



State of the Industry Report on Mobile Money 2022



Mobile Money

The GSMA is a global organisation unifying the mobile ecosystem to discover, develop and deliver innovation foundational to positive business environments and societal change. Our vision is to unlock the full power of connectivity so that people, industry, and society thrive. Representing mobile operators and organisations across the mobile ecosystem and adjacent industries, the GSMA delivers for its members across three broad pillars: Connectivity for Good, Industry Services and Solutions, and Outreach. This activity includes advancing policy, tackling today's biggest societal challenges, underpinning the technology and interoperability that make mobile work, and providing the world's largest platform to convene the mobile ecosystem at the MWC and M360 series of events.

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

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The State of the Industry Report on Mobile Money 2022 is based on data collected from the Global Adoption Survey 2021.

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Foreword from H.M. Queen Máxima of the Netherlands

United Nations Secretary-General's Special Advocate for Inclusive Finance for Development (UNSGSA)

Over the last decade, we have seen the transformative power of mobile money in providing a pathway to financial inclusion. Yet, our work is far from over. As economies build back from the COVID-19 pandemic, we must ensure that mobile money helps everyone have access to the tools they need to weather economic storms, build financial health and participate in an inclusive recovery.

In 2012, when the GSMA first published the *State of the Industry Report on Mobile Money*, mobile money was a nascent money transfer service operating in a handful of markets. It offered a safe way to send home money to family in rural areas without having to travel long distances with cash. By providing an accessible alternative to a bank account, mobile money unlocked access to financial services to people who were not served by the traditional banking industry, such as the poor, rural, women, smallholder farmers and micro, small and medium-sized enterprises (MSMEs), in low- and middle-income countries.

As the years went on, all eyes were on growth: increasing the number of active users and transactions, expanding agent outlets, and scaling up services. The results have been impressive. In 2021 \$1 trillion in mobile money transactions were processed, as people increasingly sent and received money, paid for groceries and school fees, received their salaries, took out loans or sent money home from abroad.

As we now know, transactions are not the only measure of mobile money's success. To be truly financially empowering, mobile money services need to be safe, affordable, useful and be able to build financial resilience. This has never been clearer than during the COVID-19 pandemic. From quickly deploying government support payments to providing a safe and convenient way to purchase essentials, mobile money has helped people cope with the early financial shocks of lockdown and lost work, as well as the prolonged financial stresses of a health crisis.

Other services provided through mobile money have enabled access to products that could build resilience such as savings, credit, and insurance. The mobile money industry could also assist with the purchase of products such as yield enhancing seeds and fertilizers, access to affordable and clean energy, or digital crop payments for smallholder farmers.

Making these solutions widely available will require investments in digital infrastructure, brokering partnerships, enabling policies and improved digital and financial literacy. We need to continue our joint efforts to close the persistent gender gap in account ownership, address current divides, encourage active usage, and uphold safety and trust in an evolving digital financial services ecosystem. I would like to congratulate the GSMA on this milestone and look forward to the continued important contributions of the mobile money industry toward a more inclusive and resilient future.



H.M. Queen Máxima of the Netherlands
United Nations Secretary-General's
Special Advocate for Inclusive Finance for
Development (UNSGSA)

Foreword from Mats Granryd

Director General GSMA

Celebrating 10 Years - Mobile Money State of the Industry 2022

Mobile money has transformed the lives of millions of people globally. Today there are 1.35 billion registered mobile money accounts processing \$1 trillion in transactions annually. That is almost \$2 million per minute of transactions, 24 hours a day, 7 days a week, 365 days a year. Truly remarkable.

This year, we celebrate ten years of this annual report, produced with the generous support of the Bill and Melinda Gates Foundation. It is incredible to look back and see how fast the industry has grown, and to also imagine how much further it can go.

Mobile money is not just good business, it is also the key to advancing financial inclusion and bringing us closer to achieving the UN Sustainable Development Goals. Millions of previously unbanked families now have access to safe and secure financial services that are transforming their lives, and many of these life-enhancing initiatives have been supported by the GSMA Innovation Funds.

