

Making Mobile Money Work For All

A Review of the Jordan Mobile Payments System



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Acronyms

B2P: Business to Person

DFS: Digital Financial Services

JOD: Jordanian Dinar

MFI: Microfinance Institution

P2P: Person to Person

POS: Point of Sale

CBJ: Central Bank of Jordan

G2P: Government to Person

KYC: Know Your Customer

MNO: Mobile Network Operator

P2B: Person to Business

PSP: Payment Services Provider

USSD: Unstructured Supplementary Service Data

Glossary ¹

Airtime Top-up:

When a mobile phone user purchases credit for their phone plan.

Agent-level interoperability:

Refers to agents of one service provider offering services to customers of another service provider.

Cash-In, Cash-Out:

Cash exchanged for e-money. E-money exchanged for cash.

Cross-Platform Level Interoperability:

Refers to the customers' ability to undertake money transfers between two accounts held with different commercially and technically independent services providers participating within different platforms (e.g., mobile wallet to bank account).

Digital Financial Services:

The broad range of financial services accessed and delivered through digital instruments, including payments, credit, savings, remittances, and insurance.

E-money:

A type of monetary value electronically recorded. It is generally understood that e-money: (i) is issued upon receipt of funds in an amount no less in value than the value of the e-money issued; (ii) is stored on an electronic device (e.g., a chip, prepaid card, mobile phone, or computer system); (iii) accepted as a means of payment by parties other than the issuer; and (iv) convertible into cash.

eFawateer.com:

Digital bill pay system owned by the Central Bank of Jordan and operated by private company MadfootCom. It allows many different types of transactions to be completed digitally, including utility bill pay, government payments, and payments to private sector goods and services providers.

JoMoPay:

Jordan Mobile Payments. Jordan's public-private mobile payment switch, operated by JoPACC (Jordan Payment and Clearing Company). JoMoPay processes and records all mobile money transactions. It also accesses all information about mobile wallet account holders.

Mobile Money:

A form of e-money, accessed through a mobile phone.

Mobile Payments:

A form of mobile financial services in which payments are initiated through a mobile phone (both smartphones and digital feature phones). In this report, this refers to payments that pass through the JoMoPay mobile wallet switch.

Mobile Wallet:

A type of e-wallet which is accessed through a mobile phone. Often used synonymously with mobile money account.

Merchants:

For the purposes of this report, 'merchants' are defined as any business selling a product or service, whether or not they transact using mobile money.

Switch:

A computer-based software system where transactions are routed. Generally, this occurs for the transaction to be rerouted to a different PSP and/or product, enabling interoperability. In Jordan, transactions by the same mobile services providers are also routed through the JoMoPay switch.

¹Most definitions taken from GIZ-CGAP report Paving the Way for Digital Financial Services in Jordan, June 2017

Executive Summary

Amidst crises affecting the world at an unprecedented scale, technology is facilitating the reach of the global economy to remote and hard-to-reach communities. From Somaliland to Mali, Bangladesh to Uganda, digital financial services are expanding and evolving to serve the needs of customers often excluded from traditional financial services.

Digital financial services, such as mobile payments, remittances, mobile wallets, and online lending platforms, create the opportunity for traditionally excluded populations to join the global economy, moving them from poverty to prosperity and driving inclusive economic growth around the world. Establishing acceptance and payments networks to facilitate mobile transfers is a critical first step on this path, but there are key barriers that keep people using cash. A range of ecosystem components must be in place to support the uptake of mobile payments, ranging from an enabling regulatory environment, well-developed mobile infrastructure, available human capital, stakeholder relationships and user trust.

Mercy Corps and Mastercard embarked on a research project to look at opportunities for the private sector and international organizations to work together to break through the barriers and drive greater acceptance to further inclusive economic growth. This paper examines the developing mobile payment system in Jordan, called the Jordan Mobile Payment (JoMoPay) system. It focuses on understanding the financial behavior of potential and current JoMoPay users, particularly merchants, identifying the most pressing challenges to mobile money uptake, and offering specific recommendations to facilitate increased adoption of mobile money.

Existing financial behavior of merchants and customers, and market, realities indicate that mobile payments are needed in Jordan. Further, this research finds that merchant adoption of mobile payments is potentially a key catalyst to increased mobile money usage and the long-term sustainability of the system. However, there are still a number of critical barriers to adoption that must be addressed, most importantly the lack of incentive for various merchant groups to use the system, a lack of awareness of this new technology among potential users, and technological and policy hurdles that make adoption at an individual user level difficult. If these challenges are not addressed in the short-term, there is a substantial risk of the mobile payment space in Jordan stagnating and not achieving the goals of payment modernization or financial inclusion. Specific recommendations to address these challenges include:

For payment service providers:

- Improve incentives to increase mobile wallet uptake, especially among small- and medium-sized merchants.
- Promote interoperability among different service providers in the system.
- Partner with early mobile money adopters to tailor products to their needs.
- Increase the effectiveness of feedback loops between agents, merchants and end users.
- Narrow the range of mobile money products available to ensure they deliver core functions effectively.

For domestic policy makers:

- Prioritize lowering barriers to merchant and user account registration.
- Mandate interoperability among different providers.
- Increase awareness of digital financial services among vulnerable groups.
- Mitigate negative perceptions of data protection vulnerabilities and tax implications for mobile money users.
- Ensure digital financial services' inclusiveness for refugee populations.

For humanitarian agencies, international support organizations and donors:

- Continue to advocate for a more inclusive mobile money system.
- Continue to incorporate mobile payments into cash transfer programs and financial inclusion programming where appropriate.
- Support digital financial literacy campaigns.

The growth of JoMoPay has been strong, and with a concerted effort from the stakeholders and active input from a diverse set of users, improvements can be made to unlock the potential of this important technology. Jordan's place as an early adopter of mobile money in the Middle East has important implications and learnings for the future of digital financial services at a regional and global level.

Background

As a leading global payments and technology company and a leading global humanitarian and development organization, respectively, Mastercard and Mercy Corps see huge potential in working together to move people from poverty to prosperity and drive inclusive economic growth around the world. It is through this shared vision that together we have impacted the lives of more than 90,000 people around the world over the last seven years. A key component of our global partnership has focused on building the capacity of both International NGOs and the private sector to advance the use of payments technology in humanitarian and development programming--notably through the use of mobile payments.

That work has broadened to include understanding how underserved populations can capitalize on Digital Financial Services (DFS) to increase economic engagement. In January 2019, Mastercard published **Reaching the Digital Economy's Last Mile**¹, which focused on the importance of ensuring "that the base of the pyramid (BOP) users can join, participate and benefit from growing digital economies." This paper continues that theme with a deep dive into one specific case of mobile money development in Jordan (called Jordan Mobile Payments or JoMoPay). Specific goals of this research include:

- Obtaining a comprehensive understanding of the current financial behavior of JoMoPay users, particularly merchants;
- Learning how and why JoMoPay users use digital financial services, including mobile payments; and
- Identifying some of the most promising applications for Digital Financial Services in Jordan in order to increase the uptake of mobile payments and facilitate inclusive economic growth.

These insights will also be used to identify the most pressing challenges to mobile money uptake facing various stakeholders and offer specific recommendations. These recommendations are intended to both facilitate adoption of mobile payment services and to also recommend specific systematic changes to more closely align the interests of the various stakeholders.

