



State of the Industry Report on Mobile Money 2021



Mobile Money

The GSMA represents the interests of mobile operators worldwide, uniting more than 750 operators with almost 400 companies in the broader mobile ecosystem, including handset and device makers, software companies, equipment providers and internet companies, as well as organisations in adjacent industry sectors. The GSMA also produces the industry-leading MWC events held annually in **Barcelona, Africa, Los Angeles** and **Shanghai**, as well as the **Thrive Series** of regional conferences.

For more information, please visit the GSMA corporate website at www.gsma.com

Follow the GSMA on Twitter: [@GSMA](https://twitter.com/GSMA)

The GSMA's Mobile Money programme works to accelerate the development of the mobile money ecosystem for the underserved.

For more information, please contact us:

Web: www.gsma.com/mobilemoney

Twitter: [@GSMAMobileMoney](https://twitter.com/GSMAMobileMoney)

Email: mobilemoney@gsma.com

Authors

Simon K. Andersson-Manjang

Nika Naghavi

The State of the Industry Report on Mobile Money 2021 was prepared by the data team of the GSMA Mobile Money programme. The team is led by Simon K. Andersson-Manjang and comprised Tapiwa Jakachira, Kavita Tailor and Julian Hoffmann and supported by Emily Norman and Olu Omobitan.

GSMA Mobile for Development (M4D) Contributors

Belinda Baah, Kennedy Kipkemboi, Dominica Lindsey, Brian Muthiora, Anant Nautiyal, Viji Pathy, Bart-Jan Pors, Daniele Tricarico and Zach White

The State of the Industry Report on Mobile Money 2021 is based on data collected from the Global Adoption Survey 2020. The title of the report has been updated to reflect the launch date.

For more content and data,
visit gsma.com/sotir



THE MOBILE MONEY PROGRAMME IS SUPPORTED BY THE BILL & MELINDA GATES FOUNDATION.

BILL & MELINDA
GATES foundation

Foreword

When the COVID-19 pandemic took hold in early 2020, it quickly became clear that mobile technology, and mobile money in particular, would have an outsized role to play in keeping people connected, delivering vital financial support and providing safe, no-contact ways to pay for food, electricity and other life essentials. With more than \$2 billion being transacted every day, mobile money became a part of a new daily routine for millions around the world.

While COVID-19 affected us all, it did not do so equally. Those hit hardest were already the most vulnerable – living in poverty, affected by crisis and financially excluded. COVID-19 magnified these disparities, creating new development challenges and exacerbating existing ones. With over 1.2 billion registered accounts and 300 million monthly active accounts, mobile money providers became an integral part of the national COVID-19 response in many markets, offering a secure and ready channel to disburse pandemic relief payments to the public quickly, securely and efficiently.

Many of the socio-economic and development challenges arising from the pandemic are being tackled with mobile money tools, and the GSMA is providing support through a variety of initiatives and partnerships.

In line with GSMA's efforts to encourage ecosystem development and enable inclusive and interconnected mobile financial infrastructures, the GSMA launched the Interoperability Test Platform, the first end-to-end lab environment of its kind for industry participants to test in an interoperable ecosystem. The Mobile Money Certification is continuing to provide a comprehensive AML/CFT and fraud risk management and consumer protection framework, with certified providers reaching over 210 million accounts.

In the humanitarian sector, the shift from in-kind aid to cash and voucher assistance (CVA) picked up speed as humanitarian assistance had to be delivered rapidly and safely to more people than ever before. In 2020, the GSMA expanded a partnership with the World Food Programme (WFP) to improve CVA for those affected by crisis.

With 5.2 billion mobile users worldwide, the mobile industry has the reach and innovation it will take to deepen financial inclusion and build more equitable societies. The GSMA remains committed to achieving the UN Sustainable Development Goals (SDGs), and our Innovation Funds are helping digital pioneers deliver clean energy solutions, vital health information, life-changing tools for farmers and opportunities for women to participate as equal partners in a digital society.

This year's State of the Industry report explores how the mobile money industry has embraced disruption and built resilience over the past year. The solutions that emerged and the growth that occurred despite the pandemic are a testament to the industry's strong partnerships. These relationships enabled mobile money providers to move quickly, sustain their operations and contribute to more robust local economies and communities.

We are delighted to share the 2021 State of the Industry Report on Mobile Money, which is prepared in collaboration with the mobile money industry, and produced with the generous support of the Bill & Melinda Gates Foundation.



Mats Granryd
Director General, GSMA



Contents

Executive Summary	4
Mobile money in 2020 and beyond: embracing disruption and building resilience	11
Steady adoption on all fronts	14
Active accounts and “financial demarginalisation”	17
Transaction values continue to grow	20
COVID-19 regulatory responses and policy interventions	24
Maintaining liquidity in a crisis	27
Mobile money in 2020 and beyond: adapting and thriving in a new mobile money landscape	31
Merchant payments	32
Bulk payments	34
International remittances	36
Interoperability	38
The effect of COVID-19 on mobile money economics	41
How mobile money-enabled adjacent services can foster financial resilience	43
Mobile money in 2020 and beyond: meeting the socio-economic challenges of COVID-19	53
Adapting to a new reality and redefining humanitarian assistance	53
Increasing access to essential utility services	56
Expanding women’s access to financial services	61
Boosting financial inclusion for smallholder farmers through agricultural enterprise tools	63
Conclusion	67
Appendix	68

Executive Summary

In a year of global upheaval, mobile money provided a financial lifeline

2020 was a year like no other. In every region of the world, COVID-19 triggered a mix of responses, from school and workplace closures to restrictions on movement to complete lockdown. All at once, handling cash, paying for daily essentials and conducting business in person became risky, and more people than ever turned to mobile money as a safer option.

For mobile money providers, the pandemic created a more complex operating environment. With consumer spending down and transaction fees

waived, providers found it difficult to reap the commercial benefits of higher mobile money usage and a widespread shift from cash to digital. However, the industry proved resilient as providers did their utmost to keep economies going and provide an essential service to people in need.

The State of the Industry report looks at what this year of upheaval has meant for mobile money providers, agent networks and the millions of new and existing customers that embraced mobile money in 2020 as a safe and secure financial lifeline.

The report examines the major industry trends in 2020.

More accounts, more activity

In 2020, the number of registered accounts grew by 12.7 per cent globally to 1.21 billion accounts – double the forecasted growth rate. Apart from changes in consumer behaviour, this impressive uptake was due to regulators implementing more flexible Know Your Customer (KYC) processes and relaxing onboarding requirements to make it easier to open an account. The fastest growth was in regions where governments provided significant pandemic relief to citizens.

Account activity grew at an even faster rate. There are now over 300 million monthly active mobile money accounts. Not only are customers using their accounts more frequently, but they are using them for new and more advanced use cases. This suggests that more and more people are moving away from the margins of financial systems and leading increasingly digital lives.

Transaction values also grew across the board as more money circulated and was cashed-in and cashed-out than ever before. For the first time, the global value of daily transactions exceeded \$2 billion dollars, and is expected to surpass \$3 billion a day by the end of 2022.

Stronger partnerships are accelerating the shift to digital

To minimise the human and financial toll of the pandemic and keep economies afloat, national governments distributed unprecedented monetary and fiscal support to individuals and businesses. The value of government-to-person (G2P) payments quadrupled during the pandemic as the mobile money industry worked hand in hand with governments and non-governmental organisations (NGOs) to distribute social and humanitarian payments quickly, securely and efficiently to those in need. As remote operations become more important, collaboration with lenders and insurance providers are also expected to increase.

Agent networks are an essential service

Agent networks have always been a core part of the mobile money industry, but during the pandemic they proved critical. As demand rose for non-physical payments, some regulators declared mobile money agents an essential service. Through the pandemic, mobile money providers invested in keeping agent networks open and safe by providing handwashing stations and personal protective equipment (PPE) to agent outlets.

International remittances scaled up significantly

International remittances processed via mobile money increased by 65 per cent in 2020. For the first time, over \$1 billion is being sent and received every month. Despite fears that remittances would decline as people around the world suffered job losses and income cuts, it seems clear that diasporas around the world continued to use mobile money to come to the aid of those back home.

Merchant payments have taken a leap forward

As more consumers became uncomfortable handling cash, many turned to mobile money to purchase food, clothing and other essential products and services. This undoubtedly contributed to an uptick in merchant payments. The value of mobile money merchant payments grew by 43 per cent compared to 28 per cent in the previous year. On average, \$2.3 billion in merchant payments were transacted per month in 2020, and QR codes became the second-most offered channel for merchant payments after USSD.

Interoperability is bringing more people into the formal economy

Over the past five years, the value of transactions between mobile money platforms and banks grew fourfold, reaching \$68 billion in 2020, up from just \$15 billion in 2015. During this period, the amount of money flowing between the two systems has remained in close balance, highlighting the complementary relationship between banks and mobile money services.

The regulatory landscape is shifting

Regulatory responses to COVID-19 differed significantly between countries. In markets where streamlining and digitising KYC processes had stalled, the pandemic has given fresh urgency to regulatory change. In many markets, transaction limits were increased to allow more funds to flow through mobile money, directly reducing the need for day-to-day cash transactions. The report will also look at the impact of fee waivers on core revenues, which, if prolonged, could pose a severe threat to the sustainability of the industry.



As always, the State of the Industry report is a snapshot of a year in the mobile money industry. In a year of unexpected and sweeping change, the challenges and strategies were different, but the focus remains the same: **an inclusive digital future for all.**

MOBILE MONEY IN 2020



1.2bn

registered mobile money accounts

Over

\$2bn

processed daily by the mobile money industry



300 million
monthly active accounts

17% ↑

increase year-on-year



5.2m
unique agent outlets globally

More than

\$1bn



international remittances processed per month

↑ **65%**

increase year-on-year

310

mobile money deployments



are live in 96 countries

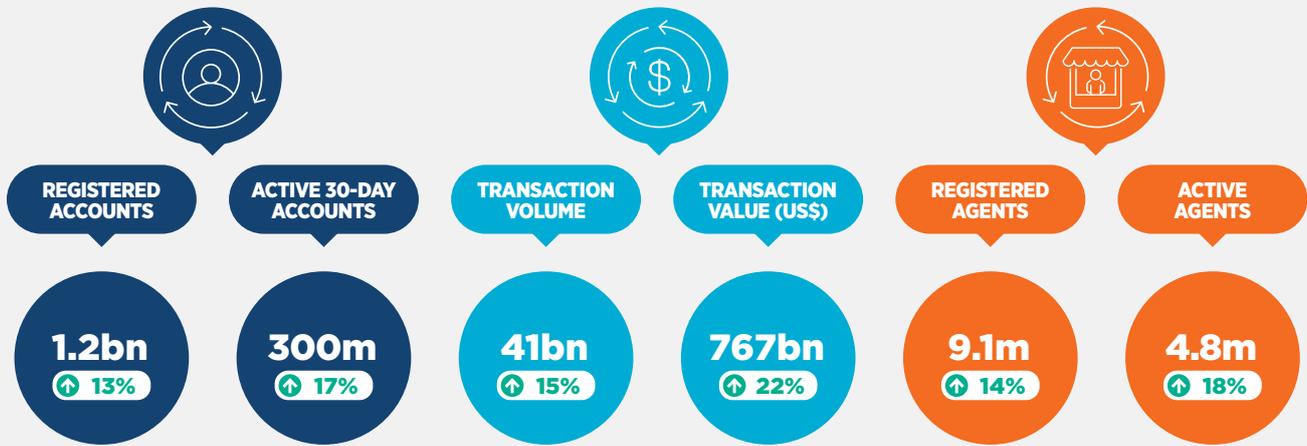
\$500m

digitised per day by agents globally



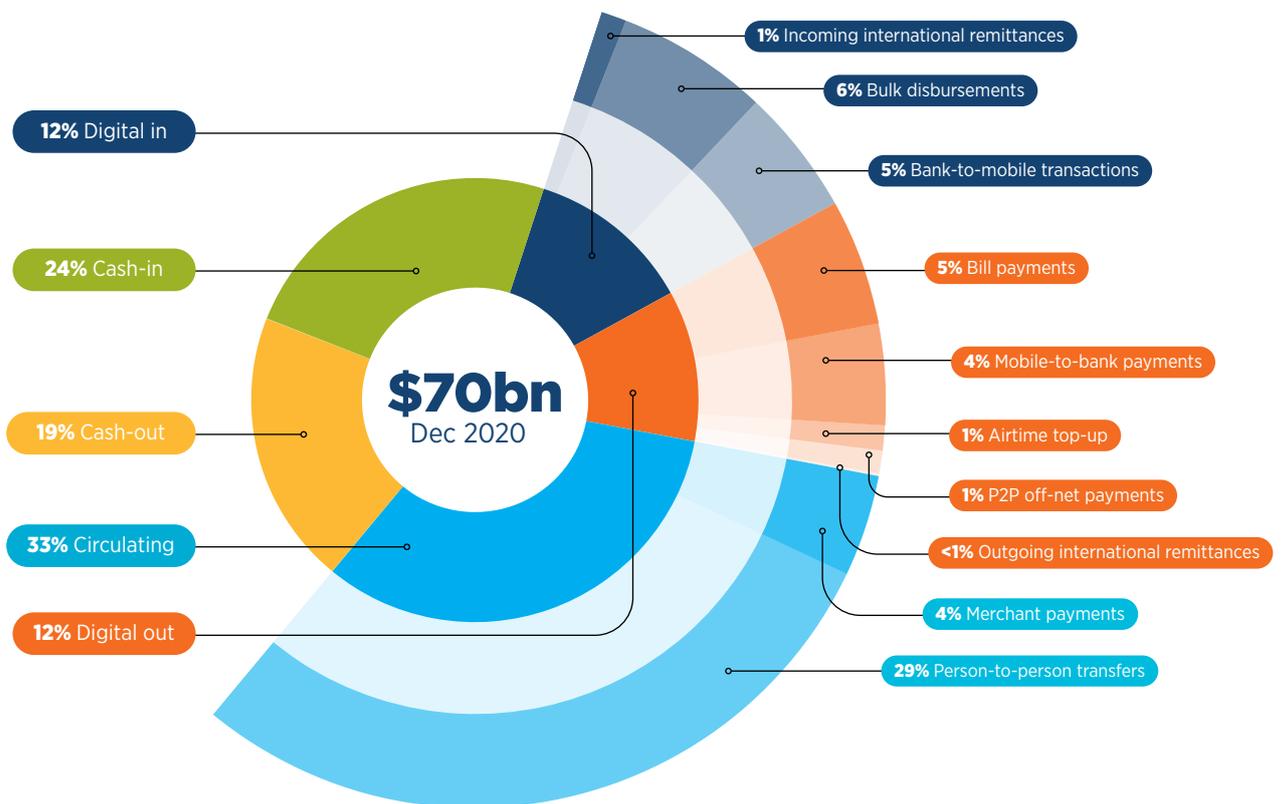


2020 GLOBAL OVERVIEW



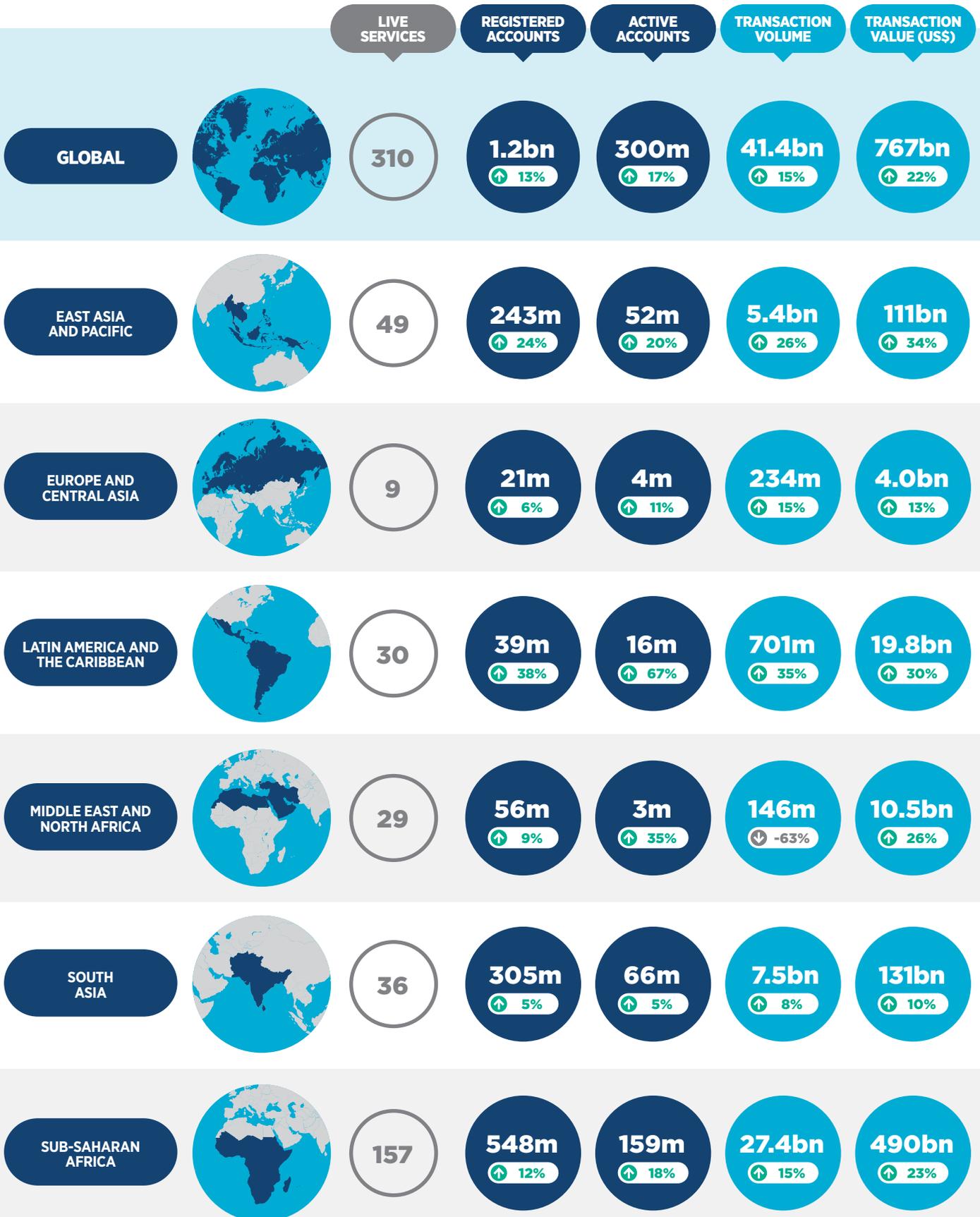
MONTHLY VALUE SNAPSHOT

December 2020



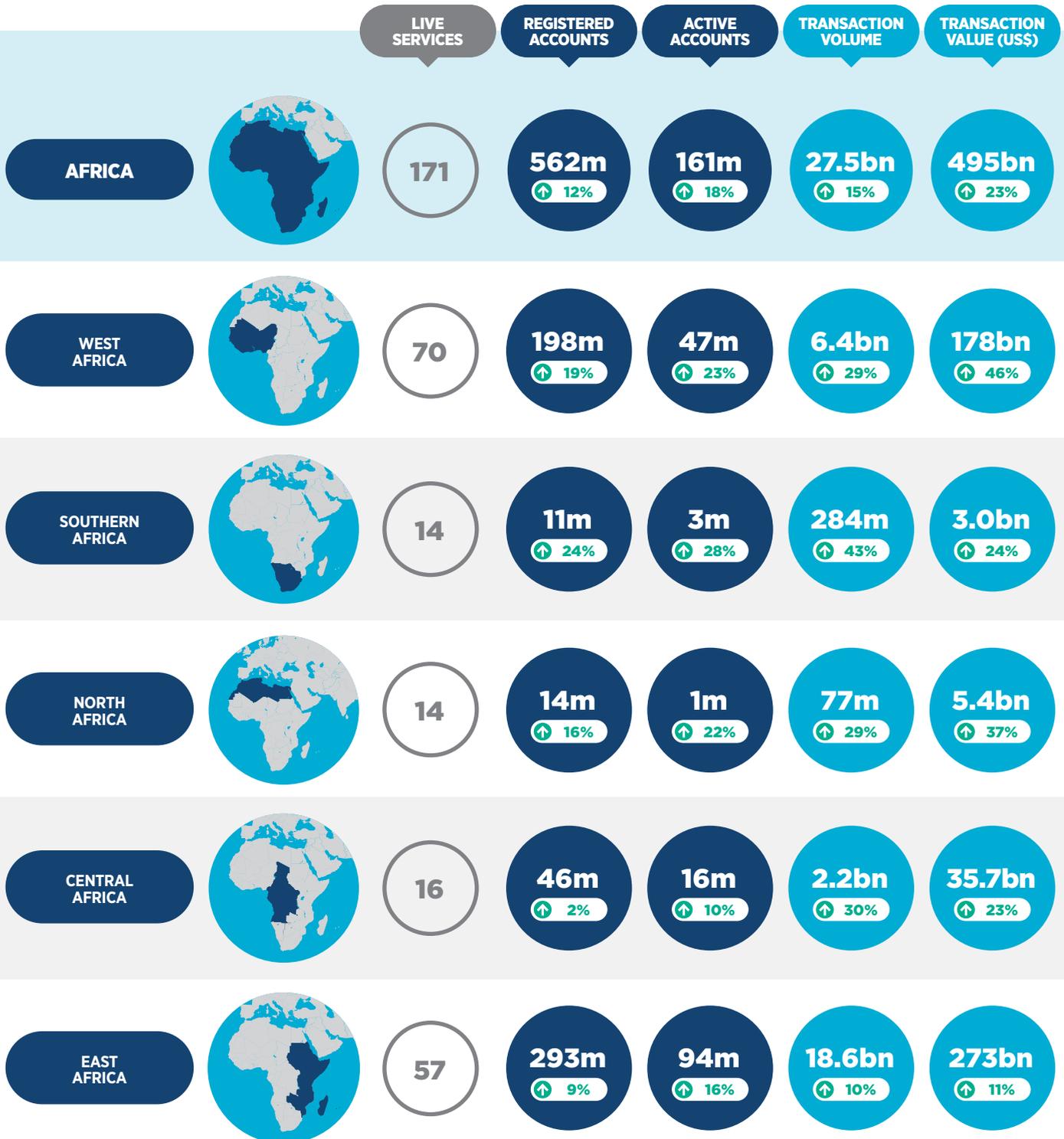


REGIONAL GROWTH IN 2020





AFRICAN GROWTH IN 2020





Mobile money in 2020 and beyond

Embracing disruption and building resilience

The start of the new decade saw the world grinding to a halt. When the COVID-19 pandemic took hold and began spreading across the globe in early 2020, it quickly became much more than a health crisis. It also created an unprecedented human, economic and social crisis that rocked societies to their core. The Great Lockdown of 2020 created the worst recession since the Great Depression, pushing millions into poverty and precarity as businesses closed and jobs were lost.

The magnitude and speed of the crisis undermined global financial stability and brought economic life to a standstill, particularly in low- and middle-income countries (LMICs) where the informal economy dominates. To contain the human and financial toll of the pandemic, national governments took bold steps, not only injecting financing into additional health and emergency services, but also distributing extraordinary levels of monetary and fiscal support.¹

The most vulnerable and hardest hit by COVID-19 were those living in circumstances that made social distancing impossible or in geographies where these supports were not available. Even those who could benefit from government and humanitarian support were likely to have more difficulty accessing it. Lack of account ownership at a formal financial institution was the greatest barrier. In this context, universal access to financial services became more critical than ever.

