



Mobile Money Payment Toolkit for Utility Service Providers

MAY 2017



About GSMA

The GSMA represents the interests of mobile operators worldwide, uniting nearly 800 operators with more than 300 companies in the broader mobile ecosystem, including handset and device makers, software companies, equipment providers and internet companies, as well as organisations in adjacent industry sectors. The GSMA also produces industry-leading events such as Mobile World Congress, Mobile World Congress Shanghai and the Mobile 360 Series conferences.

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Mobile for Development Utilities

About GSMA Mobile for Development Utilities

The Mobile for Development (M4D) Utilities programme promotes the use of mobile technology and infrastructure to improve or increase access to basic utility services for the underserved. Our programme focuses on any energy, water or sanitation services which include a mobile component such as mobile services (voice, data, SMS, USSD), mobile money, machine-to-machine (M2M) communication, or leverage a mobile operator's brand, marketing or infrastructure (distribution and agent networks, tower infrastructure). The programme receives support from the UK Government

For more information, please contact us:

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Mobile Money

About GSMA Mobile Money

The GSMA's Mobile Money Programme works to accelerate the development of the mobile money ecosystem for the underserved. The GSMA Mobile Money Programme is supported by the Bill & Melinda Gates Foundation, The MasterCard Foundation and the Omidyar Network.

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Introduction

Today, utility service providers are delivering essential services to communities.

Increasingly, the use of mobile money payment solutions is becoming widespread in utility services. In September 2016, for example, over 1.6 million mobile money transactions were generated by pay-as-you-go (PAYG) solar energy services.¹

However, one of the main challenges for PAYG utility service providers is integration with mobile money platforms. This is not yet seamless and has slowed down the pace at which PAYG utility service providers can deploy mobile money payment solutions.



1. GSMA, 2017, Lessons from the use of mobile in pay-as-you-go utility models, <http://www.gsma.com/mobilefordevelopment/wp-content/uploads/2017/01/Lessons-from-the-use-of-mobile-in-utility-pay-as-you-go-models.pdf>

Mobile Money Payment Toolkit

- This toolkit is for utility service providers who would like to adopt mobile money payment solutions.
- It provides guidelines for pay-as-you-go service providers on if, when and how to approach integration with a mobile money platform.
- This toolkit focuses on questions utility service providers should consider before deploying mobile money payments.

Note that this is not a step-by-step guide to technical integration.



Key questions for consideration

	1. CONCEPT	2. FEASIBILITY	3. IMPLEMENTATION
<p>Consider some of these questions along your project development journey:</p> 	<ul style="list-style-type: none">• Are you familiar with examples of how other PAYG services have used mobile money?	<ul style="list-style-type: none">• Will your service be pay-as-you-go?• Is cash an inefficient instrument for collection for your service?• How often and how much will you need to collect?• Is your market appropriate for collection via mobile money?	<ul style="list-style-type: none">• Will you need mobile money integration?• Who will be your payment partner?• Do you understand some of the legal and regulatory requirements?• Will your customer have access to mobile money agents to fund their wallet?• How will you drive awareness and usage of mobile money payments to your customers?
<p>The toolkit will help you answer:</p> 	<ul style="list-style-type: none">• Short background on the state of the mobile money industry and ecosystem transactions.	<p>Why enable mobile payments?</p> <ul style="list-style-type: none">• Identify the costs, benefits, the overall value proposition and the business case• Understand what mobile money integration is.	<p>When is mobile money integration necessary?</p> <ul style="list-style-type: none">• Determine whether your service requires integration and select the most suitable option between mobile money providers and aggregators <p>What are some of the legal requirements?</p> <ul style="list-style-type: none">• Be aware of legal constraints and considerations <p>How can customers be reached effectively?</p> <ul style="list-style-type: none">• Plan how to effectively reach your target customers and what support they will require

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1.1 Concept: Background

Read this section to understand:

- The **state of the mobile money industry in 2016** with a focus on **bill payments**
A list of case studies on PAYG utility services leveraging mobile money is also included in this section.

The state of the mobile money industry in 2016

- Mobile money providers are at the forefront of payment services in many emerging markets.
- Mobile money is increasingly integral to the wider financial ecosystem.

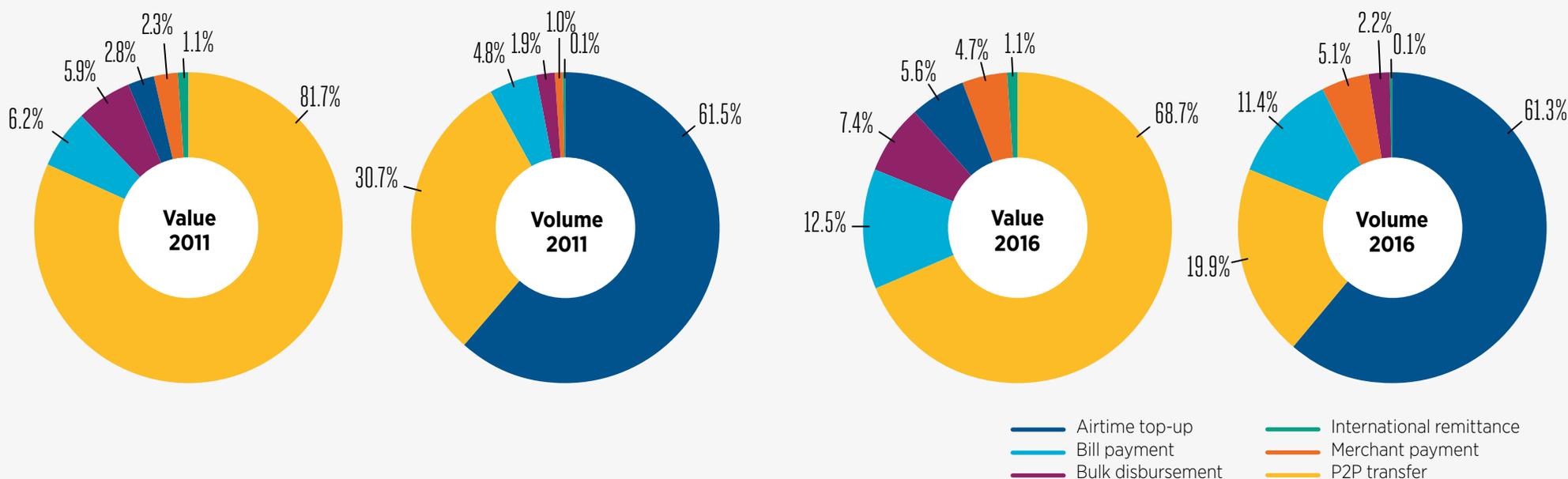


Source: GSMA State of the Industry report 2016, <http://www.gsma.com/mobilefordevelopment/programmes/mobile-money/industry-data-and-insights/sotir>

Growth of ecosystem transactions

- International remittances, bill payments, merchant payments and bulk disbursements — collectively referred to as “ecosystem transactions” — account for 18.8 per cent of total transaction volumes in 2016 vs. 7.8 per cent in 2011.
- Though person-to-person and airtime top-up transactions constitute a large proportion of transactional volume and value, bill payments present a significant growth opportunity, having doubled in value and tripled in volume over the last five years.

GLOBAL MOBILE MONEY PRODUCT MIX BY VALUE AND VOLUME, DECEMBER 2011 AND DECEMBER 2016



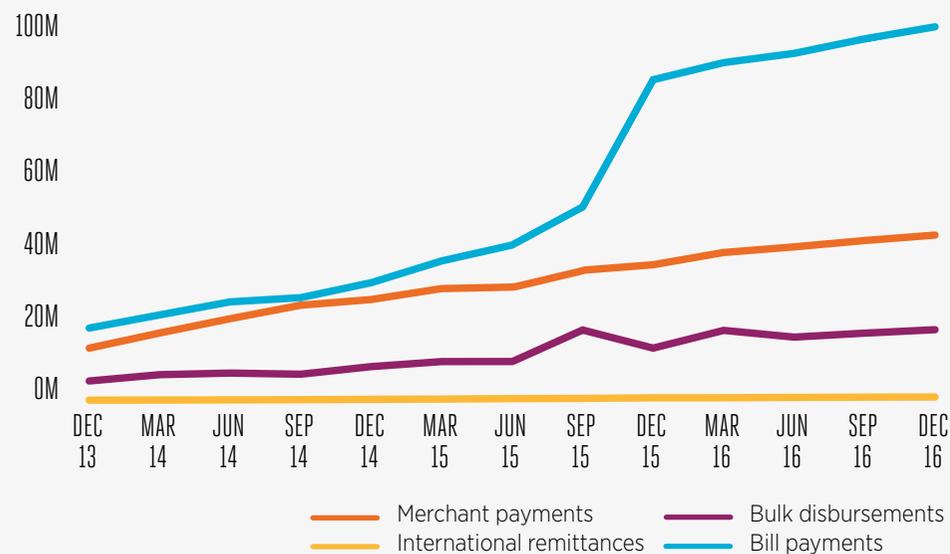
Source: GSMA State of the Industry report 2016, <http://www.gsma.com/mobilefordevelopment/programmes/mobile-money/industry-data-and-insights/sotir>

Bill payments are driving ecosystem transaction growth

High volume of bill payments

- Mobile technology supports product and service delivery for energy, water, and sanitation in many ways and, in recent years, mobile money itself has been used to improve the efficiency of bill payments and to offer pay-as-you-go products.
- High volumes of bill payments have sustained growth in the share of ecosystem transactions in recent years.
- In South Asia, for example, mobile money providers have more than doubled bill payment transactions, from 14.6 million in March 2015 to more than 31.5 million in December 2016.