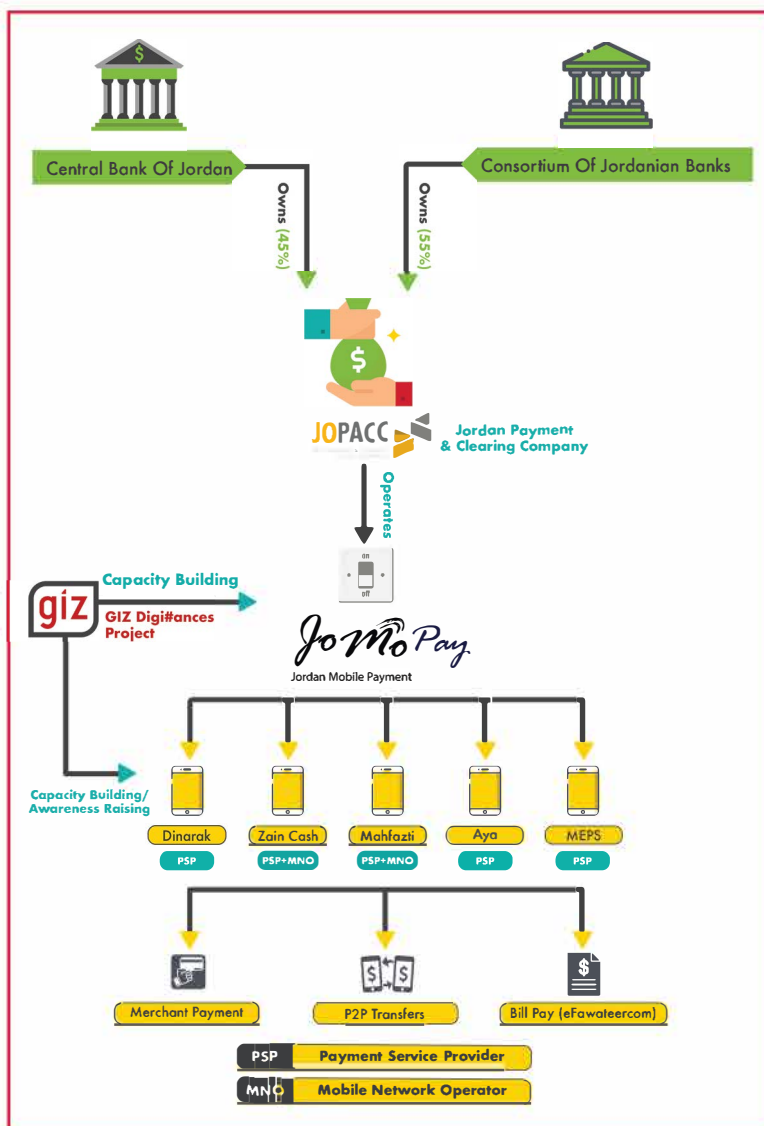
¹ <https://www.mastercardcenter.org/insights/digital-economy-last-mile>

Introduction to Mobile Money in Jordan

Mobile money in Jordan was launched in 2012 with the intention of building a country-wide mobile payments platform to reduce the reliance on cash in the Kingdom and support economic growth. Mobile payments were seen as a way to increase efficiencies and reduce costs while simultaneously addressing the broad lack of access to formal financial services. Policy makers prioritized the creation of an alternative, accessible financial services system in a country where 57.5% of residents do not have access to a bank account.

Additionally, while over 50% of Jordan's population reported borrowing money in 2017 only 17% borrowed from a formal financial institution. ²

The process of building JoMoPay started in late 2012 when the Central Bank of Jordan (CBJ) issued a request for proposals to build a national centralized mobile payments switch ³. Financial infrastructure technology company, ProgressSoft, was selected and the switch went live on March 31, 2014. In 2013, the CBJ released instructions for companies that were interested in providing mobile money products through the JoMoPay switch to end users. As of May 2019, there are five companies acting as Mobile Payment Service Providers (MPSPs) in Jordan. Their primary products are mobile wallets that stores monetary value and allows users to make various types of transactions. Two PSPs (Zain Cash and Mahfazti) are also Mobile Network Operators (MNOs), while the remaining three (Dinarak, Aya and MEPS) are standalone providers unaffiliated with a specific telecommunications company. The JoMoPay switch is a joint venture housed within the Jordan Payments and Clearing Company (JoPACC) and owned by a consortium of private banks (55% ownership stake) and the CBJ (45% ownership stake).

