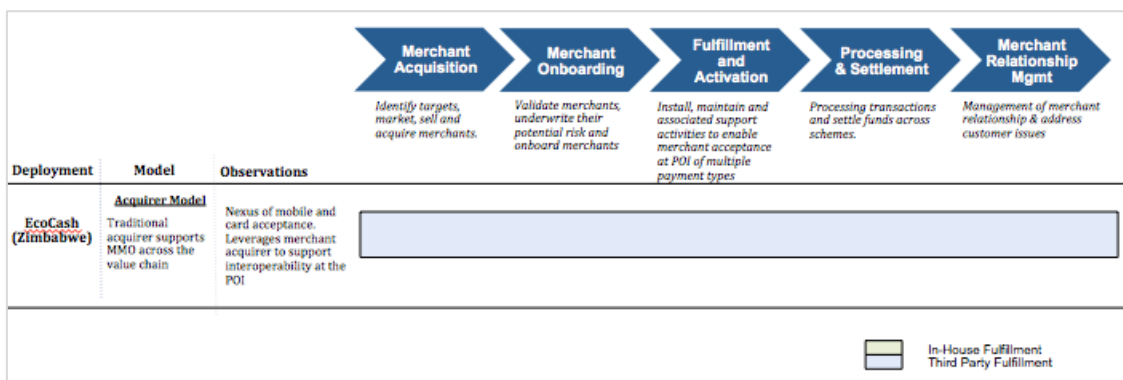


Figure 10 – Overview of Merchant Acquirer Acceptance Model

22 SALAZAR, D.G. AND MILLER, P.M (2013), EXPANDING CARD ACCEPTANCE TO SMALL MERCHANTS GLOBALLY THROUGH MOBILE POINT OF SALE (MPOS), MASTERCARD ADVISORS GLOBAL INSIGHTS SERIES

Unlike M-PESA or ZAAD that have trust accounts with banks or created their own bank much later in the process, Econet Wireless bought Steward Bank (previously TN Bank) early on to leverage its expertise in financial management, underwriting, processing, and funds settlement. EcoCash’s merchant acquisition is driven by a small division of the bank, PayBay, dedicated to recruiting, educating, and acquiring small merchants, and executing all activities across the merchant acceptance value chain.²³ Its POS terminals distributed across 10,000 locations are interoperable and NFC compatible.²⁴

EcoCash Merchant Acceptance

Merchant Value Proposition		Acceptance penetration	
<ul style="list-style-type: none"> Eliminated the need to provide customers with store credit or excess goods/ services instead of change when inflation distorted markets. Merchants can perform B2B and salary disbursements 		<ul style="list-style-type: none"> EcoCash leased over 10,000 mPOS NFC terminals to retailers in March 2013 	
Success Factors		Challenges	
<ul style="list-style-type: none"> Early on, EcoCash’s agent network established a good relationship with micro/small merchants and educated merchants on the value of storing cash in an e-wallet EcoCash transaction cost structure encourages merchants to keep money in the system Full interoperability with banking sector enabled by switch 		<ul style="list-style-type: none"> Merchant websites with automated order fulfillment systems still do not seamlessly integrate with the EcoCash platform The shift to NFC capabilities will require greater exposure of merchants to mobility proximity payments, so possibly more investment into merchant acquiring Regulations for interoperability allowing merchants to accept multiple e-wallets have been slow to evolve 	
Acceptance Partnerships		Pricing/Flows	
<ul style="list-style-type: none"> Pay4App connects to EcoCash through an API and allows online merchant acceptance Mahindra Comviva provides connectMoney Service Manager, linking EcoCash account holders to financial open systems powered by MasterCard and other card networks and allowing them to transact at POS with their debit cards 		<ul style="list-style-type: none"> Merchant can choose to lease mPOS at fixed monthly fee or as a percent of sales 	
Competitive Landscape and Implications for Growth			
<ul style="list-style-type: none"> EcoCash dedicated a company, PayBay, to recruit, educate, and acquire small merchants (general dealers and pharmacies) before it went after larger merchants (Pick n Pays, TM Supermarkets, OK Zimbabwe) Econet does not see mobile money as supporting its core business, but as offsetting the costs of anticipated pressure to its core GSM distribution business <ul style="list-style-type: none"> EcoCash’s NFC debit card linked to EcoCash’s e-wallet was introduced by Steward Bank 80% of revenue invested into agent network EcoCash contributes to 10% of Econet’s revenue Econet does not provide value-added services, but may eventually rely on Mahindra Comviva to supply these to merchants 			

