



Building digital societies in Asia: Making commerce smarter



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Contents

1. EXECUTIVE SUMMARY	2
2. DIGITAL SOCIETIES AND COMMERCE	6
3. DIGITAL ACCESS AND DIGITAL PAYMENTS: KEY TO GROWTH OF DIGITAL COMMERCE	10
3.1. Digital access through mobile set to increase substantially in emerging markets	12
3.2. Digital payments continue to face challenges from cash	14
3.3. Mobile money extends reach and presents an opportunity for digital payments	17
4. PAKISTAN - THE DIGITAL COMMERCE OPPORTUNITY	21
4.1. Digital access - rapid growth of mobile broadband	22
4.2. New payment initiatives challenging traditional financial services	24
4.3. Future opportunities in Pakistan	31
5. CREATING AN ENABLING ENVIRONMENT FOR DIGITAL COMMERCE	34
5.1. Policy enablers - governments and regulators	36
5.2. Digital access, payments and service providers	38
5.3. Consumers and merchants	39
6. APPENDIX	42
Appendix 1: Mobile money ecosystem	43
Appendix 2: Digital identity and Mobile Connect in Pakistan	45

1 Executive Summary

1. Digital commerce refers to everything that facilitates a commerce activity digitally, including access to marketplaces, services and payments replacing physical cash. Digital commerce extends the addressable market of goods and services by overcoming physical barriers. Digital access and digital payment solutions are the necessary preconditions for digital commerce. With mobile operator investments and falling smartphone prices, access to digital services will become easier. Developing innovative payment solutions to reach market segments that have been excluded by traditional financial services is key to realising the full potential of digital commerce. In emerging markets, mobile money has evolved as a solution for extending the reach of digital payments.

With low fixed broadband penetration in most emerging markets, mobile is increasingly becoming the key access point for the internet. Coverage levels of 3G and 4G networks in emerging markets are expected to increase to 84% and 65% of the population respectively by 2020. Given the increased availability of high-speed internet and the growing supply of sub-\$50 smartphones, smartphone adoption will increase significantly to 2020, to account for 60% of total connections or more than 4.5 billion connections.

Since 2011 the number of unbanked people across the globe has fallen, but more than 2 billion people still have no access to financial services; the majority of these live in emerging markets. Underdeveloped financial infrastructure and a lack of access to formal financial services in many emerging markets mean cash payments dominate for commerce activities. This trend is slowly changing, with emerging markets leading the growth of non-cash transactions. However, they still represent only a quarter of global non-cash transactions, by value.

2. Pakistan remains a largely underserved market in terms of digital access and digital payment. With a unique mobile subscriber penetration of 31%, mobile broadband penetration of 5%, and bank/mobile money account penetration among adults of 13%, Pakistan still has a lot of room for growth. The award of 3G licences and growth of branchless banking services are signs of improvement. To harness the full potential of digital commerce in Pakistan, mobile operators have a crucial role to play across digital commerce, digital access and digital payments.

Mobile operators have been investing heavily to ensure access to the internet in Pakistan and will continue to do so. By 2020 3G coverage is expected to reach 90%, and mobile broadband is expected to reach 40% of the population. Connectivity will therefore be less of a concern in the coming years. Accordingly, to realise the full potential of digital commerce in Pakistan, the challenge lies in increasing the number of digital accounts and promoting digital payments.

With half of the adult population in Pakistan (approximately 60 million people) having access to a mobile phone but being unbanked, mobile money (or “branchless banking” as it is known in Pakistan) plays an important role. Mobile operators have already started to invest to increase branchless banking account adoption and usage, and enable the development of a digital ecosystem.

Government payments is one area where the potential for digitisation of payments is substantial. In Pakistan, providers and stakeholders are evaluating the feasibility of digitising this use case both to reduce costs of delivery and drive use of branchless banking accounts. There is also an opportunity to increase the value of account ownership by providing support for remote and proximity merchant payments. For this to happen the upcoming fintechs¹ could partner with branchless banking operators to create payment products for different market segments. There are two main areas of collaboration: the first is enabling the retail front-end to accept digital payments; an example is mobile point of sale (mPOS). The second opportunity lies in establishing a back-end system that settles payments from all branchless banking providers and their merchants so that a truly interoperable payment system is developed.

1. Technology-based companies that provide solutions to the finance and payments industry



3. The transition to a digital economy is fraught with many challenges. These include socio-political barriers such as weak legal and regulatory frameworks, digital illiteracy, and lack of awareness of what digital commerce is and how to access it. A successful environment requires collaboration between all stakeholders involved: government and regulators, mobile operators, financial institutions and fintechs.

Governments have a crucial role to play in creating an enabling environment for digital commerce to better support the development of a digital society. Firstly, governments and regulators need to develop a clear national strategy to facilitate digital payments. Secondly, they need to create a supportive legal environment; this is crucial to build trust in online transactions and ensure security of transactions. In addition, governments can promote awareness of branchless banking and increase account adoption through government payments and facilitating person-to-government (P2G) payments. Lastly, government and regulators can improve the affordability of mobile services and financial services for consumers and merchants by reducing taxation.

Digital access, payments and service providers are responsible for creating and implementing digital financial services for end users. Cross-industry partnerships are fundamental to developing joint solutions and unified services that will lead to the success of digital commerce. In addition, industry players have a role to play in increasing account adoption and usage. Adoption and usage of digital accounts are affected by a series of factors, the most important of which is awareness. Targeted campaigns can be launched to increase awareness among consumers.

Branchless banking in Pakistan has grown at a faster rate than the traditional banking system and has extended the reach of financial services to the unbanked and the poor. Recent market dynamics along with an increasing number of branchless banking accounts indicate Pakistan has the foundations in place for digital commerce and for it to grow even more rapidly in the coming years. Growth of digital commerce will lead to further uptake of digital accounts as people start to see the value of using digital accounts to pay for goods and services in their daily lives.





2

Digital societies and commerce

As digital technology becomes a more integral part of people's daily lives, the concept of a 'digital society' has emerged. A digital society refers to the seamless interaction between all aspects of an individual's life via digital technologies. Citizens living within a digital society can access and interact with public and private services, such as utilities, education, healthcare, retail and transport, at anytime and anywhere, leading to increased efficiency and productivity not just for themselves, but for the institutions too, resulting in improved quality of life.



In most emerging markets, due to limited fixed line infrastructure, connectivity has mostly been mobile based. Mobile operators, which provide the infrastructure, are in a unique position to play a critical role in the development of digital societies.

As part of a series of reports looking at digital society initiatives in Asian countries, GSMA Intelligence has published the report *Building digital societies in Asia*, which looks at developments in six Asian countries – Bangladesh, India, Indonesia, Malaysia, Pakistan and Thailand. Further reports in the series focus on specific applications of a digital society. The different applications can be divided into three broad categories (see Figure 1):

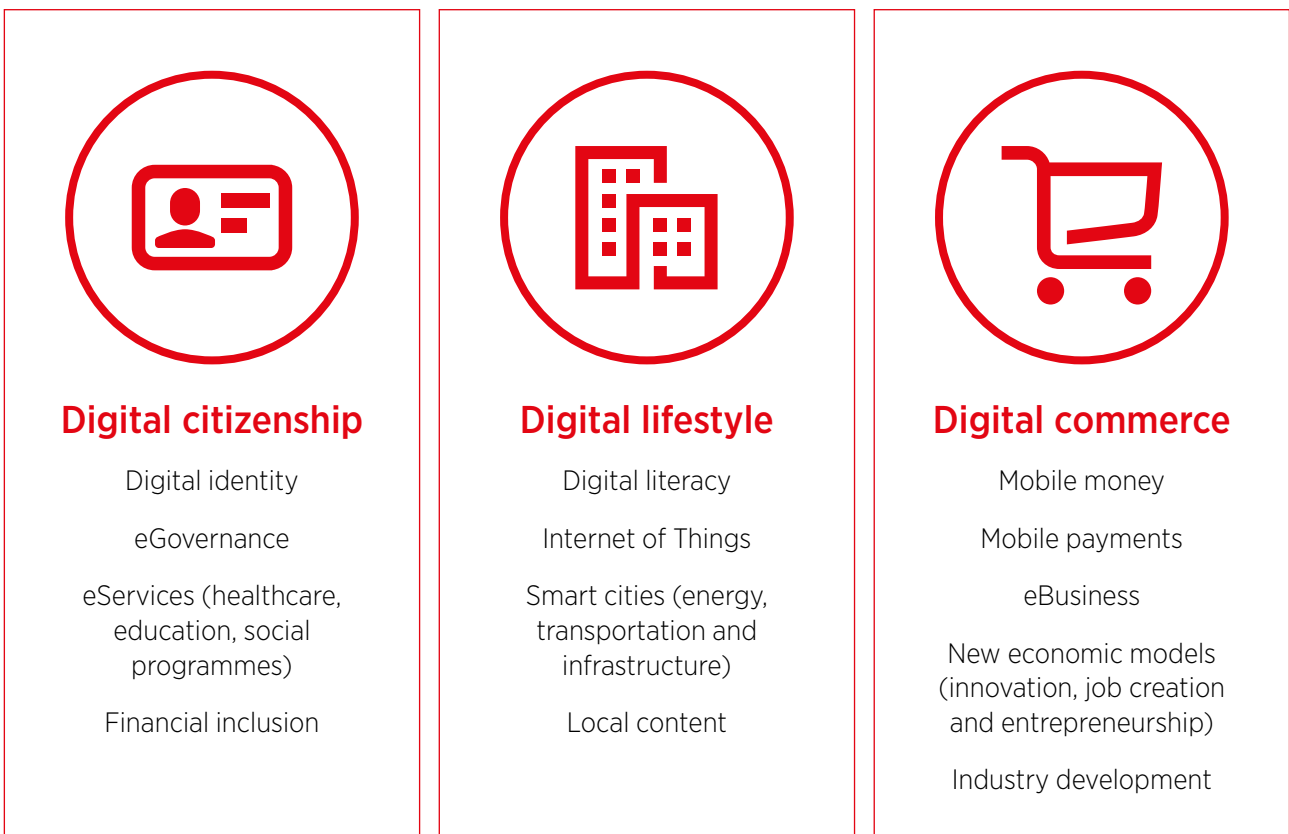
Digital citizenship: services that facilitate digital interaction between a government and its citizens

Digital lifestyle: services that improve lifestyles through integration and interconnection of multiple devices with disparate services and infrastructure over digital networks (e.g. the Internet of Things and smart cities)

Digital commerce: services that simplify the process of buying and selling goods and services digitally.

Figure 1

The three pillars of a digital society



Source: GSMA Intelligence



The second report in the series highlighted the opportunities and benefits of the digitisation of transport infrastructure, with a focus on Thailand. See *Building digital societies in Asia: Making transportation smarter*.

In this third report, we discuss the development of digital payments, in particular mobile money, and how that can enable digital commerce. We focus on the opportunity that this solution can bring to the people of Pakistan and the key roles that stakeholders can play in realising the full potential of digital commerce. The information in this analysis is drawn from interviews with mobile operators, mobile money operators, regulators and fintech companies in Pakistan.

Digital commerce refers to everything that facilitates a commerce activity digitally, including access to marketplaces, services and payments replacing physical cash. Digital commerce extends the addressable market of goods and services by overcoming physical barriers. In both developed and developing countries, digital commerce has already created new economic models and reshaped business processes across many industries, including financial services, entertainment, retail, public services, transport, and merchant and online payments. Digital commerce can be divided into three broad categories: merchant retail payments, e-commerce, and supply chain and distribution.

Digital commerce has grown significantly in recent years and this is expected to continue. In terms of merchant payments, credit and debit card transactions worldwide have doubled from just over \$100 billion in 2009 to nearly \$200 billion in 2014, and are expected to grow further to \$360 billion in 2019².

85% of all retail payment transactions were performed using cash in 2013

In 2013, around 85% of all retail payment transactions were performed using cash, equating to 60% of the total retail transaction value³. However, retailers are increasingly using contactless point-of-sale (POS) terminals. Nearfield communication (NFC)-enabled POS terminals are expected to grow from 21 million in 2014 to 75 million in 2019⁴. The number of people using contactless mobile payments will increase from 100 million in 2014 to more than 500 million in 2019⁵. There have been more than 150 SIM-based NFC launches (45 of which are in Asia Pacific), including approximately 60 mobile operator-led commercial rollouts across the globe.

Although the global e-commerce market is still dominated by developed countries, emerging markets are growing fast, particularly in Asia. While business-to-business (B2B) represents a larger share of e-commerce (\$12.5 trillion in 2013), business-to-consumer (B2C) e-commerce is expanding faster⁶. B2C e-commerce sales reached \$1.5 trillion in 2014⁷ and are expected to grow to \$3 trillion by 2020⁸. In 2014, Asia Pacific became the biggest e-commerce market, surpassing North America. Future growth in the sector is expected to come from the rapidly expanding mobile user base in emerging markets. It is also estimated that mobile phone and tablet users will make 195 billion mobile commerce transactions in 2019, up from 72 billion in 2014⁹. The value of transactions will increase from \$182 billion in 2014 to \$707 billion by 2018¹⁰.

Asia is increasingly becoming an important region for digital commerce, with growth rates unlike any other region. Pakistan's digital commerce market is still in its infancy; however, in the coming years, it could play a more central role in the growth of digital commerce in the region.

2. Source: The Nilson Report

3. Source: MasterCard

4. Source: Berg Insight, February 2015

5. Source: Juniper Research, October 2014

6. Source: "Information Economy Report 2015", UNCTAD, March 2015

7. Source: eMarketer

8. Source: yStats

9. Source: Juniper Research, December 2014

10. Source: Juniper Research, January 2014

Pakistan has the sixth largest population in the world and is expected to grow from 186 million people in 2014 to 310 million in 2050. Pakistan is also considered one of the world's five key emerging markets for the coming years, together with Nigeria, Philippines, Bangladesh and Vietnam. Pakistan's GDP based on purchasing power parity (PPP) ranking is expected to rise from 25th in 2014 to 15th in 2050. GDP PPP will rise from approximately \$800 billion in 2015 to \$9 trillion in 2050¹¹.