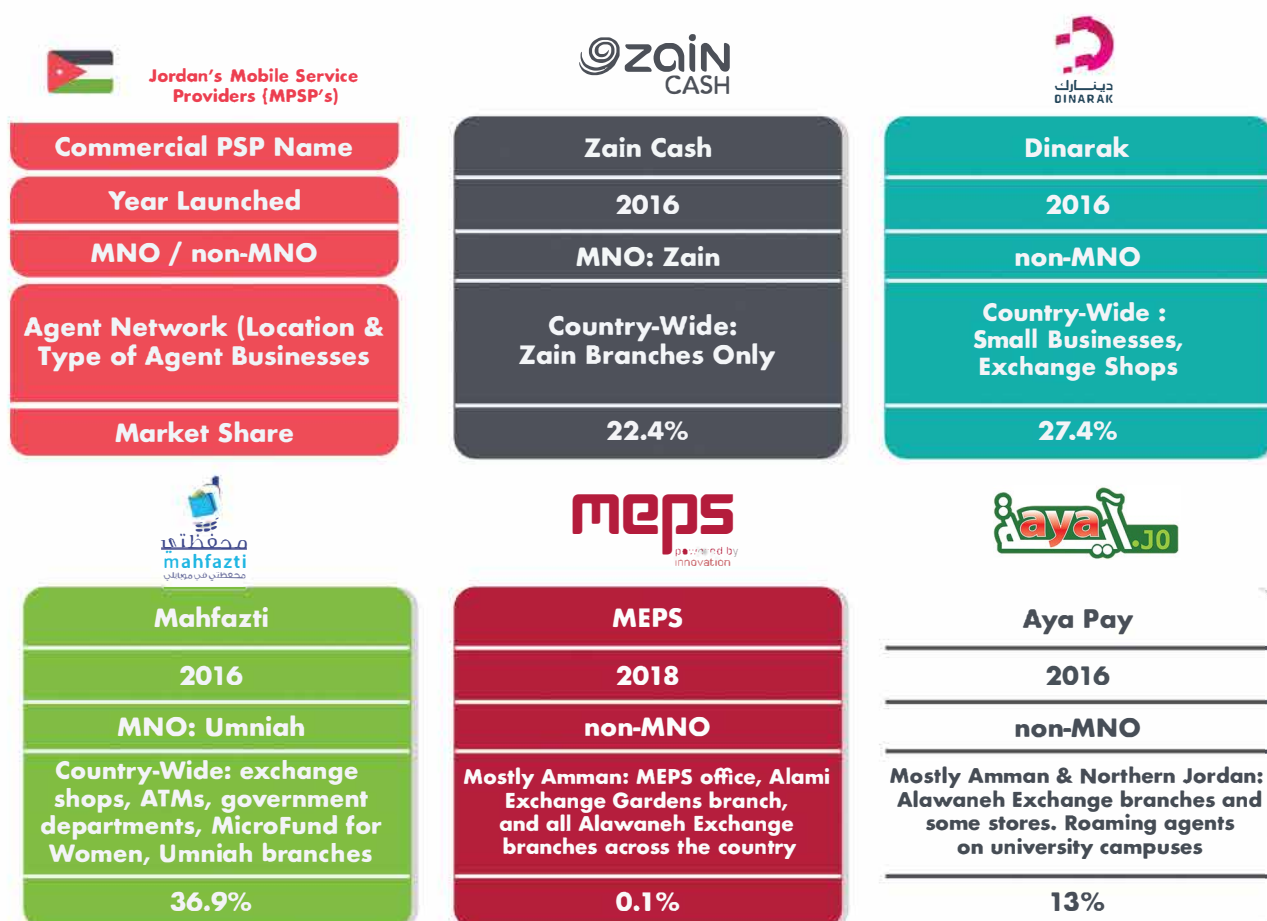


Overview of Jordan Mobile Payment (JoMoPay) ecosystem

²World Bank Findex data 2014, worldbank.org

³see 'Switch' in glossary for definition

Since its inception, JoMoPay has been designed, implemented, and supported by the Government of Jordan, private banks and financial service providers and a number of domestic and international development organizations and donors. Of particular note is the German Society for International Cooperation (GIZ) and their Digi#ances (pronounced 'Digitances') project. This project aims to improve access to remittances and other financial services for Syrian refugees and low-income Jordanians using digital solutions. In collaboration with the CBJ and the private sector (through a partnership with payment service provider Dinarak), Digi#ances tests mobile payment systems in its pilot projects, conducts financial literacy campaigns and advises on regulatory standards. Another important international supporter of mobile money in Jordan is the Bill and Melinda Gates Foundation's Level One project, which offers "a model for a country-level digital financial services system designed to bring the poor into the formal economy." In early 2018, the Gates Foundation donated USD 3 million to fund a financial inclusion department within the CBJ titled Mobile Money for Resilience (MM4R). Finally, Mastercard has supported the development of the JoMoPay system by providing consumers 'companion cards' linked to their mobile wallets. This has been an important contribution to the JoMoPay system and financial inclusion as it allows mobile money account holders who do not have a bank account to enjoy the services offered by having a debit card such as e-commerce and payment at Point of Sale (POS) systems without cash.

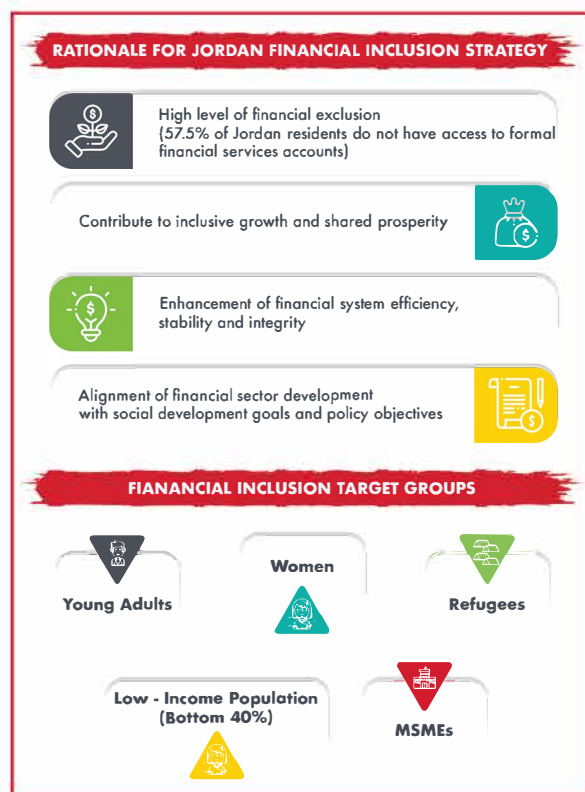


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Financial Inclusion within JoMoPay

Mercy Corps' definition of financial inclusion takes this a step further by emphasizing that products must actually be used, not just accessible. This is an important addition as it indicates that achieving financial inclusion requires more than just creating an inclusive system. As Mastercard recently highlighted in Reaching the Digital Economy's Last Mile, "Access alone, however, is not enough to achieve meaningful financial health. One-fourth of financial accounts opened in developing countries are dormant. Some account holders, as a recent study in Mexico showed, simply convert the digital payment to cash." Real financial inclusion requires efforts to ensure marginalized groups have the support and capabilities they need to use the system and that product development and marketing campaigns actively engage this clientele.

In Jordan, the National Financial Inclusion Strategy (NFIS) serves as the guiding document and locus for strategic coordination among the many stakeholders (including international supporters such as GIZ and the Gates Foundation) involved in financial inclusion efforts. A key element identified by the NFIS is access to financial services for Jordan's most vulnerable residents, specifically identified as Jordan's poorest 40% of residents, women, youth and refugees. For most of these people, utilizing a formal financial service, a bank account, is difficult or impossible. Minimum deposit requirements and balances, and strict civil documentation requirements make the process challenging. In particular, the vast majority of the almost 700,000 registered Syrian refugees living in Jordan do not have the required documentation to open a bank account.



Priorities from Jordan's National Financial Inclusion Strategy 2018-2020

Largely due to the perceived success of mobile money in places like Kenya and the growing rates of mobile phone usage among the world's poor, mobile money is seen as a promising entry point for financial inclusion as it is a relatively accessible medium with lower barriers to entry than other financial services. The CBJ quickly recognized that JoMoPay could be a valuable contributor to the National Financial Inclusion Strategy.

Figures as of Q1 2019	Jordan	Kenya
Population	9.7 million	52 million
No. of Registered Accounts	450,000	47 million
Registered Accounts as a % of Total Population	4.6%	90%
# of Transactions	164,319	1.74 Billion in 2018
# of Agents	901	205,745
Payment Switch Operator	Public-Private Partnership (Banks+Central Bank)	Private By PSPs
Regulated By	Central Bank of Jordan	Central Bank of Kenya

Comparison of Kenya and Jordan mobile money systems

The case of Kenya plays a particularly important role in bringing mobile money to Jordan, as then-Governor of the CBJ, Faris al-Sharaf, reportedly used the Kenyan mobile money ecosystem as a model for modernizing Jordan's payment systems⁴. While there is vigorous debate regarding the replicability of the success of M-Pesa (Kenya's most popular mobile money provider) outside Kenya, there is a general consensus amongst financial inclusion experts that broad financial inclusion cannot be achieved without ensuring low income populations can access and use digital financial services.

Research Methodology

For this report, over 50 merchants (business owners), PSPs (Payment Service Providers) and key stakeholders were interviewed between September-December 2018 in five of the 12 governorates of Jordan (Irbid, Zarqa, Amman, Ma'an and Aqaba). For the purpose of this research, merchants refer to businesses generally, whether or not they use mobile money or other digital financial services. Particular focus was given to last-mile merchants who interact with base-of-the-pyramid consumers. These merchants represent the highest number of transactions, and their preferred payment methods influence payment services for significant portions of the population. The findings and recommendations in this report are intended to shed light on the factors that facilitate or inhibit digital financial service adoption by these merchants and show how digital financial solutions can contribute to equitable growth for Jordan.

Interviews were conducted using interview scripts; but, as the purpose of the data collection was to understand individual financial behaviors, business challenges and perceived personal and business financial opportunities, conversations often and intentionally diverged from the script. Interviews were recorded, transcribed, anonymized and coded by topic. These interviews paint a picture of the financial behavior and challenges faced by merchants from all different backgrounds and places in Jordan, from refugee home-based business owners in rural governorates to high-tech entrepreneurs in international business campuses in Jordan's capital, Amman.