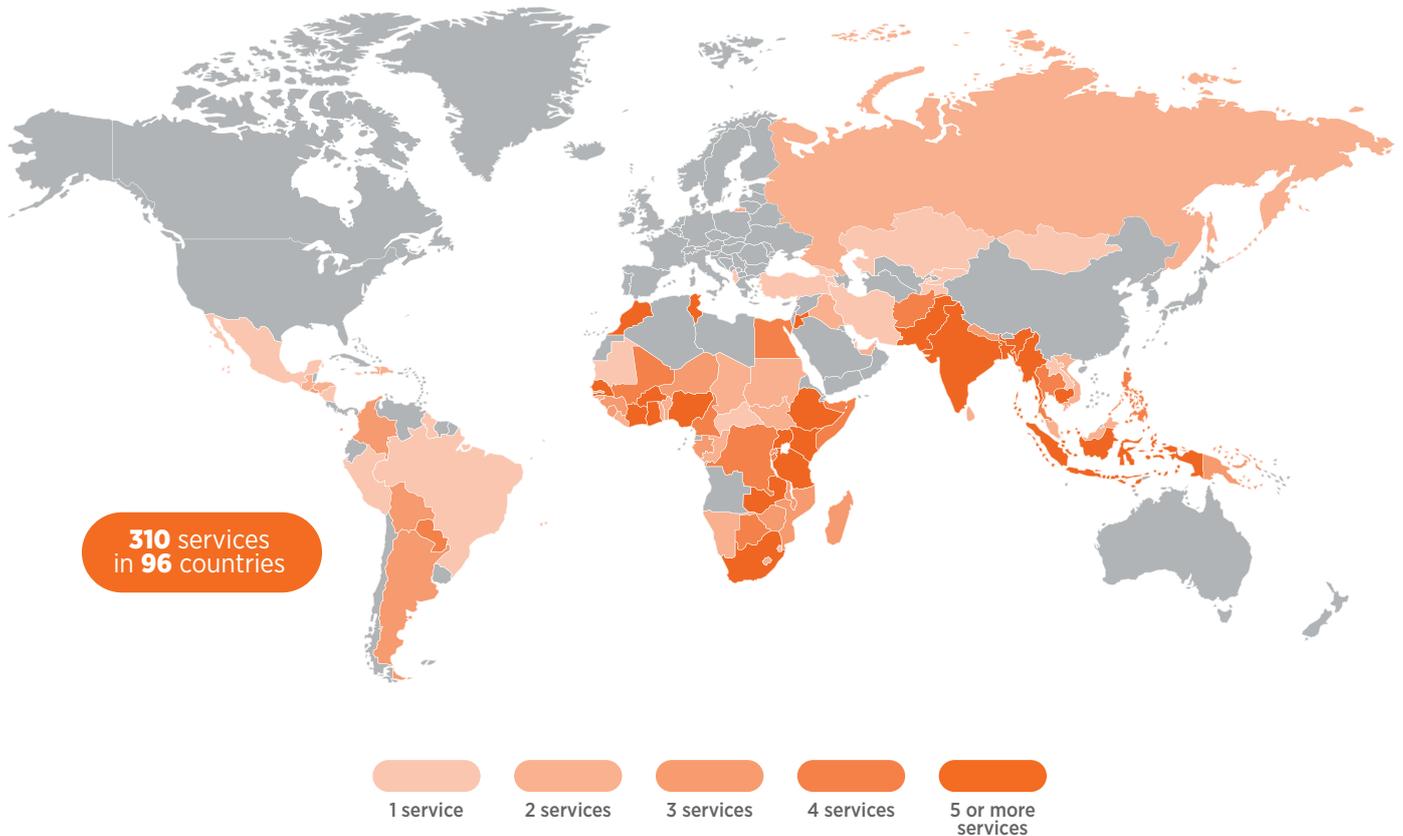
There is ample evidence of the benefits of digital financial services, including greater financial inclusion and stronger GDP growth.² In LMICs, mobile money is far more accessible than any other type of digital financial service (including app-based platforms), particularly outside urban centres. With 310 live services in 96 countries, mobile money is now available in most markets where access to financial services is low (see Figure 1).

Mobile money providers also have two noteworthy advantages over other digital financial services: excellent knowledge of local markets and strong partnerships and collaborations with fintechs, banks, governments and other key stakeholders. These capabilities and assets put them in a strong position to weather the storm and build resilience into local economies and societies. As a result, in many markets, mobile money providers became an integral part of the national COVID-19 response and provided a critical path to delivering financial assistance quickly, safely and efficiently.

1 \$11.5 trillion in fiscal actions and about \$7.5 trillion in monetary actions as of September 2020 in geographies where conditions and budget allowed. See: <https://www.imf.org/external/pubs/ft/ar/2020/eng/downloads/imf-annual-report-2020.pdf>

2 Sahay, R., et al. (2020). [The Promise of FinTech: Financial Inclusion in the Post-COVID-19 Era](#). International Monetary Fund (IMF).

Figure 1

Number of mobile money services per country, 2020^{3,4}

From the onset of the pandemic, mobile money providers acted urgently to moderate the damage to citizens, governments and businesses. While some were short-term measures, many laid a foundation for future growth and a faster transition from cash to digital payments. This section highlights global

industry trends during the pandemic, including regulatory and policy responses to COVID-19, as well as important regional variations. We unpack how the industry embraced the disruption and became more resilient, including scaling up mobile money adoption and use.

³ GSMA Mobile Money Deployment Tracker: <https://www.gsma.com/mobilemoneymetrics/>

⁴ Note: the number of services available in a country should not be seen or used as a proxy for mobile money penetration of the population.



Steady adoption on all fronts

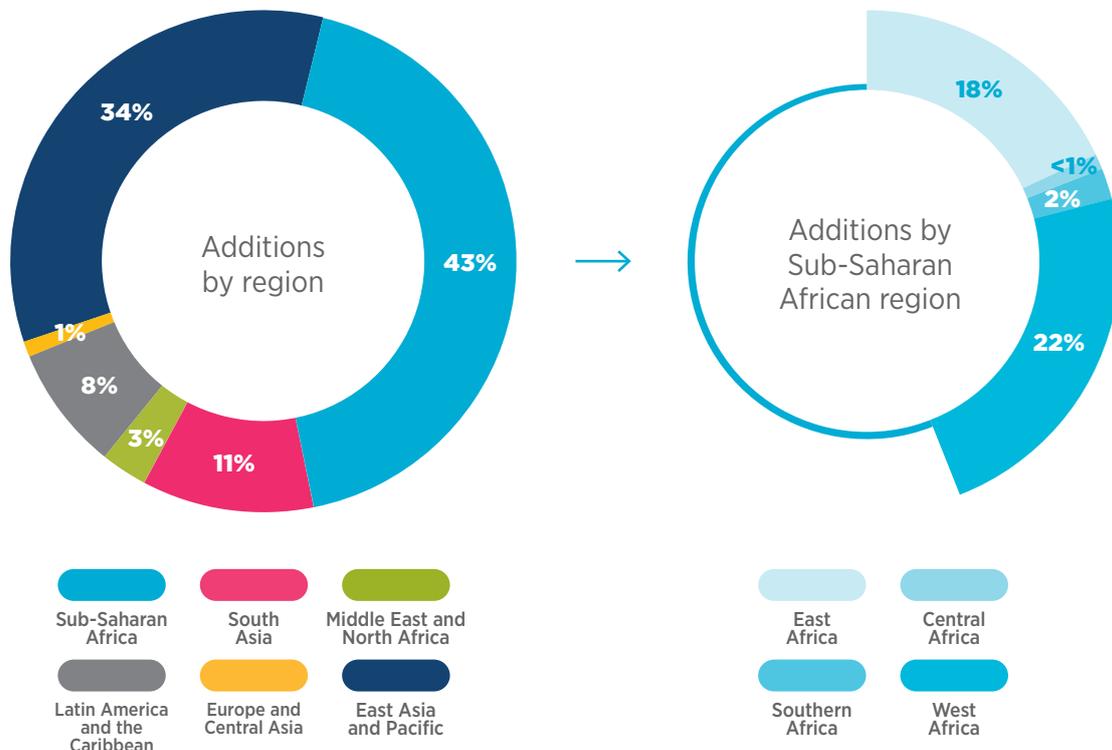
Despite the challenges and disruptions it caused, COVID-19 triggered a widespread shift in the adoption of digital tools. All at once, more people were using mobile services out of necessity. Restrictions on movement and the potential risks of handling cash led consumers to quickly turn to digital payments as a safer and more accessible option.

In 2020, the number of registered mobile money accounts grew by 12.7 per cent globally, with over 136 million added in just one year. This growth was twice as high as expected and exceeded last year's forecast by 6.4 percentage points – taking the total number of registered accounts globally to 1.21 billion. Apart from a change in consumer behaviour, this impressive uptake was also due to regulators implementing more flexible Know Your Customer (KYC) processes and relaxed on-boarding requirements.

As predicted in last year's State of the Industry report, registered accounts in Africa comfortably surpassed the half billion mark. Sub-Saharan Africa has been at the forefront of the mobile money industry for over a decade, and in 2020 continued to account for the majority of growth (43 per cent of all new accounts) (see Figure 2). By the end of the year, there were 548 million registered accounts in the region, over 150 million of which were active on a monthly basis. Although absolute growth was highest in West and East Africa, Southern Africa grew the fastest at 24 per cent year on year.

Figure 2

Net additions to registered accounts





East Asia and Pacific also experienced significant growth, contributing to 34 per cent of all new accounts, thanks to strong growth in Southeast Asia in particular. More than half of the services in the region now have over one million registered accounts. In South Asia, registered accounts grew by five per cent to surpass 300 million registered mobile money accounts for the first time. This means that one in four registered mobile money accounts globally are now in South Asia.

The Middle East and North Africa saw the largest addition in registered accounts in absolute terms over the last five years. This is the result of both new and renewed efforts by industry players across the region.

Finally, Latin America and the Caribbean had the fastest growth of any region for registered (38 per cent) and active accounts (67 per cent). This was driven in part by significant government support in the wake of the pandemic, with millions of people receiving relief funds via mobile money.

MOBILE MONEY HIGHLIGHTS IN 2020

While 2020 saw unparalleled challenges brought on by the COVID-19 pandemic, the mobile money industry witnessed strong efforts in striving towards cashless societies, entering strategic partnerships to expand the horizons of digital payments and developing new and robust interoperable payment systems.

MARCH

NATIONAL COMMITMENT

Ghana becomes the first African country to launch a universal QR code enabling all Ghanaians to make instant merchant payments from their mobile money wallets, bank accounts or international cards.

APRIL

STRATEGIC PARTNERSHIP

Vodacom and Safaricom acquire the M-Pesa brand, its product development and support services from Vodafone, offering opportunities to expand M-Pesa into new African markets.

JULY

INCREASED INTEROPERABILITY

GSMA launches the Mobile Money Interoperability Test Platform empowering both third-party service providers and digital financial service providers to test their software implementation in an end-to-end ecosystem.

JULY

INCREASED INTEROPERABILITY

Interoperability platform, GIMACPAY, launches in CEMAC countries to facilitate interoperable mobile money and banking payments for the CEMAC population.

JULY

PRODUCT EXPANSION

Orange and NSIA combine expertise to launch Orange Bank Africa and provide greater access to financial services and increase financial inclusion in West Africa.

AUGUST

INTERNATIONAL REMITTANCES

Airtel Africa enters a strategic partnership with MoneyGram enabling Airtel Money customers to receive MoneyGram transfers directly into their mobile wallets from over 200 countries across the world.

OCTOBER

NATIONAL COMMITMENT

The Philippines launch a \$575 million project to provide the population with national identification cards in efforts to boost financial inclusion and expand the digital economy.

OCTOBER

PRODUCT EXPANSION

Safaricom introduces a new M-pesa feature, 'Pochi la Biashara', targeted at small business owners allowing them to separate business and personal funds, monitor transactions more efficiently and so make better business decisions.

DECEMBER

INTERNATIONAL REMITTANCES

PayPal's money transfer service, Xoom, launches international remittance payments from users in the UK, USA, Canada and Europe to mobile money wallets across key markets in Africa.

NOVEMBER

INVESTMENT

Grab invests \$100 million in LinkAja to strengthen its financial services and accelerate financial inclusion in Indonesia.



Active accounts and “financial demarginalisation”

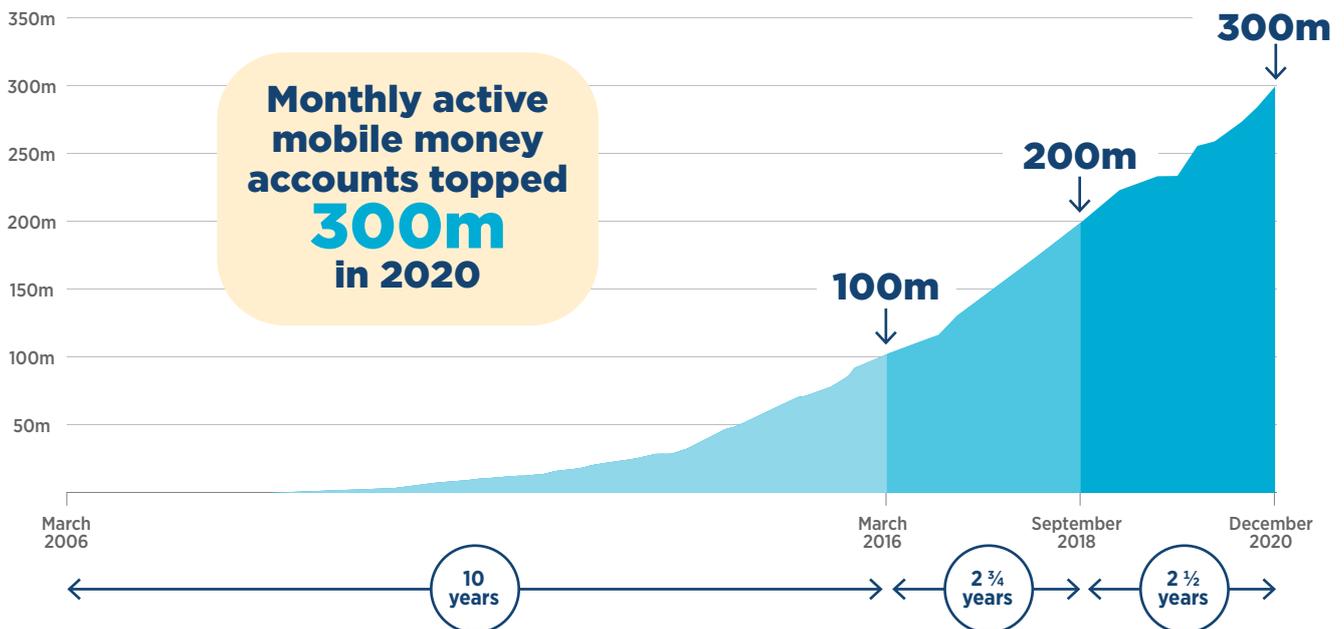
In 2020, the mobile money industry reached another major milestone: the number of monthly active mobile money accounts topped **300 million**, having grown at a rate of 17 per cent year on year.⁵ In this year’s State of the Industry report, we are shifting away from measuring account activity on a 90-day basis to instead measure it on a monthly basis (or

30-day), in line with both behavioural changes in usage and the wider fintech industry.⁶

While it took nearly a decade for the mobile industry to reach its first 100 million monthly active accounts, it has taken just over five years to reach another 200 million (see Figure 3).

Figure 3

Growth of monthly active accounts
(2006–2020)



5 90-day activity is a legacy of SIM card activity and does not adequately capture more recent mobile money usage.

6 App-based fintech solutions primarily measure activity by the number of monthly active users (MAUs)

By December 2020, 64 mobile money providers – roughly one in five – had over one million monthly active accounts. This is up from 30 providers in 2016 (see figure 4).

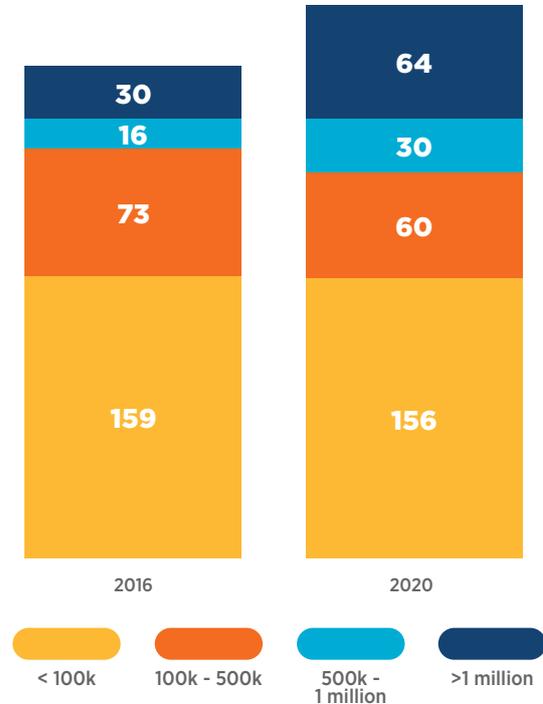
This strong and steady growth suggests that customers are using mobile money in more advanced ways and in all aspects of daily life. This marks a change from the early days of mobile money when the main use cases were bill payments and P2P payments in the form of occasional domestic remittances. It also demonstrates that the industry is having a profound and lasting impact – mobile money users are becoming more financially included and moving away from the margins of the financial system. In contrast, infrequent use may imply that a user is simply a recipient of remittances and not reaping the full benefits of mobile money.

It should be emphasised that even in high-income countries where there are high levels of banking penetration, individuals can still be financially marginalised.⁷ It is also possible to have a mobile money account and remain financially marginalised. In rapidly advancing economies, access to an account (of any kind)⁸ is not enough to become financially empowered. Rather, access is simply a stepping stone to financial inclusion. With account registrations likely to plateau in the next decade, it will become even more important to understand how actively and frequently mobile money is being used.

This is why, for the first time, the State of the Industry report looks at how monthly active accounts are being used for more advanced **ecosystem transactions**⁹ (see Figure 5). In Sub-Saharan Africa, on average, 19 per cent of all monthly active accounts make a bill payment and 13 per cent receive bulk payments. Meanwhile, just over 10 per cent make a merchant payment, up from nine per cent in 2019. As expected, only a small share of accounts (one per cent) send or receive international remittances.

Figure 4

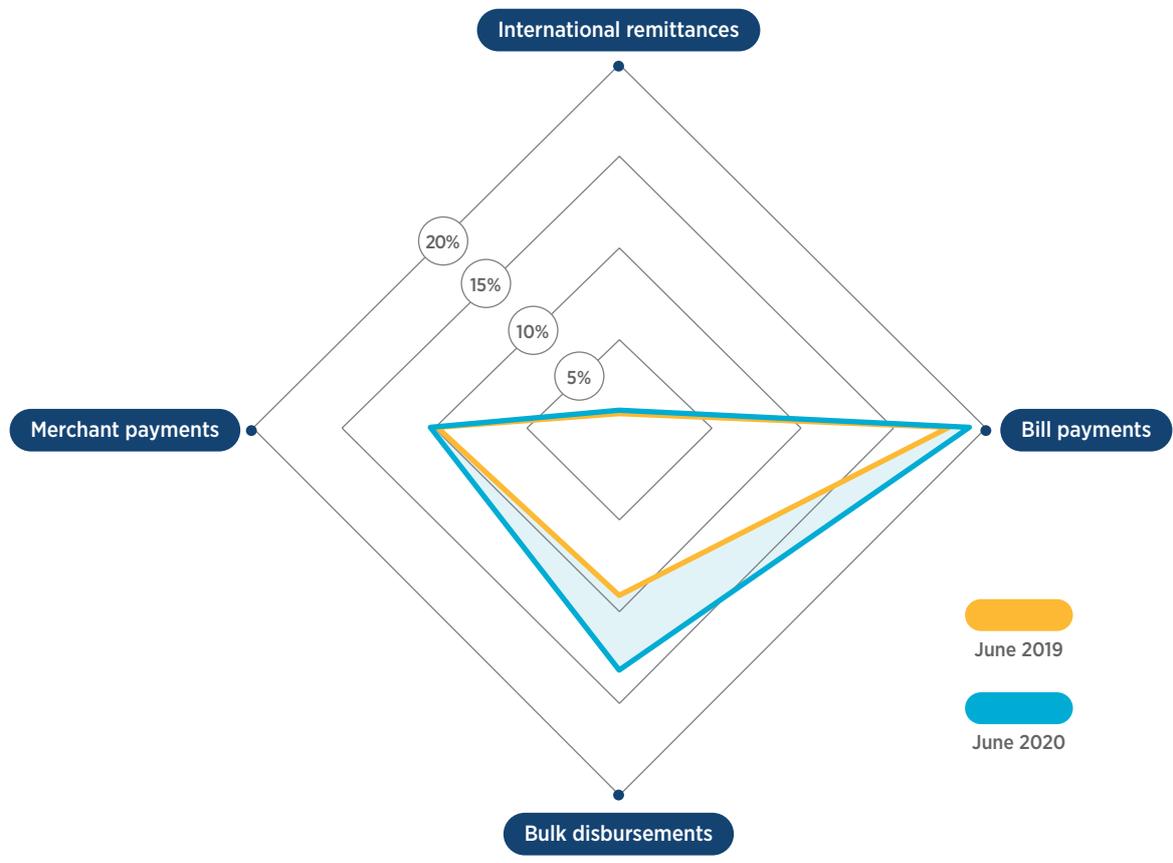
Number of services by active accounts



7 Barboni G., Cassar, A., Demont, T. (2017). Journal of Behavioral Economics for Policy, 1 (2), pp. 39-49.
 8 Sinha, G.R. and Piedra, L.M. (2020). [Unbanked in India: A Qualitative Analysis of 24 Years of Financial Inclusion Policies.](#)
 9 Ecosystem transactions = bill payments, bulk disbursements, merchant payments and international remittances



Figure 5
Share of active accounts performing ecosystem transactions, Sub-Saharan Africa¹⁰



¹⁰ Formula: unique accounts performing X / active accounts, where X represents transaction type

Transaction values continue to grow



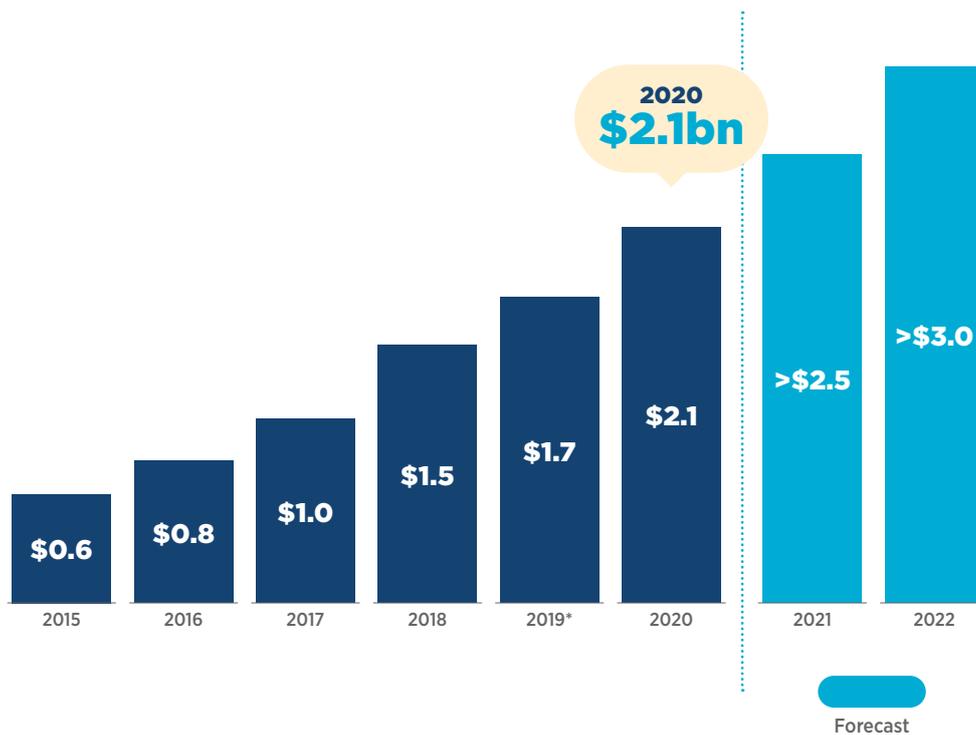
The industry is processing over **\$2 billion** a day, and has more than **doubled** in value since 2017

Total transaction values grew by 22 per cent in 2020 to reach \$767 billion. This means that, for the first time, the industry is processing over \$2 billion a day and has more than doubled in value since 2017 (see Figure 6). Looking forward, the GSMA expects this value to exceed \$3 billion a day by end of 2022. In addition to the industry building foundational assets, such as APIs, this impressive growth in transaction values was supported by policy measures that included increasing transaction and balance limits.

Figure 6

Total mobile money value processed per day (2015–2022)

Billions



*Due to currency depreciation, the total value processed in 2019 is lower than what was reported in that year's State of the Industry report publications.