70% of e-commerce activity in Pakistan is based in urban areas

With low debit and credit card penetration, POS transactions in Pakistan are still limited; in Q1 2015, the volume and value of POS transactions were 7.6 million and PKR40 billion (\$400 million) respectively¹². The e-commerce industry is also at an early stage, with 70% of e-commerce activity based in urban areas: Lahore accounts for 21% of total e-commerce traffic each year, followed by Karachi with 20% and Islamabad and Rawalpindi with 15%¹³. From our discussions with industry stakeholders, the size of the country's e-commerce market has the potential to reach several hundred million dollars in the next five years, from its current size of \$30 million.

Pakistan remains a largely underserved market in terms of both internet access and digital payments, though there are signs of improvement. In mid-2014 3G licences¹⁴ were auctioned in Pakistan, which increased the availability of internet access, as fixed broadband is limited in the country and mobile is the main point of Internet access. In digital payments, alternatives to traditional financial institutions have emerged, such as branchless banking (a term used for mobile money in Pakistan). Partnerships between banks and mobile operators have led these initiatives. Branchless banking has managed to extend its reach to many unbanked or underserved people.

The government in Pakistan is promoting financial inclusion. Early in 2015, the State Bank of Pakistan (SBP) launched the National Financial Inclusion Strategy (NFIS). The main objectives for 2020 are:

- increase the number of adults with a formal account from 10% now to 50% by 2020
- increase the number of female adults with a formal account from 3% in 2014 to 25% by 2020
- increase the percentage of adults living within 5 kilometres of an access point by 2020
- increase the percentage of savers that have used a formal financial service to save during the past 12 months from 1% to 10% by 2020
- increase lending to SMEs as a proportion of total bank credit to the private sector from 7% to 15% by 2020.

Pakistan has the foundations in place for digital commerce to take off, but for providers to take advantage of the opportunity, key barriers still need to be overcome, including an informal and cash-based financial system and lack of availability of a localised online platform that accepts all payment solutions.

11. Source: Going Global

12. Source: SBP

13. Source: Kaymu

14. 3G licences were auctioned in Pakistan in mid-2014 and four companies, Telenor, Mobilink, Ufone and Zong, acquired them. Warid automatically qualified for the licence due to a legal clause in its existing contract with the government of Pakistan



B

Digital access and digital payments: key to growth of digital commerce

Digital access and digital payment solutions are the necessary preconditions for digital commerce. Digital access is the connectivity necessary to transfer information between customers, marketplaces and in some cases digital account providers. Digital accounts (where funds are stored and accessed digitally) are the basic requirement for digital payments. Digital payments enable customers, merchants and producers to carry out cashless, paperless and transparent payment transactions.

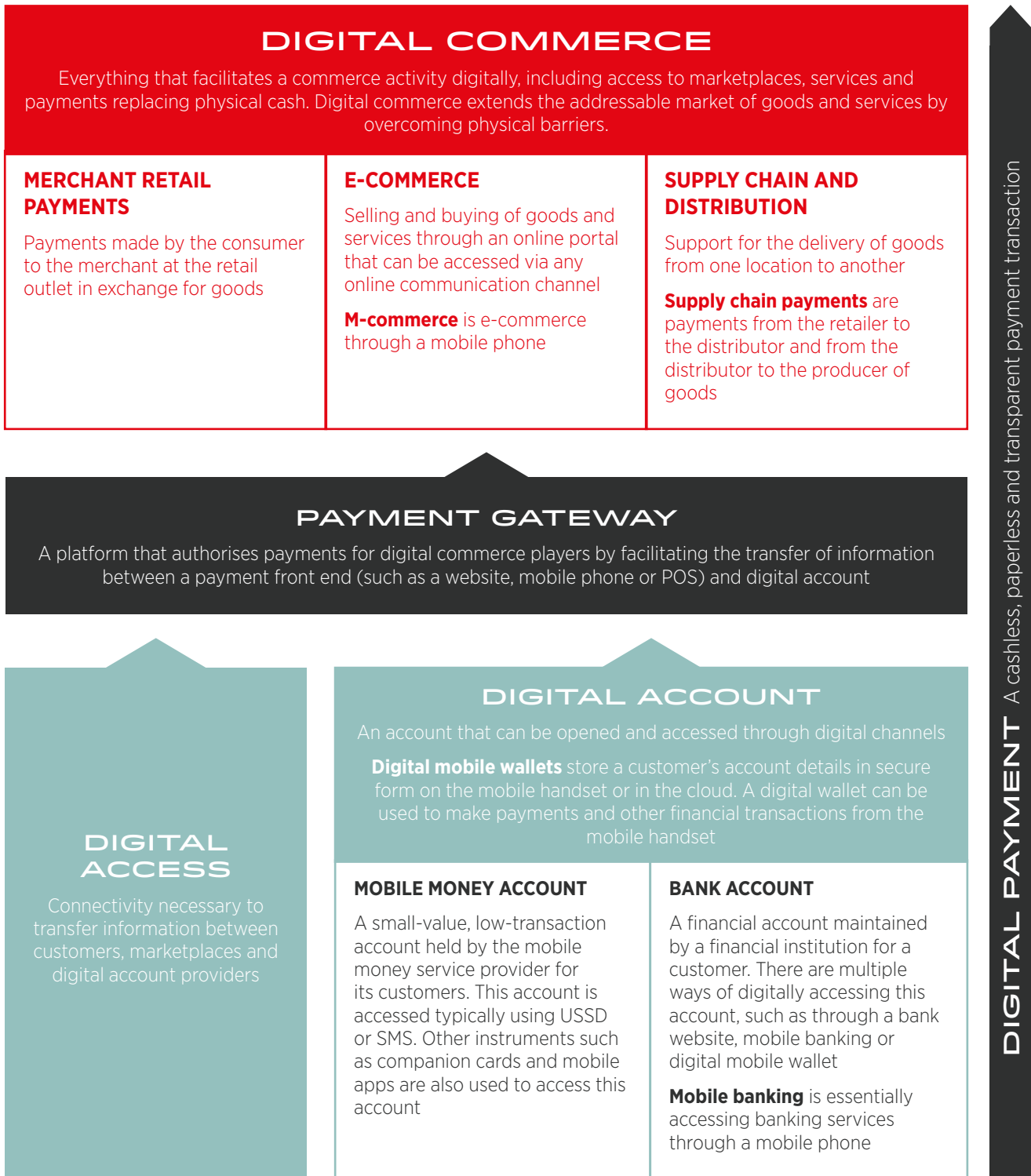
In both developed and developing countries, digital commerce has already created new economic models by creatively combining digital access and payments and reshaping business processes across many industries, including financial services, entertainment, retail, public services, transportation and merchant and online payments.

As shown in Figure 2, digital commerce includes merchant retail payments, e-commerce and supply chain and distribution.



Figure 2

Digital commerce, access, accounts and payments



Source: GSMA

3.1 Digital access through mobile set to increase substantially in emerging markets

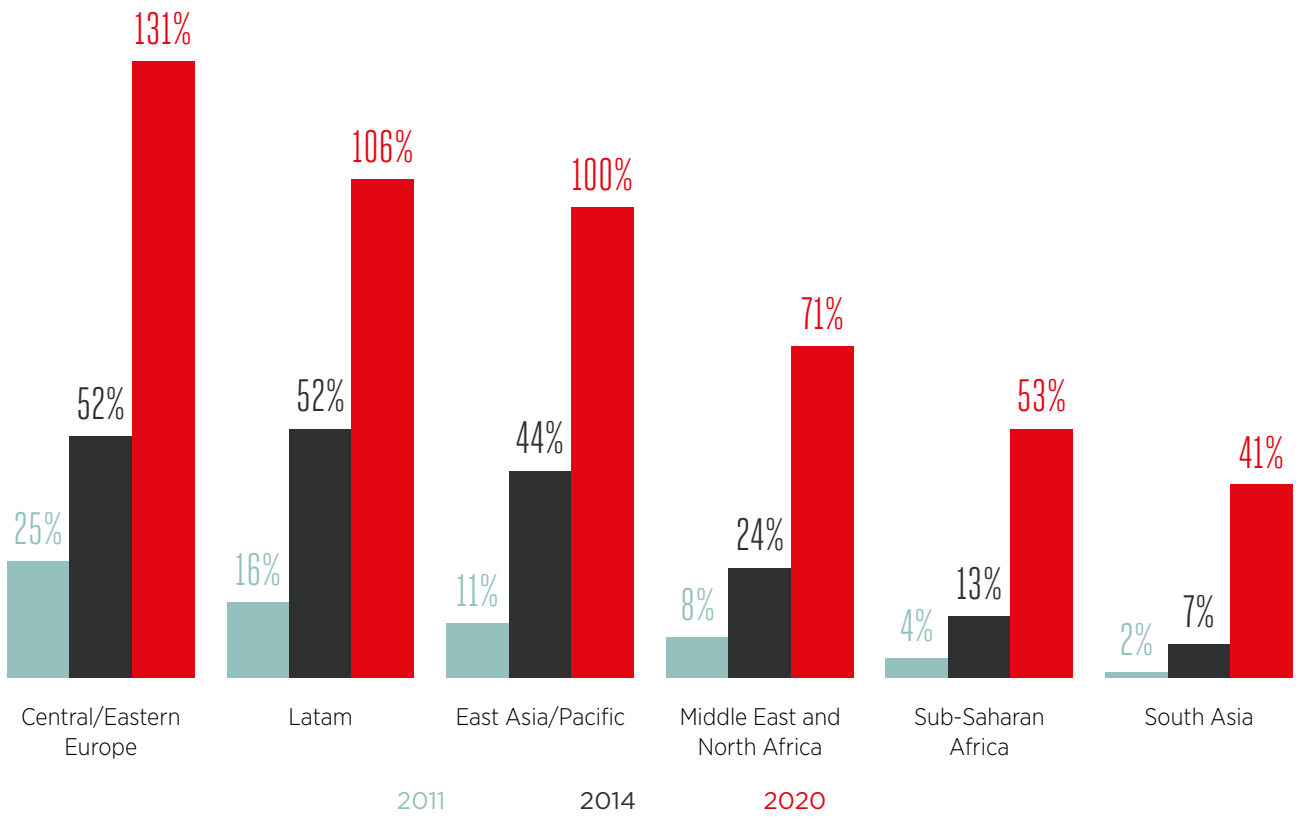
In most emerging markets, fixed broadband penetration is less than 10%¹⁵; mobile is increasingly the main channel for internet access. Mobile operators have been investing heavily in infrastructure to provide access to 3G and 4G services and offer mobile internet solutions. This trend will continue over the next few years. In emerging markets, 69% of the population is currently covered by 3G networks and 26% by 4G networks. This is expected to increase to 84% and 65%

respectively by 2020. This will drive an increase in mobile internet uptake; by 2020 mobile broadband¹⁶ penetration in emerging markets is expected to reach 75%, up from 28% at the end of 2014. By 2020, it is expected that over 60% of connections in emerging markets will be smartphone connections¹⁷, an increase of more than 150% from 2014. Most of this will be attributed to the availability of sub-\$50 smartphones.

Figure 3

Mobile broadband access in emerging markets

(Percentage of population)



Source: GSMA Intelligence

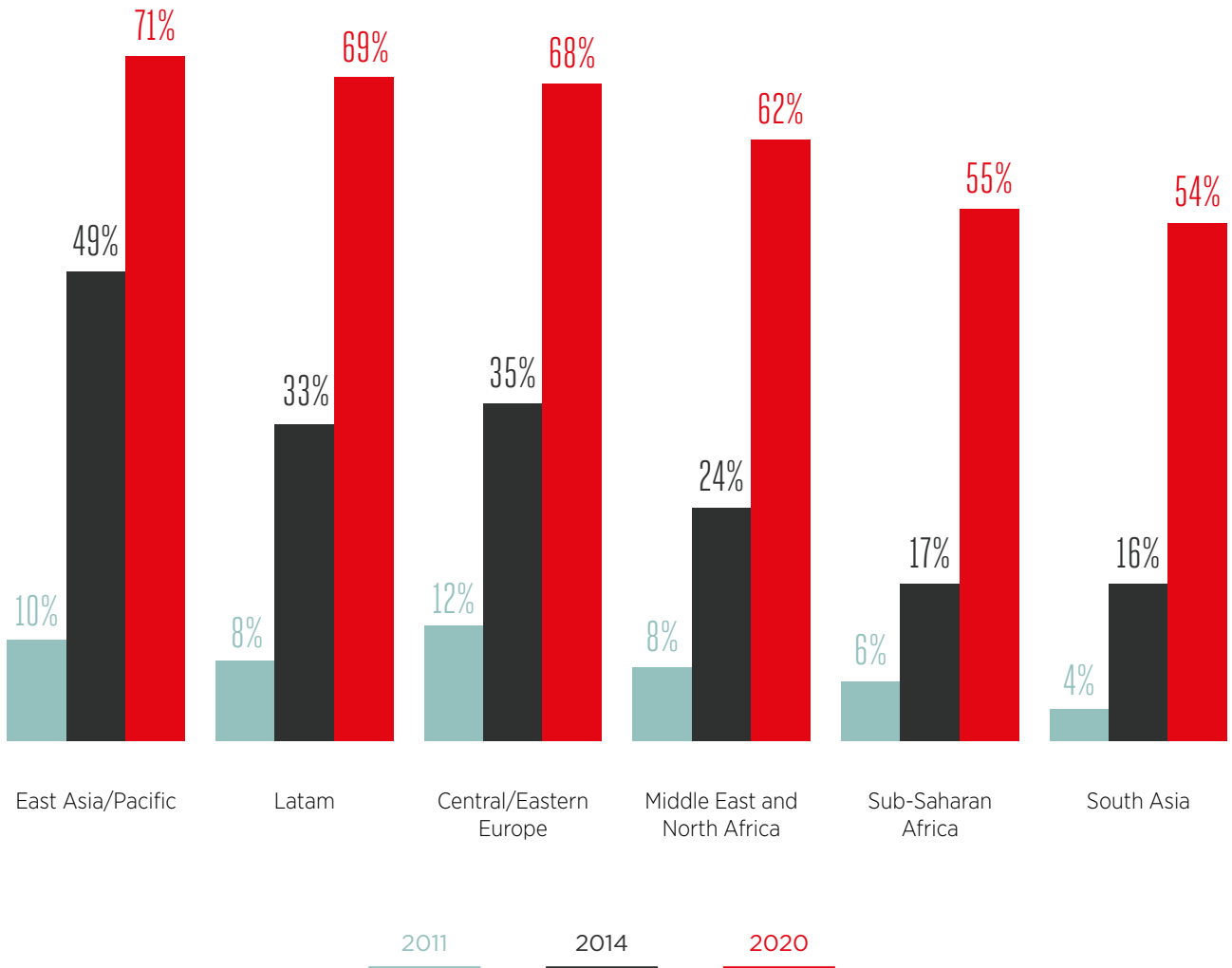
15. Source: ITU
 16. Unique SIM cards (or phone numbers, where SIM cards are not used) that have been registered on the mobile network in a device capable of download speeds of at least 256 kbps (agnostic of device type)
 17. Unique SIM cards (or phone numbers, where SIM cards are not used) that have been registered on the mobile network and are used in a smartphone device