One of my favourite examples has been the rapid spread of pay-as-you-go solar home systems in off-grid areas, supplying millions with clean and affordable power for the first time. In Uganda, affordable power means that customers like Robinah can keep her shop open for longer in the evenings, and Fortinee can keep her clinic open, helping many more patients.

Examples like this bring to life the transformative power of mobile money within communities. Robinah's additional income means that she can send her children to school, and save for the future. Now just imagine that impact multiplied by millions across the world. From pay-as-you-go solar home systems to digitised humanitarian cash transfers and digital agricultural credit, mobile money is empowering customers to access savings or investment opportunities, recover from shocks and crisis, and become more resilient to climate change.

The Covid-19 pandemic has made mobile money even more critical, and the data shows this. As people increasingly paid for everyday goods and services through their mobile money accounts, merchant payments skyrocketed.

Bulk disbursements grew rapidly as more companies started paying salaries directly into their employees' accounts, and governments partnered with mobile money providers to deliver much-needed pandemic relief payments. Remarkably, despite the economic uncertainty, international remittances also grew by 48 percent in 2021, as diasporas around the world continued to send money home.

As we look to the future, where everyone is connected and has access to safe and secure financial services, the path is crystal clear. We must continue to build regulatory frameworks and corporate strategies that modernise the mobile money ecosystem. We must keep working to close the gender usage gap and strengthen consumer protection through the GSMA Mobile Money Certification. And we must keep working to make the mobile money industry safer, more commercially sustainable, innovative and responsive to the diverse needs of all customers around the world.

If the past ten years are anything to go by, I cannot wait to see the next ten years.



Mats Granryd
(Director General GSMA)





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Executive Summary

Ten years of tracking a transformative industry

Over the past decade, mobile money has expanded from a niche offering in a handful of markets to a mainstream financial service, moving millions of households in low- and middle-income countries (LMICs) from the informal cash economy into a more inclusive digital economy. In 2012, there were 169 mobile money deployments in 71 countries. Ten years on, the number of live deployments has almost doubled to 316 and expanded to 98 countries worldwide.

Across LMICs, people are living increasingly digital lives thanks to mobile money, transacting more often and for more reasons than ever before. The COVID-19 pandemic accelerated this shift as people

turned to digital, no-contact ways to purchase everyday items, pay bills, receive government support payments and send money home to family. In 2021, this continued growth helped push the value of transactions to the trillion-dollar mark – a milestone reached faster than anyone in the industry could have predicted.

This tenth annual *State of the Industry Report on Mobile Money* looks back at this memorable year for this growing and more diversified industry. We reflect on a decade of growth and track the transformative effects that mobile money has had on the financial lives of those who, ten years ago, were left behind.

This report examines the major industry trends of 2021

A trillion dollars transacted as the industry diversifies

In 2021, the mobile money industry processed more than \$1 trillion in transactions. The year-on-year increases in transaction values have been driven by new customer uptake and a growing number of mobile money use cases. For example, in 2012, ecosystem transactions such as bill payments, bulk disbursements, merchant payments and international remittances accounted for less than 10 per cent of overall transactions. Ten years on, this has risen to 20 per cent, a clear sign that mobile money providers are embracing diversification.

Mobile money adoption and activity continue their upward trajectory

In 2021, the number of registered accounts reached 1.35 billion globally, up 18 per cent since last year and 10 times more than there were in 2012 (134 million). 518 million of these accounts were active on a 90-day basis and 346 million on a 30-day basis, growing nearly 15 times and 13 times respectively since 2012. The volume and frequency of transactions also registered strong growth. In 2021, more than 1.5 million person-to-person (P2P) transactions were made every hour on average, compared to fewer than 68,000 in 2012, and the average account makes 3.5 P2P transactions per month.

Agent networks continue to thrive

Between 2012 and 2021, the number of active agents grew more than 10 times, from 534,000 to 5.6 million, unlocking access to financial services for the most underserved customers. Despite closures and restrictions on movement during the COVID-19 pandemic, the value cashed in and digitised via mobile money agent networks grew by 18 per cent in 2021, reaching a total of \$261 billion or more than \$715 million a day. Even the most established agent networks registered strong growth, with the 25 largest networks growing by more than 25 per cent on average from 2020 to 2021.