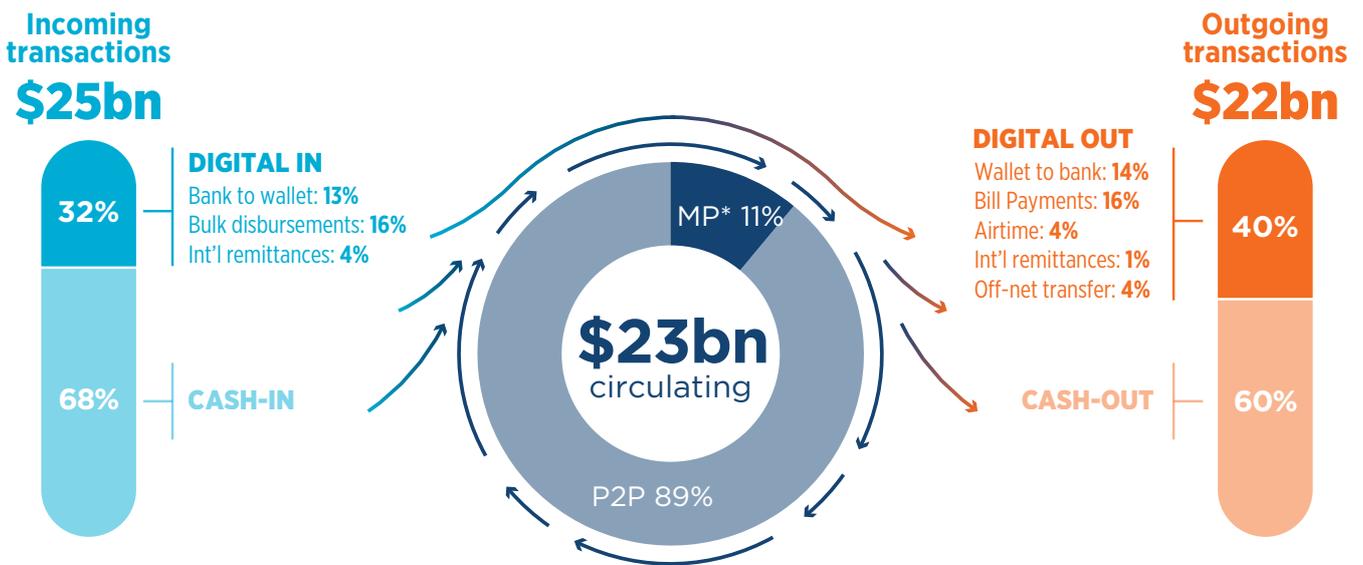
Since the impact and response to the pandemic varied by country and region, values for different types of transactions fluctuated, overall causing proportions to shift. However, by the end of 2020, transaction values had stabilised close to the proportions seen in 2019, but there were a few notable exceptions. Incoming and outgoing transactions have both become more digital, with international remittances and wallet-to-bank payments remaining high (see Figure 7). There was also a slight shift in the breakdown of circulating value compared to 2019, with merchant payments

accounting for 11 per cent, up from nine per cent in 2019.

With both incoming and outgoing transactions (including cash-in and cash-out) growing faster than the circulating value in 2020, the industry digitisation level¹¹ (57 per cent) remained in line with last year's figure, despite spikes in digital flows during the pandemic. With economies across the globe still recovering, it remains to be seen what lasting impact, if any, the pandemic will have on digitisation and the breakdown of transaction flows.

Figure 7

The ins and outs of mobile money, December 2020



*MP = Merchant payments

11 Digital transactions = Digital In + Digital Out + Circulating value

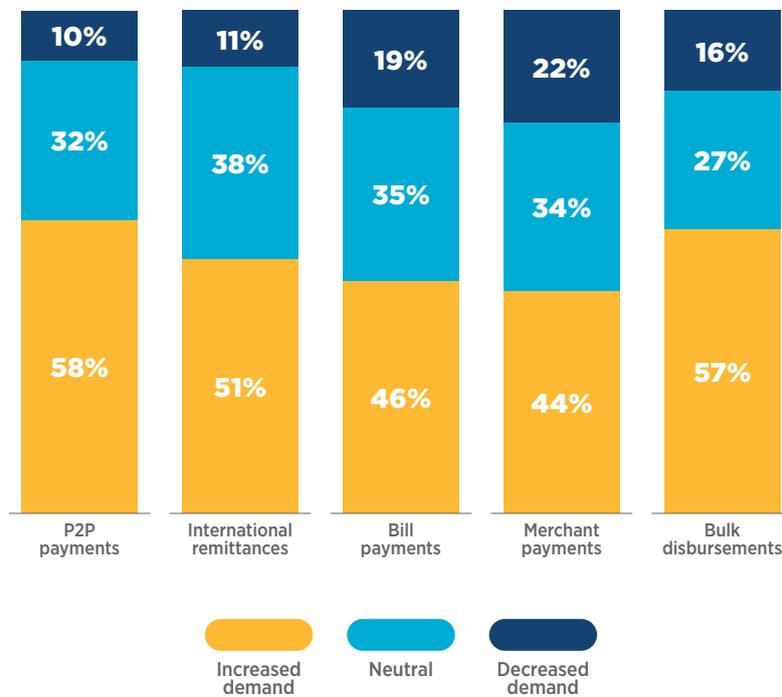
One of the outcomes of the pandemic is that it has prompted mobile money providers to forge stronger, more trusted bonds between customers and other stakeholders in the payments ecosystem.

During the pandemic, demand for mobile money increased among businesses, governments and new services that previously relied on cash or other payment channels. As part of this year's

Global Adoption Survey, we asked providers how they perceived the impact of COVID-19 on product demand (see Figure 8). The majority of respondents reported higher demand for P2P payments, bulk disbursements, international remittances, while responses for bill payments and merchant payments were more mixed.

Figure 8

Perceived impact of COVID-19 on product demand



The ability to link seamlessly with new partners through open APIs enabled the industry to respond to increased demand quickly. Twenty-four per cent of survey respondents reported they had published mobile money APIs, making the industry more

accessible to third parties. On average, providers are integrated with 104 companies (including 18 government agencies, 14 utility companies), 58 bulk disbursement providers¹² and over 14,000 merchants.¹³

¹² This excludes a small number of high-performing outliers connected to over 1,700 organisations.

¹³ Note: These figures are simple averages for all respondents with a significant skew in distribution.

Box 1:

The GSMA Mobile Money API

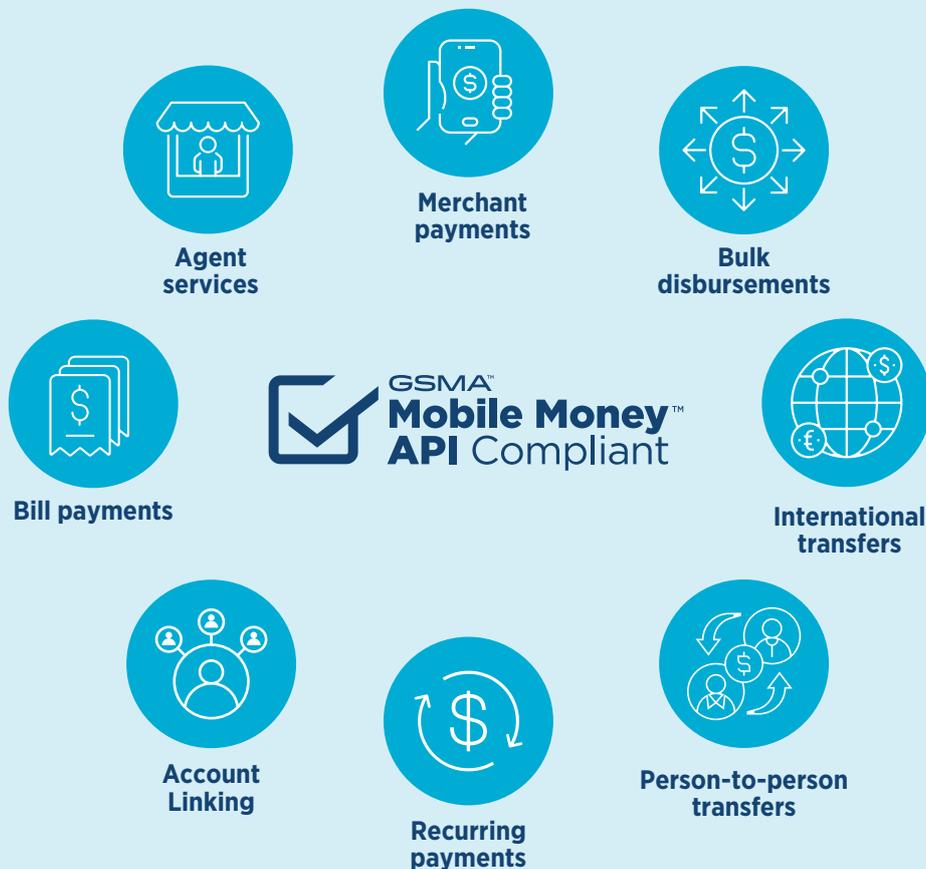
The GSMA Mobile Money API is a collaborative initiative between the mobile money industry and the GSMA. The main asset is a harmonised API specification that aims to simplify and accelerate third-party integrations with mobile money providers. It provides a common foundation for ecosystem innovation that offers flexibility, scalability and security.

Since launch, the API has been adopted by mobile money providers in Asia, Africa and Latin America. The specification can create modular views that allow different mobile money providers and third parties to see how the specification relates to their business objectives. The harmonised, third-party API has a variety of use cases, such as e-commerce, bill payments and bulk disbursements.

To support the adoption and use of a harmonised API, the GSMA has created a Mobile Money API Compliance Verification Service. Compliance will demonstrate that a mobile money provider has implemented the API for use cases that are relevant to their business. For providers, the benefits of compliance include attracting third parties to their platform and simplifying integration across the ecosystem. The GSMA has also published a community platform to raise awareness and facilitate industry collaboration on the API specification.

To enhance API capabilities and align views on foundational API features, the GSMA will convene working groups of industry stakeholders, for example, mobile money providers, technology providers, financial service providers and ecosystem service providers. In parallel, the GSMA will update the specification according to industry feedback to improve existing APIs and add new ones.

GSMA Mobile Money API use cases





COVID-19 regulatory responses and policy interventions

The severe impact of COVID-19 on economies and people's lives moved regulators to respond with a variety of measures: waiving transaction fees, making KYC and on-boarding requirements more flexible, declaring mobile money providers and agents an essential service, maintaining liquidity for agents and enabling government social transfers to be disbursed directly to mobile money wallets (see Figure 9).¹⁴ Countries that adopted these measures drove the digitisation of payments, limited the handling of cash and cushioned the most vulnerable segments of society from the devastating effects of the pandemic.

The pandemic was also a catalyst for regulatory institutions to make decisions and implement measures that may have been pending. For instance, many providers had in the past sought to increase transaction limits without success^{15,16}, but the pandemic accelerated this change, for example, in Kenya¹⁷ and Ghana.¹⁸ These measures had the distinct effect of supporting the small and medium-sized enterprise (SME) sector, which turned to mobile money to accept payments instead of cash.¹⁹

14 Muthiora, B. et al. (2020). [Mobile money recommendations to central banks in response to COVID-19](#). GSMA Mobile Money.

15 Munda, C. (2018). [Safaricom wants Sh140,000 daily M-Pesa limit increased](#). Business Daily

16 Larnyoh, M. T. (2019). [Ghana's Central bank considers raising the limit on mobile money transactions](#). Pulse

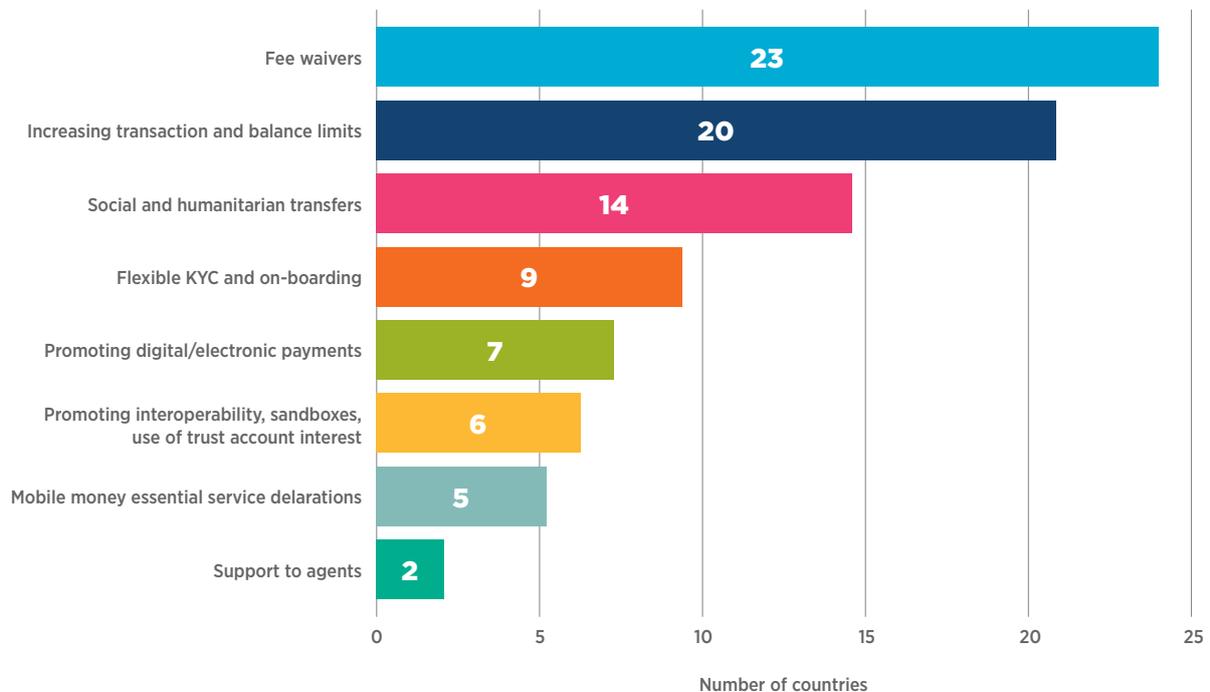
17 Central Bank of Kenya (2020). [Press release: Emergency measures to facilitate mobile money transactions](#).

18 Bank of Ghana (2020) [Monetary Policy Committee, Press Release](#).

19 See, for instance <https://www.businessdailyafrica.com/bd/corporate/companies/safaricom-launches-m-pesa-service-for-small-businesses-2723656>

Figure 9

Mobile money policy response by number of countries^{20, 21}



Despite positive outcomes, some of these measures pose risks and challenges to the sustainability of the industry. The most glaring is the introduction of price controls. Although waivers for transaction fees were in place, larger transaction volumes have created regulatory pressure to lower prices. However, the implementation and extension of fee waivers across all transaction types and bands (in some cases indefinitely)²² has had a negative impact on the core revenue stream of mobile money providers (see section 2 for more insights).²³ Unlike traditional financial service providers, which can intermediate customer deposits through lending or investment, mobile money providers do not enjoy these rights and depend primarily on transactional revenues to sustain their businesses. Therefore, any unilateral

decisions by regulators to impose or extend fee waivers have the same effects as introducing price controls, to the detriment of mobile money providers.

In some cases, fee waivers have led to higher rates of fraud and/or arbitrage by mobile money users who can avoid paying fees. Quantifying losses from fraud or arbitrage is complex at best, if not extremely difficult.

While the anticipated effect of imposing fee waivers was a marked increase in transaction volumes, the unintended consequences have been reduced or delayed investment in technology upgrades to support robust platforms,²⁴ or less support for agents to provide high-quality customer service.²⁵

²⁰ Chadha, S., Muthiora, B. and Kipkemboi, K. (16 July 2020). "[Tracking mobile money regulatory responses to COVID-19](#)", Mobile for Development Blog.

²¹ Note: A country may have introduced one or several of these policies.

²² Chadha, S., Muthiora, B. and Kipkemboi, K. (16 July 2020). "[Tracking mobile money regulatory responses to COVID-19](#)", Mobile for Development Blog.

²³ Kiptum, B. (9 November 2020). "[COVID: Safaricom half-year net profit down 6% to Kshs. 33.07B](#)", KBC Channel.

²⁴ Increased transaction volumes strain mobile money transaction platforms, making them less robust.

²⁵ Agents are the front line in dealing with customers and require training and liquidity support.

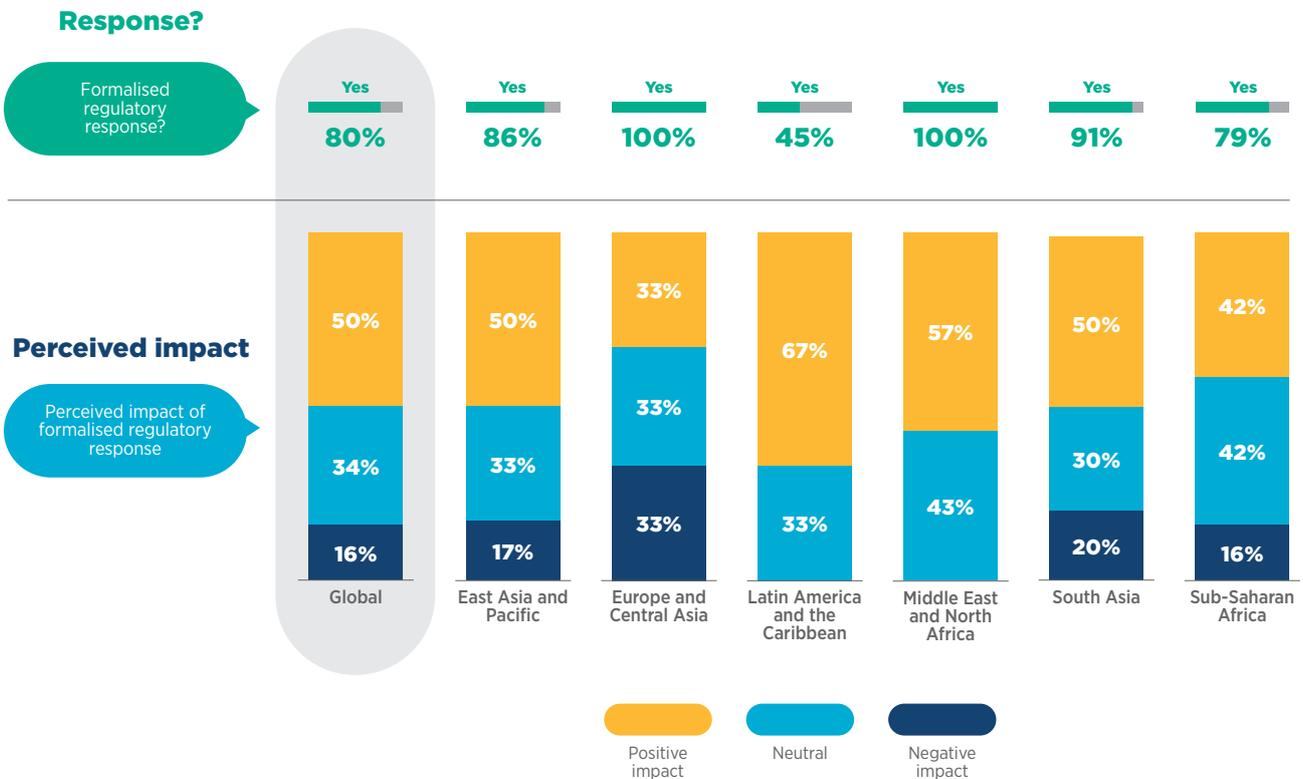
Perceptions of the COVID-19 regulatory response

This year's Global Adoption Survey asked mobile money providers to share their perspectives on the regulatory environment and regulatory responses to the COVID-19 pandemic. Nearly all respondents reported that regulators had formalised specific COVID-19 regulatory measures (see Figure 10).

The majority of respondents also stated that these measures had a positive impact on the mobile money business, however, responses were slightly more mixed at regional level. For example, one in five respondents from South Asia stated that policies had a negative impact.

Figure 10

COVID-19 regulatory response and perceived impact of regulation²⁶



Source: GSMA Global Adoption Survey 2020

Regulators are strongly encouraged to engage closely with mobile money providers on their COVID-19 response strategies. This ensures that the mobile money industry not only thrives, but also

continues to collaborate with the public sector to ease the burdens of COVID-19 on consumers and the informal sector.

26 Sample size Q1: Regulatory response?: East Asia and Pacific (7), Europe and Central Asia (3), Latin America and the Caribbean (11), Middle East and North Africa (7), South Asia (11) and Sub-Saharan Africa (63). Sample size Q2: Perceived impact?: East Asia and Pacific (6), Europe and Central Asia (3), Latin America and the Caribbean (6), Middle East and North Africa (7), South Asia (10) and Sub-Saharan Africa (55).

Maintaining liquidity in a crisis



\$500+ million
digitised by agents
on a daily basis

Mobile money services cannot reach people in need without a functioning distribution network to convert cash to digital value and vice versa. As lockdown measures were introduced in many parts of the world, nonessential businesses were closed, but bank branches and ATMs were deemed essential in most countries. Many regulators also gradually declared mobile money agents as essential services, but not in all markets. Given the greater reach of mobile money agent networks than ATMs and bank

branches,²⁷ declaring agents and their supply chains as essential services is crucial for service continuity and maintaining liquidity.

While some agents are dedicated mobile money outlets, others are ‘mom-and-pop’ shops and established grocery stores. In many markets, these shops and grocery stores account for a large share of the mobile money agent footprint and were deemed essential alongside banks and ATMs. During the pandemic, attaining “essential service” declaration from some national governments was a challenge, but the industry demonstrated an agility and resilience that proved critical. The value digitised via mobile money agent networks grew by 18 per cent in 2020, reaching a total of \$189 billion or over **\$500 million a day**.



Agent activity during COVID-19

In the first weeks and months of the COVID-19 outbreak, regional and national lockdowns had an impact on agent activity. However, on average, activity never dropped below 50 per cent, in part because of the rapid response of mobile money providers. This included the distribution of personal protective equipment (PPE) and hand sanitising gel

at agent counters. In Mozambique, Vodacom M-Pesa set up 30,000 handwashing stations at agent outlets across the country.²⁸

By June 2020, there was a notable rebound in agent activity, with rates climbing higher than they had been before the outbreak (see Figure 11).

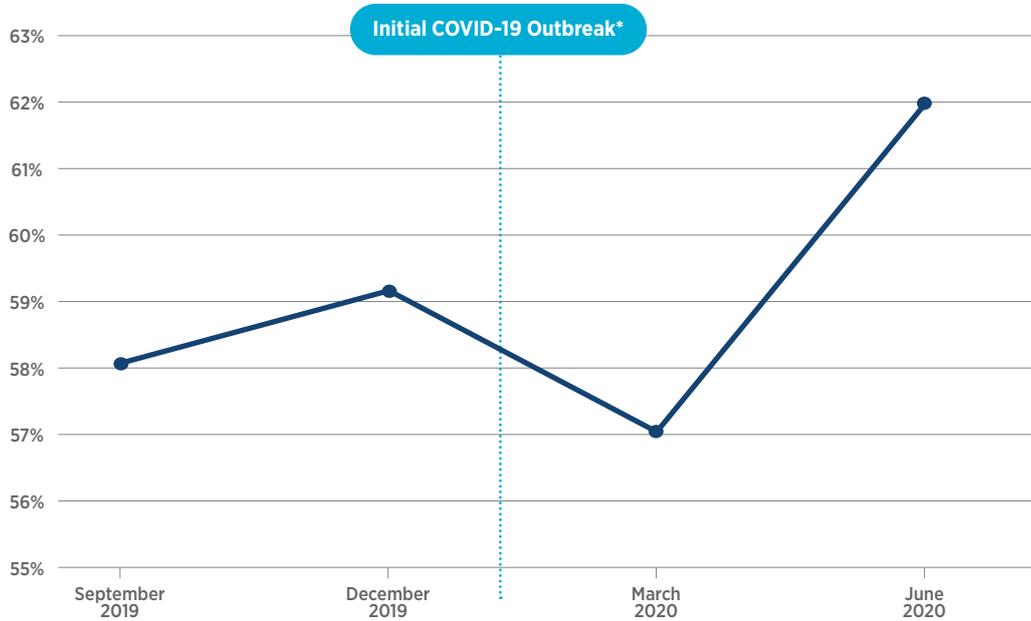
27 GSMA (2020). [State of the Industry Report on Mobile Money 2019](#), p. 14

28 Downer, M. (10 June 2020). “[Partnering during crisis – Spotlight on Vodacom Mozambique](#)”, Mobile for Development Blog.

Figure 11

Agent activity during the initial COVID-19 outbreak

Sample: 3.0 million agents



*Agent data is collected quarterly, therefore trends between quarters are extrapolated and do not represent monthly figures

Agent registrations surged, but what about the unique number of agent outlets?

2020 saw the highest increase in the number of registered agents in the last three years – 14 per cent year on year. The GSMA believes this was driven by both supply and demand. As restrictions on travel were introduced, and governments advised against the handling of cash, demand for non-cash payments (primarily P2P and merchant payments) increased. On the supply side, there was an unprecedented rise in bulk payments due to salaries and government subsidies, many of which were still cashed out despite being paid out electronically.

It is notable that even well-established mobile money providers with extensive agent networks are still growing rapidly. On average, markets with over 100,000 registered agents saw networks grow by 15 per cent in 2020. In December 2020, the total number of registered agents had reached 9.1 million.