Figure 4

Smartphone adoption in emerging markets

(Percentage of connections)



Source: GSMA Intelligence

3.2 Digital payments continue to face challenges from cash

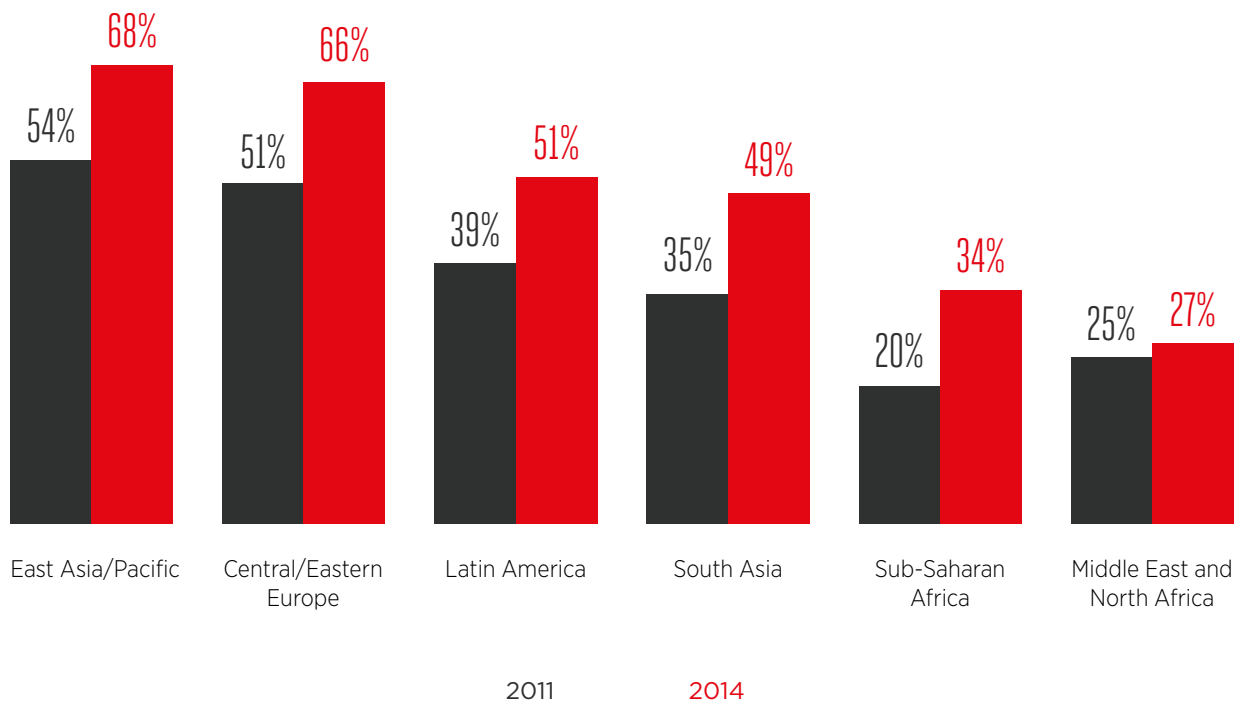
Digital payments are an important enabler for digital commerce. As of 2014, 40% of the global adult population did not have any kind of formal financial account, bank based or otherwise, and as such were considered financially excluded. The majority of this financially excluded population, over 2 billion people, live in emerging markets. Financial inclusion

does not only increase their ability to make digital payments; broader access to and participation in the financial system can reduce income inequality, boost job creation, accelerate consumption, increase investments in human capital, and directly help poor people manage risk and absorb financial shocks¹⁸.

Figure 5

Banked population in emerging markets

(Percentage of population over 15 years old with an account)



Source: World Bank

18. Source: "The opportunities of digitizing payments", World Bank, the Better Than Cash Alliance, and Bill & Melinda Gates Foundation, August 2014



Underdeveloped financial infrastructure and a lack of access to formal financial services in many emerging markets has led to cash dominating payments for commerce activities. People are not just paying with cash at retail locations; cash on delivery (COD)¹⁹ is a common payment mechanism, even for e-commerce. Eighty-five percent of global consumer transactions are made in cash²⁰. The total burden of cash usage on the society can be as high as 1.5% of GDP²¹. This is equivalent to approximately two-thirds of the cost of all payment methods. In addition, frequent use of cash for payments can hinder the growth of new businesses, such as e-commerce. Paying with cash also perpetuates a shadow economy and hinders the growth of the digital economy.

However, this trend is changing. Emerging markets led the growth of global non-cash transactions between 2009 and 2013. They grew 13% compared to mature markets at 6%. This was driven by emerging markets in Asia and CEMEA (Central and Eastern Europe, Middle East and Africa), which saw growth rates of 20% per year²². However, the value of non-cash transactions in emerging markets still

represented only a quarter of the \$350 billion of global non-cash transactions in 2013.

With investments by mobile operators and the fall in smartphone prices, access will become less of a barrier in emerging markets in the coming years. The key to realising the full potential of digital commerce lies in developing innovative digital payment solutions that reach out to market segments previously excluded from, or underserved by, traditional financial services.

In this scenario mobile money emerges as a potential solution to extend the reach of digital payments. This is a technology-driven, low-cost alternative that provides a basic digital account with funds accessible via a mobile phone, coupled with the possibility of depositing and withdrawing these funds from a network of cash-in/cash-out agents. In many emerging markets, mobile money is already leading the way for digital payments, leaving behind traditional financial institutions in terms of number of customers, number and value of transactions and physical reach.

19. A buyer selects and orders goods online but pays in cash at the time of delivery

20. Source: "Measuring progress toward a cashless society", MasterCard Advisors, September 2013

21. Source: MasterCard

22. Source: World Payments Report 2015, Capgemini, Royal Bank of Scotland



Mobile money uses information and communication technologies and non-bank retail channels to extend the delivery of financial services to customers who would not be reached by traditional branch-based financial services in a profitable way.





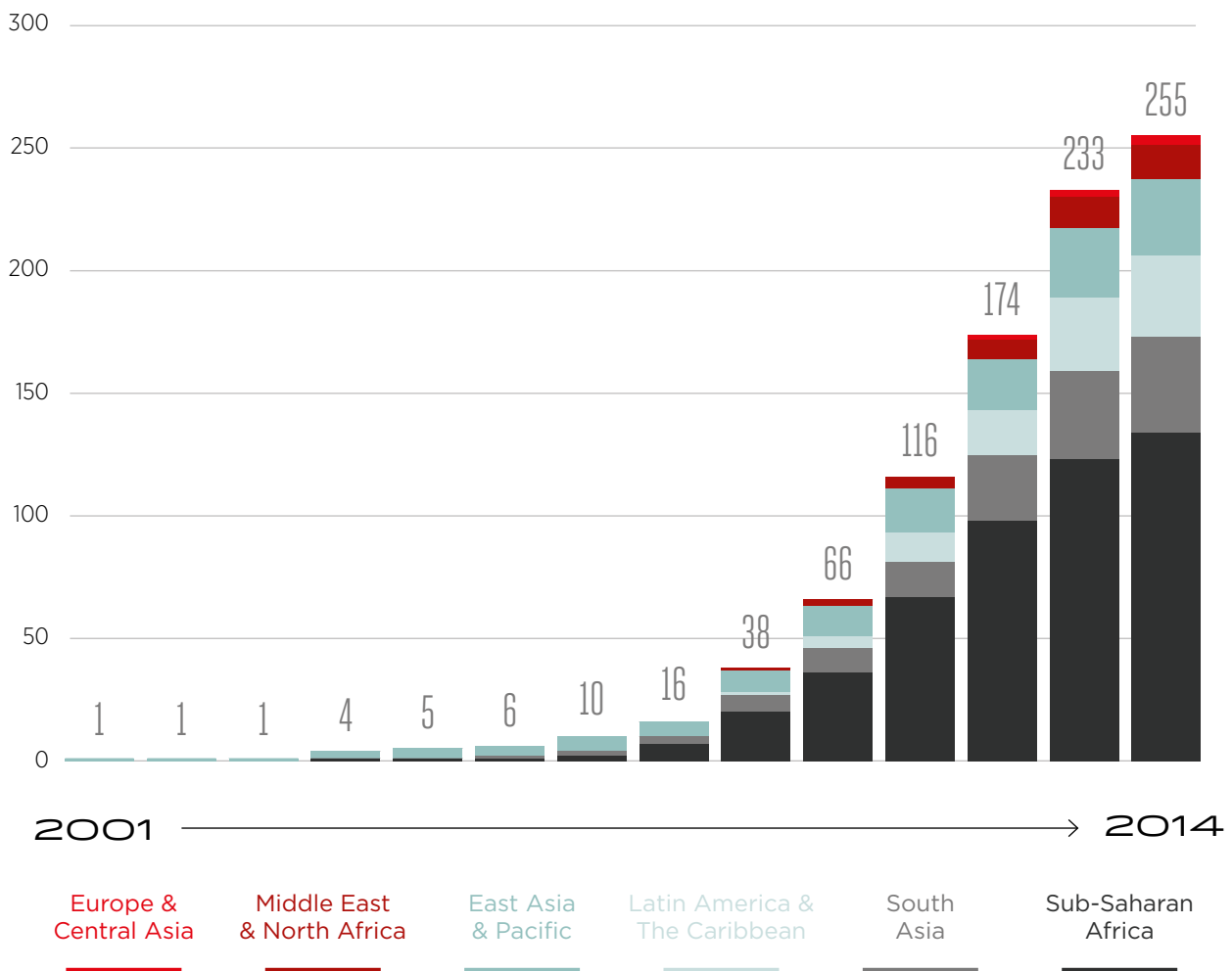
3.3 Mobile money extends reach and presents an opportunity for digital payments

Mobile money is a solution used in many emerging markets to increase financial inclusion and reduce reliance on and usage of cash. Mobile money uses information and communication technologies and non-bank retail channels to extend the delivery of financial services and digital commerce to customers who would not be reached by traditional branch-based financial services in a profitable way.

As of June 2015 there were 255 live mobile money services around the world, with a further 102 services planned²³. More than half of the live services are in Sub-Saharan Africa, where mobile money has become a popular service not only for fund transfers but also for other transactions such as airtime top-ups and bill payments.

Figure 6

Number of live mobile money services by region



Source: State of the Industry 2014: Mobile Financial Services for the Unbanked, GSMA, March 2015

23. Source: GSMA Mobile Money



Mobile money has been successful in a relatively short time because it enables a large segment of the unbanked population to own and utilise a small value account without the need for a bank account or data connection. Customers can deposit or withdraw money ('cash-in' or 'cash-out') by going to a network of transaction agents. In emerging markets, agent networks are much more widespread than typical financial access points such as ATMs and bank branches. Customers can also initiate transactions using a mobile interface available on basic handsets.

The service has become so popular that today there are 300 million mobile money accounts globally and 2.3 million agent outlets extending mobile money services to customers who do not have access to a bank branch network. There are more than 100 million active mobile money accounts²⁴. Some 21 services have more than 1 million active accounts, and in 16 countries²⁵ the number of mobile money accounts is greater than the number of bank accounts.

24. An active mobile money account is an account that has been accessed at least once in the last 90 days

25. Cameroon, the Democratic Republic of the Congo, Gabon, Kenya, Madagascar, Tanzania, Uganda, Zambia, Zimbabwe, Burundi, Guinea, Lesotho, Paraguay, Rwanda, the Republic of the Congo and Swaziland



Mobile money business models

Globally these services are offered by mobile operators, banks and third parties. However, with the largest number of registered and active customers, mobile operator-driven services are making a significant contribution to financial inclusion. Kenya’s M-Pesa service launched by Safaricom is an example of a service provided by a mobile money operator based on a mobile operator-driven business model. However, over the years other mobile money business models have emerged through market conditions and/or regulatory requirements, such as a bank-driven model and payments company model (see Figure 7).

The differences are in the roles and responsibilities of mobile operators and banks along the value chain. In a mobile operator-driven business model, the mobile operator is responsible for most aspects along the value chain. A bank-driven model can vary from one that limits the role of the mobile operator to just providing access to the telecommunication channel, to one that leverages a mobile operator’s capabilities in marketing and branding, managing a distribution network and building products. The latter type of bank-driven model is in use in Pakistan and is referred to as ‘branchless banking’.