Figure 11 – EcoCash Merchant Acceptance

While Steward’s POS device enables interoperability of payment types and mobile wallets at the POI, the bank is primarily focused on card-based merchant payments. Their role as BIN sponsor for EcoCash’s companion debit card was driven by its desire to be connected to the card network’s open loop system and its connection to ACI Worldwide switch enables acceptance from other banking platforms.²⁵ While the Easypaisa network also offers a companion card, its bank, Tameer Microfinance Bank, does not yet perform the merchant acquiring functions done by Steward Bank. Furthermore, its companion card is an ATM card linked to the national ID scheme, not yet allowing purchases at merchant locations. In many ways, EcoCash is moving towards greater operational standardization and its approach to merchant acquiring allows it to focus on creating scale while complementing other banking services. Finally, similar to the MSP model, market forces may drive merchant acquirers to work more closely with Payment Facilitators.

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8.4 Conclusion and Next Steps

This chapter has identified three models currently being leveraged by MMOs to drive merchant acceptance. By identifying and detailing these models we have attempted to create a foundation for better understanding how eMoney deployments are driving nascent merchant acceptance and lessons learned. These models can be expanded to other deployments to create a robust evidence base. Furthermore, initial learnings can help to inform decision about critical paths. Nevertheless, additional work is warranted to improve our baseline understanding as well as provide for the on-going monitoring of new and existing deployments.

The In-House model, while successful, appears to be a response to unique market circumstances. In the case of ZAAD as a mechanism for protecting against hyperinflation. In the case of M-PESA Kenya, a result of Safaricom's dominant market position. Both situations are uncommon and present barriers to the ability to scale this model. The in-house model does not provide a robust path to scale because it is difficult without with a dominant market player to create the necessary network effect in house to create compelling value for merchant acceptance.

In the MSP model various entities were observed to have emerged providing valuable services to enable MMO's to drive merchant acceptance. The presence of these third parties reduce the burden for the MMO by not requiring them to support all activities across the value chain. Furthermore, several features of this model may support scaling acceptance as MMOs evolve. These characteristics include: the adoption of new technology, different from that deployed for P2P, to drive merchant acceptance; pressures to move towards open loop or inter-operable structures; and finally, adoption of the Payment Facilitator model.

Finally, we have seen MMOs adopt a merchant acquirer model because of their desire to pursue a card centric approach coupled with a physical POI to drive their evolution into merchant acceptance. While this approach presents opportunities to scale merchant acceptance, question still remain.

All of three of these approaches warrant continued monitoring and further investigation. To build on this effort, there are a number of additional activities considered, these include:

- 1 assigning the profiled deployments in the appendix of this chapter to a model, create a more robust sample and focus on the points evolution identified in the MSP model;
- 2 development of merchant acceptance KPIs and their systematic on-going tracking;
- 3 further investigation into these deployments with a focus on merchant acceptance;
- 4 identifying, understanding and profiling third parties that have emerged to play a role in the acceptance value chain;
- 5 identify growth inflection points, drill down and distill key learnings.

Appendix One

Profiled Models

ZAAD Somaliland Overview

Overview		Market Considerations	
<p>ZAAD is the mobile money offering by Telesom. Due to the mistrust of the banking sector, the absence of strong government regulation, Telesom was uniquely positioned to offer financial services.</p>		<p>Deployment</p> <ul style="list-style-type: none"> •368,000 Accounts (10% of pop) •70% Active 	<p>Regulations</p> <p>Leadership</p> <ul style="list-style-type: none"> •MNO <p>KYC</p> <ul style="list-style-type: none"> •No Basis •Authentication: SIM, ID is preferred however since there is no national ID many do not have any form of ID. In this case a chief's or reputable business person's word is sufficient <p>Agents</p> <ul style="list-style-type: none"> •Allows for 3rd party players
Owners	Technology		
<ul style="list-style-type: none"> •Telesom – Limited to Somaliland 	<ul style="list-style-type: none"> •USSD to provide user interface 		
Products & Services		Key Partners	Interoperability
<ul style="list-style-type: none"> •CICO •Money Transfer (domestic, B2B) •Bill Payment •Salary Disbursements •Merchant 		<ul style="list-style-type: none"> •Payment Service: ZAAD •Funds Storage: Dara Salaam Bank (launched by Telecom in 2010) •Communication: Telesom •CICO- Telesom •Merchant Acceptance- Telesom 	<ul style="list-style-type: none"> •International remittance available for mHITS from Australia to transfer money to ZAAD. •Non-exclusivity of agent or merchants and compete with e-Dahab over agents
High Level Economics		Applicability to BOP	
<ul style="list-style-type: none"> •Transaction are free under this service •Telesom makes money from operational savings: <ul style="list-style-type: none"> •No longer printing scratch cards for airtime •Increased airtime sales •Increased customer retention 		<ul style="list-style-type: none"> •Free 	