⁴Interview with Maha Al-Bahou; January 8, 2019

Business Types Interviewed



Small retail shops

(mobile, accessories, groceries, restaurants)



Amman City Center , East Amman governorates (urban & rural)



1-8 employees



Small service provider shops

(barbers, legal services, plumbers)



governorates (urban & rural)



1-8 employees



Home-based handicrafters & home cooks



governorates (urban & rural)



1-5 employees



Home-based service providers

(plumbers, coppersmiths, hairdressers)



governorates (urban & rural)



1-5 employees



Medium-sized Businesses

(Local clothing chains, long-standing family businesses, suppliers)



Amman city center



10-50 employees



Technology Start-up Entrepreneurs



West Amman



5-30 employees

Findings

Merchant Acceptance:

Very few merchants in Jordan currently accept mobile payments. The few that do accept mobile payments tend to be large multinational stores in a few malls in Amman. Even many businesses that claim to accept mobile payments often do not. For example, an international coffee chain in Amman advertises that it accepts Zain Cash⁵ but when researchers tried to pay for their coffee with a Zain Cash account, employees told them that the system was not operational.

Most mobile money systems, including Jordan's, differentiate between business wallets and individual user wallets. Business wallets can act as Point of Sale systems that allow individual users to pay for goods or services using their personal wallet and allow the merchant to receive those payments into a wallet with added functionality to serve their needs, such as more robust accounting features. Functionally, the transfer of money between two individual users (person-to-person or P2P transfers) and from individuals to merchants (person-to-business or P2B) is very similar. The sender decides on the amount and sends it to the recipient account number, who can validate receipt of the funds. The setup process in Jordan for the business wallet and personal wallet is different, however. To open a business account there are various registration and licensing requirements that the merchant must complete. Because of this, for small and medium-sized businesses, PSPs actually recommend merchants open personal wallets instead of business wallets and use the P2P functionality for their business needs.

Throughout discussions with merchants in Jordan, the primary reason for their slow adoption of digital financial services is the lack of a strong value proposition. This is an issue that has also been identified by experts in the field of mobile money globally. Mobile payments in Jordan are, for the most part, not demanded by consumers as they add extra steps and complexity to transactions that can be safely completed by cash. Both merchants and consumers perceive that digital financial services expose them to regulations and taxation that can be avoided by using paper currency. In short, mobile wallets are often perceived by potential customers as solutions looking for a problem. The key to merchant adoption is to overcome these perceived barriers with incentives for using mobile money and awareness of existing digital financial service features that can benefit their businesses.

⁵One of the five mobile mobile money products in Jordan

Structure and Regulation of Mobile Money in Jordan:

There are many positives to the top-down, centralized structure of the mobile money ecosystem in Jordan (the system was designed and built, and is currently regulated and partially operated, by the Central Bank of Jordan). In particular, regulatory standards have been largely resolved prior to any product development and the needs of the institutional stakeholders such as banks and PSPs have been taken into consideration throughout the mobile money ecosystem design process. There is a national-level forum for digital financial services stakeholders called the Digital Financial Services Council that holds regular meetings with an “objective to consult the lead agency, the Central Bank of Jordan, in all policy and regulatory issues around digital financial services in Jordan.” This council is composed of members from multiple departments of the CBJ, all of the PSPs, banks, exchange houses, mobile network operators and high-level representatives from a number of international organizations working on digital finance in Jordan such as Mercy Corps and UNHCR.

What is missing from this system are mechanisms for collecting user experiences and factoring individual user and merchant needs into JoMoPay. This gap is evidenced most clearly by the low mobile wallet usage rates. In December, 2018, there were only 9,919 mobile money transfers.⁶ This statistic includes multiple transactions by individual users so the number of active monthly users is likely lower than 9,000 country-wide. While there are a number of factors for this lack of uptake, users’ lack of awareness of PSP’s offerings, system and product functionality that does not meet individual user and merchant needs are significant issues.

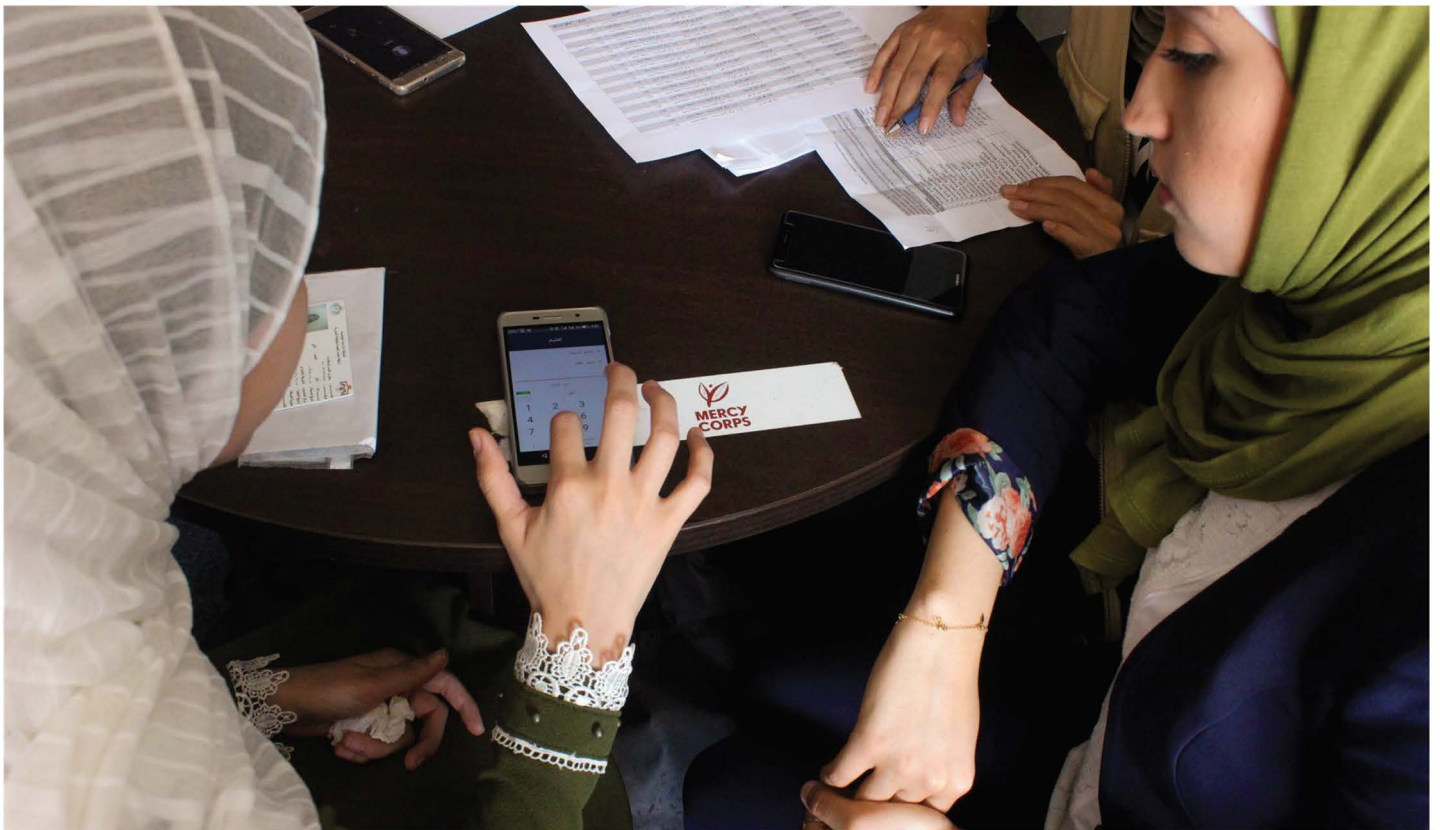
To highlight the issue, of the 50 merchants interviewed for this study, a total of 10 have actively explored using mobile payments for their business or personal use and eight have adopted some form of mobile wallet usage into their business, including services such as bill pay, P2P payments, and airtime top-up. That is a 19% adoption rate among a group of users who should be early adopters. The businesses that have not yet utilized mobile payments express continued interest in the service but all of them (both those that use mobile wallets and those that do not) express frustration with mobile payment functionality and business applications.