ECOSYSTEM TRANSACTIONS QUADRUPLED BETWEEN 2013 AND 2016



Average number and value of bill payments per active mobile money customer in 2016

0.8 bill payment transaction / month

USD 12.2 / transaction / month
(average value per bill payment transaction)

Examples of PAYG utility services that have deployed mobile money payments



PEG Ghana: Licensing Solar-as-a-service in a new market¹

GO TO CASE STUDY



Mobisol: Pay-as-you-go Solar for entrepreneurs in Rwanda²

GO TO CASE STUDY



Fenix International: Pay-as-you-go Solar in Uganda³

GO TO CASE STUDY



Kamworks: Introducing GSM-enabled PAYG solar in Cambodia⁴

GO TO CASE STUDY



Lessons from the use of mobile in pay-as-you-go utility models⁵

GO TO CASE STUDY



1. http://www.gsma.com/mobilefordevelopment/wp-content/uploads/2016/03/GSMA_Report_PEG_Ghana_Licensing_Solar_As_A_Service.pdf
2. <http://www.gsma.com/mobilefordevelopment/wp-content/uploads/2016/01/Mobisol-Pay-as-you-go-Solar-for-Entrepreneurs-in-Rwanda.pdf>
3. http://www.gsma.com/mobilefordevelopment/wp-content/uploads/2015/12/GSMA_UT_Fenix_PROOF041.pdf
4. <http://www.gsma.com/mobilefordevelopment/wp-content/uploads/2016/05/M4D-Utilities-Grantee-Case-Study-Kamworks.pdf>
5. <http://www.gsma.com/mobilefordevelopment/wp-content/uploads/2017/01/Lessons-from-the-use-of-mobile-in-utility-pay-as-you-go-models.pdf>

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2.1 Feasibility: Why mobile money payments?

Read this section to understand:

- **What to consider** before deploying mobile money payments
- The **benefits and challenges** of deploying mobile money payments

What should you consider before deploying mobile money payments?

Checklist for your market and customer service areas:

- GSM mobile coverage
- Availability, access, and penetration of mobile money services¹
- Adequate mobile money agent coverage
- The mobile money service's know-your-customer (KYC) requirements can be met by your target customers
- Availability of bill payment functionality²
- Mobile money transaction thresholds and limits are compatible with the utility service's pricing structure
- Customer's awareness and willingness to use mobile money: customer benefits and potential challenges for adoption



1. The Mobile Money Deployment Tracker monitors the number of live and planned mobile money services. <http://www.gsma.com/mobilefordevelopment/m4d-tracker/mobile-money-deployment-tracker>
2. Note that merchant payments may also be used initially - refer to section 3.3

Benefits of deploying mobile money payments



**Identify the primary objectives for deploying mobile money payments:
this will be used in the business case.**

Benefits to the service provider	Benefits to the mobile money provider	Benefits to the customer
Enable instant payment notification	Increase mobile money penetration	Improve user experience
Improve payment collection: reduced costs and/or increased revenues	Drive mobile money usage	Increase service affordability
Increase service penetration	Increase customer value	Improve convenience
Increase transparency, prevent fraud and losses, reduce risk	Increase transactional revenue	Allow flexible pricing not dictated by currency denominations
Simplify, speed up, digitize and automate processes		Foster financial inclusion
Set up building blocks for growth & scale		Build credit history
Build basis for partnerships with mobile operators		

Examples of key benefits

Benefits to the service provider	Benefits to the mobile money provider	Benefits to the customer
<p>The Safe Water Network's¹ preliminary savings projections for each water treatment station are:</p> <p>37 MAN-HOURS PER MONTH 2% OF MONTHLY OPEX</p> <p>in reduced travel time, costs and cheque processing times.²</p>	<p>10%–20% </p> <p>of PAYG solar customers opened a mobile money account to pay their energy instalments (Mobisol⁶ in Rwanda and Fenix International⁷ in Uganda).⁸</p>	<p> >80%</p> <p>UPWARDS OF 80% OF MOBISOL AND OFF-GRID:ELECTRIC'S¹¹ CUSTOMERS WOULD REMAIN ENERGY POOR IF IT WERE NOT FOR SUCH FINANCING INNOVATIONS POWERED BY MOBILE MONEY.</p>
<p> CLEAN TEAM GHANA'S³ GROSS MARGIN INCREASED BY 26 POINTS BY EMPLOYING MOBILE PAYMENTS⁴ </p>	<p> 5.1 PAYMENTS EVERY 90 DAYS MADE ON AVERAGE BY MOBISOL ENTREPRENEURS IN RWANDA, VIA MTN MOBILE MONEY.⁹</p>	<p>x2–x5 INCREASE IN BASELINE SALES</p>
<p>By 2013, digitising bill payments in Tanzania saved DAWASCO⁵</p> <p>TZS 1,000,000,000 PER MONTH</p>	<p> INCREASED TRANSACTIONAL REVENUE</p> <p>USD 0.58 per month per Mobisol entrepreneur in transaction fee revenues to MTN.¹⁰</p>	<p> Short-term payment plans enabled by digital finance can increase uptake of portable solar lights by 2-5 over baseline cash up-front sales for Angaza Design¹² in Kenya.¹³</p>

1. <http://safewaternetwork.org/>

2. Data from Safe Water Network

3. <https://www.cleanteamtoilets.com/>

4. EY, WSUP, 2017, The World Can't Wait for Sewers, [http://www.ey.com/Publication/vwLUAssets/ey-the-world-cant-wait-for-sewers/\\$File/ey-the-world-cant-wait-for-sewers.pdf](http://www.ey.com/Publication/vwLUAssets/ey-the-world-cant-wait-for-sewers/$File/ey-the-world-cant-wait-for-sewers.pdf)

5. GSMA State of the Industry report 2016, <http://www.gsma.com/mobilefordevelopment/programmes/mobile-money/industry-data-and-insights/sotir>

6. <http://www.plugintheworld.com/mobisol/>

7. www.fenixintl.com

8. GSMA, 2017, Lessons from the use of mobile in pay-as-you-go utility models, <http://www.gsma.com/mobilefordevelopment/wp-content/uploads/2017/01/Lessons-from-the-use-of-mobile-in-utility-pay-as-you-go-models.pdf>

9. GSMA, 2016, Mobisol: Pay-as-you-go Solar for entrepreneurs in Rwanda

10. <http://www.gsma.com/mobilefordevelopment/wp-content/uploads/2016/01/Mobisol-Pay-as-you-go-Solar-for-Entrepreneurs-in-Rwanda.pdf>