Figure 7

Examples of mobile money business models

1 MOBILE OPERATOR-DRIVEN:

Mobile operator assumes most functions of the mobile money value chain



2 PAYMENTS COMPANY-DRIVEN:

Dedicated payments company manages core service offering



3 BANK-DRIVEN:

Bank assumes most functions of the mobile money value chain



Mobile operator activities

Bank activities

Payments company activities

Source: Mobile financial services in Latin America & the Caribbean, GSMA, May 2015



Mobile money service models

The types of service model available have evolved according to regulatory, market and business considerations. Two different service models are being used globally; one is account-based and the other is over-the-counter (or OTC) based. OTC transactions refer to transactions where an agent account is used to send and/or receive money instead of a customer account. Users do not need to register for a mobile money account; instead they use an agent to perform the transaction on their behalf.

Typically it is easier to start generating revenues with an OTC model than a mobile money account-based model. However, most of the operators that employ an OTC model face scalability issues in three to five years when they are ready to introduce new products to the market but find few customers have registered with their service (for more details on mobile money, see Appendix 1).

Mobile money interoperability

As the mobile money industry becomes more competitive, the need for industry collaboration and interoperability grows. There are 58 markets globally that have two or more live mobile money services and 35 markets that have three or more live mobile money services.

Account-to-account interoperability between mobile money deployments has already been implemented in five markets (Indonesia, Sri Lanka, Tanzania, Pakistan and Rwanda) and will be implemented in two more markets before the end of 2015. Interoperability needs to happen between mobile money providers, and between mobile money providers and banks.

Greater customer relevance and financial inclusion

Mobile money services continue to gain a lot of attention, not only because their customers are able to make and receive more payments and have greater access to financial services, but also because these services are relevant and important for financially excluded and underserved populations.

Digital commerce provides one of the many opportunities for mobile money account holders to use their account and be part of value creation in society, opportunities that were denied by or not feasible with traditional financial institutions. In this way, as well as increasing financial inclusion, mobile money services enable digital commerce in emerging markets.

4

Pakistan – the digital commerce opportunity

Asia is increasingly becoming an important region for digital commerce, with growth rates unlike any other region. Pakistan's digital commerce market is still in its infancy, but in the coming years it could play a more central role in the growth of digital commerce in the region. Pakistan remains a largely underserved market in terms of both internet access and digital payments, though there are signs of improvement. In mid-2014 3G licences²⁶ were auctioned in Pakistan; this led to rapid growth of mobile broadband connections.

26. 3G licences were auctioned in Pakistan in mid-2014 and four companies, Telenor, Mobilink, Ufone and Zong acquired them. Warid automatically qualified for the licence due to a legal clause in its existing contract with the government of Pakistan.

For digital payments, alternatives to traditional financial institutions have emerged, such as branchless banking. These have been led by partnerships between banks and mobile operators. Branchless banking has extended the reach of financial services to many unbanked or underserved people. For digital commerce to take off in Pakistan, there are several challenges to be addressed and opportunities to be taken.

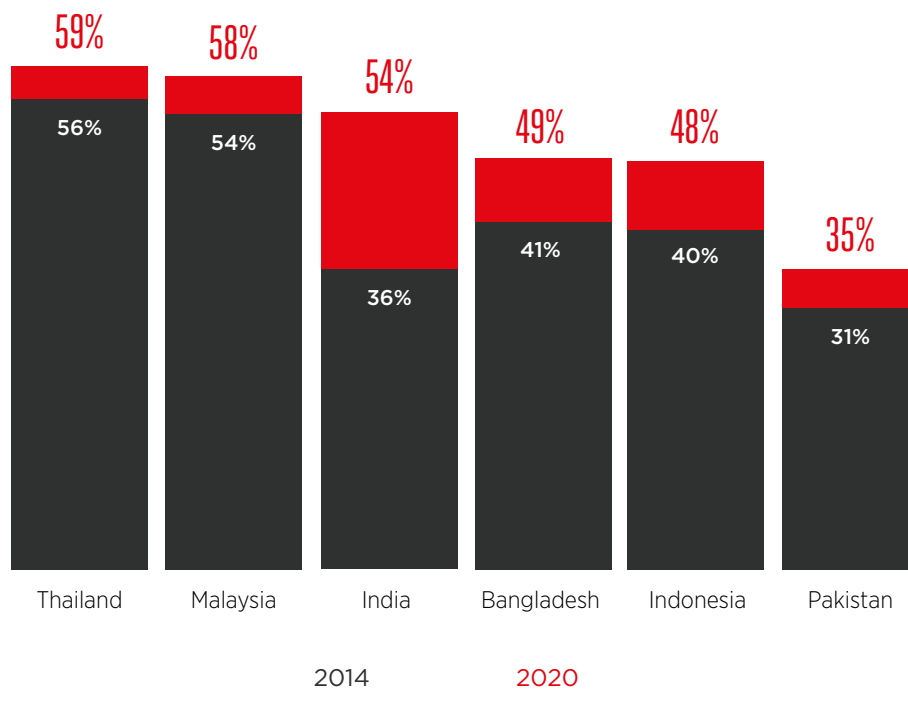
4.1 Digital access – rapid growth of mobile broadband

Pakistan remains an early-stage market for mobile connectivity in the region. At the end of 2014, unique subscriber²⁷ penetration in Pakistan stood at only 31%. This is less than unique subscriber penetration

in peer countries and below Asia Pacific's average of 45%. By 2020, unique subscriber penetration in Pakistan is expected to grow to 35%.

Figure 8

Unique subscriber penetration (Percentage of population)



Source: GSMA Intelligence

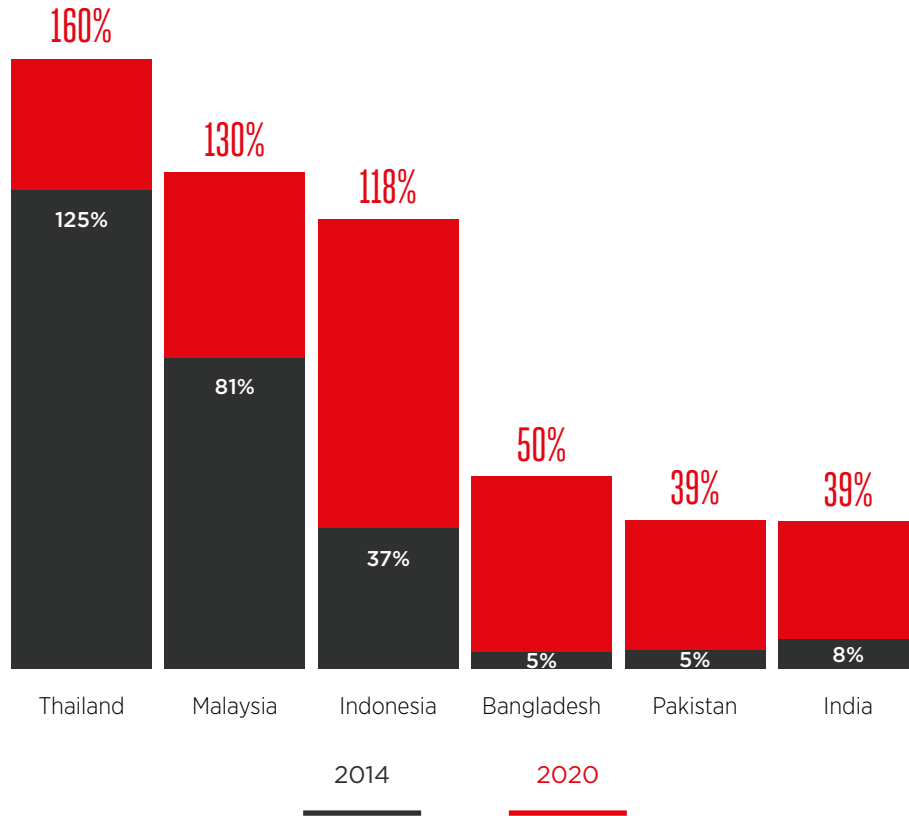
27. Total unique users who have subscribed to mobile services. Subscribers differ from connections such that a unique user can have multiple connections.



Figure 9

Mobile broadband penetration

(Percentage of population)



Source: GSMA Intelligence

Fixed broadband penetration in Pakistan is only around 1%, making mobile the only effective channel for connecting to the internet. Mobile operators realise the opportunity to extend this reach and are pushing access by offering cheap internet tariffs and a wide variety of smartphone devices. Since the launch of 3G and 4G services in mid-2014, there has been exponential growth in connections, with 3G and 4G connections growing at 33% in Q3 2015. Mobile broadband penetration is expected to increase to 40% by 2020, from 5% in 2014, as 3G population coverage increases from 50% in 2014 to 90% in 2020.

33% growth of 3G and 4G connections in Pakistan in Q3 2015.

In addition to mobile operators, vendors are playing a role in extending access. Smartphone prices have decreased over the years, making them more affordable to a greater proportion of the population. At the time of writing, the cheapest smartphone available costs PKR1,780 (\$17)²⁸. If this trend continues, smartphone adoption in Pakistan is expected to increase from 10% of connections in 2014 to 51% in 2020.

28. QMobile R370 on daraz.pk in October 2015

4.2 New payment initiatives challenging traditional financial services

Digital payments are an enabler of success for digital commerce. In Pakistan, the banking system has mainly served the needs of a market segment that makes high-value payments. There are around 40 commercial and microfinance banks operating in Pakistan through 11,785 bank branches, 9,312 ATMs, 37,286 POS terminals and 27 million cards (ATM, credit and debit)²⁹. The primary mode for accessing banking services remains the branch network of

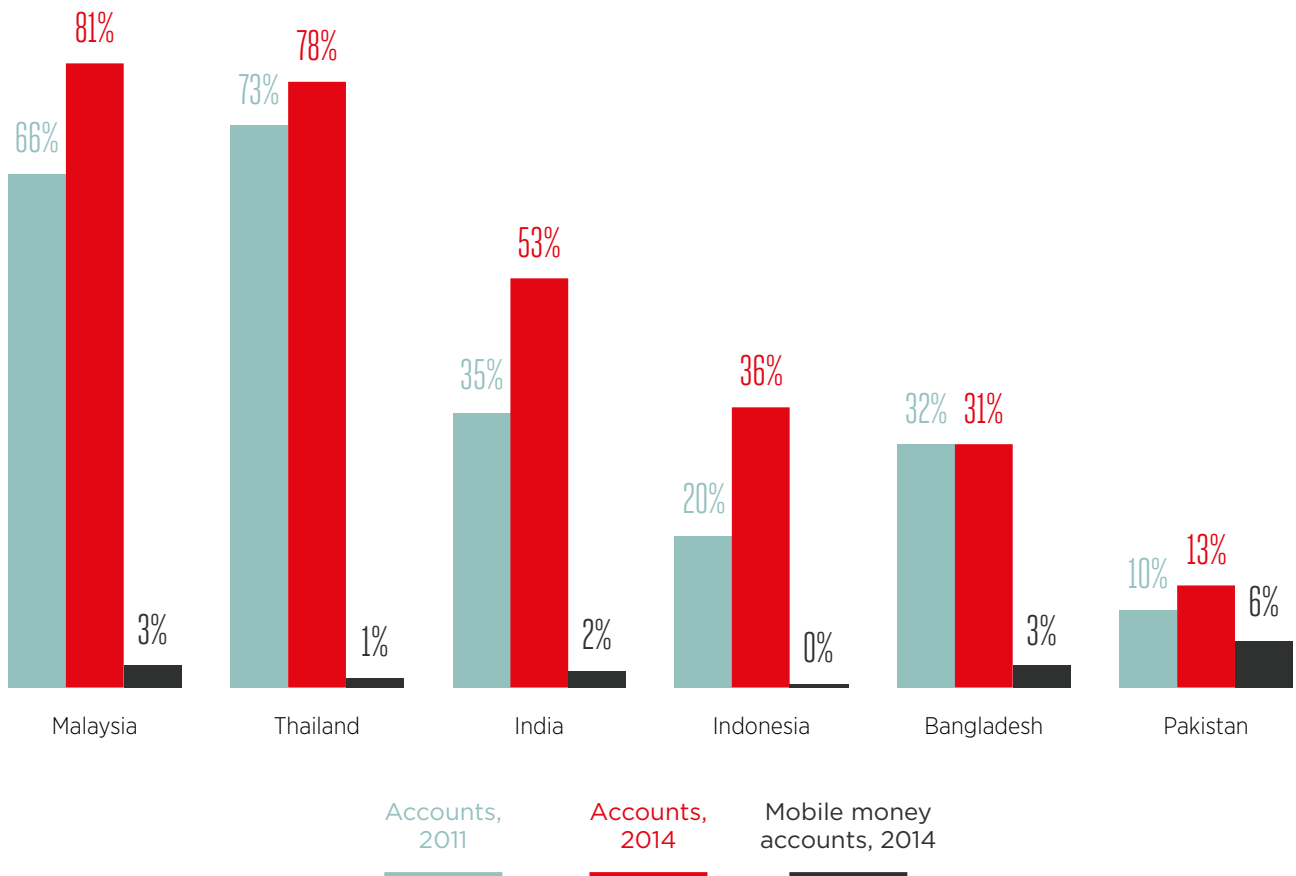
these banks, which largely focuses on urban and suburban markets, and mainly targets the employed male population.

It is no surprise that, according to the World Bank, the number of unique digital accounts lies at only 16 million, covering just 13% of the adult population. This is much lower than the average in South Asia of 46% and is one of the lowest in the world³⁰.