Since the inception of the Mobile Money programme in 2009, the GSMA has emphasised that the total number of agents should be interpreted with care. This is because the number does not refer to unique mobile money agent outlets, but rather to the number of registered agents providing cash-in and cash-out services for mobile money services globally. In many markets, individual outlets serve several mobile money service providers, which can result in double counting. This is more common in mature mobile money markets, particularly ones with more competition among service providers, such as Tanzania or Pakistan.

For clarity, the GSMA has formulated an estimate of the total number of unique agent outlets that considers market share and concentration in agent networks at the country level.²⁹ The GSMA estimates there are **5.2 million unique agent outlets globally** (see Figure 12).

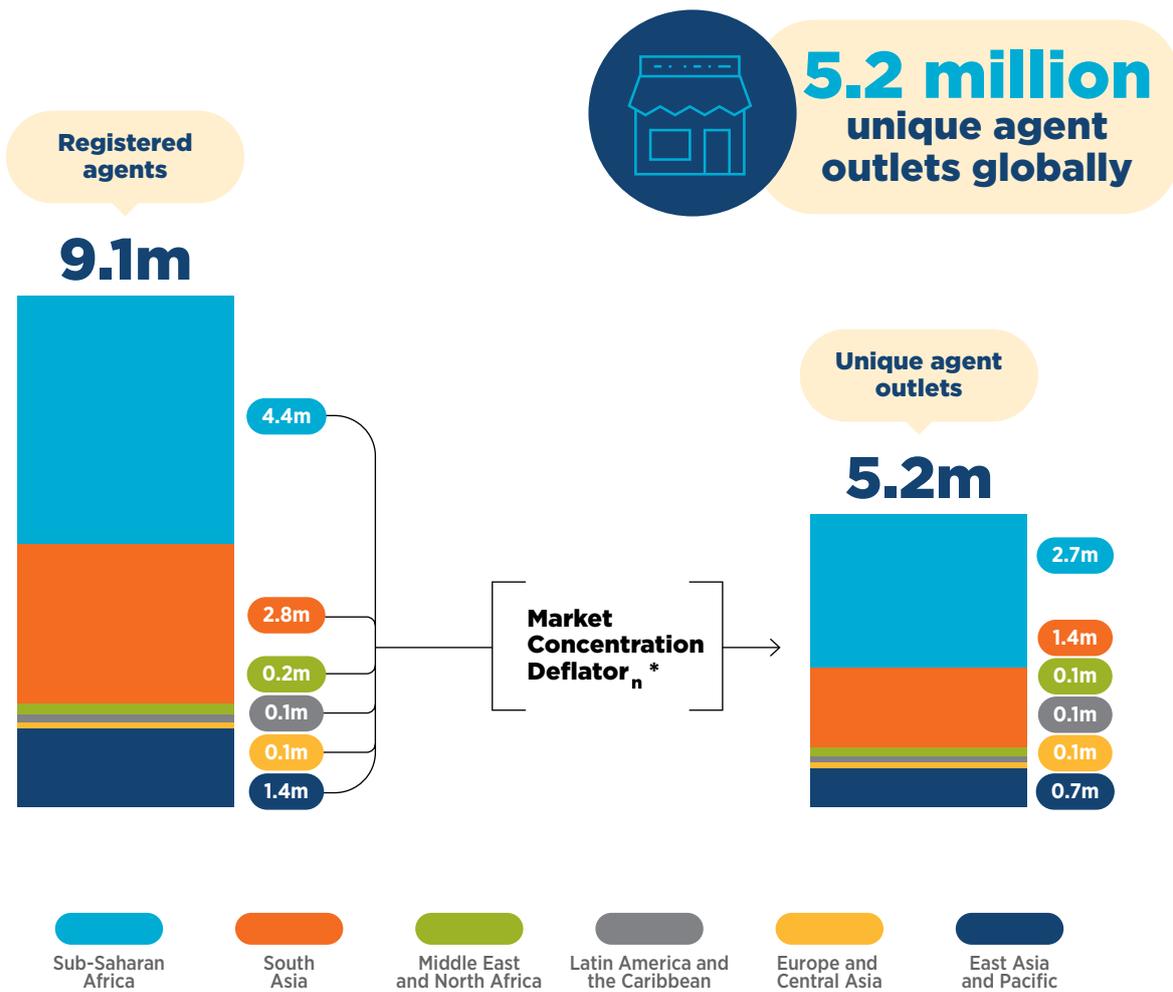
29 For more details on the methodology, see Appendix B.



Figure 12

Registered agents versus unique agent outlets

Globally, 2020



*For more details on the methodology, see Appendix B



Mobile money in 2020 and beyond

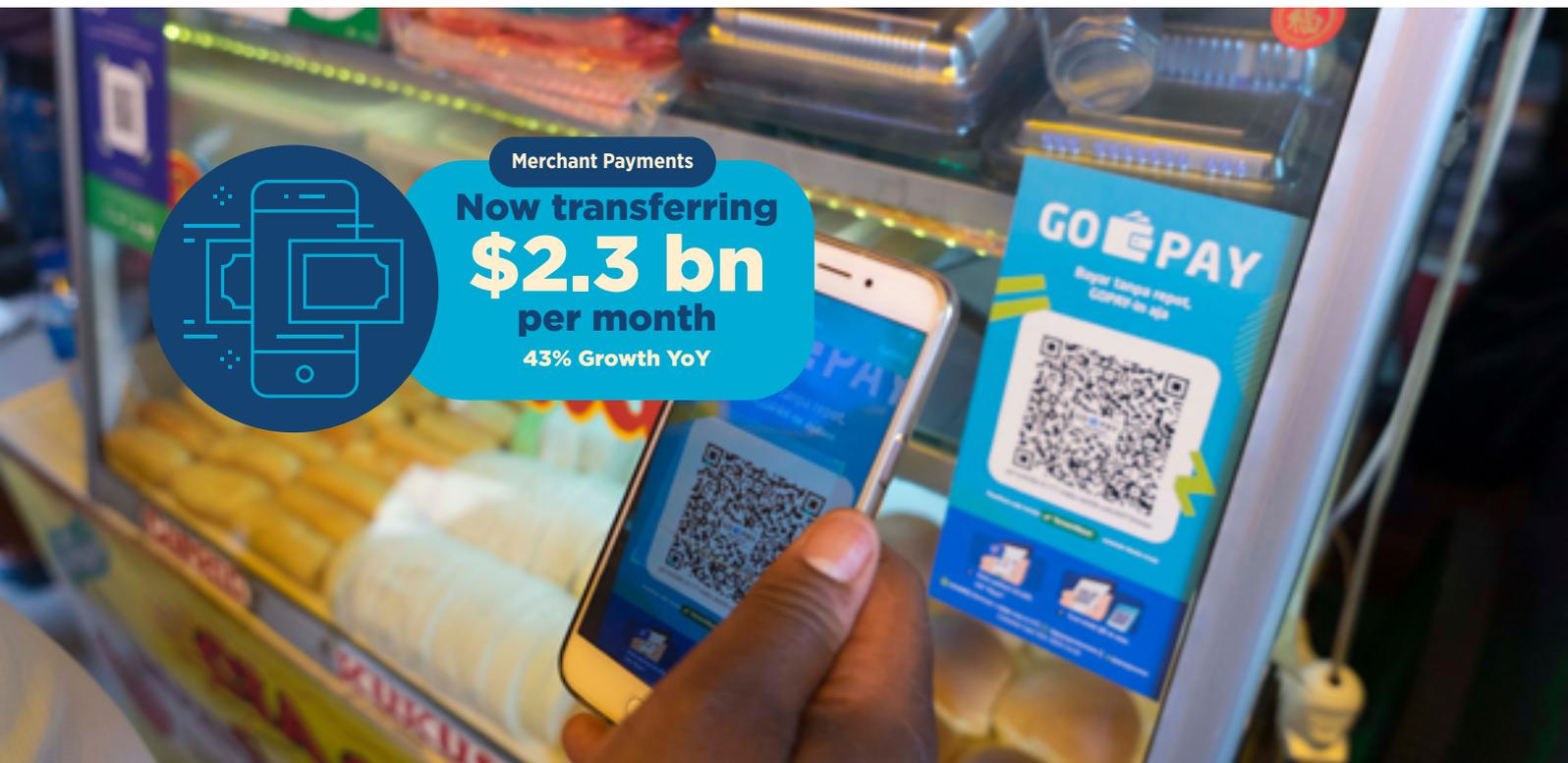
Adapting and thriving in a new mobile money landscape

From merchant and bulk payments to international remittances and interoperability, the COVID-19 pandemic has brought pivotal change to the mobile money ecosystem. While mobile money providers, agents and merchants coped with increased demand and higher volumes, customers had to adapt to managing their daily life digitally, and governments had to act quickly and efficiently to disburse life-saving financial support.



Through it all, the mobile money industry showed remarkable resilience and an ability to serve the needs of the most financially vulnerable and provide vital services in an urgent time of need. However, the economics of mobile money changed as consumer spending declined, fee waivers were introduced and revenues dropped. This section looks at how

the COVID-19 pandemic impacted transactions in the ecosystem, reshaped the economics of mobile money and, ultimately, the strategies the industry adopted to navigate a very different landscape.



Merchant Payments

Now transferring
\$2.3 bn
per month
43% Growth YoY

Merchant payments

Globally, digital payments were expected to reach an annual transaction value of \$4.4 trillion in 2020, with a 17 per cent CAGR through 2024.³⁰ With growth rates like these, it is not surprising that merchant payments have captured the interest of many stakeholders, including mobile money providers. In 2020, mobile money-enabled merchant payments grew in all dimensions – volume, value and merchant activity. The value of mobile money merchant payments grew by 43 per cent, compared to 28 per cent in 2019. This has resulted in over \$2.3 billion transacted per month on average in 2020. Meanwhile, the number of merchant payments increased by 15 per cent in the same period. Over one in three providers in our survey stated that the COVID-19 pandemic had directly increased demand for merchant payments. This was reflected in a 29 per cent surge in the number of active merchants between December 2019 and June 2020. Similarly, the average number of merchant payments performed by a unique customer account grew from 3.9 to 5.1 per month. In fact, according to the GSMA Consumer Survey 2020, approximately one in five

consumers in Kenya and Mozambique stated that they had begun purchasing products (food, clothes, items, etc.) via mobile money as a direct result of COVID-19.³¹

The unique challenges of 2020 also prompted mobile money providers to further invest in additional payment technologies. A study led by the Cambridge Centre for Alternative Finance (CCAF) and supported by the GSMA, showed that close to half of all mobile money providers deployed additional payment channels during the COVID-19 pandemic.³² According to the study, QR codes have become the second most-offered channel for merchant payments, after USSD. In recent years, QR codes have been adopted by a growing number of players to facilitate retail payments. Originally a tool for tracking automobile parts, the rise of QR codes in payments has been enabled by the widespread adoption of digital wallets. Thirty-nine per cent of providers that responded to the 2020 Global Adoption Survey identified QR codes as an acceptance technology.

30 Nautiyal, A., Pors, B. and Martins, B. (2020). [QR Code Merchant Payments: A Growth Opportunity for Mobile Money Providers](#). GSMA Inclusive Tech Lab.

31 GSMA Consumer Survey 2020. Question asked: "I started purchasing products (food, clothes, items, etc.) via mobile money because of Coronavirus". Sample size: Kenya (943), Mozambique (470).

32 Using a sub-sample of mobile money providers from the CCAF's [Global COVID-19 FinTech Market Rapid Assessment Study](#).

Box 2:

QR codes: scaling merchant payments in emerging markets

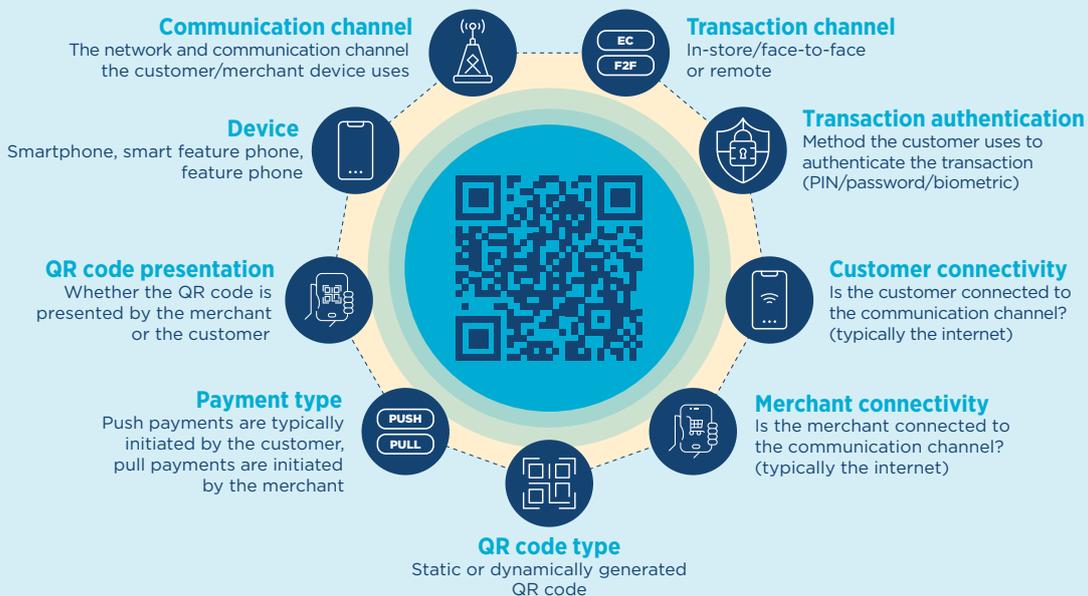
In emerging markets, mobile money providers are at the forefront of using QR codes. Although QR codes require a phone camera and stable internet connection, the rising penetration of smartphones in emerging markets has lowered these barriers for increasingly large numbers of customers. This is paving the way for mobile money providers to add this payment channel to their offering in many markets. However, they face several challenges, the

greatest of which is the need to adopt technical standards that enable interoperability between different QR code deployments.

To address this need, the GSMA Inclusive Tech Lab commissioned a study on QR codes with leading payments consulting firms Account and NTT Data, QR Code Merchant Payments: A Growth Opportunity for Mobile Money Providers.³³

Figure 13:

Elements that Define a QR Code Product Flow



QR code payments are not a homogenous proposition, and customers can experience a QR code payment in several different ways (or product flows) depending on how their technical parameters are set in different deployments. However, underpinning this seeming diversity there are just nine elements that are needed to produce any QR code solution (see Figure 13). Each element includes several options to choose from and, depending on how they are grouped and the type of transaction being made, three broad product flows are possible: Merchant Presented Mode, Customer Presented Mode and USSD.³⁴ Each product flow creates a distinct experience for the payer and payee.

All QR code deployments have an underlying technical specification that is either proprietary or common. When we compared the constituent components of different QR specifications (including Alipay, WeChat Pay, EMV, JPQR, Bharat QR, HKQR, SGQR, QRIS, Prompt Pay, Mercado Pago and Pix, among others), there was substantial overlap, but also significant differences. QR code merchant payments can become interoperable either through harmonisation of QR code specifications, or harmonisation via API and/or back-end integration.

33 Nautiyal, A., Pors, B. and Martins, B. (2020). [QR Code Merchant Payments: A Growth Opportunity for Mobile Money Providers](#). GSMA Inclusive Tech Lab.

34 It is worth pointing out that a USSD payment is not strictly a QR code payment transaction as the QR code is not scanned. However, we have included it in our analysis given the dominance of the USSD channel in emerging markets, and initiatives by leading mobile money providers to enable feature phone payments within their QR code payment schemes.

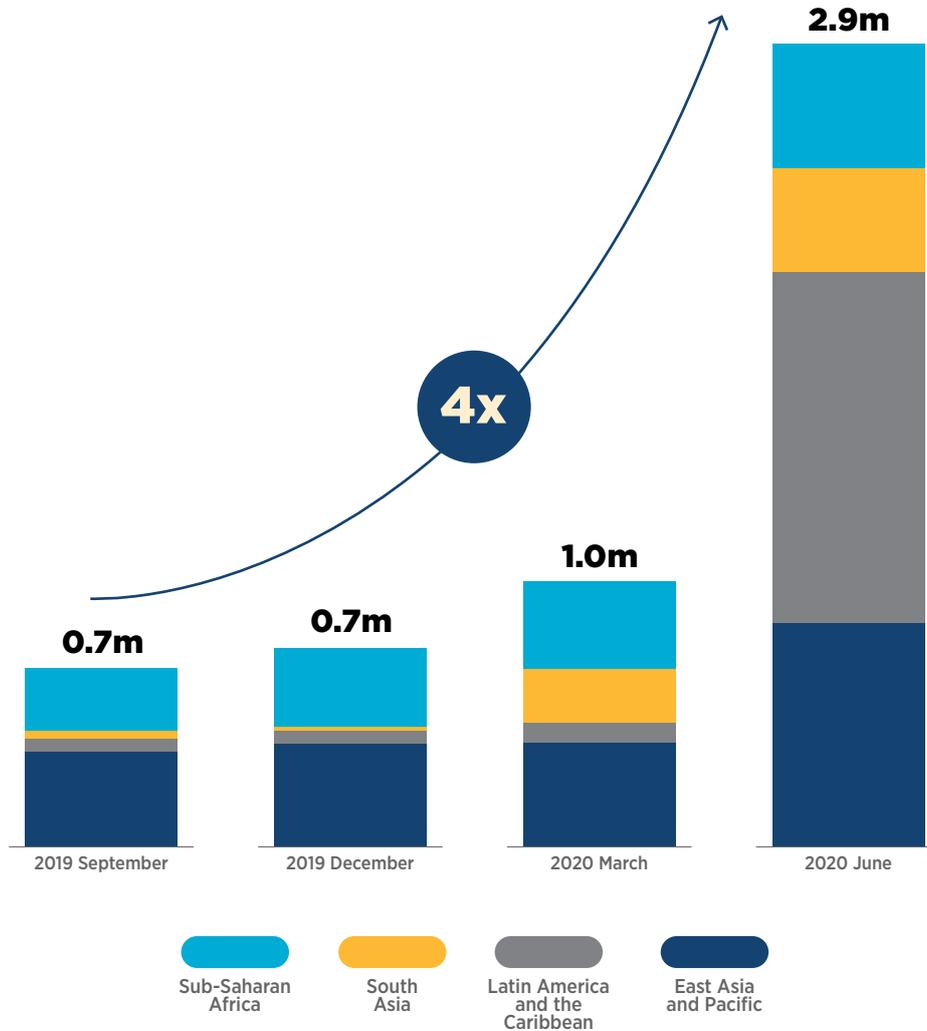
Bulk payments

During the COVID-19 pandemic, many governments and NGOs turned to mobile money providers to distribute income support and emergency payments rapidly and efficiently. Providers have also seen more demand for bulk payments as a direct result of COVID-19, with 57 per cent of all survey respondents reporting increased demand.

The GSMA has found that at the height of the first COVID-19 outbreak in the beginning of 2020, the number of unique customer accounts receiving government-to-person (G2P) payments more than **quadrupled** (see Figure 14).

Figure 14

Number of unique customer accounts receiving G2P payments by region



As well-regulated financial service providers, mobile money providers are key to delivering G2P mobile payments.³⁵ Some of their strengths and advantages include:

- Extensive customer bases with some form of KYC in place;
- Distribution experience with cash-in/cash-out networks;
- Long-standing working relationships with regulators and governments;
- Ability for recipients to spend money electronically with bill payment integration and merchant networks; and
- Trusted and well-known brands.

During the pandemic, Latin America stood out as a region where mobile money was used effectively to help economically vulnerable people. Compared with other regions where bulk payments tend to be dominated by business-to-person (B2P) payments (e.g. salaries), Latin America has a strong history of government-led bulk payments. Early in the pandemic, large-scale subsidy payment programmes were set up in several countries, perhaps most notably in Paraguay and Colombia. However, in some cases, competition and market shares were not taken into account and resulted in seemingly unintended market interventions, the effects of which remain to be seen.

Box 3:

Mobile money and the COVID-19 response in Paraguay



In Paraguay, the national government launched a subsidy programme, Pytyvõ, which translates as *Help* in the Guaraní language. As part of the programme, subsidies were disbursed to people in the informal sector affected financially by COVID-19, either directly or indirectly. Beneficiaries were primarily self-employed owners of micro-,

small and medium-sized enterprises (MSMEs) and their dependents. Payments could only be spent electronically and only in shops selling groceries or medicines. For the disbursements, the government used four mobile money providers: Claro, Personal, Tigo and Zimle.

As of 2020, the Pytyvõ programme had made over 3.6 million payments in its two iterations, Pytyvõ and Pytyvõ 2.0. In total, the Paraguayan Government disbursed \$289 million, reaching just over two million beneficiaries. By leveraging mobile money and responding quickly to international emergencies like the COVID-19 pandemic, governments can support greater financial inclusion and prevent more people from falling into poverty. In the long term, responsible government action through digital payments could be crucial to bringing the world's most financially excluded populations into the financial system.

35 IMF (2020). [Beyond the COVID-19 Crisis: A Framework for Sustainable Government-To-Person Mobile Money Transfers](#).



International remittances

International remittances – the portion of earnings that migrant workers send home to their families – are a unique and powerful source of private capital and external financing. In 2019, total international remittances to LMICs reached a record \$554 billion, more than three times the size of official development assistance (ODA) and, for the first time, surpassing the value of foreign direct investment (FDI).³⁶

The social ties that bind migrants to their families typically make remittances resilient to external shocks. For example, the 2008 global financial crisis resulted in a modest 5.2 per cent decline in remittances in 2009.³⁷ However, due to its global nature, the COVID-19 pandemic is a unique threat to remittances, migrant workers and their families, as none have been spared the consequences of rising infection rates, lockdowns and economic downturns.

The World Bank has predicted the steepest decline in international remittances in recent history: a 14 per cent drop in the value of remittance flows to LMICs by 2021.³⁸

Despite a gradual and prolonged decline in volume, remittances are expected to become an even more important source of external financing for LMICs as FDI was expected to drop nearly 32 per cent in 2020.³⁹



It is therefore more critical than ever to find solutions that make remittances even more accessible and affordable. Mobile money provides an affordable channel that can extend the reach, security and convenience of international remittances, and accelerate the achievement of SDG 10, to “reduce inequality within and among countries”.^{40,41} Mobile money-enabled remittances have seen little to no negative impact and have been more resilient than other channels. In stark contrast to the expected impact on remittances overall, international remittances sent and received through mobile money increased by 65 per cent (or \$5 billion) in 2020, reaching \$12.7 billion on an annual basis (see Figure 15). This means that, on average, the industry for the first time processed more than **\$1 billion** in international remittances per month.

36 World Bank Group and KNOMAD. (October 2020). [Phase II: COVID-19 Crisis through a Migration Lens. Migration and Development Brief 33.](#)

37 Asare, J., et al. (2020). [Remittances in the Time of COVID-19: Challenges and Opportunities for Growth in Developing Countries.](#) International Growth Centre (IGC).

38 World Bank Group and KNOMAD. (October 2020). [Phase II: COVID-19 Crisis through a Migration Lens. Migration and Development Brief 33.](#)

39 Ibid

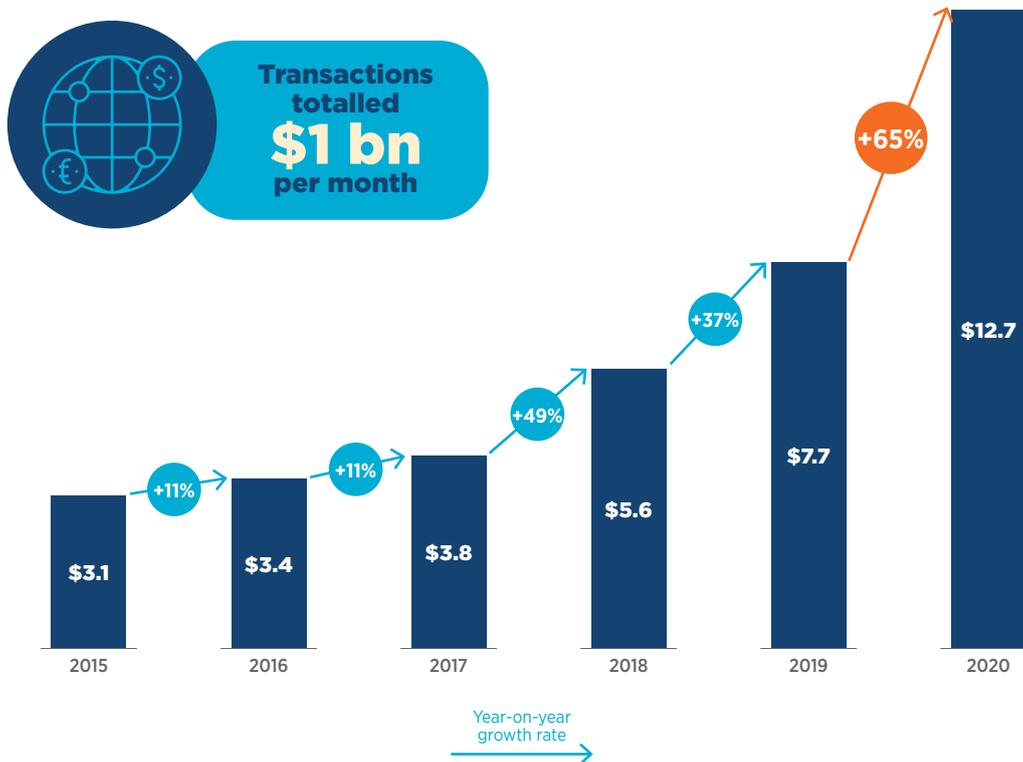
40 Naghavi, N. and Scharwatt, C. (2019). [Mobile money: Competing with informal channels to accelerate the digitisation of remittances.](#) GSMA Mobile Money.