Figure 12 – ZAAD Somaliland Overview

M-PESA Kenya Overview

Overview		Market Considerations	
<p>MNO-led model with DFID involvement and investment. They pioneered the market and gained market dominance. This service allows for users to make deposits into their M-PESA account, transfer and withdraw these funds as needed. Consumers do not need a bank account, but can nevertheless link a bank account to their M-Pesa account if they have one.</p>		<p>Deployment</p> <ul style="list-style-type: none"> •20,000,000 Accounts •45% of the Population •70% Active •Total transaction volume \$39,893,994,000 	<p>Regulations</p> <p>Leadership</p> <ul style="list-style-type: none"> •MNO led <p>KYC</p> <ul style="list-style-type: none"> •Tiered 2 levels •3 factor ID: SIM card, ID, and PIN <p>Agents</p> <ul style="list-style-type: none"> •Allows for 3rd party players
Owners	Technology		
<ul style="list-style-type: none"> •Vodafone launched M-PESA for Safaricom and Vodacom, both partially owned by Vodafone. 	<ul style="list-style-type: none"> •SIM toolkit (STK) is used to provide users with interface •Authentication through SIM card and corresponding ID 		
Products & Services		Key Partners	Interoperability
<ul style="list-style-type: none"> •CICO (ATM & Agents) •Money Transfer (Domestic, International) •Bill Payments •Airtime Top Up •Merchant Payments (Lipa na M-PESA) 		<ul style="list-style-type: none"> •Payment Service: M-PESA •Funds Storage: Commercial Bank of Africa, Standard Chartered, and Equity Bank •Communication: Safaricom •CICO-3rd party agent recruiter •Merchant Acceptance: initially Kopo Kopo, now M-PESADrives most 	<ul style="list-style-type: none"> •Systems and POS interoperability nascent, but on CBK radar •Agents and/or merchants are non-exclusive •P2P services interoperable across borders and with MTN Mobile Money customers in Uganda, Rwanda and Zambia.
High Level Economics		Applicability to BOP	
<ul style="list-style-type: none"> •Purchases fees are 1% of transaction, with merchants able to charge consumer up to 0.5% Cash Out •Permitted transactions range from \$0.48 to \$665 •Fixed fee by transaction size range •From 13.3% for \$0.74, midpoint of first range, to 0.47% for largest transaction permitted •\$0.63 for average cash out transaction of \$33.30 		<ul style="list-style-type: none"> •Based on the average cash out transaction size of \$33.30 •MM Transaction ranges vary 1.74%-3.6% <ul style="list-style-type: none"> •M-Pesa is 1.89% 	