Figure 10

Banked population

(Percentage of population over 15 years old)



Source: World Bank

29. Source: SBP Payment Systems Q3 FY2015
30. Source: World Bank

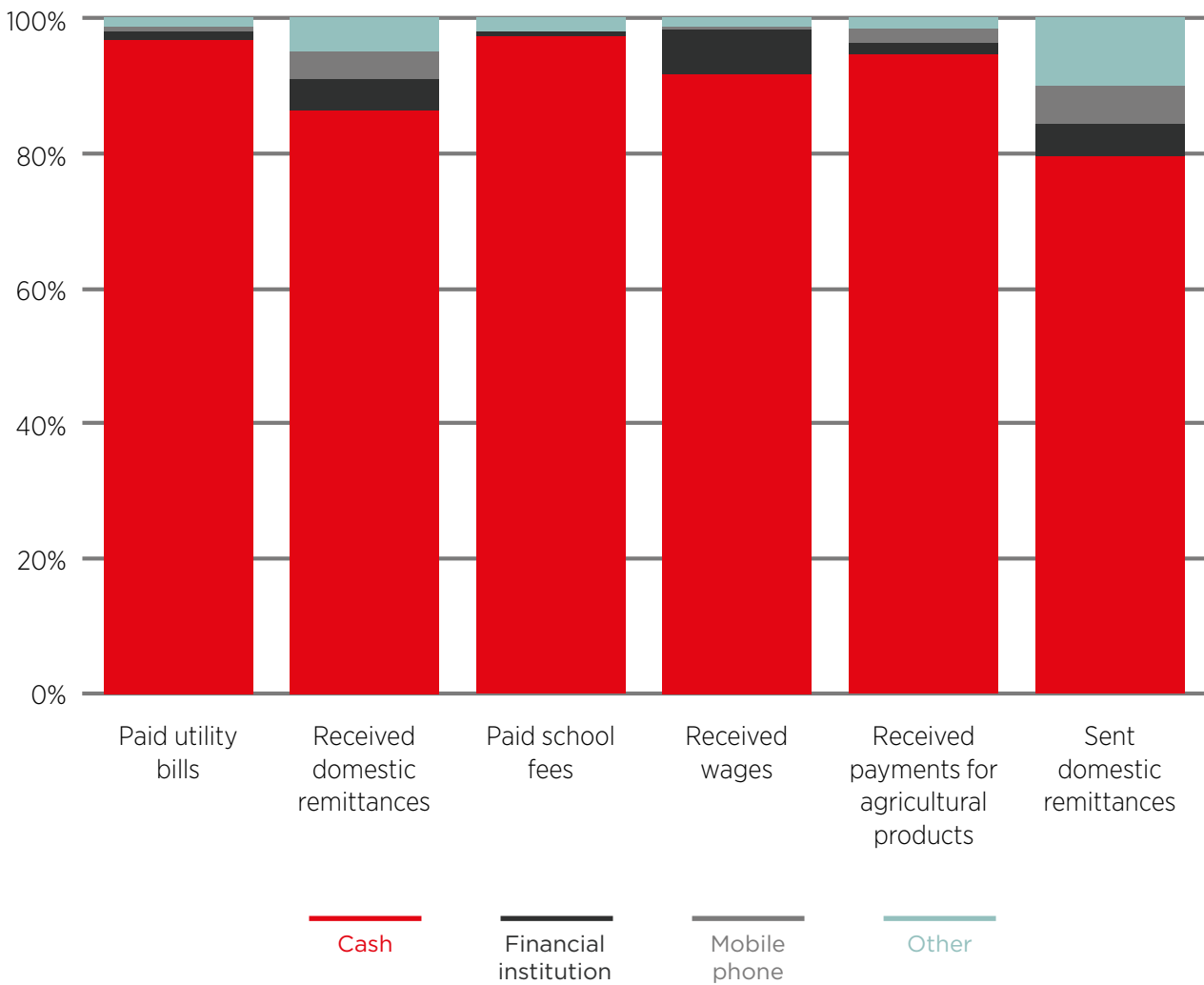


As a result, the financial system in Pakistan has remained largely informal and cash based. Over the past year, 50% of Pakistanis borrowed funds, but only 5% did so from a formal financial institution, compared to 46% who borrowed from family and friends and 42% who borrowed from shopkeepers. Similarly, 32% of Pakistanis saved, but only 3% at a formal financial institution, compared to more than

half saving cash at home. Around 25% of Pakistanis received domestic remittances in the past year and 16% sent domestic remittances. The most common way to send remittances is through personal delivery, and less than 5% were sent via direct deposit at a bank³¹.

Figure 11

Payment split by mode of transaction, Pakistan 2014



Source: World Bank
 Note: Other includes money transfer operator

31. Source: "Using mobile money to promote financial inclusion in Pakistan", Karandaaz, September 2015

Figure 12

Branchless banking in Pakistan³²



Source: GSMA Intelligence

32. To be consistent with the local market, we refer to mobile money in Pakistan as branchless banking.



In 2007, the SBP issued a Policy Paper on Regulatory Framework for Mobile Banking, and in 2008 the Branchless Banking Regulations and first licences were issued. These regulations were then revised in 2011 in view of the market experience. The regulations in Pakistan only permit a financial institution (such as a bank or microfinance bank) to be licensed for branchless banking. However, it allows financial institutions to partner with mobile operators or third parties to extend their services to the largely unbanked population through a network of agents. Globally, mobile operator-led models have generally been more successful. However, in Pakistan, despite limitations on the licensing approach, the SBP has been open to significant investment and commercial partnerships between banks and mobile operators, and players have leveraged each other's strengths to build successful services.

With the lack of formal financial services for a large section of society, Pakistan's branchless banking industry has flourished since 2009 and has shown in such a short time that it can serve the needs of the poor and unbanked population, who primarily

perform low-value transactions. The first of such services, Easypaisa, was launched in 2009 by Tameer Microfinance Bank and Telenor Pakistan.

Easypaisa was launched about a year after M-Pesa in Kenya; however, in Pakistan, Telenor and Tameer Bank did not restrict the service to Telenor's subscribers³³. As a result, any adult with a valid computerised national identity card could send and receive money using Easypaisa agents.

Since 2009, six other branchless banking operations have launched, with two services bank-only and four services partnerships between a bank and mobile operator. All of Pakistan's mobile operators have launched services in partnerships with banks. The partnering banks have gained from the experience of the mobile operators in executing account-based services, managing distribution networks and designing products and services for the unbanked population. The GSMA has examined the limitations of an OTC-based service model and promotes account-based models; however, OTC in Pakistan has built consumer trust among those who traditionally have not parted with their cash but now use this service on a monthly basis.

Table 1

Branchless banking services and ownership in Pakistan

Branchless banking service (by launch date)	Mobile operator (GSM market share in Q1 2015)	Bank
Easypaisa (2009)	Telenor (26.6%)	Tameer Bank
Omni (2010)	N/A	UBL (bank only)
Mobicash (2012)	Mobilink (27.8%)	Waseela Bank
TimePey (2012) ³⁴	Zong (20.0%)	N/A
UPaisa (2013)	Ufone / PTCL (16.5%)	Ubank
HBLExpress (2013)	N/A	HBL (bank only)
MobilePaisa (2014)	Warid (8.2%)	Bank Alfalah

Source: GSMA Mobile Money, GSMA Intelligence

33. Easypaisa: Mobile Money Innovation in Pakistan, GSMA, July 2013

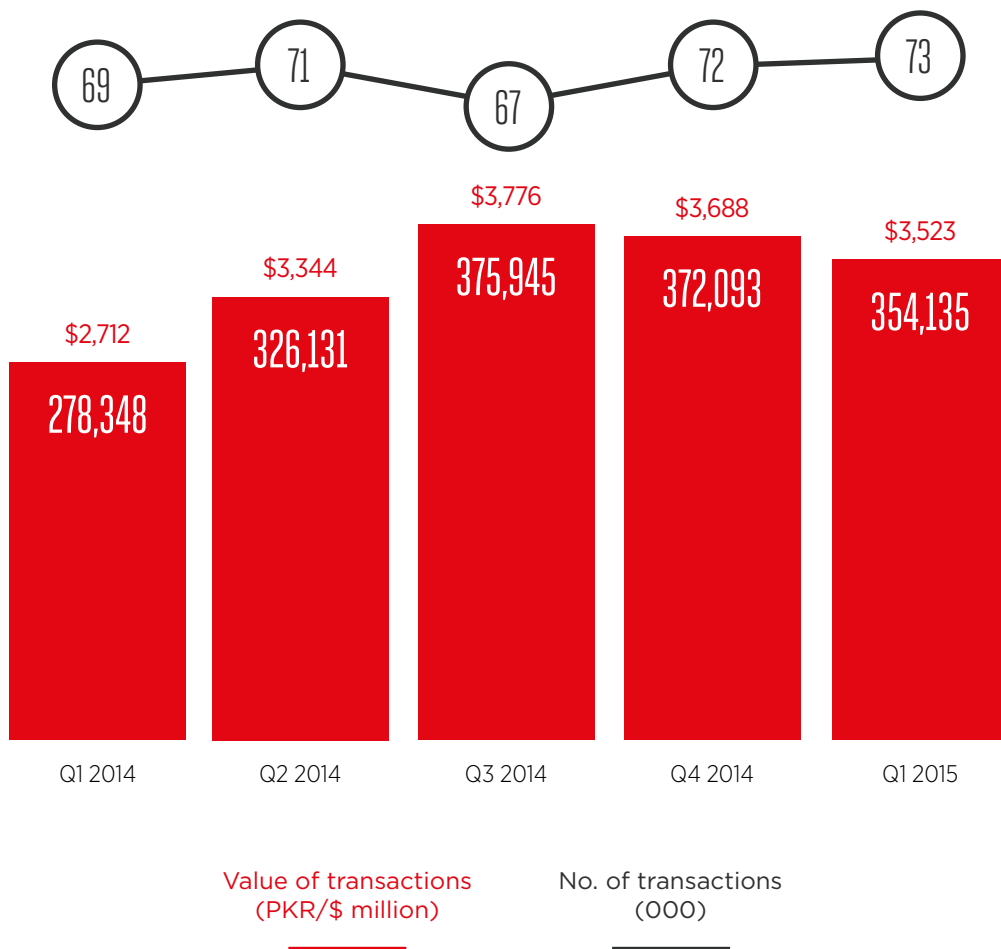
34. TimePey has since disbanded and Zong is working on other banking arrangements

By the end of 2014, 7% of the adult population³⁵ in Pakistan – just under 9 million people – had used P2P transfer or bill payment services offered by the branchless banking operators at least once. As well as P2P transfers, the industry has successfully delivered various government-to person (G2P)

campaigns such as the Benazir Income Support Programme and Internally Displaced Persons payments, with the total value of transactions equivalent to approximately 3.5% of the country's GDP.

Figure 13

Volume and value of branchless banking transactions in Pakistan



Source: SBP

35. Source: "Financial Inclusion Insights", InterMedia



Branchless banking account adoption

As the branchless banking industry has matured in Pakistan, players have realised the limitation of reaching scale and offering their customers a suite of products using an OTC-based model. Discussions about migrating to an account-based model started in 2014. The SBP then permitted the opening of accounts through biometric means with online verification from NADRA systems³⁶. Also in 2014, a memorandum of understanding was signed to reduce the fee for this verification. However, registration of new accounts remained low due to the unavailability of the biometric verification systems at agent locations because of the prohibitive costs of such systems.

In early 2015 the government of Pakistan and the Pakistan Telecommunication Authority (PTA) launched a campaign to biometrically re-verify all SIM cards in the market and issue new ones only after biometric verification. The biometric verification devices were financed and deployed by mobile operators in the market and by Q2 2015 all the SIM

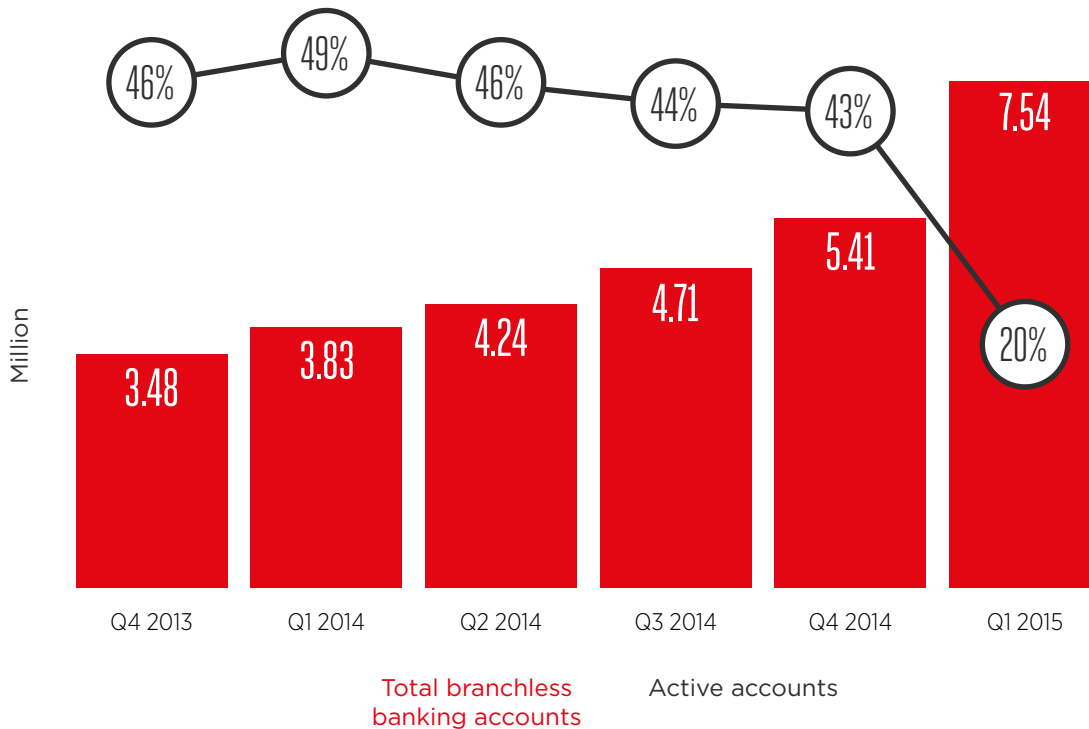
cards in the market were biometrically verified.