41 SDG 10.c.: “by 2030, reduce to less than 3% the transaction costs of migrant remittances and eliminate remittance corridors with costs higher than 5%”, part of primary goal to “Reduce inequality within and among countries” (SDG 10).

Figure 15

Total annual international remittances via mobile money

Billions, 2015-2020



The volume of remittances received increased by 73 per cent, while the volume sent via mobile money increased by 69 per cent. This gap is to be expected since the incomes of people sending from mobile money markets are likely to have been more severely affected by the pandemic. In contrast, remittances sent from higher-income economies are less likely to be affected since most of these countries introduced income support or furlough schemes. As early as mid-April 2020, 36 of the 37 OECD countries⁴² had introduced some form of income support.⁴³

The average value per transaction of received international remittances increased by 18 per cent from \$106 in September 2019 to \$124 in June 2020. This is much lower than the average amount of international transfers across all global channels

(around \$500).⁴⁴ This is a testament to the ability of mobile money to meet the needs of those who make frequent, lower-value transactions. For instance, migrant workers using the Valyou mobile money service in Malaysia tend to transfer funds as often as six or seven times a year.⁴⁵

The fact that the average value per transaction increased suggests that the growth in international remittances stems from individuals in sending economies remitting larger sums, rather than there being more people sending money. Given the macroeconomic climate and the range of income support introduced during the pandemic, it is reasonable to conclude that diasporas around the world came to the aid of those back home.

42 A grouping of some of the world's most advanced economies.

43 University of Oxford. (2020). [Oxford COVID-19 Government Response Tracker](#).

44 Global Remittances Working Group. (n.d.) [Remittance price comparison databases: Minimum requirements and overall policy strategy](#). The World Bank Group.

45 Naghavi, N. and Naji, L. (2020). [How mobile money is scaling international remittances and fostering financial resilience: Learnings from Valyou in Malaysia](#). GSMA Mobile Money.

Interoperability

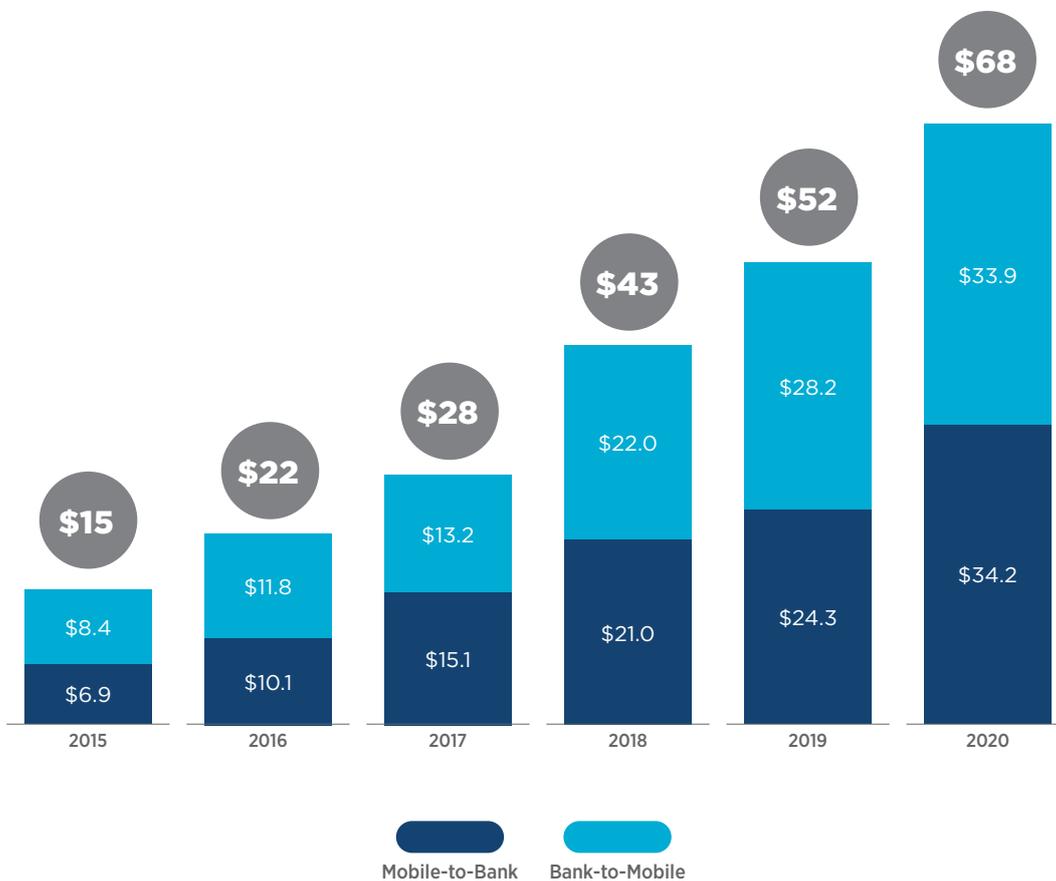
Over the past five years, the value of transactions flowing between mobile money platforms and banks has grown **fourfold**, reaching \$68 billion in 2020, up from just \$15 billion in 2015. During this period, the amount of money flowing between the

two systems have remained in close balance. (See Figure 16). The proportions of money flows have only deviated slightly from a 1:1 ratio over the past five years, accentuating the complementary relationship between banks and mobile money.

Figure 16

Growth in mobile money and bank interoperability

Billions, 2015-2020

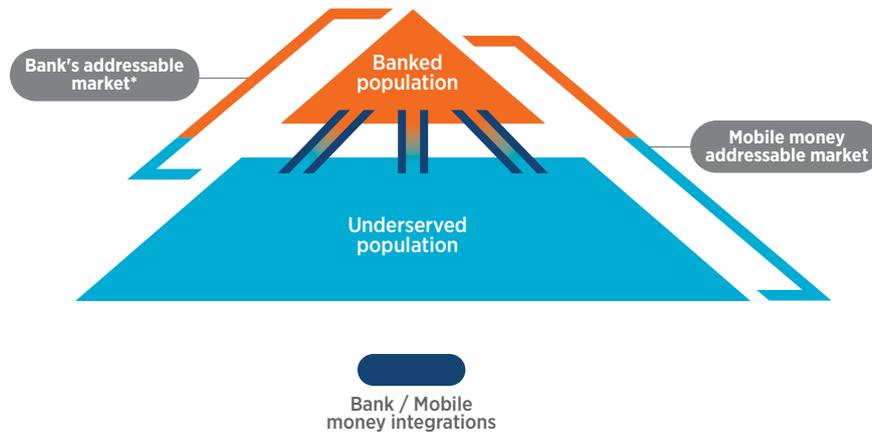


This type of interoperability not only provides better access to the formal economy for the underserved and financially excluded, but also helps to prevent two-tier financial systems, or even parallel economies, from becoming entrenched. It is therefore important that integrations between banks and mobile money providers continue to be encouraged and strengthened.

The banking and mobile money sectors do not have identical addressable markets, but even where they overlap, customers do not tend to choose one sector over the other. Whether they are a mobile money or banking customer, customers need to be able to transact to both the top and bottom of the financial system pyramid (see Figure 17).

Figure 17

Mobile money and bank-integrated financial system



There is no sign that higher volumes and values of mobile-to-bank and bank-to-mobile transactions have had a negative impact on regular mobile money P2P payments. Instead, trends suggest that customers are just as likely to transfer to mobile money accounts as they are to bank accounts. This

ties the formal and informal parts of a country's economy together. However, the shape of the pyramid, as well as the size and overlap of these two addressable markets, will differ significantly between economies and demographic groups.

Account-to-account (A2A) interoperability

There has been exceptional growth in mobile money transactions between mobile money providers, commonly referred to as account-to-account (A2A) interoperability. The COVID-19 pandemic appears to have been a catalyst, with the number of transactions increasing significantly in 2020. What also makes this growth exceptional is that A2A transactions now account for a much larger share of total P2P transactions. Close to **one in every 20 P2P transactions is now made across provider networks**, up from just one in 50 in 2015.



1 in 20
P2P transactions are
now made across
different mobile money
providers

*The addressable markets of 'brick and mortar' banks will differ significantly between companies, especially where agent banking approaches have been adopted. The inherent cost structure of banks often make them less equipped to reach the most underserved and financially excluded.

Box 4:

The GSMA Interoperability Test Platform

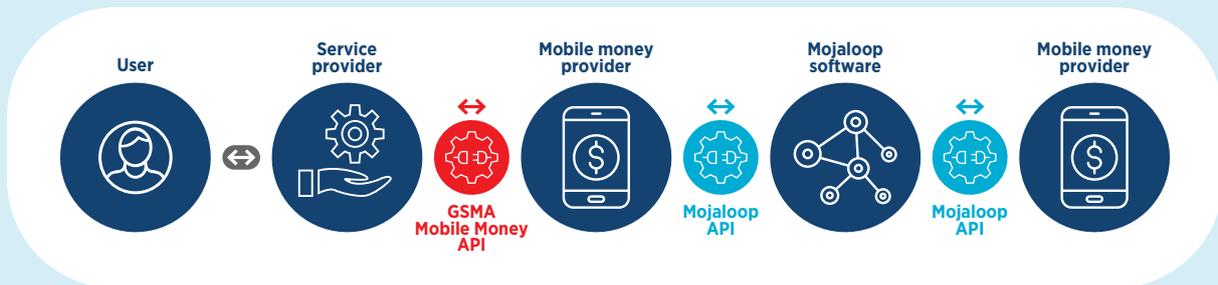
Interoperability has long been one of the mobile money industry's north stars, as it holds the promise of an interconnected world in which people can send money to anyone regardless of which mobile money service they use. With support and facilitation from the GSMA, the mobile money industry is moving in this direction. The GSMA Inclusive Tech Lab has opened a dedicated facility to support the industry: the GSMA Interoperability Test Platform.⁴⁶

The Interoperability Test Platform is the first joint end-to-end test environment to examine interoperable mobile money solutions. It links two key technologies in the mobile money industry:

- The GSMA Mobile Money API,⁴⁷ which provides a modern, harmonised API for mobile money transactions and management that enables seamless integration between service providers and mobile money providers.
- Mojaloop, which is open source software for creating digital payments platforms that connect all customers, merchants, banks, and other financial providers in a country's economy.⁴⁸

With this test platform, the GSMA provides the industry with an open-source and secure environment, enabling ecosystem participants to test their systems across different use cases.

How it works



The platform was created to ensure an excellent developer experience, support software development cycles and make it easier to create test scenarios. The platform currently provides test cases for merchant-initiated merchant payments, P2P payments, customer-initiated cash-out and customer-initiated merchant payments. New tests can be added to the platform based on industry requests.

The platform provides valuable feedback to two main groups:

- Mobile money providers, which can both receive and authorise transactions. The test platform allows them to test their system from either perspective.
- Service providers, which can use the GSMA Mobile Money API to gain an in-depth understanding of the payment flow outside their circle of influence and evaluate the effect on their systems.

The platform is open to anyone to use and contribute to through the Inclusive Tech Lab GitHub page⁴⁹ and website.⁵⁰

46 GSMA Inclusive Tech Lab. (n.d.). "Interoperability".

47 GSMA Inclusive Tech Lab. (n.d.). "Seamless Integration".

48 Mojaloop: <https://mojaloop.io/>

49 GSMA Inclusive Tech Lab's [Interoperability Test Platform](#).

50 GSMA Inclusive Tech Lab. (n.d.). "Interoperability".

The effect of COVID-19 on mobile money economics

COVID-19 may have been a catalyst for digital transactions on mobile platforms, but mobile money providers have not reaped the commercial benefits. Consumer spending, the major driver of mobile money revenues, has slowed dramatically. Combined with fee waivers across all transaction types and bands (see section 1), many mobile money providers have seen a negative impact on their core revenue stream. For example, M-Pesa Kenya's revenue between April and September 2020 declined by

14.5 per cent year on year.⁵¹

Results of the Global Adoption Survey show that despite healthy growth in mobile money revenues in the last quarter of 2019, revenues dropped sharply (24 per cent) in the beginning of 2020 due to the global economic downturn and the regulatory measures that were implemented (see Figure 18). However, when economies began reopening in mid-2020, total revenues rebounded.

Figure 18

Impact on revenue during the onset of the COVID-19 pandemic

(September 2019 to June 2020)



In fact, the industry has shown remarkable resilience in responding to the pandemic. It shouldered the financial burden in the short term while protecting the interests of consumers, and even helped informal economies continue to function through the pandemic. However, these are temporary responses, as providers cannot sustain these financial losses and risk losing decades of progress in poverty

reduction and financial inclusion. Banks rely on interest earned on balances held, and the difference between the interest it pays on savings accounts and what it charges for loans to generate revenue. In contrast, the mobile money business model is tied to the movement of value and, ultimately, to transaction fees.

⁵¹ Safaricom. (2020). [Results Booklet](#). (The first half of the Kenyan financial year is April 1 to September 30, 2020)



Overreliance on customer fees will continue to expose providers to shocks

In the medium to long term, revenue models must diversify to become more resilient. As the mobile money industry matures, revenue sources should also evolve and expand.

In June 2020, respondents to the Global Adoption Survey reported that, on average, 87 per cent of their revenues were generated by customer fees (see Figure 19). A downside of heavy reliance on customer fees is greater exposure to future short-term shocks. This can be offset by the relative

'stickiness' of business and government clients, which makes them very effective at stabilising revenue flows over time.

In addition to insulating mobile money providers from short-term demand shock, diversifying to high-value segments may also benefit users, as services can be offered at more competitive rates. In short, increased revenue from government and business can help to subsidise services provision to the most financially excluded.

Figure 19

Average revenue sources⁵²

June 2020



52 The sample includes services with over one million active accounts.



Mobile money-enabled adjacent services can foster financial resilience

The COVID-19 pandemic has exposed the financial vulnerabilities of low-income people and SMEs around the world. Adjacent financial services, such as credit, savings and insurance, can help to rebuild personal finances and livelihoods, and have proven essential in delivering life-saving benefits and restoring financial stability.

Mobile money-enabled savings

Savings are a vital component of financial inclusion. Building strong financial reserves enables individuals to cope with irregular income and unprecedented emergencies. Savings also provide a way for individuals to accumulate assets, which can be used to meet business, household or educational needs while simultaneously earning interest on deposits. According to our Global Adoption Survey, one in four mobile money providers offer dedicated savings facilities, either through partnerships with deposit-taking institutions or directly.⁵³ In June 2020, the average customer account had accumulated \$39 worth of savings.

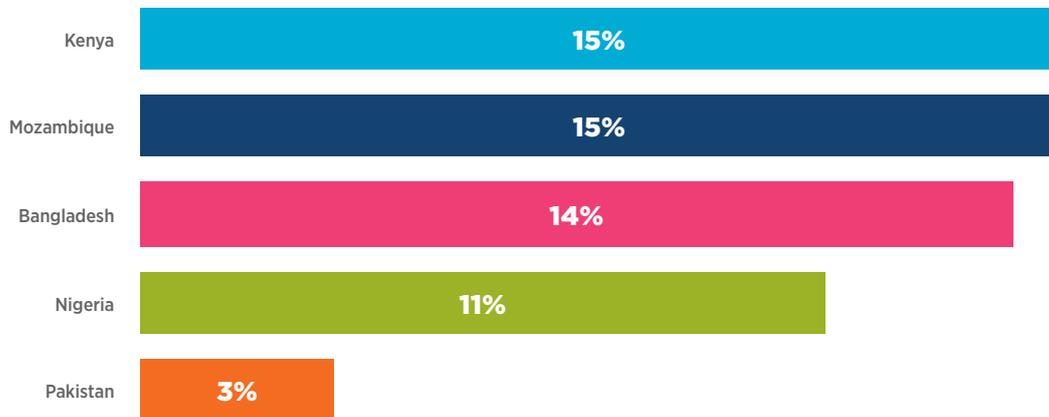
In the early part of the COVID-19 pandemic, digital savings proved invaluable. As lockdowns reduced global economic activity and disposable income, people turned to their savings for financial support. This is reflected by data from our Global Adoption Survey, which showed a nine per cent decrease in the average balance of mobile-money enabled savings accounts between December 2019 and March 2020. However, the total value of savings grew at an annual rate of 47 per cent.

The onset of the pandemic also shifted consumer behaviour as more customers began saving with mobile money-enabled savings accounts. For example, findings from the GSMA Consumer Survey show that 15 per cent of mobile money users in Mozambique, Kenya and Bangladesh began saving due to COVID-19 (see Figure 20).⁵⁴ Strong growth in both the value of savings and number of new accounts indicates a growing awareness of the importance and benefits of mobile money-enabled savings, and its ability to nurture a lasting and profound savings culture among low-income customers.

⁵³ If licensed or authorised

⁵⁴ GSMA Consumer Survey 2020. Question asked: "I started saving money in a savings account linked to mobile money because of Coronavirus". Sample sizes: Kenya: 943, Mozambique: 470, Bangladesh: 364, Nigeria: 298, Pakistan: 181.

Figure 20

Percentage of customers that started saving due to COVID-19⁵⁵

Savings groups⁵⁶ are often on the frontlines of local crisis response as they have financial reserves, economic opportunities and the ability to foster community development. They are typically comprised of 15 to 25 self-selected individuals who cooperate to build pools of assets that can be used for lending to other members on mutually agreed terms. There are currently 750,000 savings groups in 73 countries with over 15 million members, predominantly women.⁵⁷

In addition to anticipating and planning for future financial needs, members participate in savings group meetings for social interaction. Lockdowns and social distancing measures have not only prevented in-person meetings, they have also had a disproportionate impact on women's livelihoods, making the digitisation of savings groups more critical than ever. For example, despite over 2,000 community savings groups in southwest Bangladesh having sufficient funds, groups were unable to meet and follow procedures for granting loans to their members under government lockdown guidelines. This challenged women's abilities to support household needs and revive livelihoods.⁵⁸

The mobile industry can help savings groups go digital by enabling members to save digitally through mobile money accounts. The industry also has a combination of services and assets, such as voice, SMS and mobile data, that can ensure operational continuity, disseminate information and support the social interactions that would have otherwise happened in physical meetings.

Given the gaps in connectivity coverage, electricity access and smartphone ownership in rural areas, having a physical location to digitise cash is vital. Mobile money agents are positioned to bridge this gap given their prevalence in hard-to-reach areas, and the resilience they demonstrated during the pandemic (see section 1).

While mobile money holds promise for the future of savings groups, educating members on the use of new technologies, and their ability to repay loans and maintain the same frequency of contributions as before the pandemic, remain key challenges.

55 Ibid.

56 Savings groups come in a variety of forms, including table banking, Rotating Savings and Credit Associations (ROSCAs), Accumulating Savings and Credit Associations (ASCAs), Village Savings and Loan Associations (VSLAs) and Savings and Credit Cooperative Organisations (SACCOs).

57 The Mango Tree. (2020). [What Are Savings Groups?](#) and [Gender](#).

58 Kabir, S. (2020). [Community savings groups play crucial role in Bangladesh during COVID-19 crisis](#). Climate & Development Knowledge Network.


Box 5:

M-Koba: Innovating to digitise savings groups in Tanzania⁵⁹

M-Koba is a joint initiative between Vodacom Tanzania and TPB Bank designed to digitise savings groups. Through M-Pesa's USSD menu, savings group leaders can create an account and add members to the group using only their mobile phone number. Members can view all group members, choose their group officials, contribute to savings accounts from their M-Pesa wallet at no extra cost and view account balances from their phones. Members can also request a loan automatically from the system, and at least three members are nominated at random to approve the loan before it is disbursed.

Although M-Koba enables savings groups to go digital, the social aspect of savings group meetings remains important. For instance, at the height of the lockdown in Tanzania, M-Koba saw the value of contributions to savings accounts decline, largely because savings group members were in the habit of making contributions only at meetings. Overall, however, M-Koba has increased customer loyalty, usage and the number of new registrations to M-Pesa and Vodacom's services. To further encourage financial inclusion, M-Koba has been made interoperable, giving full access to members of other networks in Tanzania. To date, over 40,000 groups have signed up to M-Koba, with women making up the majority of members.

Mobile money-enabled credit

Digital credit products, if managed responsibly, enable individuals and households to meet their financial needs, mitigate shocks and capitalise on business opportunities. Despite these clear benefits, digitally-delivered credit can also introduce new risks and challenges for mobile money providers and consumers, such as loss of consumer trust and customer over-indebtedness, respectively.⁶⁰ It is critical to address these risks proactively to prevent unsustainable levels of credit that could undermine consumer trust.⁶¹

According to our Global Adoption Survey, over a quarter of mobile money services offer a credit product, either directly⁶² or through partnerships with licensed lenders.⁶³ Over half of these credit products have been launched in the past two years, both a sign that mobile money markets are maturing and that mobile money-enabled credit products are still at a nascent stage. In June 2020, the value of loans disbursed by responding mobile money providers was \$423 million.

59 Muhura, A. (2020). "M-Koba: Vodacom Tanzania's Innovation to Digitise Savings Groups", Mobile for Development Blog.

60 Lopez, M. (2019). [Digital credit for mobile money providers: A guide to addressing the risks associated with digital credit services](#). GSMA Mobile Money.

61 Ibid.

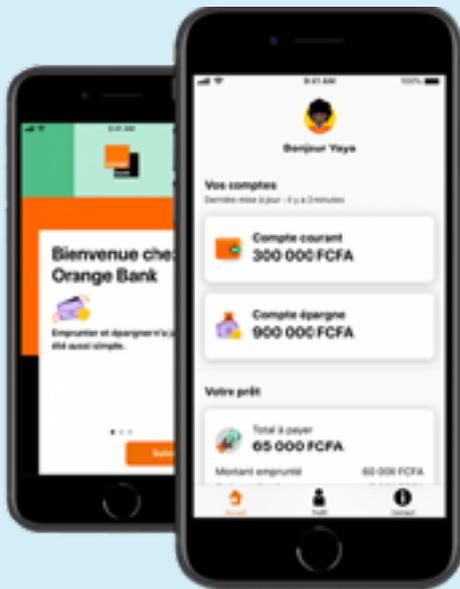
62 If they are licensed or authorised to offer credit.

63 Lenders include banks, microfinance institutions (MFIs), savings and credit cooperatives (SACCOs), etc.

Box 6:

Orange Bank Africa unlocks microloans across West Africa

Since Orange obtained its first electronic money licence in Côte d'Ivoire in 2008, it has helped drive digital payments in West Africa and carved out a place for itself in the financial services sector. In July 2020, Orange Bank Africa kickstarted operations in Côte d'Ivoire, offering simple yet attractive nano-credit and savings products via mobile. Leveraging its affiliation with Orange Money, it has extended the reach and uptake of its products and brought on NSIA, an Ivorian banking and insurance group that holds a 25 per cent stake in Orange Bank Africa. The remaining shares are managed by affiliates of Orange Group.



Orange Bank Africa currently offers two prime products: Tik Tak Loan and Tik Tak Savings. Leveraging Orange Money's existing mobile money customer base in Côte d'Ivoire, it has integrated these products in both the Orange Money app and USSD menu. Combined with its real-time response, this provides customers a seamless digital journey while allowing them to borrow as little as \$9. As of 2020, Orange Bank Africa had disbursed over **467,000 loans** with an average value of **\$44**. Orange's new initiative has also enabled 61,000 customers to open a savings account directly using their Orange Money account.

The intersection of the telecommunications and mobile money industries has enabled Orange Bank Africa to utilise customer data on mobile money use and transactions to assess creditworthiness. This credit scoring data has helped strengthen KYC compliance for Orange Money users. While the benefits of these banking products create an incentive for mobile money customers to share their data, Orange Bank Africa is also benefiting by improving its capacity to identify its customers and understand potential financial risks before providing banking services.