A partial explanation for the lack of investment in user experience research and design by PSPs is the incentive to boost their profitability by signing large contracts with humanitarian and development organizations for mobile-based cash transfer programs. As described by PSP employees and management, this dynamic incentivizes PSPs to dedicate their limited resources to developing tools requested by humanitarian organizations, such as bulk payment products and the robust reporting mechanisms required by international organizations, rather than developing products for and focusing on the user experience of the end-user

⁶Statistics from the Central Bank of Jordan's monthly JoMoPay usage report, December 2018

Interoperability:

One of the issues most commonly mentioned by mobile wallet users is the continuing lack of practical interoperability at the agent, merchant and end-user level. While this topic has been addressed in other studies, the lack of interoperability continues to pose a challenge to the sustainable growth of mobile money in Jordan. At the agent level, the lack of interoperability forces PSPs to compete to recruit the same agents, so valuable resources are spent by multiple PSPs to convince one agent to sign up for each of their networks. With agent interoperability, an agent can sign up with any PSP and then provide services for all other PSPs as well, similar to an ATM that allows account owners from different banks to withdraw funds. There is also a concern that closed-loop merchant mobile payment processing systems may be developed in the near future by one of the PSPs. This would mean that some merchants would only be able to accept mobile payment from one mobile wallet provider. These closed-loop systems discourage the growth of the ecosystem as they limit the ability of users to use mobile payments for a wide range of goods and services, and create more confusion among mobile money users and merchants.



Agent Network:

At the agent-level, there are frustrations with current products and services. One agent said he would like a desktop version of the mobile application to help him generate paper receipts and track his daily transactions more efficiently. Another agent wants his PSP to increase promotional activities in more remote towns, where some of his customers and business acquaintances live, to encourage more individuals to use mobile payments for transactions. A third agent reports he feels neglected by the PSP he represents as it appears more interested in supporting the larger currency exchange companies. Generally, there is a sense among the agents interviewed that PSPs are not seeking their insights into how to expand digital services networks and how to align agents' interests with PSP interests.

Concerns About Security of Funds and Data Protection:

Data vulnerability, security of mobile wallet funds and increased visibility to tax authorities are the perceived risks most reported as factors for why potential users either did not use mobile wallets or were nervous about their usage. Two businesses reported that increased business cash flow from the use of digital financial services was actually a reason for not using mobile payments as the business owners believed the CBJ would use their mobile transaction data to increase their tax liability. End users expressed concerns about data collected in the mobile wallet registration process. In particular, interviewees cited a question on the mobile wallet Know Your Customer (KYC) form asking about personal monthly income, without any disclaimer on how this information might be used.

User-level Mobile Wallet Registration:

Even the initial mobile-wallet registration process can be challenging. Currently, new clients cannot sign up for a mobile wallet online. The lack of an electronic KYC means new clients must visit a mobile wallet agent in person to fill out the KYC form. Once the agent uploads the KYC form, registration with the CBJ is automatic and confirmation of registration messages are sent to the account holder's phone.



Outreach and Marketing:

The current iteration of the JoMoPay system expects significant financial behavior change from users without, to date, having invested in mass information campaigns and behavior change communications to encourage understanding and adoption of mobile money technology. The Digital Financial Literacy Initiative launched in January 2019 by JoPACC, the CBJ and GIZ will be the largest public awareness campaign related to mobile wallet adoption to date, but it is too soon to judge the impact of this effort.

So far, much of the effort on client adoption has focused on partnering with humanitarian actors to scale mobile payments in programs such as humanitarian cash transfers. This work on client uptake has thus been outsourced, to some extent, to humanitarian agencies. But while humanitarian initiatives can contribute to financial inclusion of the most vulnerable, they alone will not ensure a robust system.

The low uptake of digital financial services points to an urgent need for large-scale marketing campaigns to the general population. At the same time, targeted work needs to go into product development to make the system's features more useful. Two specific areas appear to have the most promise.

1 First, identifying and engaging early-adopter merchants who could most benefit from digital financial services and are receptive to it would build momentum. For example, Amman soap and spice supplier Alaa Zalloum already uses mobile payments to purchase online advertisements to promote his business and to pay bills. He is young, entrepreneurial, and technologically savvy. He also has clients in more remote governorates who buy supplies from him. These distant transactions could be completed using JoMoPay but instead he relies on a delivery company to bring him the physical cash at irregular intervals. As an existing mobile wallet user for certain business transactions, he would appear to be a prime partner for PSPs who are willing to work with merchants to develop user-oriented products. Some of these early adopters are already innovating, as explained in more detail below.

2 The second opportunity is to focus on economic subsectors where mobile payments could address recognized pain points. The specific subsectors highlighted under the Priority Economic Subsectors' section are transportation/logistics, technology-enabled businesses, and informal financial services.

See attached 'Merchant Profiles, annex

Merchant and User Innovations:

As a result of shortcomings in the JoMoPay system and its roll-out, users have developed innovations to work around glitches and compensate for gaps. While the knock-on effects are both positive and negative, the innovations highlight opportunities to better address the actual needs of users. In a number of these cases, agents are acting as intermediaries to complete tasks that end-users should be able to manage directly from their own mobile wallet. This points to a continued lack of awareness of and/or trust in the JoMoPay system that is preventing broader adoption.

Bill-Pay Facilitation:

PSP agents in rural communities are providing bill pay services that previously were only available at post offices and electricity and water company offices, which in many cases involved individuals spending significant time and money on transportation. While eFawateercom enables online bill pay, many individuals are still reluctant to create their own mobile wallet, mostly because of hesitancy to adopt new technology. For these clients, agents are using their own mobile wallets as bill payment 'branches', completing the payments on behalf of customers who pay them in cash. Thus, for a small fee, agents are providing bill payment services that are more convenient, and reportedly with better customer service, than traditional methods. This also creates opportunities for agents to develop trust and eventually convert these clients to direct JoMoPay customers.

Government Payments:

In an effort to promote digital services and increase efficiency, the Jordanian Ministry of Justice (MoJ) recently mandated that certain court payments must be paid digitally, including the criminal background check which is widely required in order to apply for a job. This has prompted a small industry of agents offering payment facilitation services to those working in the legal profession or interacting with the legal system. In many cases the service providers are completing payments using their individual mobile wallets on behalf of clients who do not have a mobile wallet of their own.