The branchless banking operators realised the potential of this opportunity³⁷ and sought preliminary approvals from the SBP to open accounts of biometrically verified customers remotely. Customers with a verified SIM dial a USSD string with their Computerised National Identity Card (CNIC) number. A backend system sends the CNIC number to NADRA to fetch customer data and populates all the data directly from NADRA servers into the operator’s database. Once this is completed, an account is opened.

This innovative idea has led to a 40% increase in the number of branchless banking accounts in Pakistan, from just 5.41 million at the end of 2014 to 7.54 million in Q1 2015. However, only 20% of these new accounts remain active (used within the last 30 days). This indicates that although customers were initially interested in opening accounts, there is a general lack of opportunities for them to use their account effectively.

Figure 14

Branchless banking accounts in Pakistan



Source: SBP

36. The National Database Registration Authority is the government body that issues CNICs
 37. The Promise of Biometric KYC and Remote Account Opening for Branchless Banking in Pakistan, GSMA, July 2015



Ecosystem and interoperability initiatives

The branchless banking players such as mobile operators and banks realise that by building products for their customers (such as interoperable account-based P2P transfers), partnering with federal and local governments to deliver social benefits (G2P payments) and developing offers to match their lifestyles (such as micro-insurance and merchant and online payments), they can drive adoption and usage of these accounts. They can also reduce the use of cash by working against it together.

In 2014, the industry showed the first sign of collaboration and launched an initiative to make account-to-account transfers interoperable not only between branchless banking accounts but also with bank accounts. Four of the five players with mobile operator partnerships connected their systems to 1Link, a consortium of major banks that owns and operates the largest interbank network in Pakistan, and enabled their customers to send and receive funds from any other branchless banking account or formal bank account.

Digital payments and branchless banking players

Digital payments represents a promising opportunity for branchless banking players to create value for their customers. The players already have extensive distribution networks spread across different socio-economic classes, with roughly 65,000 agents trained to process digital payments in the form of P2P transfers and bill payments.

Easypaisa, Mobicash and Upaisa have created both front-end and back-end payment products; these are in the pilot phase. For proximity payments, NFC solutions are being rolled out, with mPOS for merchants and device stickers for customers of branchless banking accounts. In locations where merchant economics are an important factor, direct USSD-based payment acceptance mechanisms are also part of mobile operators' plans.

In Pakistan, e-commerce has largely remained a

buy and sell (but not payment) process as most transactions are done in cash. More than 95% of e-commerce users prefer a cash on delivery (COD) payment model³⁸. The branchless banking players have recognised that, for merchants, the cost of using cash on delivery is more than 2% of the transaction compared to using a digital payment platform, which can vary between 0.5% and 1.5%³⁹.

To facilitate the growth of online payments for e-commerce, mobile operators have set up their own marketplaces (such as Usmall from Upaisa) and payment gateways (such as Easypay from Easypaisa). These accept payments from customer accounts but also accept vouchers (paid for at an agent location) and international card payment schemes.

38. Source: Kaymu

39. For example, using Easypay costs the merchant 1.5% if the user pays via OTC, 1% if via Visa or MasterCard, and 0.5% if through the mobile money account.



4.3 Future opportunities in Pakistan

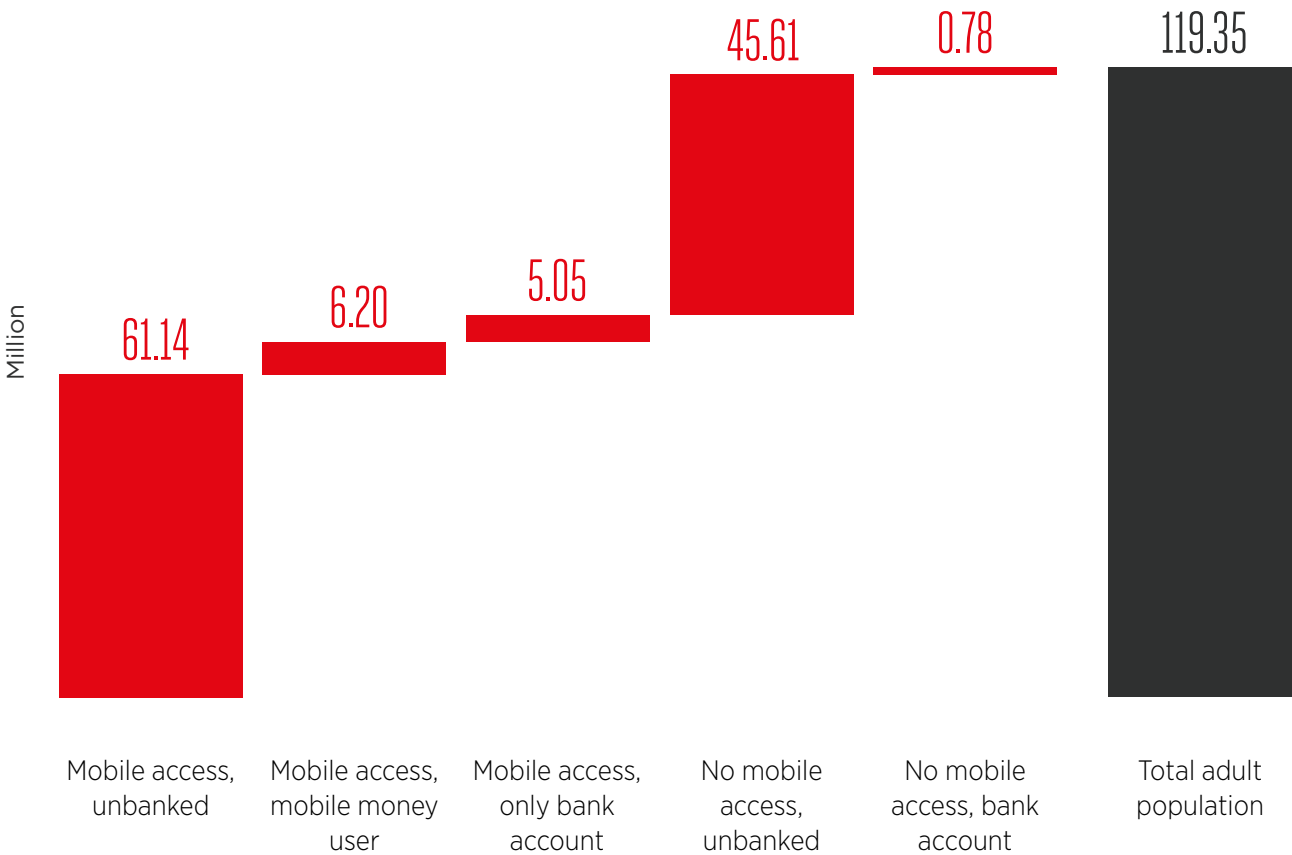
Mobile operators are playing a significant role in encouraging both digital access and digital payments. For example, in 2014, Mobilink and Telenor’s combined total capex on mobile broadband access was just under \$1 billion. Mobile broadband penetration rates are also expected to increase, reducing connectivity barriers in the coming years. To fully realise the opportunity of digital commerce in Pakistan, the priority is to increase digital accounts and digital payments. Half of Pakistan’s adult population, approximately 60 million people, have access to a mobile phone

but remain unbanked. This group can efficiently be reached by branchless banking operators rather than traditional banks.

50% of Pakistan’s adult population have access to a mobile but remain unbanked

Figure 15

Branchless banking market opportunity



Source: GSMA Intelligence, InterMedia

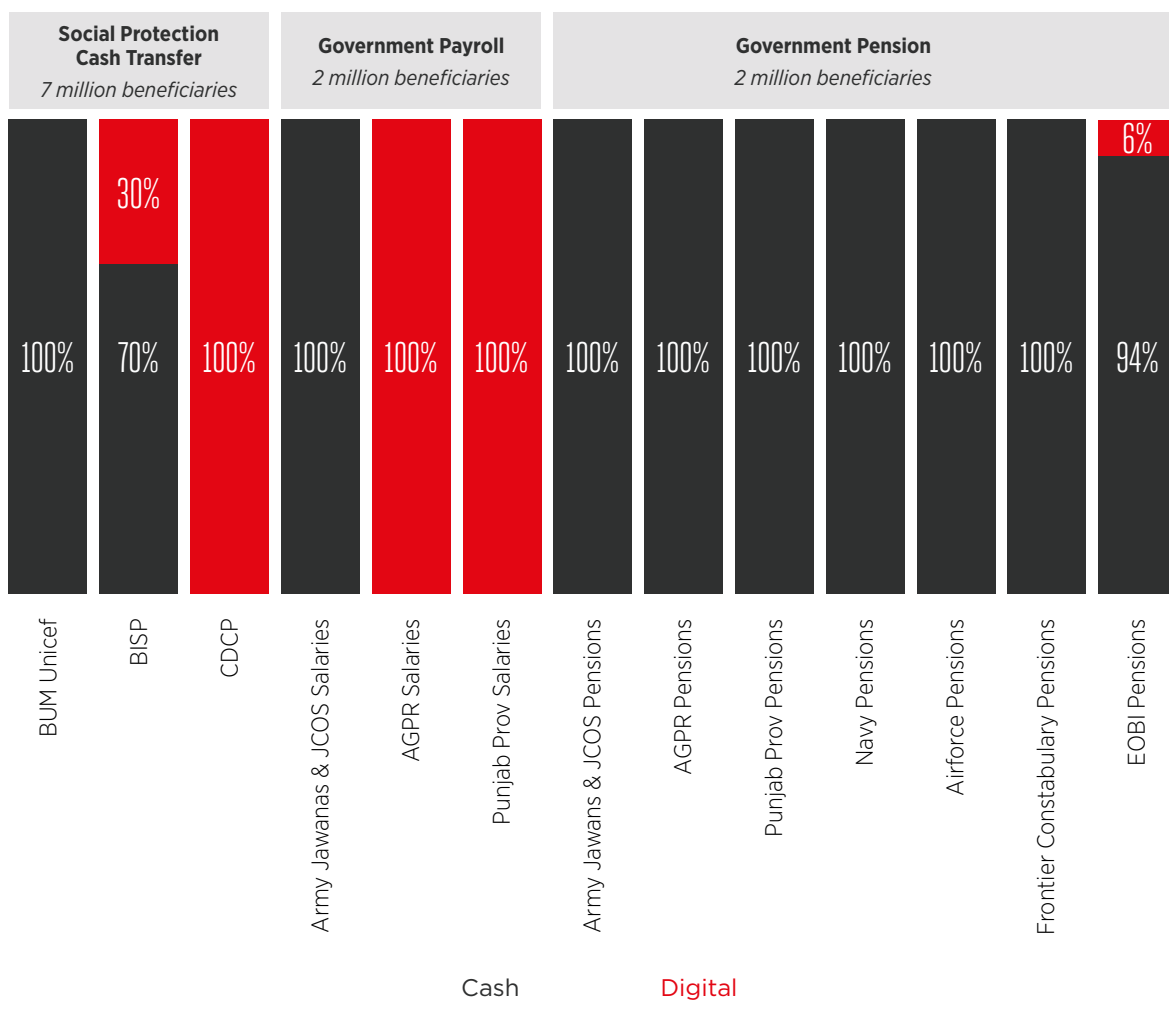
Branchless banking has already shown signs of success in areas such as domestic remittances (P2P) using OTC and delivery of G2P disbursement schemes. Mobile operators have started to invest to increase branchless banking account adoption and enable the development of a digital ecosystem.

The biggest opportunity for growth and sustainability of this ecosystem lies with digitising government payments, such as salaries, pensions and social benefit payments.

This would create a source of funding for these accounts. The government could also digitise collections, such as payments of taxes, penalty fees for small offences and utility bills, to grow the P2G sector and increase the activity of these accounts. As shown in Figure 16, the majority of government payments are still made in cash. The benefits of digitising government payments go beyond just financial inclusion, and can benefit governments, banks and end users. A 2014 McKinsey study on G2P payments in Nigeria revealed that additional annual benefits could be worth \$600–800 million in taxes for the government, \$150–160 million in revenues for banks, and \$10–20 million in additional benefits for 20 million end users⁴⁰.

Figure 16

Level of government payments digitisation in Pakistan, 2013



Source: Karandaaz, September 2015

40. Source: "Using mobile money to promote financial inclusion in Pakistan", Karandaaz, September 2015

Another way of increasing the direct availability of funds in accounts is through remittances. Currently, an estimated \$18 billion in domestic remittances is sent each year; by digitising them, the process of sending money becomes quicker and safer. The branchless banking operators have digitised part of these transfers through their OTC-based P2P service, but there is a much bigger opportunity in capturing the market that has remained untapped and migrating these customers to open branchless banking accounts. In this way, the money received can be used for other digital services.

Once users have money in their account, it is necessary to have an ecosystem that allows digital payments, otherwise users will cash out immediately.

One of the biggest challenges that Pakistan faces is the availability of a localised online platform that accepts all payment solutions.

The availability of localised payment gateways has just started, and solutions are fragmented. The available platforms today are:

- EasyPay, which is a local payment gateway application developed by Systems Limited
- HBL, the largest bank in Pakistan, which has partnered with Visa using its hosted payment application, Cybersource
- MCB, which uses the hosted services offered by MasterCard's MIGS to allow 'card not present' transactions
- UBL, which uses Etisalat's proprietary solution to offer e-commerce transactions.

Mobile operators are having a significant impact on the branchless banking space because of their trusted brands, access to millions of customers, understanding of transaction-based systems and services, and their viability to scale. They have provided basic enablers of digital payments and are scaling up to create more accounts. There is an opportunity for third parties, such as distribution companies and fintechs, to partner with the branchless banking operators to create products for different market segments. Collaboration between distributors, fintechs and mobile operators would benefit all players. The distribution companies would grow their businesses by reaching out to newer

market segments, the fintechs gain access to scale and brand, and the mobile operators get agility and superior user experience of the service for their customers.