Orange Bank Africa holds a banking licence from the Central Bank of West African States (BCEAO), giving it the flexibility to expand its financial services to all member states of the West African Economic and Monetary Union (UEMOA). Pending approval from the BCEAO, the next markets in line to access Orange's banking products are Senegal, Mali and Burkina Faso. In 2020, **355,000 customers** were reached in Côte d'Ivoire and, with plans to expand, Orange Bank Africa is set to unlock financial services across West Africa.

Throughout the pandemic, regulatory bodies around the world have introduced measures to mitigate the impacts of COVID-19 on digital lenders and consumers. For example, central banks in mobile money markets have reduced the reserve and

liquidity requirements for lenders to encourage loan disbursements to continue.⁶⁴ Optional or mandated debt relief measures have also been implemented to allow lenders to temporarily suspend payments or restructure loans for consumers.⁶⁵

64 CGAP. (2020). [Microfinance in the COVID-19 Crisis: Examples of Regulatory Responses Affecting Microfinance Providers](#).

65 Zetterli, P. (2020). [Four Ways Microfinance Institutions Are Responding to COVID-19](#). CGAP.

These measures have made it easier to access digital credit via mobile money. Some lenders working in partnership with mobile money providers waived mandatory requirements to list defaulting borrowers that were in distress as a direct result of COVID-19.⁶⁶ In Kenya, NCBA Group and Safaricom gave M-Shwari customers more time to repay outstanding loan payments during the national lockdown. Borrowers were not listed on Kenya's Credit Reference Bureau and, therefore, were able to maintain their credit

scores.⁶⁷ Others, such as KCB Bank and Safaricom in Kenya, have set aside funds for digital loans for the SME sector during the period of the pandemic.⁶⁸

Looking ahead, the digital credit sector will need to address both the weaknesses and opportunities exposed by the pandemic to build a more resilient financial system. As remote operations become more important, collaboration between lenders and mobile money providers is expected to increase.



Mobile-enabled insurance⁶⁹

Mobile network operators (MNOs) play a variety of roles in creating, localising and delivering microinsurance services. The growth of mobile-enabled microinsurance has covered millions of previously uninsured people against unpredictable financial shocks and devastating life events. Collaboration between traditional and new players has been key to this growth and led to a complex and highly specialised delivery value chain. This involves MNOs, major global insurers (both as shareholders of technical service providers [TSPs] and as underwriters), local insurers and well-established TSPs.

While insurance providers have expanded their offerings from life and health insurance to income protection, education and house insurance, life and health coverage remain the most in-demand products. There are currently 130 mobile-enabled insurance services in 28 countries, with over half offering coverage for life and funeral or health and hospitalisation services. In 2020, 43 million policies were issued, two-thirds of which (29 million) were life and health insurance policies.

66 Muthiora, B. (2020). [Mobile money recommendations to central banks in response to COVID-19](#). GSMA Mobile Money.

67 NCBA. (2020). [Changes on M-Shwari loans in response to COVID-19](#).

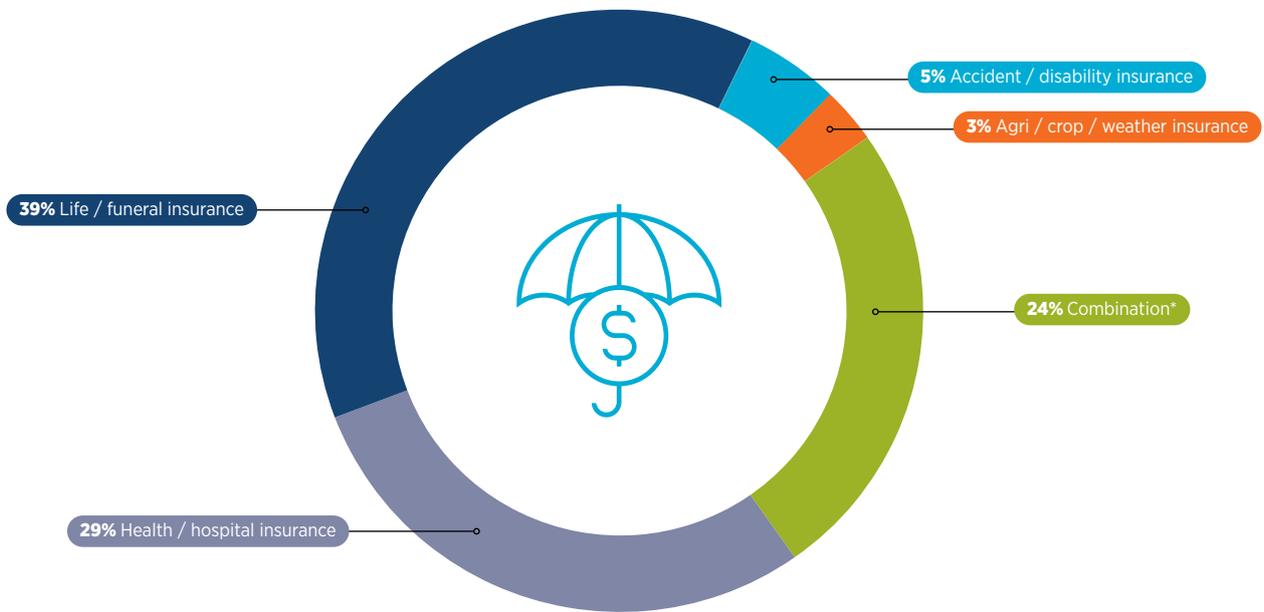
68 Telecompaper (23 March 2020). "[KCB sets aside KES 30 bln for stimulus loans over M-Pesa](#)".

69 Insights in this section are based on data provided by mobile money providers (see Appendix E) and TSPs, including BIMA, Inclusivity Solutions, The Micro Insurance Company, OKO, Pula and aYo, as well as qualitative interviews with Christina Cosma and Michelle Lowery (BIMA), Jeremy Leach (Inclusivity Solutions), Richard Leftley (The Micro Insurance Company), Simon Schwall (OKO), Kulsoom Ally (Pula), Patrick Sampao (ACRE Africa) and Kate Rinehart-Smit and Jeremy Gray (Cenfri).

Figure 21

Share of policies issued, by category

June 2020^{70,71}



*98% of the combination policies issued consists of life insurance combined with either hospital, health or accident insurance.

Interviews with leading TSPs revealed a surge in product offerings beyond basic coverage. As a component of health insurance packages, TSPs in some cases provide free healthcare advice via qualified teledoctors. In addition to reducing the time and expenses that customers incur when visiting medical centres, the benefits of telehealth consultations can extend to other family members, such as children and spouses, depending on the policy selected.

Under social distancing restrictions, telehealth services linked to health insurance products grew in popularity. Although uptake was primarily due to a lack of alternatives to health advice for non-COVID-related illnesses, it ultimately reduced pressure on national health systems by replacing in-person visits to hospitals and clinics. For example, BIMA’s mHealth insurance product in Bangladesh offers unlimited teledoctor consultations for policyholders and their families. In April 2020, during the height of the lockdown in Bangladesh, usage of the teledoctor service doubled.

Insurance premium payments via mobile money

Historically, premiums have been collected primarily via airtime, with providers deducting a regular amount from a customer’s airtime balance. This method has been instrumental in scaling health insurance services and making them more accessible for both providers and consumers. However, over the past three years, there has been a significant shift towards premium collection via mobile money. Almost 65 per cent of providers now collect premiums this way, compared to only 31 per cent in 2017 (see Figure 22).⁷² While airtime deductions have been effective at establishing a user base and building brand awareness and trust, there are several reasons why airtime may just be a stepping stone to mobile money payments.

70 Ibid.

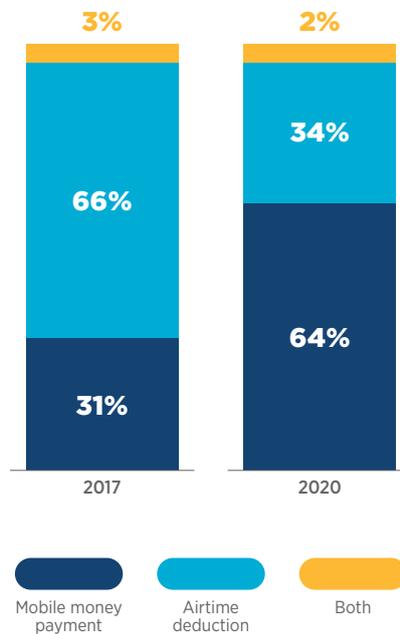
71 Other types of insurance, including home and education, constitute less than one per cent of policies issued.

72 Raithatha, R. and Naghavi, N. (2018). [Spotlight on mobile-enabled insurance services](#). GSMA Mobile Money.



Figure 22

Comparison of payment methods for premium policies



Collecting premiums through airtime deductions is not sustainable in the long run due to a confluence of factors. First, central bank regulations in microinsurance markets often do not accept airtime as a means of payment, instead classifying airtime as unregulated currency. Second, there is already an abundance of data-only top-up packages and bundled packages of core services (voice, data, SMS). Premiums cannot be deducted from these packages, and purchasing them diminishes the need for additional airtime required to make regular deductions. Airtime and data top-up purchases are also subject to value-added tax (VAT), which would

lower the premium that an insurance provider and MNO would ultimately receive and increase fees for consumers. For example, if the VAT rate was 20 per cent, a consumer paying \$1 would only receive cover commensurate with \$0.80. Changing customer behaviour to pay for premiums via their mobile money account, and encouraging them to retain a positive balance, are key challenges when transitioning from airtime to mobile money.

Although premium collection has declined during the COVID-19 pandemic, demand for mobile-enabled insurance services is expected to rise as economic activity picks up.

**Box 7:**

Digital innovation in the agricultural insurance sector⁷³

Over the past few years, index insurance has evolved as smallholder farmers have found it difficult to access traditional indemnity-based insurance. By applying more innovative and digital approaches, new index insurance services provide affordable and accessible ways for farmers to manage agricultural risks. Unlike indemnity-based insurance, which pays out claims based on actual losses, index insurance relies on a predetermined index. These indices are developed prior to a planting season and are used to measure deviations from typical levels of common parameters, such as rainfall, temperature, crop yield and livestock mortality. Farmers can buy policies based on an index correlated with a specific event, such as rainfall, drought or yield losses, for a certain period and in a defined area. Payouts are automatic when an index falls above or below a predetermined threshold.

Mobile money has helped to digitise and deliver index insurance services, enabling farmers to pay premiums and receive payouts on their claims via their mobile money account. For example, insurance provider OKO has leveraged mobile money by integrating its service in Orange Mali's USSD menu, providing a seamless digital journey for customers. OKO also involves mobile money agents at community meetings to raise awareness, educate customers and help them set up accounts and conduct transactions. The use of mobile money to deliver insurance services reduces operating costs, extends the reach of insurance products and enables index insurance providers to move away from cooperative or community-based in-person sales.

73 Raithatha, R. and Priebe, J. (2020). [Agricultural insurance for smallholder farmers: Digital innovations for scale](#). GSMA AgriTech programme.



Mobile money in 2020 and beyond

Meeting the socio-economic challenges of COVID-19

While COVID-19 affected us all, it did not do so equally. The pandemic has magnified the disparities and financial struggles of vulnerable populations, from people affected by crisis to those living off-grid in poor and remote communities. From women without a mobile phone or a bank account to smallholder farmers without savings or collateral to get a loan, COVID-19 created and exacerbated a range of socio-economic challenges.

It quickly became clear that mobile money could have a critical role to play in connecting people, delivering critical financial resources and providing safe, no-contact ways to pay for vital services and daily needs. This chapter features the mobile money

providers, humanitarian organisations, government agencies and entrepreneurs who were thrust into a new reality and responded with mobile money solutions that are likely here to stay.

Adapting to a new reality and redefining humanitarian assistance

The COVID-19 pandemic increased the global need for humanitarian assistance by exacerbating existing crises and creating new ones. The World Food Programme (WFP) projected that an additional 130 million people could be pushed to the brink of starvation by the end of 2020,⁷⁴ and UNICEF warned that shifting health resources to respond to COVID-19 could result in an additional 1.2 million deaths in children under five over a period of just

six months.⁷⁵ The global pandemic has pushed the expected number of people in need of humanitarian assistance and protection in 2021 to 235 million, an increase of 40 per cent from pre-pandemic levels.⁷⁶ COVID-19 has blurred an already hazy line between humanitarian and broader development assistance, and with growing needs and diminishing resources,⁷⁷ humanitarian agencies will have to do more with less.

⁷⁴ World Food Programme. (21 April 2020). [WFP Chief warns of hunger pandemic as COVID-19 spreads \(Statement to UN Security Council\)](#). News Release.

⁷⁵ Robertson et al. (2020). [Early estimates of the indirect effects of the COVID-19 pandemic on maternal and child mortality in low-income and middle-income countries: a modelling study](#)

⁷⁶ UN OCHA (1 December 2020): Global Humanitarian Overview 2021. <https://www.unocha.org/global-humanitarian-overview-2021>

⁷⁷ Projections show that the economic fallout of the global COVID-19 pandemic could push half a billion people into poverty in low-income countries, and is likely to cause the first increase in global poverty since 1990. In parallel, a sharp contraction in external sources of financing, such as overseas development assistance (ODA) and global remittances, will also likely increase the number of people in need of humanitarian assistance.



Accelerating the shift from physical to mobile money-enabled cash transfers

In 2019, humanitarian agencies delivered \$5.6 billion in cash and voucher assistance (CVA) to those affected by humanitarian crises. This response has doubled over the past two years, and now accounts for 18 per cent of international humanitarian assistance (IHA), compared to 11 per cent in 2016.⁷⁸ These figures have likely increased significantly due to the impact of COVID-19 and initial responses to the pandemic that increased the use of CVA.⁷⁹

The growth of CVA programming, coupled with the need to mitigate the impact of the virus, have significantly increased interest in delivering aid via contact-free mobile and digital channels. This

has the potential to increase the speed, efficiency, accountability and transparency with which humanitarian aid, especially CVA, is delivered.

To seize on these benefits, the humanitarian sector is ambitiously pursuing digital humanitarian payments in line with the Grand Bargain commitments to increase the use and coordination of cash-based programming in humanitarian response.⁸⁰ The ubiquity and scale of mobile networks have made mobile an attractive digital delivery channel for many types of humanitarian assistance, and COVID-19 has accelerated the use of mobile money for CVA programming.⁸¹

78 Jodar, J., et al. (23 July 2020). [The State of the World's Cash 2020](#). CaLP.

79 Holt, C. (11 June 2020). "[Opinion: COVID-19 – it's time to take cash to the next level](#)". Devex.

80 The Grand Bargain is a unique agreement between some of the world's largest donors and humanitarian organisations, which have committed to get more resources into the hands of people in need, and to make humanitarian action more effective and efficient. See: <https://interagencystandingcommittee.org/grand-bargain>.

81 Hamilton, Z. (2021). [COVID-19 and digital humanitarianism: Trends, risks and the path forward](#). GSMA

Box 8:

Mobile money in humanitarian contexts

The WFP significantly increased its use of cash assistance during the COVID-19 pandemic, opting for mobile money as their payment instrument in appropriate contexts. The share of cash-based transfer values channelled through mobile money increased almost threefold from 3.8 per cent of total cash transfers in 2019 to 8.9 per cent in 2020, transferring \$192 million by the end of December. The WFP reached 67 countries with cash transfers in 2020, 25 of which used mobile money. Additionally, UNHCR has set up digital payment programmes in 47 countries, a third of which are using some form of mobile money programme. They have prioritised local partnerships to help refugees establish themselves and actively contribute to the local economy over time.⁸²

In our 2018 State of the Industry report, Ethiopia was identified as one of Africa's "sleeping mobile money giants".⁸³ Since then, there has been a steady

increase in the use of mobile money services for CVA disbursement. The government's Productive Safety Net Programme (PSNP), which aims to reduce household vulnerability, strengthen resilience to financial shocks and promote sustainable communities in food-secure areas of rural Ethiopia, uses mobile money as one mechanism to disburse payments.⁸⁴ In almost 40 per cent of the districts where the PSNP is active, \$150 million in transactions have been processed and one million households now have access to a mobile money account (as of January 2020).⁸⁵ The two leading mobile money providers in Ethiopia – HelloCash and M-BIRR – partner with a range of humanitarian organisations and government agencies to facilitate cash payments across the country. Humanitarian cash assistance payments were deposited into over one million M-BIRR mobile money accounts in 2020, 44 per cent of which were held by women.⁸⁶

Snapshot of M-BIRR humanitarian partner organisations:



Snapshot of HelloCash humanitarian partner organisations:



In 2019, the GSMA Mobile for Humanitarian programme, funded by the UK Foreign, Commonwealth & Development Office (FCDO), worked with the American Refugee Committee (ARC) in Rwanda to deliver training to over 800 MTN Rwanda mobile money (MoMo) agents on GSMA's humanitarian code of conduct and protection.⁸⁷ In the training, MoMo agents from across the country not only learned how to uphold protection

standards, but also gained new skills to help customers get the most out of their mobile money service. This included active customer education on registration and the various use cases available to them. The training programme is currently being replicated in Uganda with additional content and digital components.

82 GSMA (2021). [Humanitarian cash and voucher assistance programmes in Ethiopia: Context analysis and capability assessment of the mobile money ecosystem](#).

83 GSMA. (2019). [State of the Industry Report on Mobile Money 2018](#).

84 UNHCR prioritizes mobile money in financial aid programs for refugees. <https://mobileidworld.com/unhcr-prioritizes-mobile-money-financial-aid-programs-refugees-010606/>

85 GSMA (2020). [The Use of Mobile Money for Humanitarian Cash Programming in Ethiopia](#).

86 Ibid.

87 GSMA Mobile for Humanitarian Innovation. (1 October 2019). ["Mobile money agent training on the humanitarian code of conduct"](#), Mobile for Development Blog.



Maintaining momentum

Early predictions that COVID-19 would cause a seismic shift in how digital technology is used in humanitarian contexts have not materialised. Instead, evidence shows that the most effective tools are those already known to work at scale, including mobile money to distribute cash assistance to populations in need.⁸⁸ As the humanitarian sector adapts to a post-COVID world, for example, using mobile money in CVA programming, it is vital that key humanitarian principles, such as “do no harm” and “leave no one behind”, are upheld. The surge in demand to integrate solutions that minimise human contact has passed. Now, the focus must shift to ensuring the lessons of the pandemic are embedded in existing and new programming.

In August 2020, the GSMA Mobile for Humanitarian Innovation and Mobile Money programmes expanded the GSMA’s partnership with the WFP to improve their CVA programmes for those affected by crisis. The WFP is now able to access and benefit from mobile money industry initiatives, such as the GSMA Mobile Money Certification and Mobile Money API standardisation programmes.

Increasing access to essential utility services



Global efforts to achieve SDG 6 (Clean Water and Sanitation) and SDG 7 (Affordable and Clean Energy) will lead to billions of people gaining access to basic utility services. Through mobile money, these goals can be reached hand in hand with increasing financial inclusion and the uptake of other mobile services.

As of 2020, digital utility payments were available in 75 per cent of all countries worldwide,⁸⁹ and as such

utility payments can function as an additional bridge to increased financial inclusion. Core utility services build consumer trust in mobile money as these services are essential to daily life and require regular payments. Mobile money has also been a critical enabler of innovative off-grid solutions, such as pay-as-you-go (PAYG) solar, which provides affordable clean energy to people not connected to electricity grids. Results of our 2020 Global Adoption Survey show that, across providers, utility bill payments, such as payments for energy and water, on average account for 50 per cent of their mobile money bill payments.

88 Bryant, J., et al. (2020). [Bridging humanitarian digital divides during COVID-19](#). ODI Humanitarian Policy Group.

89 United Nations (2020) UN Economic and Social Affairs e-government survey: [Digital Government in the Decade of Action for Sustainable Development](#).

During the COVID-19 pandemic, utility providers have shown flexibility while mobile money providers reduced the need for in-person payments

Water, sanitation and hygiene services are one of the first lines of defence in controlling the spread of COVID-19. However, 2.2 billion people still lack access to safely managed drinking water and two billion lack access to basic sanitation facilities.⁹⁰ During the most intense periods of the pandemic, many countries suspended utility bill payments for water and energy as part of a critical policy tool for economic relief.⁹¹

The pandemic has shaped utility bill payment trends in two major ways. First, public health concerns about in-person payments have led more billers to open accounts and more people to make bill payments digitally, including with mobile money. In

fact, mobile money providers are uniquely positioned to expand no-contact payments, both in the on-grid and off-grid utility sectors.

Second, the economic impact of the pandemic and the overall policy response have lowered utility bills in many markets. These two trends act in opposite directions. In the short term, the economic impacts of COVID-19 push down the value of bill transactions. In the medium to long term, it is likely that the pandemic has laid the foundation for more utility companies and customers to use mobile money for bill payments. At the time of our survey, 46 per cent of mobile money providers reported that COVID-19 had increased demand for bill payments.

Mobile money is helping the PAYG sector grow and scale

While mobile money has been a key enabler of off-grid solutions, mobile money providers, and especially MNOs, can derive significant value from partnerships with PAYG solar adopters as they become higher-value customers.

Our 2020 Global Adoption Survey was the first to include questions on the value of PAYG solar bill payments as a proportion of total bill payments. For the operators that reported data,⁹² PAYG solar bill payments accounted for 12 per cent of the value of all bill payments. For some “best-in-class” services, these payments accounted for nearly a third of all bill payment value, underscoring the importance of PAYG solar bill payments for the industry and serving off-grid, low-income communities.

In the first six months of 2020, three million PAYG units were sold globally.⁹³ However, like utility providers, COVID-19 has had a major impact on the

PAYG solar sector. Year-on-year sales for the first six months of 2020 were down 26 per cent globally. Despite this, prospects for PAYG solar remain strong and investment in the sector has continued to grow.⁹⁴ Throughout the pandemic, customer repayment rates have remained high, although some customers have reported that payments have become more burdensome as the economic impacts of COVID-19 have put pressure on household budgets.⁹⁵ In response, many PAYG solar companies have introduced payment relief funds.⁹⁶

The long-term prospects for the industry are promising. Many PAYG solar companies are diversifying into productive assets and offering a broader set of consumer goods. These efforts will help ensure that PAYG providers remain strong partners in the mobile money industry for years to come.

90 WASH data: <https://washdata.org/data>

91 UNICEF. (May 2020). [Water, Sanitation and Hygiene \(WASH\) COVID-19 Response from Governments, Regulators and Utilities](#); Energy (June 2020); McCarthy Akrofi, M. and Hammond Antwi, S. (October 2020). “COVID-19 energy sector responses in Africa: A review of preliminary government interventions”. Energy Research & Social Science, 68.

92 10 of 105 mobile money providers reported data on the value of PAYG solar bill payments.

93 GOGLA. (2020). [Global Off-Grid Solar Market Report: Semi-Annual Sales and Impact Data](#).

94 GOGLA. (9 October 2020). [Committed investors keep the funds flowing for off-grid solar](#).

95 60 Decibels. (n.d.). “[Listening in the time of COVID-19](#)”.

96 Business Daily. (22 October 2020). [Solar firm d.light settles Sh100 million loans for Covid-hit customers](#).



The value of PAYG solar for mobile operators

The GSMA Mobile for Development Utilities programme, which is funded by the UK FCDO, recently conducted a multi-country, multi-operator⁹⁷ study⁹⁸ that examined the impact of adopting PAYG solar on MNO customers' use of mobile services.

To isolate the impact, customers who adopted PAYG solar were compared to a control group of MNO

customers with a similar profile. For each subscriber, the data covered 12 months: six months before and six months after they began using the service. Data was collected from MNO records to track the frequency of mobile payments, mobile phone usage and MNO revenue.

97 Data was collected from several MNOs across West Africa (Benin and Côte d'Ivoire), East Africa (Rwanda and Uganda) and Southern Africa (Zambia).