11. www.offgrid-electric.com

12. www.angaza.com

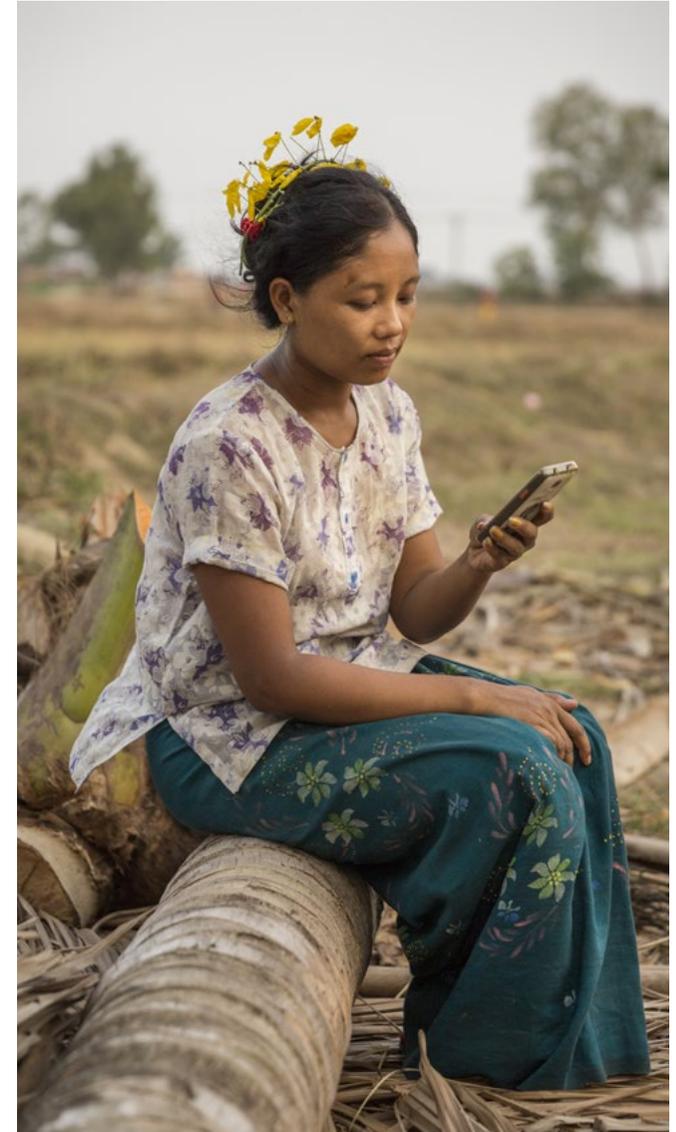
13. CGAP, 2015, Financial Innovation and Solar Power: Conquering Energy Poverty, <http://www.cgap.org/blog/financial-innovation-and-solar-power-conquering-energy-poverty>

Challenges faced by utility service providers

- Technical integration with mobile money platforms
- Building the right value proposition for customers
- Building mobile money awareness and educating customers
- Internal process and change management to handle mobile money payments including:
 - The right support structure in place to push mobile money payments over other forms of payments, including incentives for on the ground agent networks
 - Software upgrade to billing and accounting systems

This toolkit will mainly address the first of these challenges, in particular, choosing the most appropriate technical integration option with mobile money platforms (see sections 2.2, 2.3, and 3.1).

It will also touch upon how to reach customers effectively and considerations for agent coverage (section 3.3).



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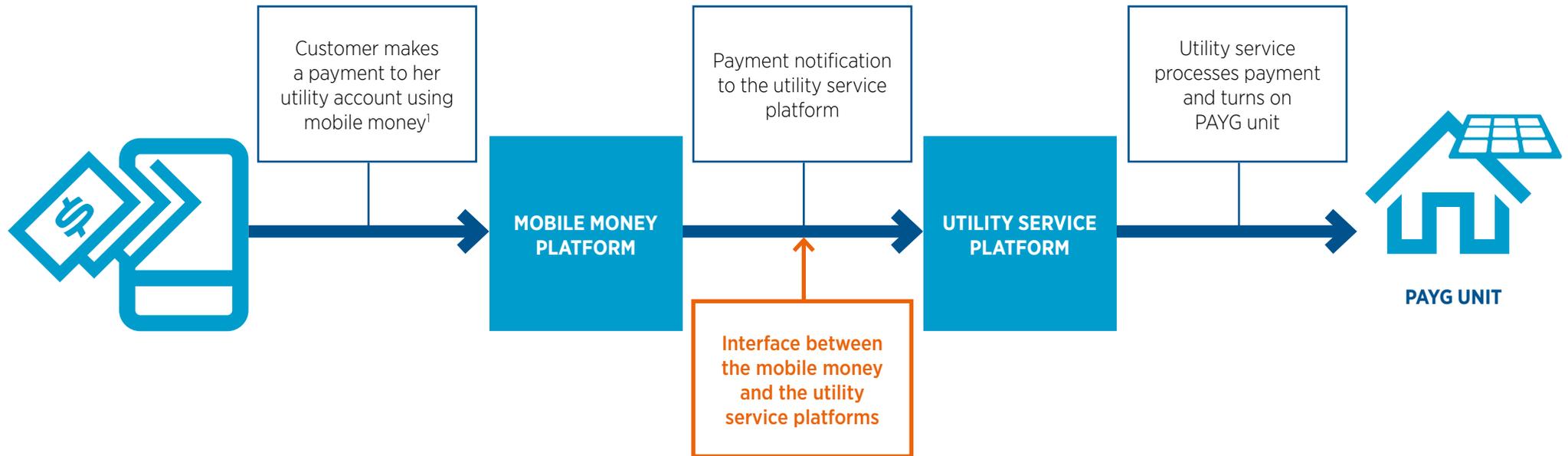
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2.2 Feasibility: What is mobile money integration?

Read this section to understand:

- The definition of **integration** with mobile money platforms
- **Instant Payment Notification:** what it is and why it is important for utility services in particular
- The **benefits** of integration for service providers
- **Alternative** ways of obtaining a payment notification without integration

What is mobile money integration?



Integration refers to when a utility service provider’s platform connects, communicates and interacts with a mobile money provider’s platform at a systems level. This happens automatically and without user intervention.

- The mobile money platform’s Application Programming Interface (API) dictates how the integration occurs.
- There are benefits that can be derived from integrating the utility service provider’s systems with the mobile money platform. For example, if an Instant Payment Notification (IPN) is key for service delivery, the utility service provider’s platform can interface with the mobile money platform to obtain the IPN.

1. Note that the flow of money from the customer wallet to the utility service provider’s account is not shown here.

What is an Instant Payment Notification?

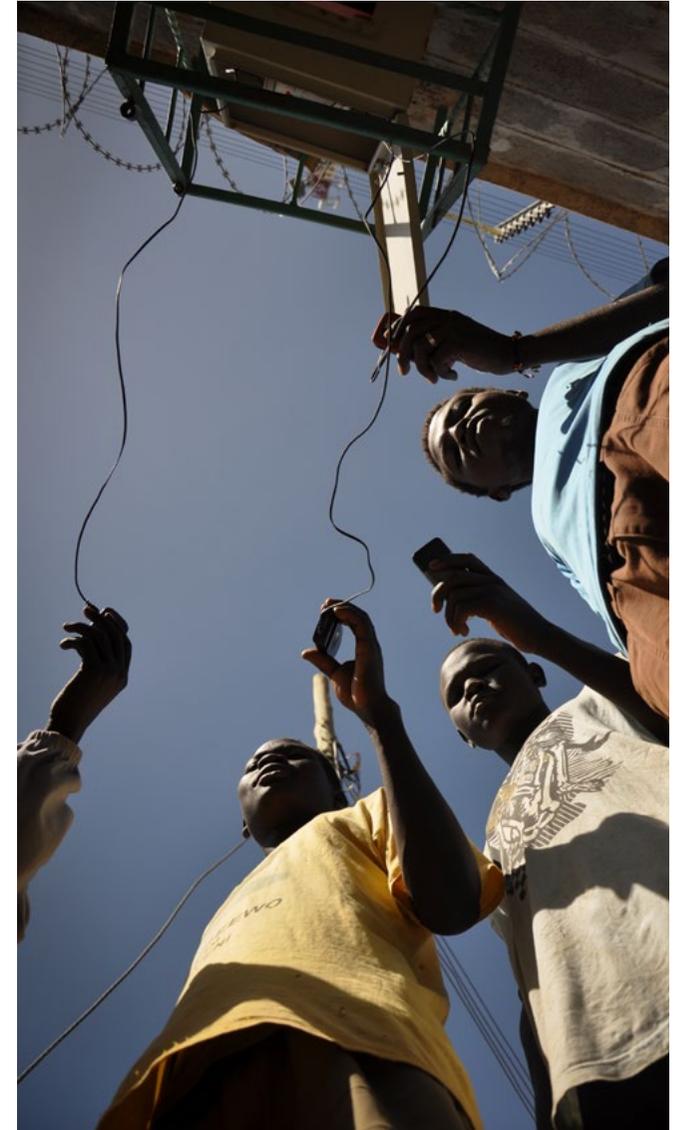
- **Instant Payment Notification (IPN)** is a method for the mobile money platform to inform the service provider's platform in real-time that a payment has been made.
- The mobile money platform informs both the payer and payee when a bill payment is made. This notification of a payment transaction is used for reporting and reconciliation purposes and is usually made by SMS and in web reports.
- **For pay-as-you-go services, obtaining a notification and processing a payment transaction in real-time or near real-time** is crucial.
- A real-time payment notification is necessary for the utility service provider to **process the payment immediately** and **turn on the pay-as-you-go device**, e.g. the solar home system or prepaid water meter, for a seamless experience for the utility customer.