In the digital commerce space, there are two main opportunities to collaborate with fintechs. The first one lies in enabling the front end to start accepting digital payments. mPOS, with or without NFC technology, provides superior user experience and quick access to accounts for proximity payments. It can also be used both at low-end merchant locations and as a first step for migrating cash-on-delivery customers to account-based customers before they become completely confident to pay for their goods online.

The second opportunity lies in establishing back-end systems that settle payments from all branchless banking providers and their merchants so that a truly interoperable payment system is developed. A greater ask from the industry is to find a common strategy to innovate and grow in this space.

Similarly there are two main opportunities for collaborating with distributors. The first is for merchant or retailer on-boarding; the second is for the delivery of goods to e-commerce customers. Distributors can leverage their existing relationships with merchants to sign them up, train them to accept digital transactions and educate them on the benefits. As e-commerce increases and reaches smaller cities and rural areas, the distribution network can also be used for delivery of goods ordered electronically.

Increasing digital accounts and offering digital payment solutions will help stimulate digital commerce. However, financial inclusion in Pakistan also requires provision of a variety of services, such as savings, insurance and loans, typical of regular banks. Branchless banking players have the opportunity to be involved in offering other services to fully include the unbanked in the financial system. Easypaisa is already using algorithms to evaluate the credit worthiness of customers using their prepaid phone behaviour, which could be used to offer them credit other than airtime. In the same way, the credit facility can be extended to merchants, to provide micro-loans for small businesses, as banks have little incentive to lend.



5

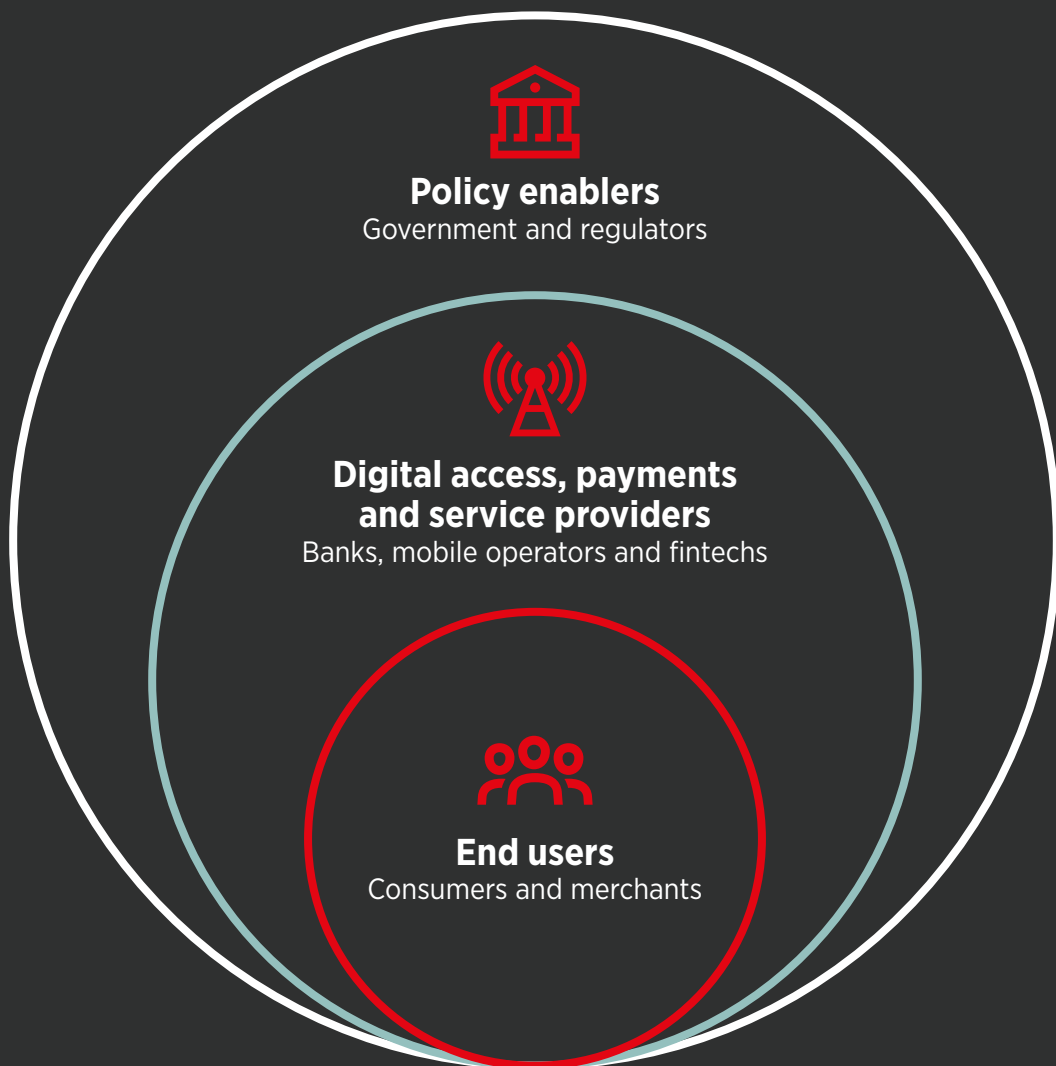
Creating an enabling environment for digital commerce

There are three key stakeholder groups in a digital commerce environment:

- policy enablers
- digital access, payments and service providers
- consumers and merchants

Figure 17

Key stakeholders



Source: GSMA



5.1 Policy enablers – governments and regulators

Governments have a crucial role to play in creating an enabling environment for digital commerce, and ensuring it remains part of digital society initiatives. This includes developing a strong and competitive environment by fostering innovation and investing in research and development; building consumer trust in electronic transactions and ensuring consumer protection; increasing adoption and usage of digital accounts by digitising government payments (such as salaries, pensions and social benefits); and digitising the collection of payments (such as taxes, penalty fees and utility bills) to grow P2G transactions.

Policy vision: governments need to design an effective and actionable strategy based on a realistic assessment of a country's readiness in terms of digital commerce. To develop a successful strategy all government stakeholders, such as ministries of commerce, finance, information technology and communications, as well as regulators from the corporate, financial and telecommunications sectors should collaborate with industry players as part of an inclusive and participative process.

In Pakistan, the government's Vision 2025 includes e-governance, e-commerce (including efficient digital payment solutions) and e-services (including education, health and enforcement of intellectual

property rights). However, specific e-commerce guidelines from an inter-ministerial effort are missing.

Additionally, government can help promote the launch of complementary services in collaboration with mobile operators (for example mobile identity solutions such as Mobile Connect) to drive the adoption of digital accounts and increase consumer confidence in data protection. For more details on the opportunity for digital identity and Mobile Connect in Pakistan, see Appendix 2.

Foster investment and innovation: strong legal foundations for commerce are a fundamental requirement to support the migration of commerce to digital platforms. There is a need for specialised legal frameworks to govern new considerations introduced by the new providers, marketplaces, technologies, and means of transacting introduced by digital commerce. To encourage participation and investment, the industry requires legal certainty and confidence in enforcement of the law for all elements of the digital commerce value chain. The regulator has an opportunity to enable digital commerce through guidance where necessary and to monitor progress of the players in their specific domain areas.

The State Bank of Pakistan aims to facilitate the growth of digital payments to support digital commerce. The Payment Systems and Electronic Fund Transfers Act of 2007 is the legal framework that outlines the basic standards for consumer protection and the rights and liabilities of financial institutions and other payment service providers, granting SBP the power to regulate and supervise them. Pursuant to this act, in 2014 the SBP issued Rules for Payment System Operators and Payment Service Providers that provide a regulatory framework for the growth of payment systems and related intermediary services for the routing, switching, and processing of payment transactions. These include key components for digital commerce such as electronic payment gateways and e-commerce gateways.

Similarly, the PTA has licensed 3G and 4G services to enhance access to mobile broadband. The government issued a Policy Directive for the 3G and 4G auction on 7 October 2013, and the licences were auctioned in November 2014. However, digital commerce companies, such as those involved in setting up marketplaces, large merchants and distribution companies, that are regulated neither by the SBP or the PTA pose an investment risk in the fragile and developing industry. Due to lack of oversight from a regulating body, their processes and procedures may not be robust enough to sustain a large volume of transactions and may lead to consumer mistrust, resulting in loss of business.

Develop market trust and confidence: governments can develop consumer and merchant trust in digital commerce in two ways: by digitising their systems for access and payment, and by developing a supportive legal environment.

When consumers reliably interact digitally with governments, their trust in digital transactions increases manifold. In Pakistan, there has been some digitisation of government payments but there is room for growth. Digitising government payments, such as salaries and pensions, as well as social benefits, would create a source of funding for these branchless banking accounts. The government could also digitise collections, such as payment of taxes, penalty fees for small offences and utility bills, to grow the P2G sector and increase account activity.

On the legal side, there are four areas that are essential to increase user confidence in digital transactions: e-commerce transaction compatibility, consumer protection, privacy and data protection, and cybercrime.

Ensuring e-transaction compatibility, both regionally and globally, is a key challenge due to the increased use of electronic technologies. Since cross-border transactions account for a significant share of e-commerce in many developing countries, governments should also ensure that online shoppers are protected for both domestic and international purchases. Therefore, when governments are planning to revise or prepare e-commerce legislations, they should consider what legislation is already enforced in other countries in the same region to ensure harmonization and compatibility with other legal systems. In addition, as e-commerce laws are relatively new, it is important to train the judiciary system on these laws and how to enforce them. Lastly, consumers and enterprises also need to be educated in the relevant legislations, as this will help build trust.



5.2 Digital access, payment and service providers

Mobile operators, financial institutions and fintechs are at the core of digital commerce as they are responsible for creating and implementing services for end users.

Collaboration and partnerships: In partnership with mobile operators, banks have been able to implement successful branchless banking initiatives. Cross-industry partnerships are particularly important to the success of digital commerce. Mobile operators have the market access and established agent network to reach mass market; financial service providers can develop financial products but find it costly to reach the bottom of the pyramid; fintechs are more agile and are closer to the user experience; and logistic companies have forces on the ground to deliver reliably. When there is collaboration between service providers, affordable and reliable services that have mass-market appeal can be rolled out efficiently.

Increasing accounts: The digital access and digital payment providers offer basic enablers through their reach and availability. Mobile operators in emerging markets have a key role to play in both digital access and digital payments.

In Pakistan, the foundations for branchless banking have been established and a considerable proportion of society is now familiar with digital transactions through OTC. These customers trust the service and are now ready to move from unregistered to registered customers. The branchless banking players are already moving in this direction but there needs to be a greater collective push to convert the customer base.



5.3 Consumers and merchants

Consumers and merchants face challenges in adopting and using digital accounts to perform digital transactions. These include lack of awareness, literacy levels and affordability. Different players have a role to play in overcoming these.

Awareness: According to InterMedia⁴¹, 68% of adults in Pakistan are aware of branchless banking services and 76% recognise at least one branchless banking provider. There are misconceptions around the benefits, what is available and how to use the services. Targeted campaigns are required to dispel misconceptions in the market and clearly communicate the benefits.

The government can also play a role in increasing awareness of the benefits of branchless banking by promoting the digitisation of government payments and P2G. Lastly, consumers themselves will help spread awareness. According to InterMedia, the most common sources of awareness growth in mobile money services are mass media and family and friends.

Literacy (language and digital): For users to engage with the services, they need to be literate and digitally savvy. The adult literacy rate in Pakistan is below 60%, ranking among the lowest countries in the world⁴². Given that most technologies do not have an Urdu script, Roman Urdu is used instead. However, adults are much less familiar with Roman Urdu: 49% cannot understand Roman Urdu, compared to 35% for traditional Urdu. Around 34% are unable to read either script⁴³.

Digital literacy in Pakistan has room for improvement, with less than 50% of the adult population with a mobile phone able to perform functions such as sending picture messages, following an interactive voice menu, listening to audio/watching a video they downloaded, or using social networks or chat applications.