98 Snel, N. (2020). [The Value of Pay-as-you-go Solar for Mobile Operators](#). GSMA



Box 9:

THE VALUE OF PAYG SOLAR FOR MOBILE OPERATORS



PAYG group
↑ 76%

Control group
↑ 27%

Increased mobile money usage for PAYG customers in Uganda after adoption of the solar energy services

Increased usage goes beyond solar payments. All types of transaction increased in Uganda

Cash-in **↑ 97%** **Merchant Payments** **↑ 57%**
P2P **↑ 64%**



31% of PAYG customers either registered, or re-activated a mobile money account to use solar services in Zambia



PAYG group
↑ 31%

Control group
↑ 9%

Increased mobile internet penetration rate among PAYG users in Côte d'Ivoire



PAYG group
↑ 9%

Control group
↑ 1%

Increased overall Average Revenue per User for PAYG clients in Benin

Diversification of the revenue generation for PAYG clients in Benin: slight increase in Voice & SMS, and noticeably higher growth in data and mobile money revenue

Voice and SMS **↑ 4%** **Data** **↑ 20%**
Mobile Money **↑ 21%**



Expanding women's access to financial services



For women in low- and middle-income countries (LMICs), mobile money has the potential to increase financial inclusion and close the gender gap in access to financial services. Across

these markets, women are still 33 per cent less likely than men to own a mobile money account.⁹⁹ This is due to a variety of reasons, including lack of awareness of mobile money, not owning a mobile phone and low literacy, digital and financial skills. Addressing this gender gap is key to achieving **SDG 5** (Gender Equality), and requires concerted effort and collaboration by the mobile industry, policymakers, the development community and other stakeholder groups.

For mobile money providers, access to quality gender-disaggregated data on their customer base is an important first step in creating strategies and initiatives that will reach female customers. Our survey data suggests that 59 per cent of providers monitor the gender composition of their mobile money customers, primarily through SIM or mobile money KYC data. Unfortunately, this data is not always available, reliable or complete. There are various reasons for this, including men registering SIM cards on behalf of their female relatives.

To address this data gap, the GSMA is updating the Gender Analysis and Identification Toolkit (GAIT), with funding from the UK FCDO, Swedish International Development Cooperation Agency

(Sida) and The Bill & Melinda Gates Foundation.¹⁰⁰ Using machine learning and customers' mobile usage patterns, the new GAIT will enable mobile operators and mobile money providers to identify the gender of their customers more accurately. It will also include a user-friendly platform with a set of custom charts on their customers' mobile and mobile money usage patterns broken down by gender. These upgrades will provide a range of actionable insights that can then be used to better target existing and potential female customers.

Quality gender-disaggregated data is clearly valuable in determining the opportunity and impact of reaching women. However, an absence of reliable data should not prevent mobile money providers from acting.¹⁰¹ Several mobile operators have already set bold targets and are spearheading initiatives to reach their female customers as part of the UK FCDO- and Sida-funded GSMA Connected Women programme's Commitment Initiative.¹⁰² Since 2016, 26 operators across Africa, Asia and Latin America have made formal commitments to reduce the gender gap in their mobile money customer base.¹⁰³ Efforts to improve financial inclusion for women include recruiting female agents and merchants, developing savings and loans products tailored to women's needs, redesigning mobile money apps that appeal to women as well as men and helping women's agricultural groups to see the benefits of mobile money for payments.

99 Delaporte, A. and Naghavi, N. (2019). "The promise of mobile money for further advancing women's financial inclusion". [Mobile for Development Blog](#).

100 GSMA (2018). [The GSMA's Gender Analysis and Identification Toolkit \(GAIT\)](#).

101 Lindsey, D. (2020). [Reaching 50 Million Women with Mobile: A Practical Guide](#). GSMA Connected Women.

102 GSMA (n.d.) [Connected Women Commitment Partners](#). GSMA Connected Women.

103 The 26 operators include: Airtel-Tigo Ghana, Airtel-Tigo Rwanda, Dialog Sri Lanka, Econet Leo Burundi, Econet Wireless Zimbabwe, Grameenphone Ltd (Bangladesh), JazzCash (Pakistan), Mobitel (Pvt) Ltd (Sri Lanka), MobileMoney Limited (subsidiary of MTN Ghana), Ooredoo Maldives, Orange Cote d'Ivoire, Orange Finances Mobiles Sénégal (OFMS), Orange Mali, Safaricom PLC (Kenya), Telenor Pakistan, Tigo Chad, Tigo Honduras, Tigo Tanzania, Tigo Paraguay, Tigo Senegal, Smart Uganda, Vodacom Congo (Democratic Republic of Congo), Vodacom Tanzania PLC, Vodafone Idea Ltd (India), Wave Money (Myanmar) and Zantel Tanzania.

In Ghana, MTN Mobile Money has made a Connected Women Commitment to increase the proportion of female customers of its merchant payment service, MoMo Pay, to 40 per cent by 2023. It is doing this by driving adoption of MoMo Pay in the country's open markets, which drive trade and business in many towns and cities, and where women represent the majority of vendors and customers.¹⁰⁴ MoMo Pay offers customers lower fees and a simpler process than standard person-to-person (P2P) mobile money payments. GSMA research found that after adopting MoMo Pay, both the frequency and value of mobile money transactions increased, and

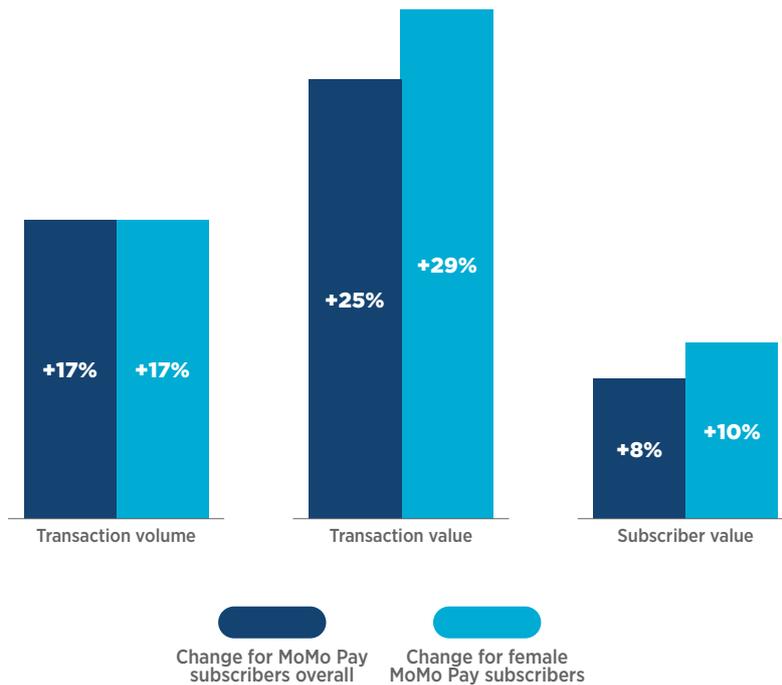
customers were more likely to remain active users (increased 'subscriber value'), especially women (see Figure 23).¹⁰⁵ MoMo Pay also empowers women microentrepreneurs by digitising their transactions and, therefore, supporting greater financial inclusion.

Initiatives such as these are crucial to address the mobile money gender gap across LMICs, especially in the context of the COVID-19 pandemic, which is expected to have a disproportionate impact on women's access and use of financial services.

Figure 23

Change in transaction behaviour of MoMo Pay adopters six months after adoption

Relative to growth in the overall customer base



Source: MobileMoney Ltd transactional data (a subsidiary of MTN Ghana), January 2017–December 2018

104 Scheiterle, L. and Birner, R. (2018). [Gender, knowledge and power: A case study of Market Queens in Ghana.](#)

105 Rowntree, O. (2019). [MTN MoMo Pay Merchant Payments: Expanding Female Mobile Money Usage in Ghana.](#) GSMA Connected Women.


Pen Portrait

Dzifa

MoMo Pay user

Dzifa is a 28-year-old woman living in Accra. She began using MTN Mobile Money as a convenient way to receive financial help from her family when she was in school. She was told about MoMo Pay by a merchant when she was shopping and decided to try it. Dzifa feels that MoMo Pay is safer than regular P2P transactions. Moreover, she believes that MoMo pay is safer and more efficient for traders, too.

Dzifa now advocates for MoMo Pay among her friends who shop in the open markets. She uses Mobile Money more often because of MoMo Pay and argues that paying with it is faster and more convenient than cash, especially when making larger transactions. She is now more inquisitive about MTN Mobile Money and experiments with other offerings on the MTN platform, such as Y'ello Save.

“I think with the MoMo Pay, it’s hard for someone to hack into your account because when I was entering the merchant ID during the transaction, I made a mistake with the digits and the whole transaction cancelled, but with the normal subscriber account, it would have ended up in someone else’s account.”

“I first deposited 20 cedis into their Y’ello Save account to see how it works. After a while, I transferred the money into my bank account. And I needed to see how their loan also works. So, I just do that to see how their services work.”



Boosting financial inclusion for smallholder farmers through agricultural enterprise tools

Financial services are key to enhancing the productivity of smallholder farmers, increasing their incomes and strengthening their resilience to climate change. The financial needs of farmers extend beyond accessing and using bank accounts. Customised, adjacent financial services, such as savings, credit and insurance, are vital for them to invest in their farms and build more secure livelihoods. However, smallholders in LMICs lack the collateral and financial history they need to access formal financial services like agricultural loans. Savings products like digital wallets, designed to support specific agricultural sector activities, as well

as agricultural insurance, are not yet widespread.

The main financing gap for smallholder farmers is capital for long-term agricultural needs. While short-term financing tools for agricultural inputs (e.g. seeds and fertilisers) are important, farmers also need long-term financing to invest in their farms (e.g. machinery or irrigation systems), which is crucial to increase yields and productivity. In Africa, formal financial institutions address only one per cent of smallholder farmers’ long-term agricultural financing needs, with unmet needs amounting to approximately \$90 billion.¹⁰⁶

106 Mastercard Foundation Rural and Agricultural Finance Learning Lab and ISF Advisors (2019), [Pathways to Prosperity: 2019 Rural and Agricultural Finance State of the Sector Report](#)

Smallholder farmers produce up to 70 per cent of food consumed globally,¹⁰⁷ and it is in the agricultural last mile that agricultural digital financial services (agri DFS) can connect them to local and international markets. Powered by mobile money, agri DFS (e.g. digitised payments) enable agribusinesses to pay smallholder farmers for their crops. This, in turn, creates vital transactional data and digital footprints that enable smallholder farmers to access financial services and financial institutions to assess their creditworthiness.

The digitisation of agricultural value chains depends on effective partnerships between agricultural

sector organisations, such as agribusinesses and cooperatives, and mobile money providers for digital payments and other agri DFS. Digitisation extends from transactional data on the sale of crops to the vast amount of data generated by agritech companies, such as crop procurement data and farmer and farm records. Agritechs that provide digital tools to support farmers and other value chain actors in the last mile are playing an increasingly active role in these partnerships, with a view to supporting holistic solutions and integrating mobile money in their services.

Box 10:

The GSMA Innovation Fund for the Digitisation of Agricultural Value Chains¹⁰⁸

Launched in 2019 with funding from the FCDO, the GSMA Innovation Fund for the Digitisation of Agricultural Value Chains aims to scale digital solutions in the agricultural last mile and improve financial inclusion, livelihoods and climate resilience for smallholder farmers. The fund targets mobile money providers interested in launching or scaling business-to-business-to-consumer (B2B2C) services that digitise last-mile procurement (mobile money category). It also targets agritech companies (data category) with existing commercial last-mile digitisation to create a model for generating digital farmer records and linking farmer records with financial service providers.

The Innovation Fund allocated seven grants of up to £220,000 per project in 2020 via a competitive selection process. With 100 per cent matched funding, each project received a total value of up

to £440,000. In addition to financial support, the GSMA is offering in-kind support and consultancy to assist with the development of business plans and service implementation, through market research, user-centric design, business intelligence and user testing with agribusinesses and farmers.

The seven grant-funded organisations include five mobile money providers and two agritech companies. The awardees in the mobile money category are **MTN Mobile Money** (Ghana), **MTN** (Rwanda), **Vodacom** (Tanzania), **Dialog Axiata** (Sri Lanka) and **Jazz** (Pakistan). In the data-driven category, awardees include agritech companies **AgroMall** in Nigeria and **Koltiva** in Indonesia. Each of these seven grantees has formed a consortium with local agribusinesses and financial service providers to innovate in agri DFS.

Mobile Money Category**Data-driven category**

107 ETC Group. (2017). [Who Will Feed Us? The Industrial Food Chain vs. the Peasant Food Web](#). 3rd Edition.

108 Ibid



Increasingly, mobile money providers are offering enterprise solutions for the agricultural sector, enabling secure, traceable and fast payments to farmers. In 2020, 34 per cent of respondents to our GSMA Global Adoption Survey stated that they have partnerships with companies in the agricultural sector, such as agribusinesses, cooperatives, agritechs and insurtechs. Of the providers that have partnered with agriculture sector companies, 77 per cent are in Sub-Saharan Africa, 18 per cent in South Asia, East Asia and Pacific, and five per cent in Latin America and the Caribbean.

Overall, 39 per cent of mobile money providers that offer bulk payments also provide agricultural value chain payments to farmers. According to the survey, 120 agricultural organisations digitise value chain payments via mobile money, 75 per cent of which are in Sub-Saharan Africa.

With the COVID-19 pandemic, the financing needs of smallholder farmers have become even more urgent, and agribusinesses are seeking to digitise their operations to allow farmers to access financial services. There is a growing opportunity for mobile money providers to expand their partnerships with agribusinesses and, where needed, to collaborate with specialised tech providers, such as agritech and insurtech companies. This would allow them to develop suites of enterprise services for the agricultural sector beyond digital payments, and to enable new use cases, from digital farm and farmer records to agricultural insurance, loans and credit products.



Conclusion

2020 was a year of new challenges for the mobile money industry, some of which will likely persist into the new decade. In the face of these challenges, the industry acted quickly and flexibly to respond to an uncertain economic and social reality.

By reducing the need to handle cash, mobile money allowed informal economies to continue to function. Workers were able to safely conduct their business in markets and stalls, a part of the economy that is often dominated by women.

The industry also responded with in-kind support by providing agent outlets with PPE and handwashing stations. As a result, agents could continue to safely serve customers throughout the pandemic, digitising over \$500 million per day on average in 2020.

The unique challenges of 2020 also created a much greater need for collaboration. By working hand in hand with governments and NGOs, the industry managed to directly alleviate some of the financial pressures and personal hardships of the pandemic by delivering social and humanitarian assistance quickly and efficiently. The partnerships forged during this difficult time are likely to continue to benefit vulnerable people for years and perhaps decades to come. Despite a global economic downturn, the sheer amount transferred via mobile money continues to grow. For the first time, the global value of mobile money transactions exceeded \$2 billion a day, and is expected to surpass \$3 billion a day by the end of 2022.

2020 saw higher levels of mobile money activity and increased use of more advanced ecosystem services, suggesting that more and more people are reaping the benefits of digital financial inclusion.

In contrast to earlier predictions, international remittances kept flowing. The number of international remittances processed by mobile money reached a record high in 2020, demonstrating the strength of social bonds across borders and the importance of familiar safety nets in times of crisis.

In several markets, the pandemic was a catalyst for regulatory changes that had previously stalled, such as simplifying and streamlining processes to make it easier to sign up for a mobile money account. Governments and regulators should continue to consult with the industry to create more enabling environments that not only benefit consumers, but also ensure the long-term sustainability of the industry.

Whether the COVID-19 pandemic will have a lasting impact on the use of cash, digitisation or consumer behaviour remains to be seen. As the global economy continues to recover, the mobile money industry will continue to navigate the new economics of mobile money. Having proven itself resilient in the face of sudden and unpredictable change, the industry will emerge from the pandemic more active, integrated and collaborative, with the momentum to deliver life-saving and life-enhancing benefits for all.

Appendix

This report provides a quantitative assessment of the state of the mobile money industry based on GSMA data from the Mobile Money Deployment Tracker, the 2020 Global Adoption Survey on Mobile Money and Mobile Money Estimates and Forecasts.

The report also uses qualitative insights on the performance of mobile money services based on the GSMA Mobile Money programme's engagement with the industry over the past year.

GSMA Mobile Money Deployment Tracker¹⁰⁹

The Mobile Money Deployment Tracker monitors the number of live mobile money services across the globe, collated monthly using both primary and secondary sources. It contains information about each live deployment, such as the name of the organisation and the name of the mobile money service, its launch date, what financial products are offered and which partners are involved in delivering each service.

The GSMA Global Adoption Survey on Mobile Money

This is an annual survey designed to capture quantitative information about the performance of mobile financial services around the world. All service providers represented in the GSMA Mobile Money Deployment Tracker were invited to participate in the 2020 survey. Respondents supplied standardised operational metrics about their services for the months of September 2019, December 2019, March 2020 and June 2020, on a confidential basis. A total of 116 service providers from 63 countries participated in the 2020 survey. The full list of survey participants is included in Appendix E.

We would like to also acknowledge BIMA, Inclusivity Solutions, The Micro Insurance Company, OKO, Pula, aYo, ACRE Africa and Cenfri for their contributions to the mobile-enabled insurance section of this publication.

¹⁰⁹ GSMA Mobile Money Deployment Tracker: www.gsma.com/mobilemoneymetrics/#deployment-tracker



Appendix A: Methodology

The GSMA Mobile Money programme uses a proprietary modelling approach to estimate mobile money indicators at a global, regional and country level. This allows us to fill gaps in participation in the annual Global Adoption Survey and generate aggregate numbers for the State of the Industry reports. Our methodology was developed in partnership with the GSMA Intelligence team, combining their analytical and telecoms expertise with the Mobile Money programme’s industry knowledge.

Our dataset covers 27 metrics across three main categories for all providers that offer or have offered

mobile money services. The categories within the dataset are as follows: mobile money accounts (registered accounts, active 90 days, active 30 days), mobile money agents (registered agents, active agents) and mobile money transactions (volume and value of mobile money transactions processed via the following products: airtime top-ups, bill payments, bulk disbursements, cash-ins, cash-outs, international remittances, merchant payments, bank-to-wallet, wallet-to-bank, off-net and on-net P2P transfers). Our methodology combines multiple approaches to market sizing, following the five main steps below:



1. Consolidation of industry data

This step involved creating a pool of industry data from publicly available data, such as operator and regulator reports, to complement the data collected via our annual Global Adoption Survey. We created a comprehensive set of historical data reflecting the growth of the mobile money industry after reconciling this pool of data with our definitions.



2. Country clustering

Countries were clustered based on the fundamental conditions of mobile and banking adoption in each country, as well as criteria for mobile money success identified through a joint study with Harvard Business School.¹¹⁰ The clusters were further shaped based on the Mobile Money programme’s market knowledge. As a result, we grouped countries into four clusters based on how compelling the mobile money proposition is for that group of countries.

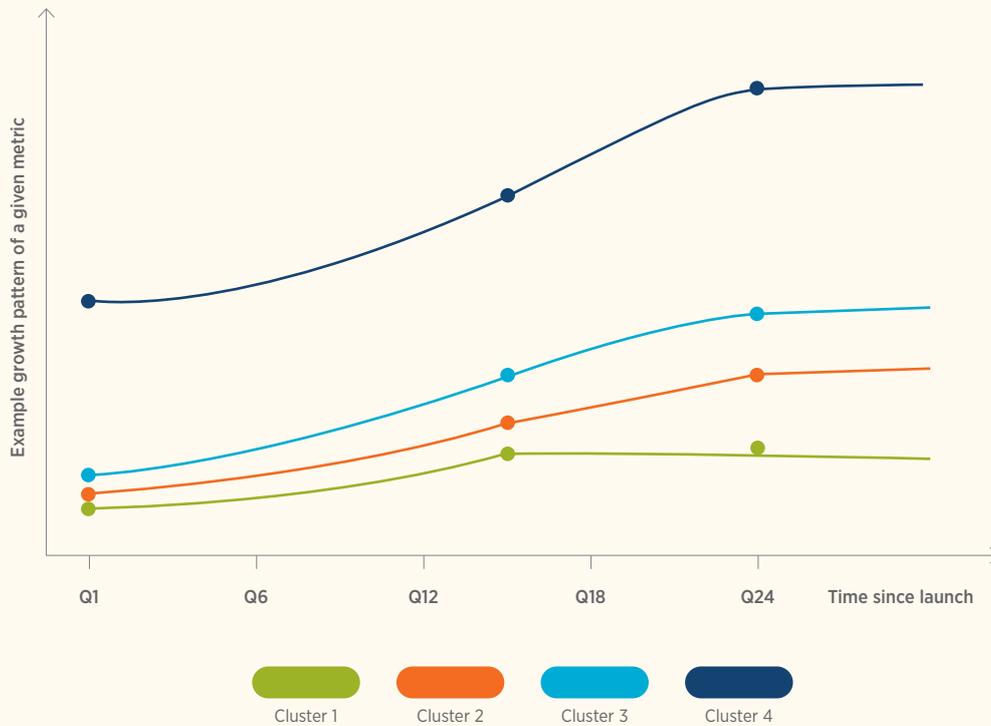
Best conditions for mobile money to develop ↑	Cluster 4	<ul style="list-style-type: none"> • The mobile money proposition is the most compelling for these markets • These markets demonstrate a strong opportunity for mobile money and have the best environment for adoption
	Cluster 3	<ul style="list-style-type: none"> • The mobile money proposition is compelling for these markets • These markets demonstrate a strong opportunity for mobile money and have a suitable environment for adoption
	Cluster 2	<ul style="list-style-type: none"> • The mobile money proposition is somewhat compelling for these markets • These markets demonstrate a strong opportunity for mobile money but lack the suitable environment for adoption
	Cluster 1	<ul style="list-style-type: none"> • The mobile money proposition is the least compelling for these markets • The availability of alternatives potentially makes mobile money a less attractive opportunity

110 Naghavi, N., Shulist, J., Cole, S., Kendall, J. and Xiong, W. (2016). [Success factors for mobile money services: A quantitative assessment of success factors](#). GSMA Mobile Money.



3. Formulation of guiding principles

We developed guiding principles to determine how a given metric is expected to evolve. The following is an example of the guiding principles of growth patterns of a given metric.



4. Modelling

The fourth step was producing country estimates, which are developed using a bottom-up approach, i.e. starting at the service level. A Microsoft Excel model was prepared for each country using compiled industry data (from step 1 of Methodology) and for each service in the market (updated from the Mobile Money Deployment Tracker). Modelling assumptions to estimate missing historical data and produce a forecast are informed by the guiding principles, the latest secondary research and the market knowledge of the GSMA Mobile Money programme.



5. Validation

Once the modelling was complete, we reviewed the output at the service, country and global level. In this step, we identify any outliers and check for further explanation. This validation process requires close collaboration between GSMA Intelligence and the Mobile Money programme's market experts.

Appendix B: Unique agent outlet methodology

The methodology used to estimate the number of unique mobile money agent outlets relies on three primary data inputs:

- Registered agent data collected between 2014 and 2020 from the GSMA Global Adoption Survey.
- Registered agent service and country-level estimates extracted from respective country models (see Appendix A, Methodology, step 4).
- The Helix Institute of Digital Finance’s (HIDF) agent “non-exclusivity deflator”¹¹¹ from six mobile money countries. This provides a measure of the exclusivity of an agent outlet to a particular service provider.

Our methodology to derive the number of unique mobile money agents followed a five-step process:

1. We proposed a hypothesis that there was a positive linear correlation between the amount of mobile money competition in a country and its non-exclusivity deflator.
2. To test this hypothesis, we estimated the levels of competition in the agent network for six key mobile money countries. To derive these estimates, we used the Herfindahl-Hirschman Index (HHI)¹¹², and agent network market shares from GSMA country models as inputs. The HHI was calculated for five sample countries matching the data for four different years [Bangladesh (2016), Uganda (2015), Tanzania (2015), Kenya (2014) and Pakistan (2014)] according to the availability of non-exclusivity deflator data from the HIDF. The sixth sample country models a single-service country that has a non-exclusivity deflator of ‘1’. This indicates that all agents in the market are exclusive to one mobile money provider and are therefore unique.

$$HHI = s_1^2 + s_2^2 + s_3^2 + \dots + s_n^2$$

HHI = Herfindahl – Hirschman Index

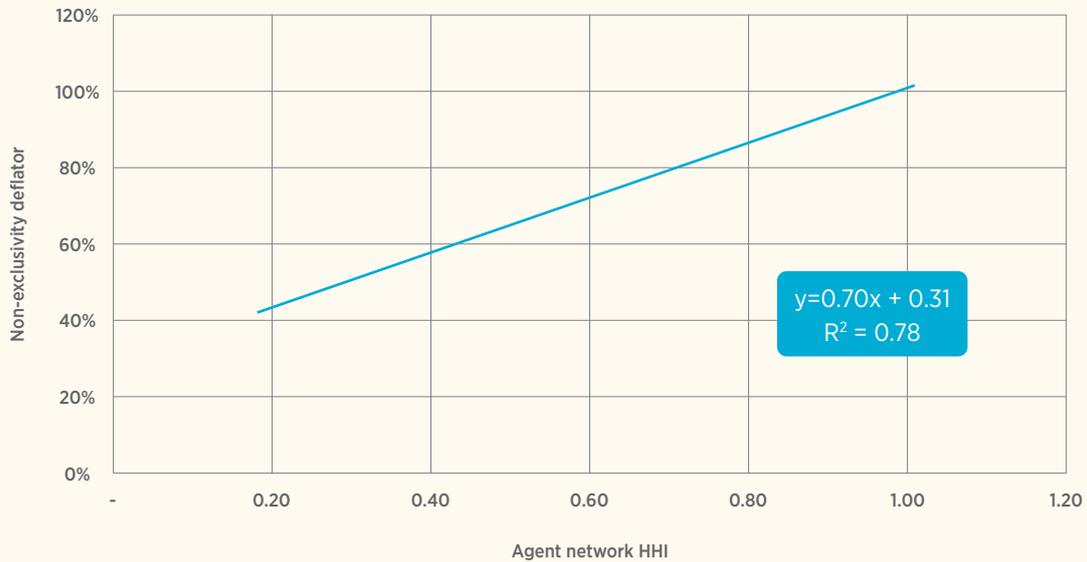
s_i = agent network market share

3. Using linear regression methods with the HHI and the non-exclusivity deflator as variables, both for specific years and countries, we modelled the relationship between a country’s mobile money competition and its respective agent non-exclusivity deflator. Using this method, a strong correlation (R²=0.78) was found between the two variables, supporting the initial hypothesis.