The **IPN** is one of the key reasons for integration with mobile money platforms, although it is possible to obtain a notification and process a payment in real-time through workarounds.

What are the benefits of integration for utility service providers?

- ☒ **Reduced manual** intervention leading to less fraud and losses
- ☒ Support deployments at **large scale**
- ☒ **Faster** payment processing and notifications
- ☒ With more complex integrations, **support for advanced functionality** that may be available on the mobile money platform such as:
 - **Real-time validation of input data:** for instance, rejection of incorrect account number. This pre-empts customer complaints and the roll-back of payment transactions.
 - **Bill payment amount** queried from the utility service platform and displayed to customers before payment. This prevents data entry errors and is more user-friendly.
 - **Payment reversal**
- ☒ Facilitates roll-out of **future functionality**



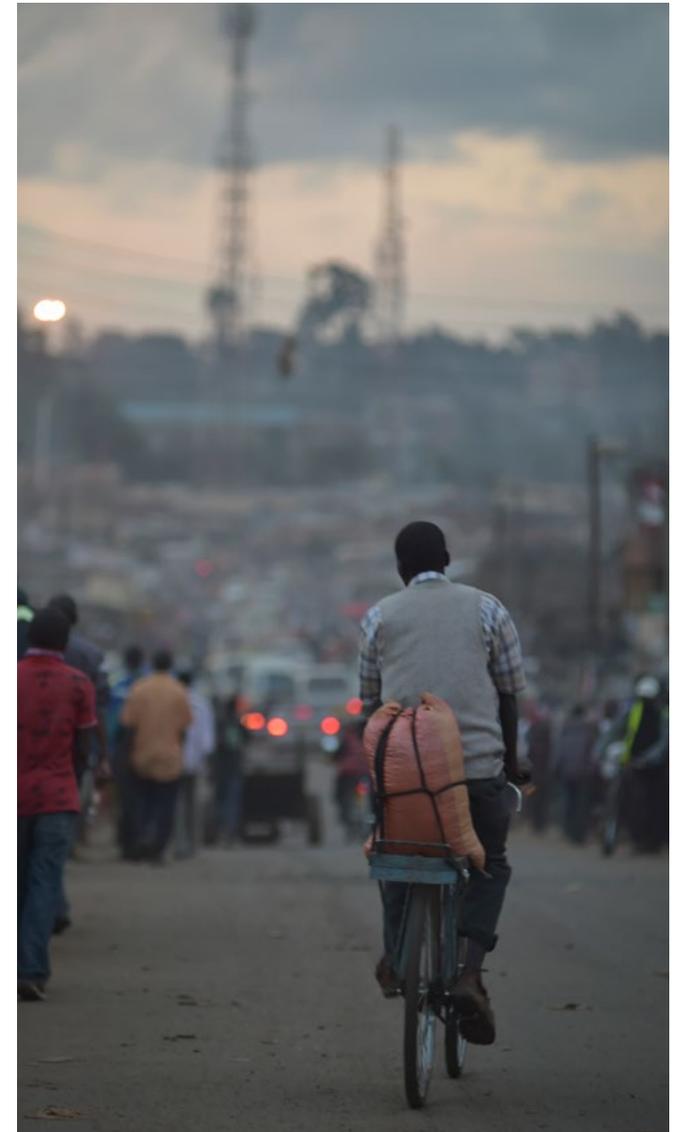
What are the alternatives to integration?

Below are some alternatives on how to obtain payment notifications without integration:

GSM modem or SMS server	Using a GSM Modem or dongle to receive and process the standard SMS notifications sent when a payment is made
Web scraping	Extracting transaction information from reports on the web interface provided by the mobile money provider
File transfer	Payment transaction information transferred at periodic intervals by the mobile money provider (Excel or FTP)

- For the first two options, a service provider can process payment transactions in real-time whereas the last option usually occurs in batch mode at periodic intervals.
- A certain level of automation is possible depending on what is provided by the mobile money provider.

Note: Where there is manual intervention, measures must be put in place to ensure data integrity.



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2.3 Feasibility: What is the business case for mobile money integration?

Read this section to understand:

- The **different components that form the business case** of the utility service provider for mobile money integration

Overview of the business case components

A business case must justify the need for integration for the utility service provider. The forecast transaction volumes must make commercial sense to the proposed integration partner i.e. mobile money provider or aggregator (see section 3.1).

Forecast transaction volumes	Cost Drivers	Benefits
Number of customers	Fees	Increased revenues
	Transaction fees	Increased penetration and number of customers
	Setup fees	
Frequency of payment	Minimum guarantee	Cost savings
	Support fees	Fraud and loss prevention
	Reporting fees	
Service attrition rate	API fees	Faster and automated processes
	Resources	
	Time	
Payment default rate	Impact on processes and internal systems	Reduced number of errors
	Incentives and commissions	

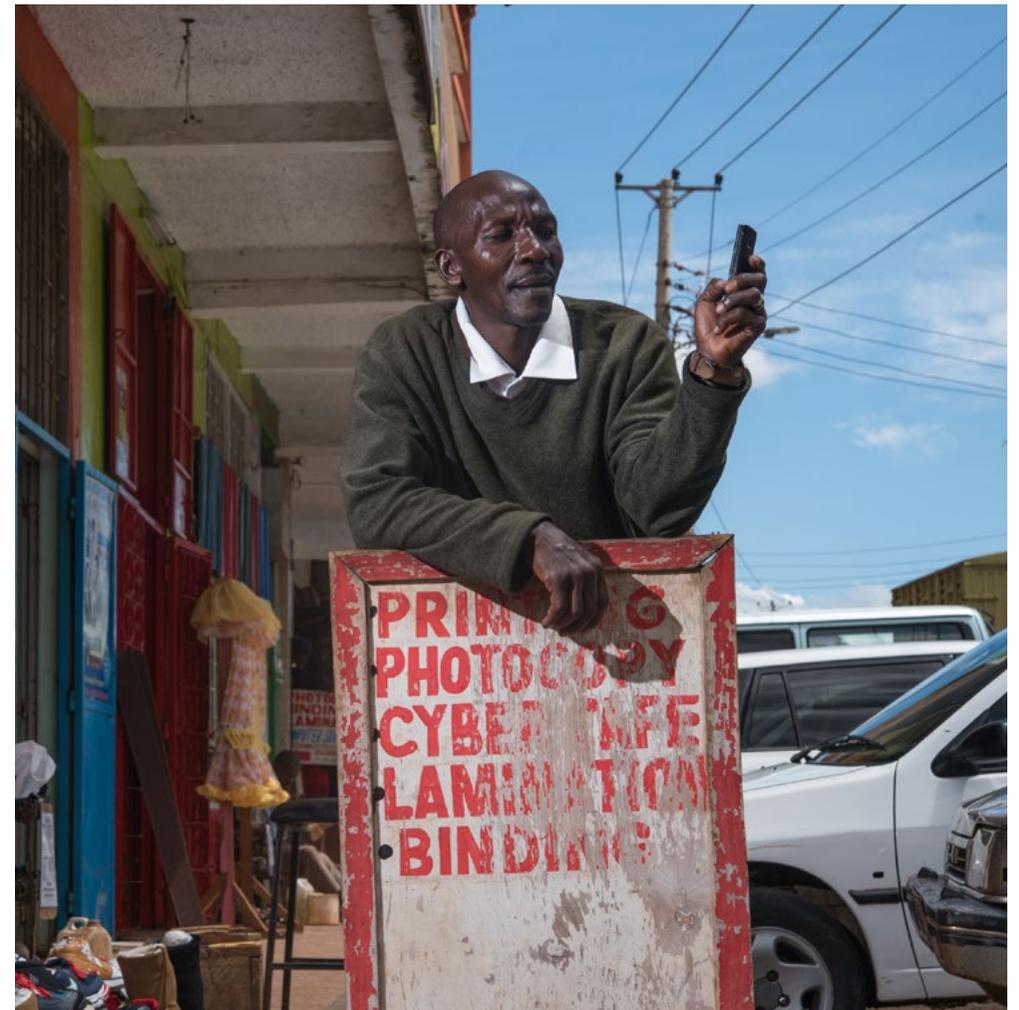
Main variables for the business case

1 Transaction volume

Transaction volume forecasted over 1-2 years is the key metric that the proposed integration partner, such as a mobile money provider or aggregator, will use to evaluate a potential integration with the utility service provider.