While mandating mobile payments intended to make accessing MoJ services more inclusive, without a concurrent push to explain the new payments system, assist with mobile wallet adoption, and set up a system for addressing complaints and questions, this directive has led to challenges for some populations to make the necessary payments, particularly older people and the less digitally literate. As a result, one interviewee reported that people making payments in person at the local MoJ branch are automatically signed up for a mobile wallet. The interviewee reported he was not informed why or given an opportunity to provide meaningful consent before he were enrolled. Presumably most of these wallets will not be used beyond the initial MoJ payment.

Remittances:

Remittances have long been mentioned as a priority service both by users and by the JoMoPay architects. While this service is still in development and mobile wallets are currently not connected to international money transfer systems, some innovative mobile wallet holders have found a work-around. All mobile wallets offer 'companion cards' at account creation, which are Mastercard debit cards linked to the user's mobile wallet accounts. If an individual makes a payment with her/his companion card, the amount is deducted from the mobile wallet balance. These cards are intended for online purchases and other transactions for those who do not have bank-issued cards. However, users have realized that, as these cards are linked to international payment processors, they can be used to withdraw cash from ATMs outside Jordan. Some mobile wallet holders in Jordan are physically giving relatives or friends their companion card, thus enabling those individuals to withdraw money from the mobile wallet wherever they are. This effectively enables the mobile wallet holder to remit money internationally.

These unexpected uses of the mobile wallet system, and particularly the spontaneous creation of new services, must be explored and fully understood so that positive innovations can be supported and unintended consequences can be minimized. Understanding these observed adaptations early in the technology design and adoption cycle is crucial to designing an enduring, inclusive system that will function in the long term.

Priority Economic Subsectors

Because of their particular characteristics, the following subsectors have been identified as potential early adopters of JoMoPay products:

Logistics and Transportation:

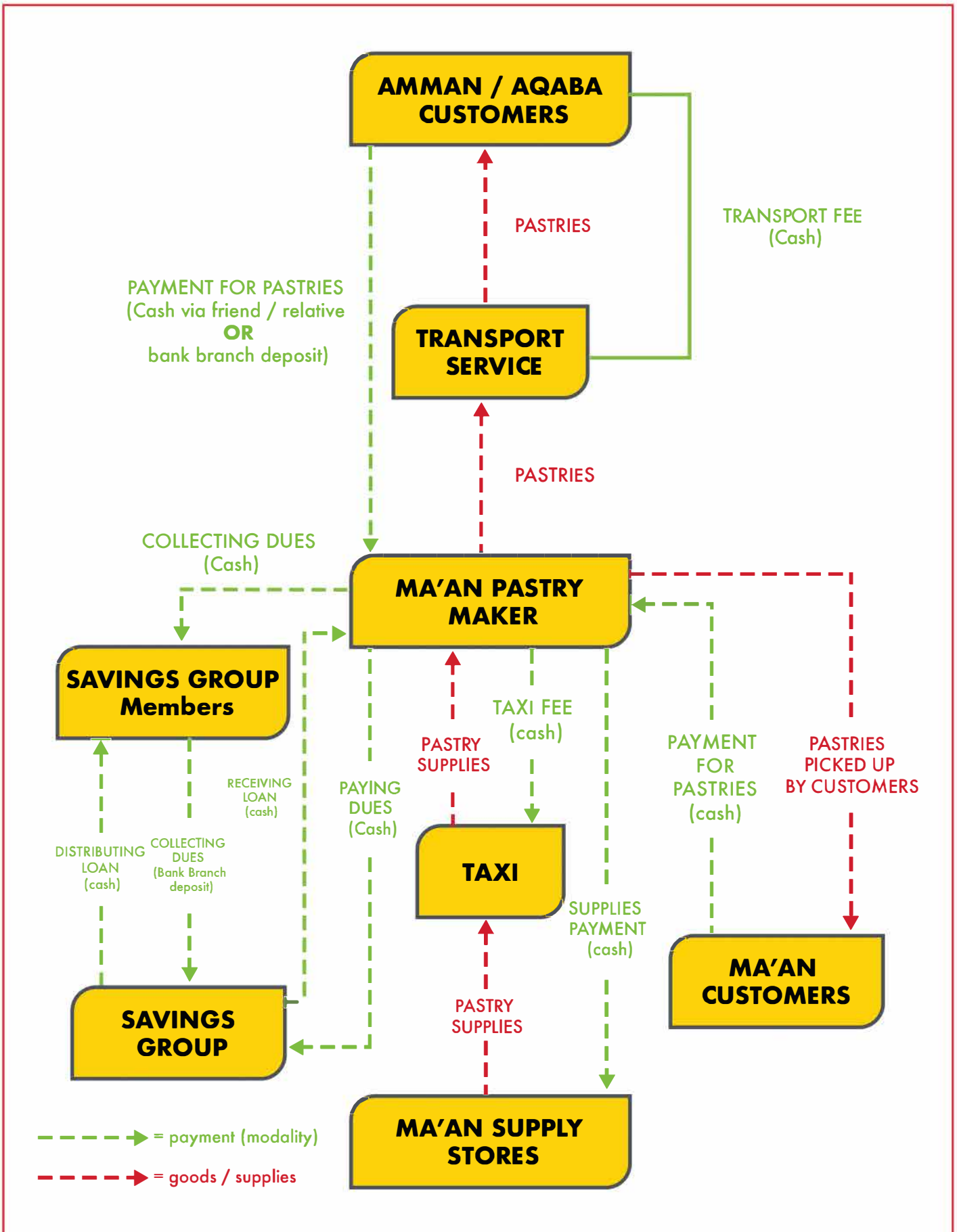
Jordan's economy is driven by access (both physical and logistical) to Amman and, to a much lesser extent, the trading hub of Aqaba. According to interviews with business owners and operators in rural, semi-rural and secondary cities in governorates beyond Amman, the priority inputs they need for their businesses are only available in Amman, or maybe Aqaba. Sourcing goods requires relying on a limited number of transportation networks with varying degrees of reliability and expense and involves a challenging set of payment options.

The cheapest, but most informal and inconsistent, method of transportation is relying on a personal network to deliver business inputs. This usually occurs by word of mouth. For example a handicrafts maker in Ma'an will hear of a relative traveling from Amman and will ask them to purchase and transport materials to Ma'an on their behalf. The relative is then reimbursed for the cost of the items and transportation. This is usually considered a favor and done at no cost. The majority of merchants rely on more formal delivery systems to consistently obtain necessary goods. These small-scale, Amman-based traders are often individuals who own their own trucks or vans and connect with businesses in the governorates through personal networks or online via WhatsApp and Facebook. They pick up ordered goods on behalf of individual businesses and then deliver them to the relevant location outside Amman. Because the transaction tends to be individual or small-scale deliveries, there is little economy of scale and deliveries are semi-consistent at best. The final delivery option are traders who provide consistent delivery outside of Amman of preset goods but who tend to provide inferior items at inflated prices and are inflexible about changing their inventory, largely due to lack of competition. Many business owners bypass these bulk delivery providers and instead rely on one of the first two delivery options. For all delivery transactions, payment is typically in cash once the goods are delivered.

The delay in payment until final delivery, in cash, creates unnecessary risk for all parties involved:

- The trader in Amman is reluctant to release goods without payment.
- The delivery driver is reluctant to travel long distances without payment upfront.
- The recipient business has to pay a premium for goods due to the perceived risk.