Figure 13 – M-PESA Kenya Overview

Easypaisa Pakistan Overview

Overview		Market Considerations	
<p>Easypaisa started as an OTC solution enabling customers to do P2P and bill payments. Now Easypaisa offers a variety of services through mobile devices, the internet or OTC. Merchant payments were integrated in 2015 and being piloted</p>		<p>Deployment</p> <ul style="list-style-type: none"> •Accounts 13,000,000 •7.1% of the Population •Total value of transactions \$3,000,000,000 	<p>Regulations</p> <p>Leadership</p> <ul style="list-style-type: none"> • Bank/MNO-led <p>KYC</p> <ul style="list-style-type: none"> • Tiered 4 levels • Based on transaction sizes <p>Agents</p> <ul style="list-style-type: none"> • Allows for 3rd party players • Agents can perform all activities. E.g. open accounts, CICO, OTC bill pay, and money transfer
Owners	Technology		
<ul style="list-style-type: none"> • Telenor Pakistan, an MNO acquired a 51% ownership stake in Tameer Micro Finance Bank and established Easypaisa as a common organization across the two companies • Telenor acts as a distribution arm for branchless banking provided by Tameer Bank, does channel management and retail-set up work, technology provider and call center operation ("superagents") • Tameer Bank operates accounts, creates ledgers, reconciles, settles funds, settles funds with external parties, handles risk and compliance, investigates fraud 	<ul style="list-style-type: none"> • Agents use an mPOS device linked to wallet platform (Aiaze Milthe, IFC). Customers use a USSD menu or OTC Mobile Money Service (MMS) that does not require registration for the wallet, to access services. • Authentication through SIM card and PIN. • NFC capabilities for merchant payments introduced in 2015 		
Products & Services	Key Partners	Interoperability	
<ul style="list-style-type: none"> • OTC remittances (caused traction) • Money Transfer (domestic) • Bill Payments: Utilities(2015), PIA tickets(2011), loans • M2P and G2P bulk disbursements • ATM Card • Savings, non-interest bearing, with attached life insurance • Various account types that enable different transaction sizes. E.g. money transfer 	<ul style="list-style-type: none"> • Payment Service: Easypaisa • Funds Storage: Tameer Micro Finance Bank • Communication: Telenor • CICO-3rd party agents • Merchant Acceptance : Keenu 	<ul style="list-style-type: none"> • Easypaisa's OTC service allows anyone with a government-issued ID card to send money or pay bills. • ILLINK provides bank grade switch, enabling A2A interoperability for account holders in 24 different banks. 	
High Level Economics		Applicability to BOP	
<ul style="list-style-type: none"> • First 15 Cash Deposit transactions in a month will be free, any subsequent cash deposit transaction will be charged at 2.5% • Similarly, first 5 cash withdrawal in a month will be free, any subsequent Cash Withdrawal transaction will be charged at 2% • \$0.66 fee for average cash out transaction of \$33.30 		<ul style="list-style-type: none"> • Based on the average cash out transaction size of \$33.30 • MM Transaction ranges vary 1.74%-3.6% <ul style="list-style-type: none"> • Easypaisa is 2% 	

Figure 14 – Easypaisa Pakistan Overview

EcoCash Zimbabwe Overview

Overview		Market Considerations	
<p>The EcoCash payment solution enables Econet Wireless customers to complete a range of financial payment transactions, including merchant purchases. Because of the mistrust of banks caused by hyperinflation, Econet bought a bank rather than partner with one, allowing its customers to link to a bank account.</p>		<p>Deployment</p> <ul style="list-style-type: none"> • 3 million of 8.5 million Econet Wireless customers use EcoCash • 70% of market share of cell phone users • US\$1.1 billion transaction value; 50 million transactions 	<p>Regulations</p> <p>Leadership</p> <ul style="list-style-type: none"> • MNO/Bank-led <p>KYC</p> <ul style="list-style-type: none"> • No tiers <p>Agents</p> <ul style="list-style-type: none"> • Allows for use of 3rd party
Owners	Technology		
<ul style="list-style-type: none"> • EcoCash is owned by Econet Wireless. Headquarters are based in Johannesburg, South Africa 	<ul style="list-style-type: none"> • POS terminals are USSD, SMS-enabled to work in areas without data coverage. Also NFC-enabled to prepare for expected proliferation of smartphones 		
Products & Services	Key Partners	Interoperability	
<ul style="list-style-type: none"> • CICO (Agents, Banks, ATMs) • Money Transfer (Domestic, International) • Bill Payments • Airtime Top up • Access loans • Link to Bank account • Merchant Payments • Commuter service 	<ul style="list-style-type: none"> • Payment Service: • Funds Storage: Steward Bank, Stanbic Bank • Communication: Econet • CICO: in house and Ok Zimbabwe • Merchant Acceptance: Transaction Payment Solutions (Econet subsidiary) 	<ul style="list-style-type: none"> • EcoCash is available, through seven banks: Steward Bank, ZB Bank, CEZ, Stanbic, NMB, Agribank, Banc ABC • A2A with Telcel and NetOne • ACI Worldwide provides bank grade switch for A2A interoperability 	
High Level Economics		Applicability to BOP	
<ul style="list-style-type: none"> • Fees for cash transfer based on their size • Fees for withdrawal, bill pay, bank balance inquiry • Fees for merchant payments range from 1.25 to 2% of transaction size • 5 cent tax levied on applicable transactions • Daily spending limit of \$1,000.00 and a \$10 000 monthly limit for EcoCash customers registered on banking services. • No service charges 		<ul style="list-style-type: none"> • Some SME merchants using EcoCash by October 2012, including General Dealers, Pharmacies, and small retail outlets 	

Figure 15 – EcoCash Zimbabwe Overview

Appendix Two

Additional Profiles

[This material is available on the ITU Ecosystem Working Group website, file name “[ITU Merchant Acceptance Geneva Consolidated Dec 2015.final](#)”]

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