Key assumptions:

- Number of customers
- Frequency of mobile money payments (daily, weekly, monthly)
- Service attrition rate
- Payment default rate



Main variables for the business case

2

Cost drivers: Fees. A combination of the following fees may apply:

i. Transaction fees

- Revenue-share basis, i.e. % of each transaction, or flat-fee, usually per volume tier
- Who pays for this transaction fee, the service provider, the end customer or the operator (i.e. no fee is charged), varies by mobile money provider and can be negotiated
- Depending on the market, aggregators may charge 3% - 5% whereas a mobile money provider will typically charge 1% - 2% or as high as 3.5% in some markets

ii. Setup fees

- **One-off costs** from the platform vendor to integrate with a new service provider
- Cost of the **resources** necessary for the aggregator to integrate with a new service provider
- A rough estimate for setup fees would be USD 15,000 - 25,000; however, this is specific to each mobile money provider or aggregator partner

iii. Minimum guarantee

- If the monthly volume of transactions is deemed too low or uncertain, the mobile money provider or aggregator may charge a minimum guarantee whereby a service provider pays a minimum amount every month

Main variables for the business case

2 Cost drivers: Fees. (Continued)

iv. Support fees

- Support fees, for instance fees per troubleshooting ticket raised, may be charged

v. Reporting fees

- Fees to access more advanced reporting and data analysis functions

vi. Application Programming Interface (API) fees

- An API integration or pay-per-use fee may be charged¹
- IPN is an example of a functionality available through API integration. Other advanced functionalities may be available through more complex bi-directional API integration (refer to *Benefits of mobile money integration* slide)

Fees can be decreased once you demonstrate scale:

- If the transaction volumes proposed are deemed attractive enough (i.e. above a certain threshold), the mobile money provider or aggregator may waive some fees (such as set up fees and minimum guarantees).
- Transaction fees can be decreased gradually as scale is achieved.
 - One service provider interviewed indicated mobile money providers were willing to drop fees once the service exceeded USD 20,000 per month in transaction value.

1. GSMA, 2016, APIs: A bridge between mobile money operators and start-ups in emerging markets, <http://www.gsma.com/mobilefordevelopment/programme/ecosystem-accelerator/apis-bridge-mobile-operators-start-ups-emerging-markets>

Main variables for the business case

2

Cost drivers: Other cost drivers include:

Resources:

- It is strongly recommended that utility service providers hire someone who has previous expertise (either with full mobile money integration or with SMS / web / file transfer integration) to work with the mobile money provider or aggregator engineers

Time required:

- Three to six months is the average time required quoted by interviewees
- All advice unanimously highlights that the time required is always much more than initially anticipated

Impact on processes and internal systems:

- Consider whether billing and accounting systems will need to be upgraded
- Staff training on new processes

Incentives and commissions needed:

- For agents to educate customers and encourage mobile money payments
- For customers (where applicable) to adopt mobile money payments over cash or other forms of payment

Main variables for the business case

3 Benefits

Although difficult to quantify, the following benefits should be included in the business case when applicable:

- Increased revenue through higher collection rates
- Increased penetration and number of customers
- Cost savings linked to:
 - Reduced cost of payment collection, including labor cost reduction
 - Faster and automated processes, e.g. reconciliation
- Fraud and loss prevention

Benefits linked to integration in particular:

- Faster and automated processes, e.g. for reconciliation
- Reduced number of errors due to manual data entry

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3.1 Implementation: When is mobile money integration necessary?

Read this section to understand:

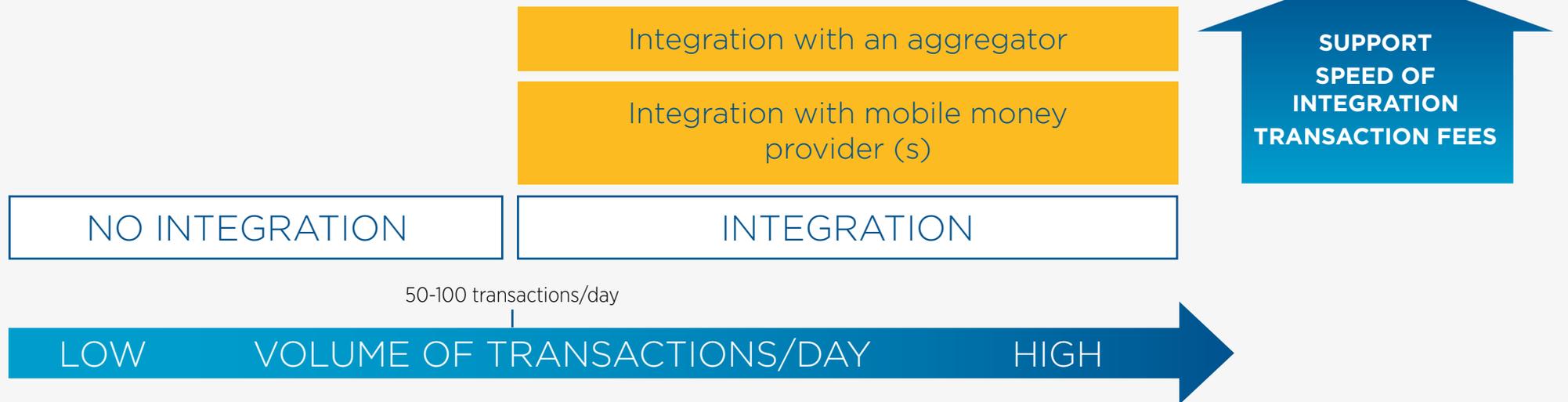
- The **different options for interfacing** between service provider and mobile money platforms
- The **rule of thumb** to determine when integration is required
- The **comparison between payment partners**, mobile money providers and aggregators, with which integration can be done.

Overview of interface and integration options

Options to obtain the Instant Payment Notification include:

1. No integration (refer to “What are the alternatives to integration?”)
2. Integration with
 - a) Mobile money provider (s)
 - b) An aggregator

CONSIDERATIONS AND TRADE-OFFS OF INTEGRATION OPTIONS



There is value in integration but above a certain scale only.

Integration with mobile money providers vs. with aggregators is a trade-off between transaction fees vs. ease and speed.

When is integration necessary?



Key Consideration: Is there a clear business case behind integration?

Number of customers
served in a first phase

Frequency
of payments: daily, weekly or monthly?



What is the expected number of transactions per day?



There is value in integration above a certain scale.
Rule of thumb: For less than 50 - 100 transactions/day, integration is not required.

< 50-100 TRANSACTIONS/DAY
INTEGRATION IS NOT REQUIRED

How “instant” does the processing of a payment transaction have to be?

For example, in the case of a monthly payment schedule, a capped delay (e.g. a few hours) in processing a payment may be practical and not detrimental to the user experience.

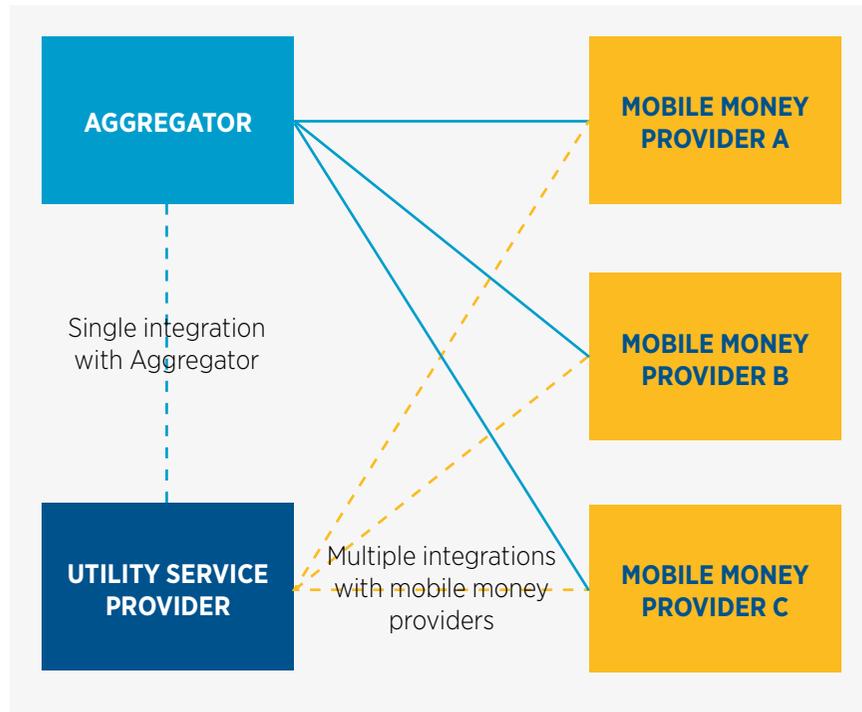


- For **daily** payments, depending on the number of customers, integration is probably needed.
- For a **weekly** payment schedule, it may be needed.
- For a **monthly** payment schedule, it may **not** be needed.