As these transactions are almost always made in cash, the delivery service provider becomes the payment platform, shifting risk to that trader and further increasing the cost of the transaction. All of these factors appear to lower the volume of trade outside of the commercial centers and make accessing business inputs difficult, thus limiting the viability of businesses and their ability to grow.



Transaction map of a home-based baker in the city of Ma'an, Jordan. Mobile payment services have the ability to replace all cash transactions shown and lower the number of transactions needed while increasing the speed and transparency of the activity.

A significant portion of businesses interviewed reported regular travel to Amman via public transportation or in personal cars to purchase goods themselves and carry them home. Because this method provides no economy of scale and takes up valuable time, it is typically the most costly option for merchants. Regardless, it remains one of the most popular methods for obtaining business supplies as it is the most secure and the most consistent (delivery companies are perceived as unreliable). However this poses an additional challenge to businesses owned by marginalized groups, such as women and refugees, for whom long-distance travel is particularly difficult due to perceptions of risk related to harassment (for women) and detention by security forces (for refugees).

Abdelrahman is a serial entrepreneur from Azraq. Though only 21, he has already accomplished an impressive amount despite the challenges he faces as a young business owner in Azraq. As a teenager, he started his career by buying clothes and cheap plastic knick-knacks and then selling them individually around Azraq at a profit. Any money he accumulated he immediately invested in livestock, eventually owning a fair-sized herd that he would tend while also attending school. Once he had accumulated enough livestock he sold his entire herd to gain the funds to open a restaurant.

Abdelrahman now employs two people (both refugees from Syria) to help run his restaurant. He has also expanded to baking pastries for sale in local shops. When asked about the biggest business challenges he faces, his immediate answer is access to supplies. Without a local spice shop he is forced to buy ingredients from Amman on a regular basis. His most pressing challenge is buying a frying machine but these machines cannot be purchased in Azraq and delivery for even basic items is expensive and sporadic. Abdelrahman's almost weekly trips to Amman and his reliance on transportation services eat into his profits, he says. Being heavily dependent on the Amman market means his business could stall unless he can establish a more sustainable logistics solution.

Technology-Enabled Businesses:

Other businesses, even in Amman, are struggling with their reliance on cash payments. Amman-based technology startups such as Lina Gas (a propane tank home-delivery service) and Bilforon (a home-based-chef food delivery platform) rely on contracted delivery drivers to collect cash from customers and then utilize a complicated invoicing and settlement process. Both businesses report significant losses from accounting errors. There is also intentional withholding of money and frequent challenges with slow deliveries and poor customer service as risk and accountability is shifted from the driver to the business.

These businesses and others interviewed expressed a need for additional mobile wallet functionality, particularly the ability to split payments so that they are deposited into more than one wallet (to divide fees between businesses and contractors) and the need to connect mobile payment apps to existing payment processors. Interviewees also complained the mobile apps are cluttered by non-functioning interfaces, such as microloans and parking payments, that confuse users.

Despite these challenges, there are some bright spots to build upon: Connect2Fit, a health and fitness search platform, chose Dinarak as its PSP because Dinarak offers useful features, such as the ability to customize bulk payments and reconciliation functionality. Dinarak was willing to work with Connect2Fit to develop new features. Bilforon has developed a formal partnership with Zain and is working with the company to develop required product features, such as the ability for drivers to accept mobile payments. These two cases highlight the opportunity for PSPs to work in partnership with early adopters and tech-savvy businesses to co-develop products that will be useful for a wide range of businesses. This approach might have greater payoff in the long-run than focusing on partnering with humanitarian organizations.

Informal Financial Services:

Another subsector that shows promise for mobile wallet uptake is informal financial services. Access to the formal financial sector is low in Jordan and most of the population relies on informal financial services. According to World Bank data, 31% of the population borrowed from an informal source in 2017. Savings groups (SGs), called Jam'eya (جمعية) locally, are a popular form of informal financial service but still operate very traditionally. Some SGs do maintain a bank account and participants have the option to deposit their monthly dues through their bank account. However, as most of the individuals who belong to SGs have difficulty opening a bank account, this is not a scalable solution. Programs in other countries have connected SGs to mobile wallets to help them manage group funds and transfer money within and outside the group with more equity, transparency and accountability. These services would be very useful for Jordanian SGs.

When Syrian refugee Hasan first arrived in the southern city of Ma'an eight years ago he lived off of NGO cash assistance. The money he received was not enough to provide for his family. Hasan needed a steady income and decided to open a barber shop. He was able to fund his business by utilizing his network of acquaintances in Ma'an and setting up a Rotating Savings Group. Each month a different SG member was given the entire pooled fund to use for his business or personal needs and Hasan was first on the list. He received JD1,000 (USD 1,400), of which he used JD800 (USD 1,100) to set up his shop and kept the remaining JD200 (USD 280) for daily expenditures. He was also the SG's supervisor, which means he was in charge of collecting the money in cash, keeping it safe, and then distributing it to the next person in line at the end of the month.

Hasan is not worried much about the risk of carrying cash but he would prefer to manage his money in a bank account. Without a valid passport or the minimum required deposit, this is not an option. If mobile wallets were designed with features useful to Hasan and his Savings Group, they could ease some of the money management challenges in his community.

Other financial services that could be highly valued in Jordan are mobile-connected credit products. In other countries, companies such as Kopo Kopo in Kenya have linked access to lines of credit to merchant mobile payment history, essentially turning this transaction history into a basic credit score and offering loans based on the data. As Jordan is a country with high rates of individual borrowing (close to 50% of residents borrowed money in 2017), yet low borrowing rates from formal sources (only 17% of residents borrowed from a formal financial institution or used a credit card), broader access to alternative credit options could be very popular.

Recommendations

Based on the findings above, the following recommendations outline steps key stakeholders can take to first increase merchant adoption of JoMoPay and then broader mobile money usage in Jordan.

Recommendations for payment service providers (PSPs):

- 1 Improve incentives to increase mobile wallet uptake, especially among small- and medium-sized merchants:** As discussed in the findings, the value proposition is not strong for most merchants to use mobile payments in their businesses. Most customers prefer to pay cash and most suppliers prefer to be paid in cash. Incentives are necessary to strengthen the value proposition for merchants. These incentives should both encourage mobile wallet registration and also continued mobile wallet usage. Examples of incentives that have worked in other mobile money systems to incentivize merchant adoption include eliminating fees for early adopters and giveaways and sweepstakes.
- 2 Promote interoperability among PSP agents and mobile wallet payments:** In order to lower consumer confusion, PSPs should prioritize interoperability at the agent level (where any JoMoPay agent can perform cash in/cash out services regardless of the brand of wallet owned) and at the payment level. In particular, interoperability should be prioritized for merchant payments. A promising example of mobile money merchant interoperability is the Masterpass product available in a number of mobile money markets, but not yet available in Jordan. This product allows customers to make purchases at any merchant, regardless of which PSP wallet the merchant or customer has.
- 3 Identify the most promising mobile money early adopters based on their financial behavior and needs, raise their awareness of digital financial services, and tailor products to their needs:** More effort should be focused on the identification and engagement of groups with the most uptake and usage, i.e. businesses that are tech-savvy, engage in B2B payments, serve in a broader geographic area, and/or have multiple micro-franchises or contractors, as well as university students, domestic remittance senders, and landlords. PSPs must continue to identify these groups, tailor products as needed to meet their needs, and then develop targeted campaigns to raise awareness. PSPs should focus on increasing uptake within these groups, as a way to drive mobile money adoption both downstream (the clients they sell to) and upstream (the wholesalers they buy from).