¹¹¹ Bersudskaya, V. and McCaffrey, M. (2017). [Agents Count: The True Size of Agent Networks in Leading Digital Finance Countries](#).

¹¹² Corporate finance institute. (2020). [Herfindahl-Hirschman Index \(HHI\)](#).

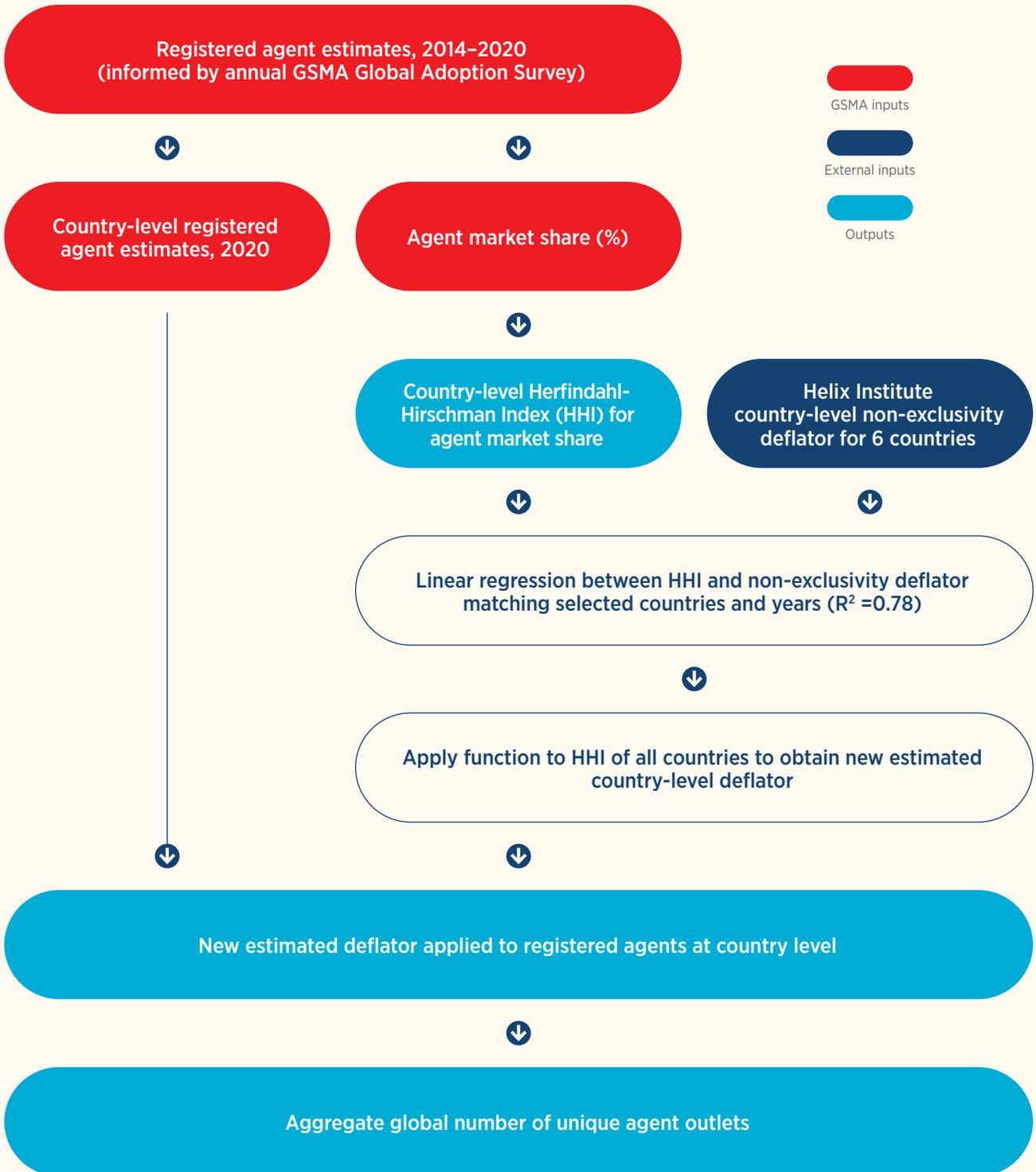
Relationship between agent network HHI and non-exclusivity deflator



Provided there is access to country-level agent market shares, this function can be used to calculate market-specific deflators.

4. To determine the number of unique mobile money agent outlets for each mobile money country, we applied the linear function $y = 0.7x + 0.31$, where x is each country's HHI, to calculate the market concentration deflator. The number of agents in countries with only one provider were multiplied by 1 i.e. no reduction. Data from 2020 was used for the agent network market share and the number of registered agents to derive country-level deflators for 2020.
5. Lastly, we applied the calculated market concentration deflator to the number of registered agents in each mobile money country to provide an estimate of the number of unique agent outlets on both a country and global level.

Methodology Flow Chart



Appendix C: The GSMA Intelligence Consumer Survey

This is an annual survey designed to capture quantitative data from adult populations in LMICs across the globe. Insights used from the GSMA Intelligence Consumer Survey have been obtained from five LMICs (Kenya, Mozambique, Nigeria, Pakistan and Bangladesh) and over 5,000 interviews conducted in 2020. The survey is representative of the entire adult population of these countries, including both mobile users and non-mobile users.

To achieve a nationally representative sample, quotas were applied in line with census data on age category by gender, urban and rural distribution by gender, region/state and socio-economic class (SEC). Sampling points where interviews were conducted were distributed proportionately between urban and rural areas in accordance with census data and national statistics offices. To achieve wide geographical coverage and reduce the effects of clustering, a minimum of 100 sampling points were used in each country.

This research used a mix of purposive and random sampling approaches. Depending on the country, sampling points were either randomly distributed – with an administrative area’s probability of selection proportionate to the size of its population (random sampling) – or selected to reflect the linguistic, cultural and economic variations of each country (purposive sampling). Local experts and national statistics offices checked the sampling frames to ensure they were valid and representative.

Appendix D: Glossary

<p>Agent outlet</p>	<p>In the case of mobile money, an agent outlet is a location where one or several provider-issued tills are used to conduct transactions for clients. The most important of these are cash-in and cash-out (i.e. loading value into the mobile money system, and then converting it back out again); in many instances, agents register new customers, too. In some markets, an agent outlet can also operate tills issued by several providers; these are generally referred to as shared or non-exclusive outlets. Agents usually earn commissions for performing these services. As they are the human touchpoint for the mobile money service, they also often provide frontline customer service, such as teaching new users how to initiate transactions on their phone. Typically, agents will conduct other kinds of business in addition to mobile money. The kinds of individuals or businesses that can serve as agents will sometimes be limited by regulation, but small-scale traders, microfinance institutions, chain stores and bank branches serve as agents in some markets. Some industry participants prefer the term “merchant” or “retailer” to describe this person or business to avoid certain legal connotations of the term “agent” as it is used in other industries.</p> <p>An active agent outlet is an agent outlet where any of the tills were used to facilitate at least one transaction within the last 30 days.</p> <p>Agent tills are provider-issued “lines”, which can be SIM cards or POS machines, authorised and used to facilitate mobile money transactions.</p>
<p>Airtime top-up</p>	<p>Purchase of airtime via mobile money, funded from a mobile money account.</p>
<p>Anti-money laundering/combating the financing of terrorism (AML/CFT)</p>	<p>A set of rules, typically issued by central banks, that attempt to prevent and detect the use of financial services for money laundering or to finance terrorism. The global standard-setter for AML/CFT rules is the Financial Action Task Force (FATF).</p>
<p>Application programming interface (API)</p>	<p>For the mobile money industry, an application programming interface is the set of design principles, objects and behaviours for software developers to enable interactions between mobile money platforms and vendors.</p>
<p>Bank account-to-mobile money account transfer</p>	<p>A direct transfer of funds made from a customer bank account to a mobile money account. This transaction typically requires a commercial agreement and technical integration between the bank and the mobile money provider to allow direct transfers.</p>
<p>Bill payment</p>	<p>A payment made by a person from either their mobile money account or over-the-counter to a biller or billing organisation via a mobile money platform in exchange for services provided.</p>
<p>Bulk disbursement</p>	<p>A payment made by an organisation via a mobile money platform to a person’s mobile money account. For example, salary payments made by an organisation to an employee’s mobile money account, payments made by a government to a recipient’s mobile money account or payments made by development organisations to a recipient’s mobile money account.</p>
<p>Cash-in</p>	<p>The process by which a customer credits their mobile money account with cash. This is usually via an agent who takes the cash and credits the customer’s mobile money account with the same amount of e-money.</p>

<p>Cash-out</p>	<p>The process by which a customer deducts cash from their mobile money account. This is usually via an agent who gives the customer cash in exchange for a transfer of e-money from the customer’s mobile money account.</p>
<p>Country corridor</p>	<p>For international remittances, a country corridor is a unique combination of a sending country and a receiving country. For example, Kenya to Tanzania and Tanzania to Kenya are two distinct country corridors.</p>
<p>Credit enabled by mobile money</p>	<p>Credit enabled by mobile money uses the mobile phone to provide microcredit to customers. The GSMA considers credit services enabled by mobile money to meet the following criteria:</p> <ul style="list-style-type: none"> • To use the service, the customer must have a mobile money account • The service allows subscribers to borrow a certain amount of money that they agree to repay within a specified period • Customers can be mobile money agents, mobile money users, or merchants accepting mobile money • The loan must be disbursed and repaid electronically directly to/from the mobile money account. Services which offer collateralised lease-to-own assets, such as solar home systems, are not included • The credit service should be technically integrated with the mobile money account and rely heavily on mobile technology throughout the customer journey • Services where the mobile phone is used as just another channel to access a traditional credit product are not included • The service must be available for customers on any type of mobile device (including smartphone apps)
<p>Diaspora</p>	<p>Migrants or descendants of migrants whose identity and sense of belonging, either real or symbolic, have been shaped by their migration experience and background. They maintain links with their homelands, and to each other, based on a shared sense of history, identity or mutual experiences in the destination country.</p>
<p>E-money</p>	<p>Short for “electronic money,” e-money is stored value held in the accounts of users, agents and the provider of the mobile money service. Typically, the total value of e-money is mirrored in (a) bank account(s), such that even if the provider of the mobile money service were to fail, users could recover 100 per cent of the value stored in their accounts. That said, bank deposits can earn interest, while e-money traditionally cannot.</p>
<p>Escrow (trust) account</p>	<p>To ensure that a customer’s money is available when the customer wants to redeem it, regulators typically require that the non-bank mobile money provider maintain liquid assets equal in value to the amount of money issued electronically. These funds are usually pooled and held by one or more banks in the name of the issuer (or in the name of a trustee appointed by the issuer). The account in which the funds are pooled is known as an escrow account (or a trust account where the issuer has appointed a trustee). In countries with a common law legal tradition, the funds are typically held in trust for the benefit of the mobile money user. In countries where the common law concept of trust does not exist, mobile money users typically have a right to claim these funds under the law of contract.</p>
<p>Float</p>	<p>The balance of e-money, physical cash or money in a bank account that an agent can immediately access to meet customer demands to purchase (cash-in) or sell (cash-out) electronic money.</p>

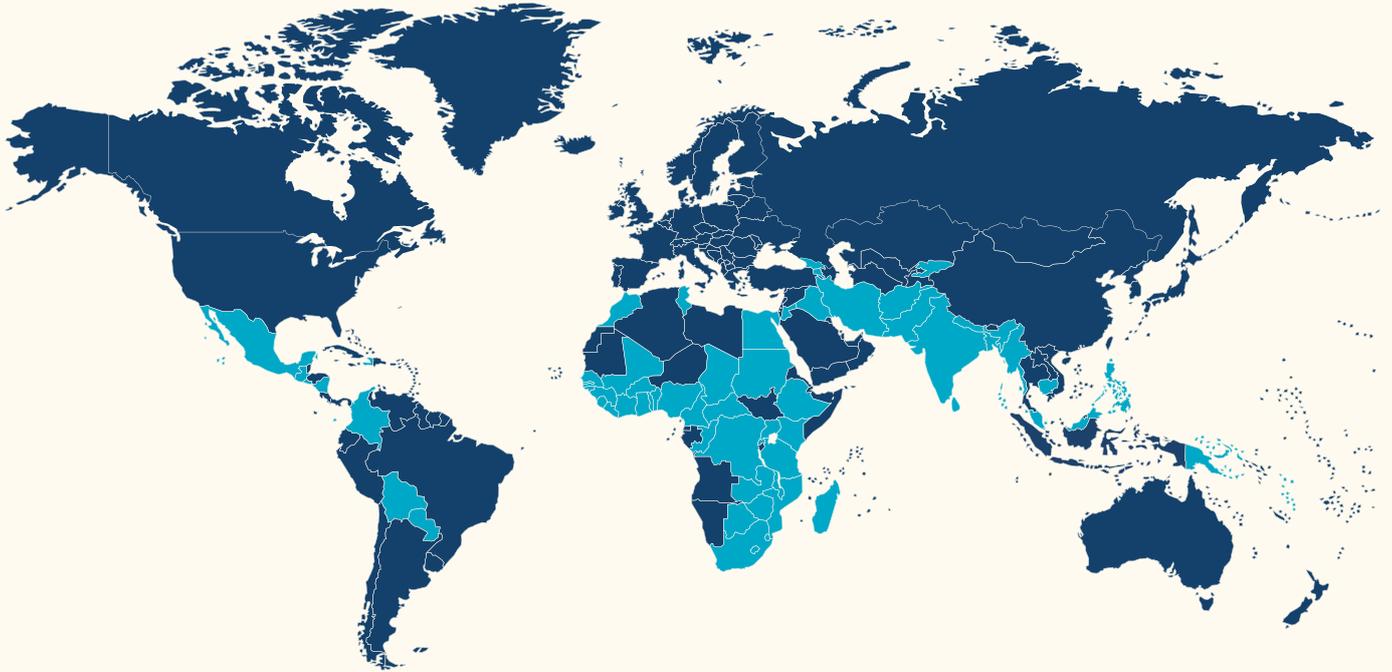
Float (as revenue source)	Revenue generated from interest on the pooled trust account held by mobile money providers at a formal financial institution. In many markets, operators are restricted in terms of how they can use interest earned on the float. Additionally, operators sometimes opt to forgo the interest to compensate partner financial institutions.
Government-to-person (G2P) payment	A payment by a government to a person's mobile money account.
International remittance enabled by mobile money	Cross-border fund transfer from one person to another person. This transaction can be a direct mobile money remittance, or can be completed using an intermediary organisation, such as Western Union.
Interoperability	The ability for customers to undertake money transfers between two accounts at different mobile money schemes or to transfer money between accounts at mobile money schemes and accounts at banks.
Insurance enabled by mobile money	<p>Insurance enabled by mobile money uses the mobile phone to provide micro-insurance services. GSMA Mobile Money tracks insurance products enabled by mobile money which meet the following criteria:</p> <ul style="list-style-type: none"> • To use the service, the customer must have a mobile money account to pay premiums and receive claims. (Services that allow payments via airtime but pay out claims through mobile money are also included) • The service must allow customers to manage risks by providing a guarantee of compensation for specified loss, damage, illness or death • The insurance product should be technically integrated with the mobile money account and rely heavily on mobile technology throughout the customer journey • Services where the mobile phone is just another channel for the clients of an insurance company to access a traditional insurance product should not be included • The service must offer customers an interface for managing the insurance product for customers that is available on mobile devices (SMS, USSD, call centre, smartphone app)
Know Your Customer (KYC)	<p>Financial institutions and regulated financial service providers are obligated by regulation to perform due diligence to identify their customers. The term is also used to refer to the regulation which governs these activities. The FATF recommends a risk-based approach to due diligence for AML/CFT controls.</p> <p>Due to the lack of formal identity documents in some markets, solutions such as tiered KYC and adjusting acceptable KYC documentation can help mobile money providers facilitate customer adoption and increase financial inclusion, especially in rural areas.</p>
Liquidity management	The management of the balance of cash and e-money held by a mobile money agent to meet customers' demands to purchase (cash-in) or sell (cash-out) e-money. The key metric used to measure the liquidity of an agent is the sum of their e-money and cash balances (also known as their float balance).
Merchant payment	A payment made from a mobile money account via a mobile money platform to a retail or online merchant in exchange for goods or services.

<p>Mobile financial services (MFS)</p>	<p>The use of a mobile phone to access financial services and execute financial transactions. This includes both transactional and non-transactional services, such as viewing financial information on a user’s mobile phone. Mobile money, mobile insurance, mobile credit and mobile savings are mobile financial services.</p>
<p>Mobile money</p>	<p>A service is considered a mobile money service if it meets the following criteria:</p> <ul style="list-style-type: none"> • A mobile money service includes transferring money and making and receiving payments using the mobile phone • The service must be available to the unbanked, for example, people who do not have access to a formal account at a financial institution • The service must offer a network of physical transactional points which can include agents, outside of bank branches and ATMs, that make the service widely accessible to everyone. The agent network must be larger than the service’s formal outlets • Mobile banking or payment services (such as Apple Pay and Google Pay) that offer the mobile phone as just another channel to access a traditional banking product are not included • Payment services linked to a traditional banking product or credit card, such as Apple Pay Google Pay and Samsung Pay, are not included
<p>Mobile money account (registered/active)</p>	<p>An e-money account which is primarily accessed using a mobile phone and which is held with the e-money issuer. In some jurisdictions, e-money accounts may resemble conventional bank accounts, but are treated differently under the regulatory framework because they are used for different purposes (for example, as a surrogate for cash or a stored value used to facilitate transactional services). An active mobile money account is a mobile money account which has been used to conduct at least one transaction during a certain period (usually 90 days or 30 days).</p>
<p>Mobile money account- to-bank account transfer</p>	<p>A direct transfer of funds made from a mobile money account to a customer bank account. This transaction typically requires a commercial agreement and technical integration between the bank and the mobile money provider to allow direct transfers.</p>
<p>Off-net transfer</p>	<p>Transfers which are initiated by registered mobile money users to unregistered users are typically referred to as off-net (off-network) transfers. Some deployments may refer to an off-net transfer as a voucher, coupon or token. In this case, the e-money must be cashed out at an agent of the sender’s agent network. Transfers between two accounts of different, but interconnected, mobile money schemes are also sometimes referred to as “off-net transfers”.</p>
<p>Over-the-counter (OTC) services</p>	<p>Some mobile money services are being offered primarily over the counter (OTC). In such cases, a mobile money agent performs the transactions on behalf of the customer, who does not need to have a mobile money account to use the service.</p>
<p>Pay as you go (PAYG)</p>	<p>Pay-as-you-go systems refer to services which are paid for before use and cannot be used more than the amount paid for.</p>
<p>Point of sale (POS)</p>	<p>A retail location where payments are made for goods or services. A “POS device” denotes a specialised device which is used to accept the payment, for example, a card reader.</p>
<p>Regulator</p>	<p>In the context of mobile money, this typically refers to the regulator which has supervisory authority over financial institutions within a particular country, usually the central bank or other financial authority.</p>

Savings enabled by mobile money	<p>Savings enabled by mobile money use the mobile phone to provide dedicated savings facilities. The GSMA considers services enabled by mobile money to meet the following criteria:</p> <ul style="list-style-type: none"> • To use the service, the customer must have a mobile money account • The savings service allows subscribers to save money in a dedicated account that provides principal security and, in some cases, an interest rate • Also included in this definition are: <ul style="list-style-type: none"> - Mobile investment uses the mobile phone to provide investment facilities (e.g. in government bonds) - Mobile pension uses the mobile phone to provide pension savings facilities • The customer should be able to store value electronically in the savings account and be able to transfer funds to/from a mobile money account • The savings or investment product should be integrated technically with the mobile money account and rely heavily on mobile technology throughout the customer journey • Services where the mobile phone is just another channel to access a traditional savings accounts are not included • The service must be available for customers on any type of mobile device (including smartphones)
Technology Service Provider (TSP)	<p>An organisation that provides its customers with technology-based solutions. In the context of mobile money, a TSP is a financial technology (fintech) company which develops, provides and supports the technology systems that are used to deliver mobile money services.</p>
Underbanked	<p>Customers who may have access to a basic transaction account offered by a formal financial institution, but still have financial needs that are unmet or not appropriately met.</p>
Unregistered users	<p>Unregistered users include both people transacting over the counter in the case of OTC services, and unregistered recipients of off-net P2P transfers in the case of account-based services.</p>
Voucher	<p>Money sent as an off-net transfer from a mobile money account holder to an unregistered recipient, along with a code for the recipient to withdraw the funds at an agent outlet. Also known as a coupon or token.</p>



Appendix E: 2020 Global Adoption Survey Participants



Mobile Money Survey
Participants 2020

Latin America and the Caribbean	
Bolivia	Tigo
Colombia	DaviPlata
El Salvador	Daviplata, Tigo
Guatemala	Tigo
Haiti	Digicel, Haitipay
Mexico	Transfer
Nicaragua	Banpro Grupo Promerica
Paraguay	Claro, Personal, Tigo

South Asia	
Afghanistan	MTN, Roshan
Bangladesh	Grameenphone, SureCash
India	Eko
Maldives	Dhiraagu
Nepal	FonePay
Pakistan	Jazz, Telenor
Sri Lanka	Dialog, Mobitel

East Asia and Pacific	
Cambodia	MetFone, Wing
Malaysia	Valyou
Myanmar	Ooredoo, Digital Money Myanmar Ltd.
Papua New Guinea	Nationwide Microbank
Philippines	Mynt, PayMaya
Vanuatu	Vodafone

Middle East and North Africa	
Egypt	Orange
Iran	Jiring
Iraq	Zain
Jordan	Orange, Zain
Morocco	Al Barid Bank, Orange
Tunisia	Ooredoo, Orange

Europe and Central Asia	
Armenia	VivaCell-MTS
Georgia	JSC Mobile Finance Service
Kyrgyzstan	Kyrgyz Investment and Credit Bank

Sub-Saharan Africa	
Benin	MTN
Botswana	BotswanaPost, Orange
Burkina Faso	Coris Bank, Orange, Société Générale, Wizall
Cameroon	MTN, Orange, Société Générale
Central African Republic	Orange
Chad	Moov Africa
Congo	MTN
Congo, Democratic Republic	Orange, Vodacom
Côte d'Ivoire	MTN, Orange, Société Générale, Wizall
Ethiopia	M-BIRR
Gambia	Africell, QMoney
Ghana	AirtelTigo, GCB Bank, MTN, Société Générale, Vodafone, Zeepay
Guinea	MTN, Orange, Société Générale
Guinea-Bissau	MTN, Orange
Kenya	Safaricom
Lesotho	Econet, Vodacom
Liberia	MTN, Orange
Madagascar	Orange, Telma
Malawi	TNM
Mali	Orange, Wizall
Mozambique	Vodacom
Nigeria	Access Bank, Cellulant, Fortis, PalmPay, Teasy International Company Ltd.
Rwanda	MTN
Senegal	Free, Orange, Société Générale, Wizall
Sierra Leone	Africell, Orange
South Africa	MTN
Sudan	MTN
Swaziland	MTN
Tanzania	Tigo, Vodacom, Zantel
Togo	Moov Africa
Uganda	Africell, Ezeemoney, MTN
Zambia	MTN, Mangwee, Zamtel, Zoon
Zimbabwe	Econet

gsma.com/sotir





For more information, please visit the
GSMA website at www.gsma.com/sotir



GSMA HEAD OFFICE

Floor 2
The Walbrook Building
25 Walbrook
London EC4N 8AF
United Kingdom
Tel: +44 (0)20 7356 0600
Fax: +44 (0)20 7356 0601