Note: Mobile money providers have given the higher threshold of 100 transactions per day and service providers the lower one of 50 transactions per day.

Who should you integrate with?

Mobile money provider(s) or aggregators?



Trade-off between costs vs. ease and speed

	Mobile money provider	Aggregator
Main benefit	<ul style="list-style-type: none"> ● Lower transaction fees 	<ul style="list-style-type: none"> ● Single integration for multiple mobile money providers
Support	<ul style="list-style-type: none"> ● Mobile money providers may not have the capacity or the resources in-house to support integration. The expertise may sit with the platform vendor based outside of the market and the costs from the vendor for the integration and the IPN will be passed on to the service provider. 	<ul style="list-style-type: none"> ● Aggregators usually provide support for integration and additional services such as revenue assurance, reconciliation, payment reversals, and even credit scoring.
Costs (see section 2.3)	<ul style="list-style-type: none"> ● Mobile money providers usually charge lower transaction fees than aggregators 	<ul style="list-style-type: none"> ● As aggregators have to share fees with the mobile money providers, they charge a premium above the normal transaction fees and may also charge setup fees, minimum guarantees, and support fees.

For an in-depth view of aggregators in East Africa, please refer to CGAP's Understanding the East African Aggregator Landscape.¹

1. <https://www.slideshare.net/CGAP/understanding-the-east-african-aggregator-landscape>

Who should you integrate with?

Other considerations:

- Mobile money providers' resources are limited and they will therefore prioritize integration with service providers that offer a high number of transactions.
- There are other vendors that can offer support and integration with multiple mobile money providers as part of their offer of enabling pay-as-you-go in products and services.
- In some cases, the payment partner will require a Virtual Private Network (VPN) to be set up prior to integration. Setting up this VPN may be time consuming, in particular if the utility service provider's server hosting service does not offer VPN services that meet the payment partner's VPN requirements.



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3.2 Implementation: What are the legal requirements?

Read this section to understand:

- The **legal considerations** when deploying mobile money payments
For other general legal considerations, please consult GSMA M4D's **Legal considerations for partnerships between mobile operators and start-ups**.¹

1. <http://www.gsma.com/mobilefordevelopment/wp-content/uploads/2017/01/Legal-considerations-for-partnerships-between-mobile-operators-start-ups.pdf>

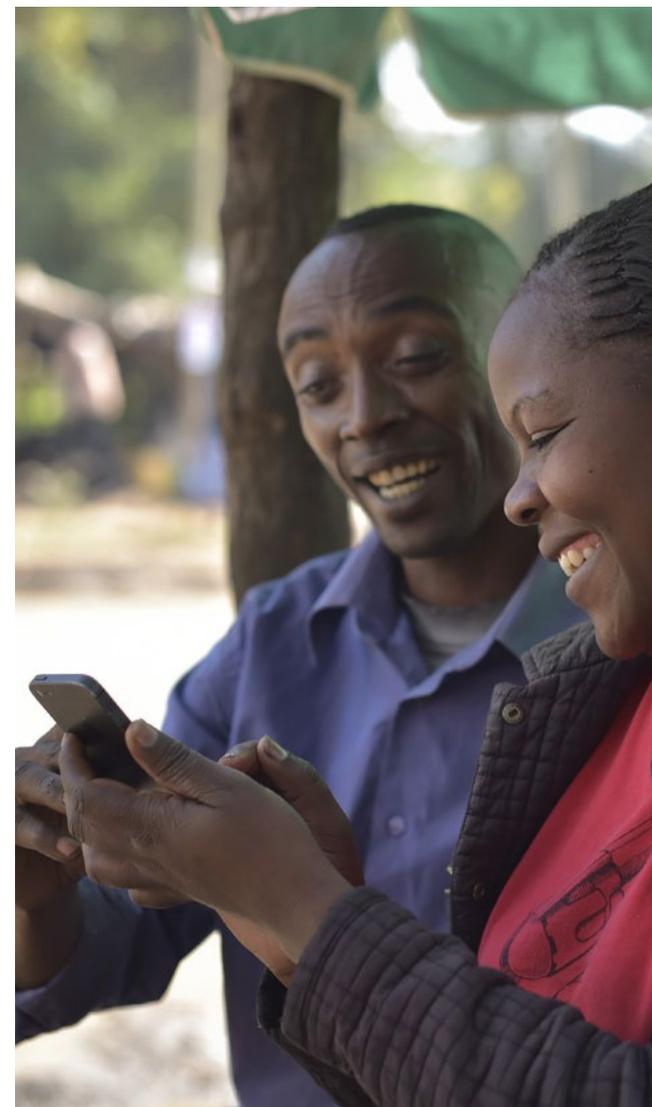
Legal requirements

It is important for utility service providers to take the following legal aspects into consideration:

1. Do both parties follow good **data privacy practices** when collecting, processing, and/or transmitting customers' personal data?
2. What **dispute resolution mechanisms** have been put in place to resolve any issues that arise between:
 - i. Between the customer and the utility service provider?
 - ii. Between the customer and the mobile money provider?
 - iii. Between the utility service provider and the mobile money provider?
3. Have both parties agreed on the **transaction charges**? Will the transaction charge be paid by the customer, utility provider or both?
4. Have both parties agreed on the **minimum settlement value and timings**?
 - i. **Auto-settlement:** will the payment partner automatically credit the utility service provider's account?
 - ii. **Service provider-initiated:** will the utility service provider need to invoice or request settlement (e.g. from a portal) from the payment partner?

In both cases, there might be a minimum threshold above which the settlement is triggered.

5. Are the **roles and responsibilities** of each party clearly articulated and defined? Service level agreements must be discussed and agreed upon by both parties.
6. Does the service provider understand what **tax responsibilities** apply to the payments they receive and their obligations to the relevant tax authorities? Tax responsibilities vary from country to country. It is important to be clear on the tax implication if any.



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3.3 Implementation: How can customers be reached effectively?

Read this section to understand:

- The role **agents** play in supporting mobile money utility payments
- The **consumer journey and experience** when using mobile money
- The difference between **bill and merchant payments**
- The **main parameters** used for reporting and reconciliation
- What to consider in **customer marketing and awareness** initiatives when implementing mobile money payments

How can customers be reached effectively?

Key questions:



Are mobile money **agents** available where customers are?



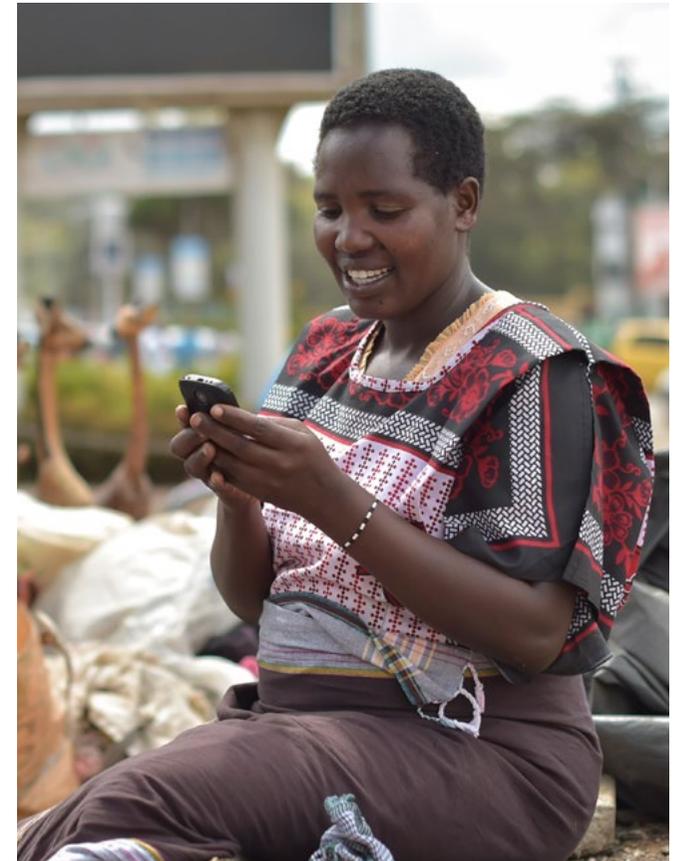
How will **customers** make **utility payments** via mobile money?



How will you **educate customers** and **create awareness** about paying via mobile money?