4 Increase the effectiveness of feedback loops between agents, merchants and end users: PSPs need to formalize feedback mechanisms with their agents to improve agent network management, incentives, and performance tracking. They also need to systematically track user behavior and identify current pain points and opportunities for new product development. These feedback loops for the various user types should follow best practices employed by the mobile sector, such as in-person user testing, tracking feature usage, and qualitative analysis of user behavior to inform application roadmap priorities. PSPs must include in this process systematic use-case analysis so they develop deep, empathetic knowledge of the financial behaviors of their users and potential users and use that to refine digital financial services products to serve those needs, for example simpler, stripped-down mobile wallet apps that are easier to use.

Additionally, PSPs should embrace the idea of co-creation by formalizing partnerships with early adopters and high potential users, as highlighted above.

5 Ensure that mobile money products effectively deliver core functions by narrowing and refining product scope: Current iterations of mobile wallets do many things but few of them are done well. Users and potential users reported confusion from the vast range of possible mobile transactions available to them and then frustration when the relatively few services they wanted to use did not function properly. Ongoing product support should be prioritized to those products that address the highest priority uses. Focus should be on P2P transaction functionality (including B2P, P2B and B2B) and merchant payments, specifically addressing the needs of the highest priority merchants.

Recommendations for domestic policy makers such as the CBJ and JoPACC:

1 Prioritize lowering barriers to merchant and user account registration: Signing up for a mobile wallet remains a confusing and complicated process and it is unclear what is done with the data collected. More attention should be placed on improving the user experience in the registration process. Examples worth emulating from other markets include on-line registration for basic services, so users are not obligated to visit an agent in person, and a multi-tiered approach, in which users with lower monthly or yearly usage by value of transactions can register more quickly and easily with less information. If users wish to complete transactions above a certain monthly or yearly threshold, they can then present additional documentation and verification.

- 2 Mandate interoperability:** JoPACC and regulatory agencies must ensure that the instructions for agent and payment interoperability are enacted. This can be through either incentives or penalties for non-compliant PSPs. Additionally, regulatory bodies should explicitly prohibit PSPs from creating closed-loop systems that operate on the JoMoPay switch. An example of this would be merchant payment systems that only accept payment from a particular PSP.
- 3 Increase awareness of digital financial services among vulnerable groups:** Most of the merchants and entrepreneurs interviewed for this report had either not heard of mobile payments or did not understand how those products could help them. A concerted effort to understand different customer segments (for example logistics companies or home-based businesses) and then develop targeted awareness campaigns in partnership with PSPs will be crucial to increase mobile money adoption. The recently launched Digital Financial Literacy Initiative from GIZ and the CBJ is a strong step in the right direction but it will take a broader, multi-faceted effort to ensure widespread mobile money adoption.
- 4 Mitigate negative perceptions of data protection vulnerabilities and tax implications for mobile money users:** The lack of information on how data collected in JoMoPay is utilized and the misperceptions that arise from this significantly hinder mobile money uptake. The CBJ and JoPACC must address these perceived risks of digital financial services and the data collected, including publishing and disseminating the tax implications of using digital financial services for businesses and individuals. Relevant agencies must also publish exactly how user data, including personally identifying information and transaction data, is stored and used by the government and third-party organizations.
- 5 Ensure digital financial services inclusiveness for refugee populations:** In the past, the CBJ indicated that refugees without a valid passport or Jordanian Ministry of Interior card would still be able to register and use mobile wallets. Subsequently, however, the CBJ has determined that UNHCR documentation is not sufficient documentation to obtain a mobile wallet. As refugees without civil documentation are a particularly vulnerable group, the CBJ should revise regulations to ensure that PSPs are able to provide mobile wallets to refugees using their UNHCR documentation.

⁷Digital Financial Literacy webpage, Central Bank of Jordan http://www.cbj.gov.jo/Pages/viewpage.aspx?pageID=137&fbclid=IwAR2NurPI1_yjz9ebObNEtIRYxVOtn0FoPxpB_jFn7nsLC5btXfXr03eAqw

Recommendations for humanitarian agencies, international support organizations and donors:

- 1 Continue to advocate for a more inclusive mobile money system:** International supporters must continue to advocate for including vulnerable populations in JoMoPay. In addition to the issue mentioned above on UNHCR documentation, other issues that international organizations should support include lowering the costs of low value transactions, potentially by switching to a fee that is a percentage of the transaction rather than a fixed cost per transaction, and a robust USSD functionality to enable non-smartphone users to participate in JoMoPay. Currently, interoperable USSD functionality in Jordan does not exist across different PSPs.
- 2 Continue to incorporate mobile payments into cash transfer programs and financial inclusion programming where appropriate:** Mobile wallets can be an appropriate and effective delivery mechanism for humanitarian cash transfers and can be an entry point for broader financial inclusion and development activities. Pilots by UNHCR, UNICEF, World Vision, Mercy Corps and other organizations are demonstrating the efficacy of mobile-based cash transfer programs. In addition to the benefits that accrue to program participants, utilizing digital financial services in humanitarian and development programs will also increase the user base and further develop the viability of the mobile money system.
- 3 Support digital financial literacy campaigns:** In order for marginalized groups to effectively utilize digital financial services, digital and financial literacy is crucial. This ranges from basic awareness of pins and mobile usage to improving individuals' financial management capacity, such as prioritizing saving, effective budgeting and appropriate credit usage. Digital financial literacy must be tied as closely as possible to practical applications in the JoMoPay system to encourage usage. International organizations can play an important, trusted role in educating users on the opportunities and assisting them to utilize the system for their own benefit. The Digital Financial Literacy Initiative is a great opportunity for international organizations to get involved in financial literacy activities.
- 4 Beware of Distorting the Mobile Money Market:** PSPs rightly see international NGOs and donor as major customers to be won. Signing a large contract with an international organization to facilitate humanitarian cash transfers is a much more attractive business model than winning individual mobile money customers one by one in the short term. In the long term, however, this can have the effect of prioritizing NGO needs over individual user needs on the technology development roadmap and lead to individual user features not being created or improved. International organizations must work with PSPs to make sure that the needs of individual users are prioritized so that the system can be sustainable outside of cash transfer programs.

Conclusion


Digital financial services help traditionally excluded populations participate in the global economy and drive inclusive economic growth around the world. Establishing sustainable mobile money systems is a critical first step on this path, but it takes concerted effort and careful planning and execution from all stakeholders to move to a vibrant and sustainable system. In Jordan there are clear inefficiencies in the cash-based economy that can be addressed through mobile money and there already exists a well-designed mobile money system with committed stakeholders. The foundation for success of mobile money in Jordan has already been laid, now it is up to the stakeholders to ensure that the system's potential is realized.

Jordan is in the unique position of having a strong regulatory environment, robust policies, committed service providers, and well-funded international supporters. As mobile payments continue to grow in Jordan, other countries looking to modernize their payment infrastructure and increase financial inclusion should learn lessons from Jordan's experience. At the same time, the key to unlocking the potential of mobile money anywhere is understanding the specific needs of users and building products to serve those needs, particularly for the merchants who are the gateways to the system.

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