41. Source: Financial Inclusion Insights

42. Source: CIA Factbook

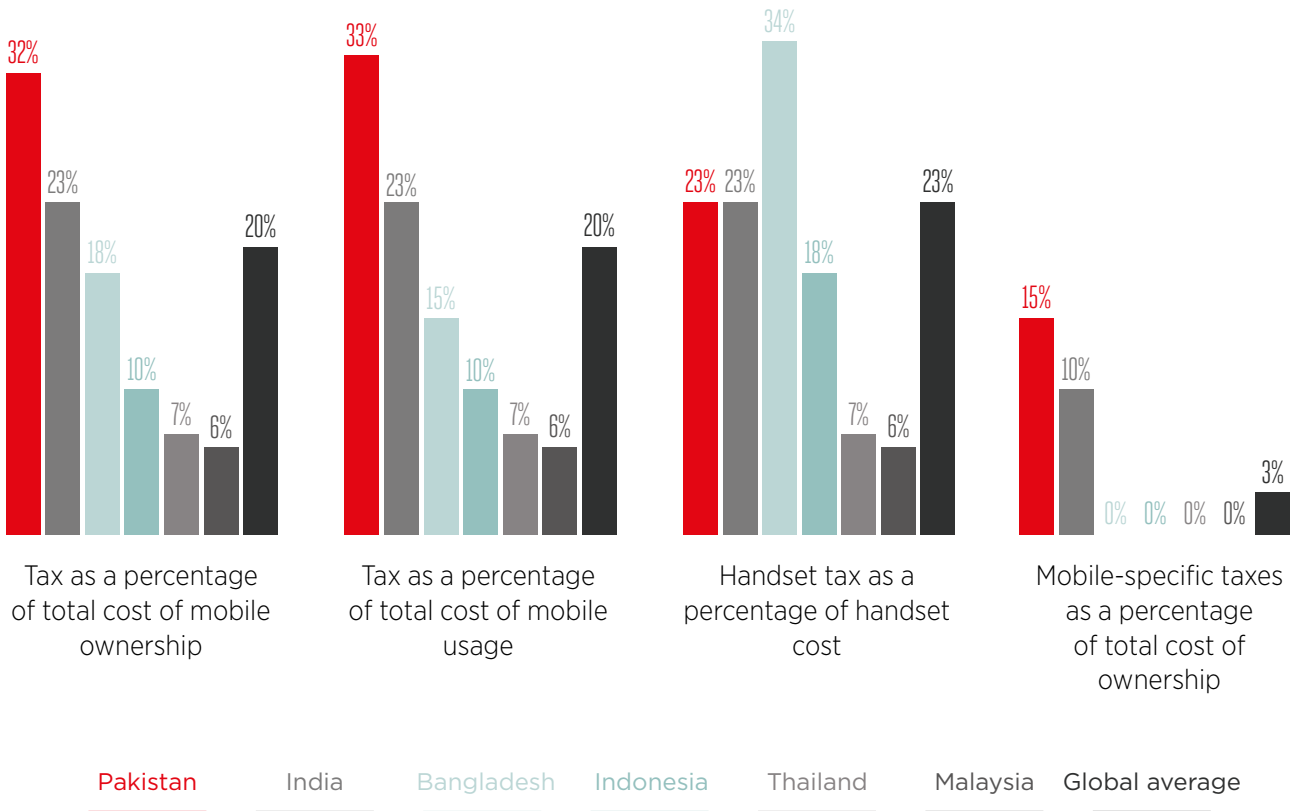
43. Source: Financial Inclusion Insights

Affordability: A key barrier to basic mobile services, mobile internet and branchless banking is affordability. Tax is a major component of the cost of connectivity for end users. In Pakistan, consumer tax as a proportion of the costs of mobile ownership and usage is generally higher than the

global average and peer countries. In Pakistan, consumers also have to pay an activation tax of \$2.5 on purchase or activation of a SIM card. These costs represent a significant barrier to access for lower income consumers.

Figure 18

Consumer taxes on mobile ownership/usage, 2014



Source: Digital inclusion and mobile sector taxation 2015, GSMA, 2015

During the 2014/15 fiscal year, the government of Pakistan doubled custom duty on telecoms equipment from 5% to 10%. In 2015, another import tax was imposed on network equipment and handsets. Since the taxes are collected at entry point, importers were left with no choice but to pass the increased rates on to consumers. There is strong potential to extend affordability through consumer and telecoms sector tax reductions.

Similarly, taxes on money transfers, financial transactions and merchant commissions pose a serious threat to the commercial viability of branchless banking and agent distribution in particular. The impact and implementation of such taxes should be carefully considered in light of the government’s stated commitment to growing digital transaction accounts and financial inclusion, to ensure the achievement of these goals.

Action plan to drive digital commerce in Pakistan

Branchless banking in Pakistan has grown much faster than the traditional banking system and has extended the reach of financial services to the unbanked and poor population. In six years the total number of branchless banking users grew to 5.4 million, compared to 8 million commercial bank customers in more than 60 years. With market dynamics such as an emerging middle class, increased coverage of 3G, abundance of low-cost smartphones, strong competition among players and biometrically verified SIMs, along with the increasing number of branchless banking accounts, the foundations for digital commerce have been established. For digital commerce to grow even more rapidly in the coming years, all stakeholders have a role to play.

POLICY ENABLERS - GOVERNMENT AND REGULATORS

- Provide a clear policy vision
- Promote account adoption and trust through G2P and P2G
- Increase consumer trust in online services through legal framework
- Carefully consider impact of mobile/financial services taxes on affordability for consumers and business viability for providers

DIGITAL ACCESS, PAYMENT AND SERVICE PROVIDERS

- Increase the number of active account users
- Increase awareness of the benefits of branchless banking through targeted campaigns
- Promote collaboration with industry players to leverage each other's strengths
- Increase digital literacy among mobile users



6

Appendix

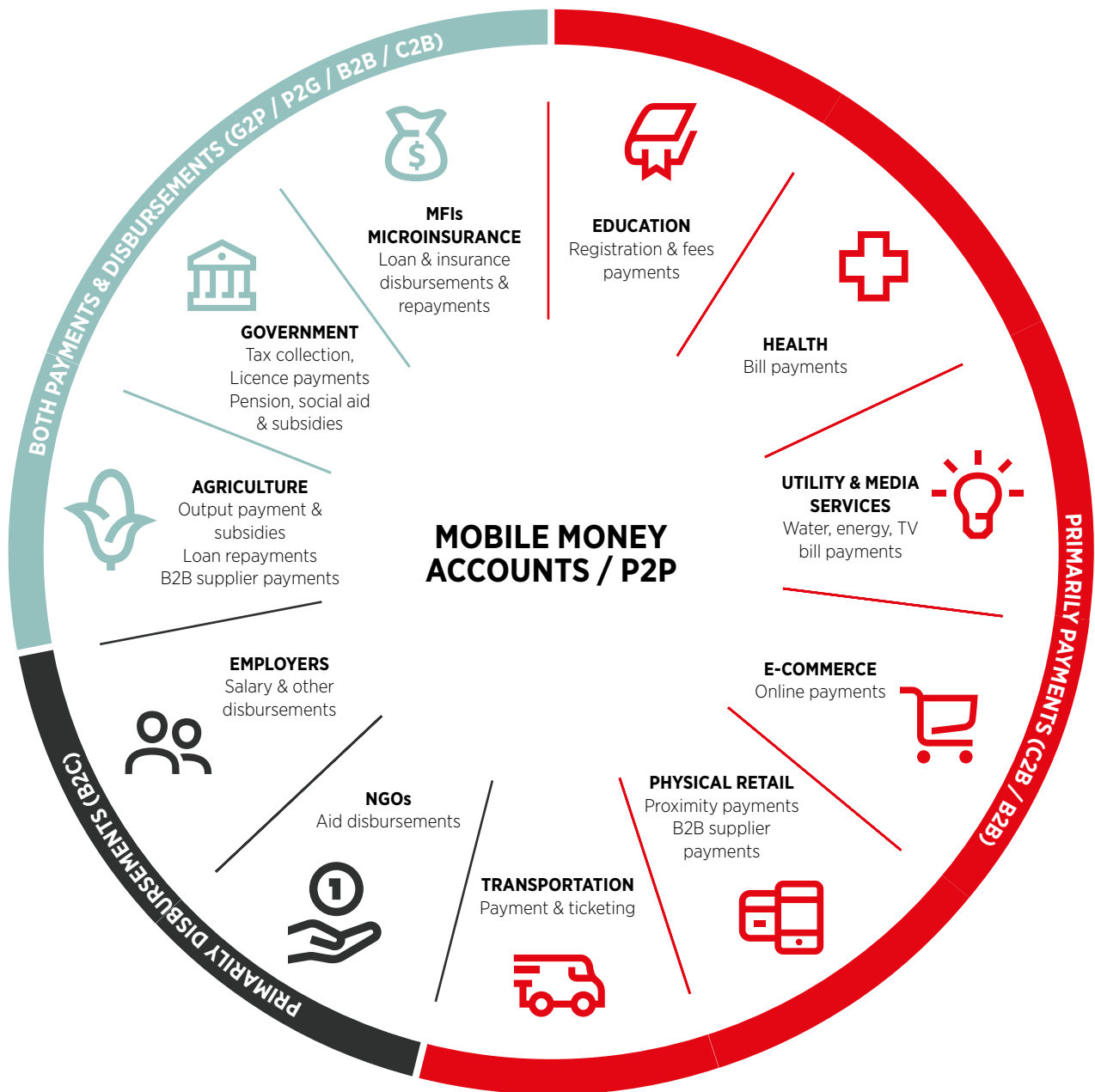


Appendix 1: Mobile money ecosystem

The mobile money ecosystem includes mobile money providers and all third-party organisations that can benefit from mobile money, either by using it as a payment mechanism or leveraging mobile money accounts. The mobile money ecosystem facilitates transactions from different sectors, such as retail, utilities, healthcare, education, agriculture and transport in addition to the credit, insurance and savings sectors.

Figure 19

Mobile money ecosystem



Source: GSMA

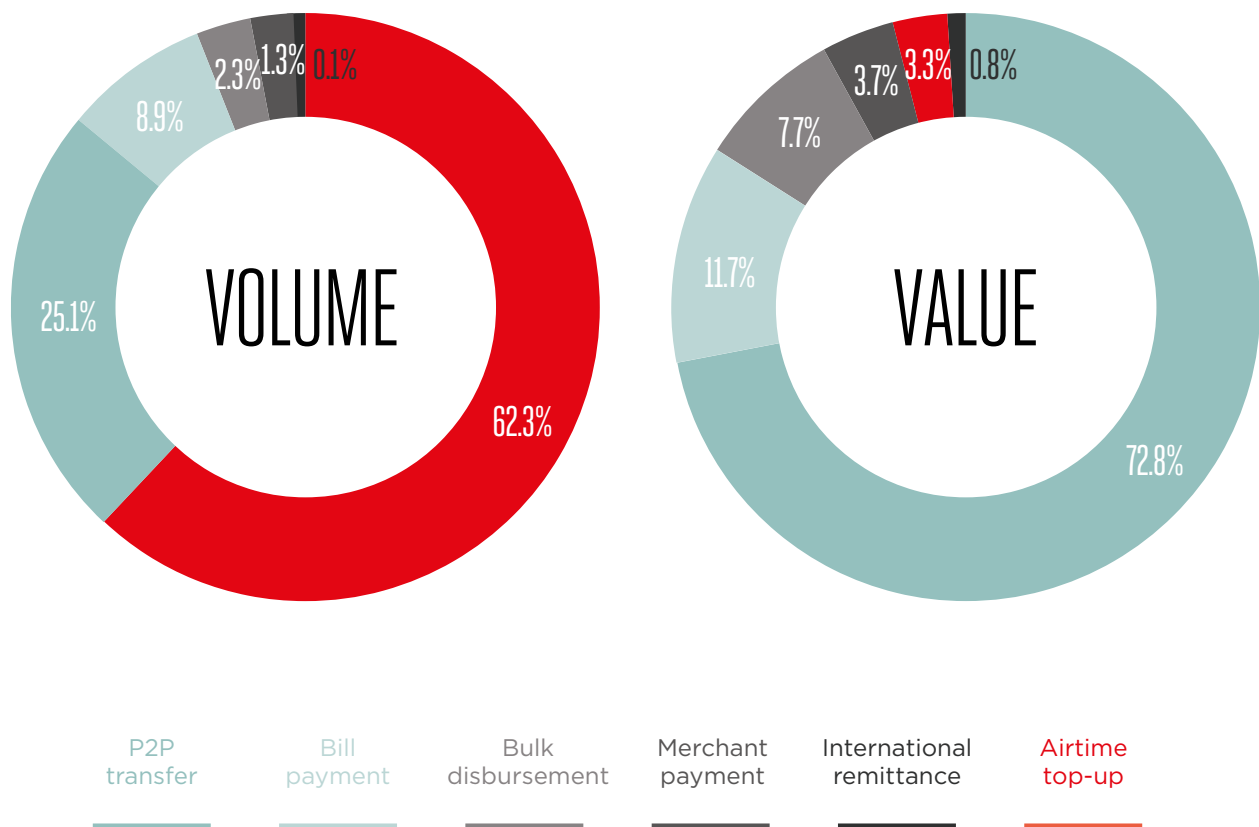
Once a service has been launched and accepted by customers, there is potential to move these customers from simple person-to-person (P2P) transactions to other transactions that are more relevant to their needs, and promote financial inclusion in society⁴⁴. Mobile money operators have launched multiple products and services for their customers such as airtime purchases (purchasing directly from the mobile money account), utility bill payments (paying directly from the account), insurance (enrolling in an insurance plan), merchant payments (paying using a mobile money account

instead of cash) and international remittances (send and receive money to/from abroad directly from/ to a mobile money account). Operators also offer the opportunity for providers to disburse payments in bulk to their customers, such as with salary and social benefit payments.

Ecosystem development requires strong foundations such as reliable services, an accessible distribution network, openness to a B2B approach (other businesses supporting incoming and outgoing funds) and collaboration between mobile money operators.

Figure 20

Mobile money services by volume and value



Source: State of the Industry 2014: Mobile Financial Services for the Unbanked, GSMA, March 2015

44. Understanding the potential of the mobile money ecosystem, GSMA, April 2015

Appendix 2: Digital identity and Mobile Connect in Pakistan

The Pakistani government is keen to increase interaction with its citizens through the efficient delivery of public services. The National Database & Registration Authority (NADRA) has gained international recognition for its success in providing solutions for identification, e-governance and secure documents that can mitigate identity theft, safeguarding the interests of citizens and fostering a secure digital society.

Pakistan has pioneered applications of biometric technology, successfully administering smart card programs for disaster relief programs and financial inclusion schemes for the underserved. NADRA's story is also one of effective programming to include traditionally under-registered communities, including tribal groups, transgender populations and women.

Mobile operators can play an important role in supporting the government's digital identity efforts

through solutions that leverage the high level of trust they enjoy among customers. One such solution is the GSMA-backed authentication solution Mobile Connect. This enables mobile phone users to conveniently create and manage a universal identity that will securely and safely allow them to access mobile and digital services such as commerce, banking and e-government portals, via their mobile phones.

Through the deployment of Mobile Connect in Pakistan, mobile operators can further enhance and enable the active use and security of the country's digital ecosystem in a way that respects an individual's personal data. In doing so, operators plan to establish a new position in the digital ecosystem that creates a new authentication and personal data business based on providing value and building trust with the consumer.

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