1. Are mobile money agents available where customers are?

- You will need to check that there is sufficient mobile money agent coverage in your service areas so that travel and access to agents is not a barrier that your customers will face
- If the coverage is not wide enough, there are two options that service providers have implemented:
 1. Coordinate with the payment partner (either mobile money provider or aggregator in selected cases) to ensure they deploy agents where required
 2. Have your on-the-ground support staff become mobile money agents
- Managing agents will also require:
 1. Training and the right incentives to be offered to support the new service and its customers
 2. Agent support structure such as dedicated agent lines and/or relationship managers



Crucially, removing objections that the agents themselves may have with mobile money is essential for them to promote the use of mobile money in turn to customers.

2. How will customers make utility payments via mobile money?

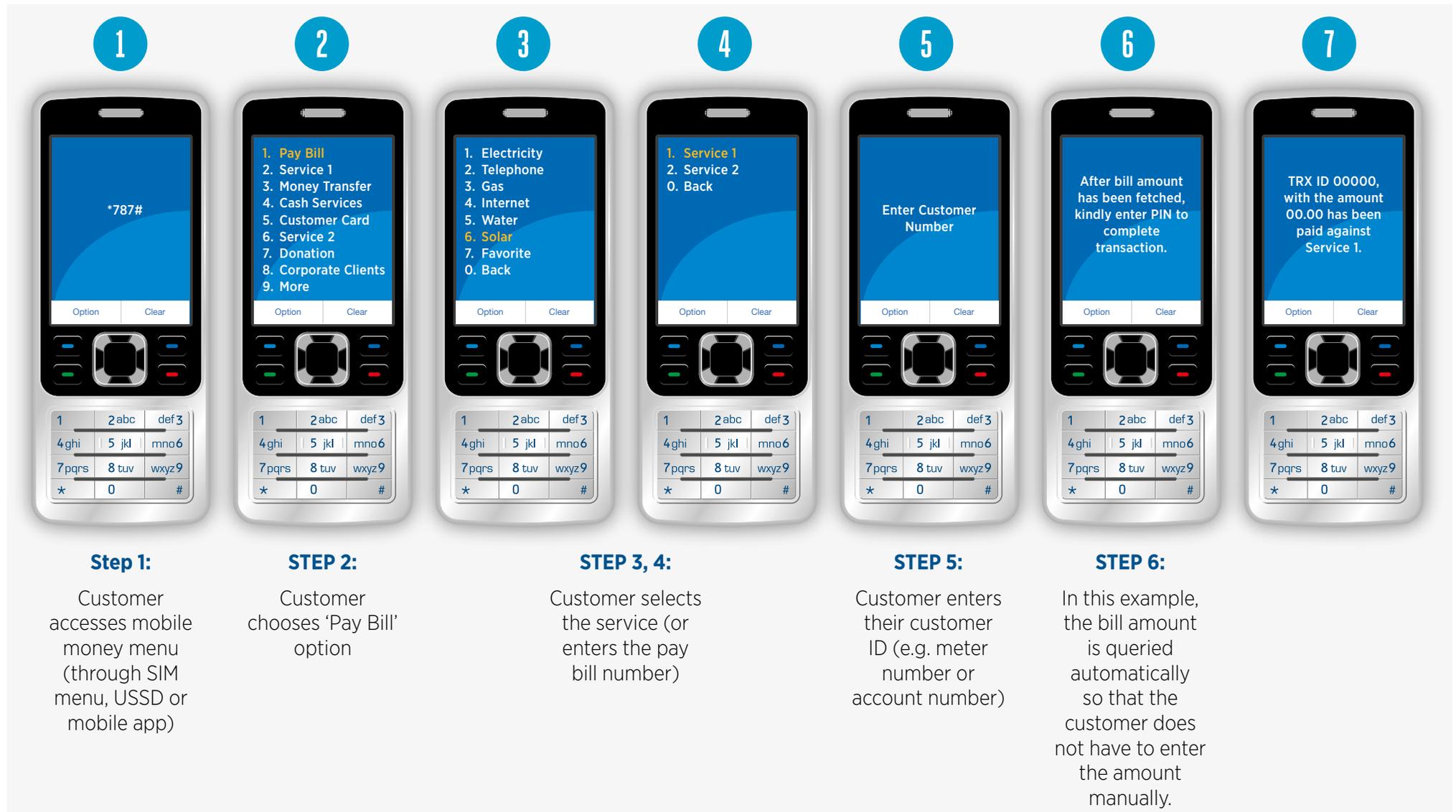
- Customers will generally make transactions directly through their mobile money account, or via over-the-counter (OTC) transactions.
- In some markets, the Over-The-Counter (OTC) model is prevalent where the mobile money agent carries out the payment transaction to the utility service provider on behalf of the customer.
- While OTC can be easier when a utility service is first launched in areas where mobile money awareness and usage is low, it presents a certain number of drawbacks:

For customers	For potential partners you would like to attract
Creates reliance on agent's schedule and availability as the customer and agent need to meet physically	Does not promote independent use of the mobile wallet and therefore limits the attractiveness of the service to mobile money providers.
Decreased ability to schedule payments	Does not promote financial inclusion in general, which may limit the attractiveness of the service to certain donors and investors
Limits customer's ability to enjoy future services, e.g. additional credit products, since customer data is unavailable	

- There are various channels that a customer can use to make a mobile money payment, and these are often determined by which channels the mobile money operator has enabled on their platform.
- These channels include;
 - USSD menu
 - SIM toolkit menu (i.e. an option on the SIM menu)
 - Mobile app
 - Short codes

The following diagram illustrates a utility bill payment made by a customer.

Customer experience making a utility bill payment



Utility payments through the Pay Bill functionality

- Each utility service provider is given a **unique pay bill number** by the mobile money provider, which is used to make a utility payment via mobile money.
- The utility service provider gives each customer a **unique account number** that identifies the customer when making a bill payment. This can be the meter number or a PAYG unit number, for example.
- In some cases, the utility service bill payment can be **included in the mobile money menu**:
 - This makes it easier for customers and agents, as they do not have to remember the pay bill number
 - Inclusion in the mobile money menu needs to be negotiated with the mobile money provider



Bill payments vs. merchant payments

Bill Payment	Merchant Payment
For situations where the customer has an official relationship with the organisation to whom they are making a payment and have an “account number” or “bill number” that helps identify them as customers.	For face to face payments of goods and services . There is no pre-existing relationship between the customer and the organisation.
Automated recognition of payment and reconciled payment.	Transactions are not reconciled. <i>Note: Using merchant payments may require some manual intervention to ensure the correct customer accounts are credited.</i>
Depending on the market, setting up bill payments may require additional Know-Your-Customer information compared to merchant payments.	Setup for merchant payments is usually quicker than for bill payments.

One service provider we interviewed started with merchant payments first as a quick way to deploy mobile money payments and test customer acceptance. However, since merchant payment transactions are not reconciled, they had to call customers to verify they had made their payments. They then transitioned to bill payments once they had a few thousand customers.

A note on reporting

Transaction reconciliation

- Strong reconciliation processes are necessary to prevent and address customer complaints and to agree on fees due between the service provider and the payment partner.
- The payment partner should provide transaction reports containing the following minimum information that can be shared in the following ways:

Transaction reports	Mode of transfer of reporting information
Timestamp	Web interface
Customer mobile number	File/email transfer or batch processing
Customer unique ID Payment amount	Included in the Instant Payment Notification
Agent ID (where applicable)	
Agent location (where applicable)	
Customer location (where applicable)	

3. How will you educate customers and create awareness about paying via mobile money?

When deploying mobile money payments, you will need to inform and educate customers that they can now make payments for your utility service via mobile money.

- Step-by-step **instructions** should be given to describe the **customer journey** when making a mobile money payment:
 - Adapted to levels of penetration and familiarity with mobile money in your service area,
 - Included in service's brochure and in other sales and marketing material.
- On-the-ground **service agents** are often necessary to open accounts and educate customers in person until they can become more confident and can make payments independently. You might have to liaise with mobile money providers on this.¹
- The **value proposition** (e.g. convenience) and the **benefits** of using mobile money must be made very clear to customers:
 - Especially important when the primary benefits are to the service provider such as reduced operational costs.
- If customers perceive an added cost of using mobile money, convincing them to use it will be more arduous.
 - It is therefore advisable to be cautious about how transaction fees are communicated and whether they can be absorbed or included in the overall pricing structure.
- Where applicable, **incentives** for the use of mobile money can be considered to boost adoption and usage.



Photo courtesy of BRAC

1. GSMA, 2016, PEG Ghana: Licensing Solar-as-a-service in a new market, http://www.gsma.com/mobilefordevelopment/wp-content/uploads/2016/03/GSMA_Report_PEG_Ghana_Licensing_Solar_As_A_Service.pdf

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4.1 GSMA Support: Harmonised Mobile Money APIs

Read this section to understand:

- The GSMA **Mobile Money API** initiative and what this means for your business

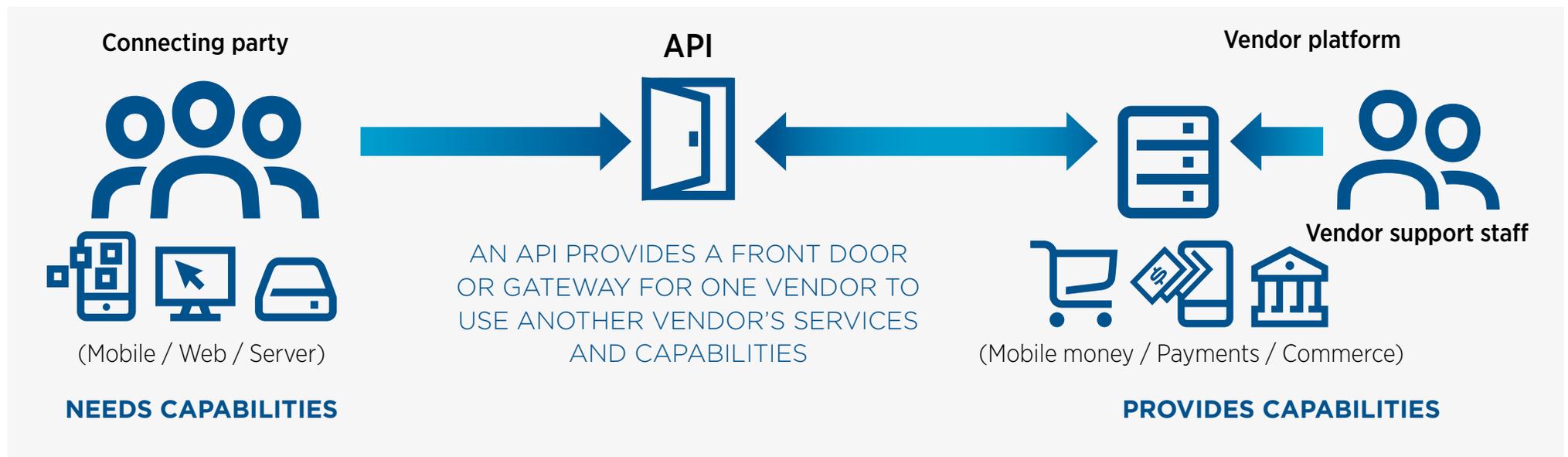
Overview of the GSMA's Mobile Money API initiative

- In March 2016, the design of best practice Mobile Money APIs started through wide industry contribution.
- The purpose of these APIs is to help everyone in the mobile money ecosystem, including utility service providers, speak the same technical language to enable greater integration with the wider ecosystem and to accelerate a new wave of growth and innovation.
- The first set of APIs were published October 2016, and now broad roll-out and adoption is underway throughout the industry.



Why are APIs important to service providers?

- An API hides the complexity of a vendor's platform and capabilities by providing a simple interface to interact with and provide the communication between different systems.
- Today, there are many different APIs in the mobile money ecosystem with no common standard.



Verticals GSMA is working with

 MOBILE OPERATORS	 PLATFORM VENDORS	 BANKS & PAYMENT PROVIDERS	 UTILITY PROVIDERS	 FINTECH & OTHER
<p>The GSMA works closely with its members to support industry efforts</p> <p>Operators decided the scope and capabilities the API should have, as well as key focus for ecosystem expansion</p>	<p>Platform vendors supply the mobile money technology which the operators use</p> <p>They have been very involved in shaping and designing the API to be compatible with their platforms</p>	<p>Bank-to-mobile transactions are core to the mobile money ecosystem. Partner banks provide clearing and settlement of funds</p> <p>Regional and international payment providers, and global banks, have co-designed APIs and policies</p>	<p>Utility providers play a core part in the mobile money ecosystem and often rely on mobile money to monetize their business</p> <p>Several main providers have co-designed the API</p>	<p>Many companies who require vendor services have been highly supportive of the initiative</p> <p>Companies have discussed the tools they require to ensure they can add their innovation & creativity to the ecosystem</p>



We are helping everyone in the mobile money ecosystem speak the same technical language to enable rapid system communication & collaboration.

Supported use cases & capabilities

The Mobile Money API is publicly available to all vendors. It covers a wide range of use cases and business arrangements that may occur within a mobile money proposition. It allows vendors to be highly flexible in which parts of the API they can use—a vendor may use only a part of the API as part of their compatibility.

 TRANSACTIONS	 ACCOUNTS	 BILLS	 QUOTATIONS
Adjustments Bill payments Deposits Disbursements International transfers Merchant payments Reversals Transfers Withdrawals	Account holder name Status Balance Statement entries Create and update debit mandates (pre-auths) Create & update account to account links	Bill payments Merchant payments View your account-associated bills	Request and view a quotation Receive single or multiple quotes

Call to action for service providers

Talk to your payment partners about GSMA mobile money API adoption today.
You can get more information [here](http://www.gsma.com/mobilefordevelopment/programme/mobile-money/launching-gsma-mobile-money-apis-to-raise-industry-capabilities)¹

1. <http://www.gsma.com/mobilefordevelopment/programme/mobile-money/launching-gsma-mobile-money-apis-to-raise-industry-capabilities>

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4.2 GSMA Support: General recommendations

We asked utility service providers for key advice on how to best work with mobile money providers:

- **Use your scale-up numbers** when discussing integration with mobile money providers. Do not refer to your pilot numbers.
- Start with **existing technology** that the mobile money provider has already put in place for other service providers. Start the same way and build on existing solutions when you have results to show and can progress to more sophisticated solutions.
- Fully understand the **technical requirements** and make sure your organisation and its partners are ready.
- Working with the biggest mobile money provider in the market is tempting but it may be easier and better to work with the **most receptive** ones first.



Further reading

- M4D Utilities' Spectrum of Engagement in [Unlocking access to utility services: the transformational value of mobile](#)¹
- Ecosystem Accelerator's [Building Synergies: How Mobile Operators and Start-ups Can Partner for Impact in Emerging Markets](#)²
- Disaster Response's [Mobile Network Operator: Partnership Guidelines](#)³
- Connected Women's [Mutual value, mutual gain: best practices form successful social sector partnerships with MNOs](#)⁴

1. <http://www.gsma.com/mobilefordevelopment/wp-content/uploads/2016/07/Mobile-for-Development-Utilities-Annual-Report.pdf>

2. http://www.gsma.com/mobilefordevelopment/wp-content/uploads/2017/01/Building-Synergies_How-Mobile-Operators-and-Start-ups-Can-Partner-for-Impact-in-Emerging-Markets.pdf

3. http://www.gsma.com/mobilefordevelopment/wp-content/uploads/2016/03/GSMA_Partnership_MNOs_NGOs.pdf

4. <http://www.gsma.com/mobilefordevelopment/programme/connected-women/mutual-value-mutual-gain-best-practices-successful-social-sector-partnerships-mnos>

Glossary

Term	Definition
Agent outlet	An agent outlet is a location where one or several provider-issued tills are used to conduct transactions for clients.
Aggregator	Aggregators are entities that act as the conduit between payment instrument providers (mobile money /e-money providers and banks) and third parties.
Application programming interface (API)	For the mobile money industry, an application programming interface is the set of design principles, objects, and behaviours for software developers to enable interactions between mobile money platforms and vendors.
Bill payment	A payment made by a person from either their mobile money account or over-the-counter to a biller or a billing organisation via a mobile money platform in exchange for services provided.
Liquidity management	The management of the balance of cash and e-money held by a mobile money agent in order to meet customers' demands to purchase (cash-in) or sell (cash-out) e-money. The key metric used to measure the liquidity of an agent is the sum of their e-money and cash balances (also known as their float balance).
Merchant payment	A payment made from a mobile money account via a mobile money platform to a retail or online merchant in exchange for goods or services.
Over-the-counter (OTC) services	Some mobile money services are being offered primarily over-the-counter (OTC). In such cases, a mobile money agent performs the transactions on behalf of the customer, who does not need to have a mobile money account to use the service.
Pay-as-you-go (PAYG)	Prepaying for a service before using it
Platform	The hardware and software that enables the provision of a mobile money service
Utility Service Provider	A provider of energy, water or sanitation services
Virtual Private Network (VPN)	A <i>virtual private network (VPN)</i> extends a private network across a public network, such as the Internet. It enables users to send and receive data across shared or public networks as if their computing devices were directly connected to the private network.







For more information on the Mobile for Development Utilities programme visit:
<http://www.gsma.com/mobilefordevelopment/programmes/m4dutilities>

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