Regulatory challenges persist

Despite the huge success of mobile money services in many countries, in others, the sustainability of mobile money services is threatened by certain policy and regulatory interventions, from taxes on transactions to poorly implemented instant payment solutions and costly data localisation mandates. The high cost of compliance is shared by mobile money providers and customers alike with potentially negative consequences on future investments in, and customer usage of, mobile money services. Dialogue between policy makers, regulators and industry leaders is of paramount importance in order to prevent adverse policy and regulatory interventions.

Merchant payments nearly doubled

After a momentous year for merchant payments in 2020, in 2021 they nearly doubled, reaching an average of \$5.5 billion in transactions per month and accounting for 21 per cent of the value circulating in the mobile money system (P2P + merchant payments), up from around 10 per cent in the past two years. Uptake has been in part driven by the number of businesses actively accepting and receiving mobile money payments.

International remittances are still flowing fast

Two years on since the onset of the COVID-19 pandemic, diasporas around the world increasingly send money home using mobile money. The number of international remittances sent and received via mobile money grew by 48 per cent in 2021, reaching \$16 billion. Still, mobile money represents less than three per cent of all remittances globally, meaning there is significant potential to digitise remittances and offer faster and more affordable ways to send money worldwide.

Bill payments leapt again in 2021

Like other ecosystem transactions, the number of bill payments processed via mobile money leapt in 2021, growing by 37 per cent to exceed \$5 billion in transactions per month. For customers, mobile money-enabled bill payments can unlock access to a range of new services, such as off-grid energy, and help low-income users build economic identities. For government agencies and utility companies, mobile money-enabled bill payments can make revenue collection more efficient and cost-effective, strengthen financial transparency and circumvent fraud.

Bulk disbursements are seeing remarkable growth

After registering 28 per cent growth in 2020, mobile money-enabled bulk disbursements grew by another third in 2021, topping \$65.8 billion. This growth is likely due to an uptick in salary payments as more and more employers turned to mobile money to pay their employees, with the number of unique accounts receiving salaries via mobile money increasing. The number of unique accounts receiving Government-to-person (G2P) payments were also up, as governments forged new partnerships with mobile money providers to deliver pandemic relief and other forms of social support.

Savings, credit and insurance are building financial resilience

According to our Global Adoption Survey, approximately two in five (44 per cent) mobile money providers offer credit, savings or insurance products. Uptake of these products in 2021 was encouraging across mature mobile money markets while they also gained traction in less mature markets, where customers are seeking out products to help protect their families and businesses against uncertainty and crisis, invest in their livelihoods and improve their standard of living.

Partnerships are pushing interoperability

After recording exceptional growth in 2020, the value of transactions flowing between banks and mobile money platforms also grew quickly in 2021, up 46 per cent, more than doubling since 2019. The continued acceleration of these types of transactions confirms the complementary relationship between banks and the mobile money industry that has been observed in the past few years, confirming mobile money's key position in the financial ecosystem.

The mobile money gender gap is holding women and economies back

Across LMICs, women are still less likely than men to own a mobile money account. This is due to a variety of reasons including not owning a mobile phone, lack of awareness of mobile money and lack of perceived relevance, knowledge and skills. Encouragingly though, once women have a mobile money account, their likelihood of using it is almost on par with men. As part of the GSMA Connected Women Commitment Initiative, 26 mobile operators across Africa, Asia and Latin America have made formal commitments to reduce the gender gap in their mobile money customer base since 2016.

Mobile money is enabling access to humanitarian assistance, utilities and agricultural solutions

Mobile money is an enabler of many other services that can help solve critical socio-economic and environmental challenges, such as providing access to essential utilities, sustaining the livelihoods of smallholder farmers and delivering rapid financial relief to vulnerable populations. For mobile money providers, these use cases represent valuable opportunities to diversify, which many have already embraced.



1.35bn
registered mobile
money accounts

Over

518m

active
90-day
accounts



\$1 trillion

31% 

increase
year-on-year

processed annually by the mobile money industry



5.6m

active agent outlets globally

More than

\$16bn



international remittances
processed per year

 **48%**

increase
year-on-year

316

mobile money
deployments



are live in 98 countries

\$66bn

merchant payments
processed per year

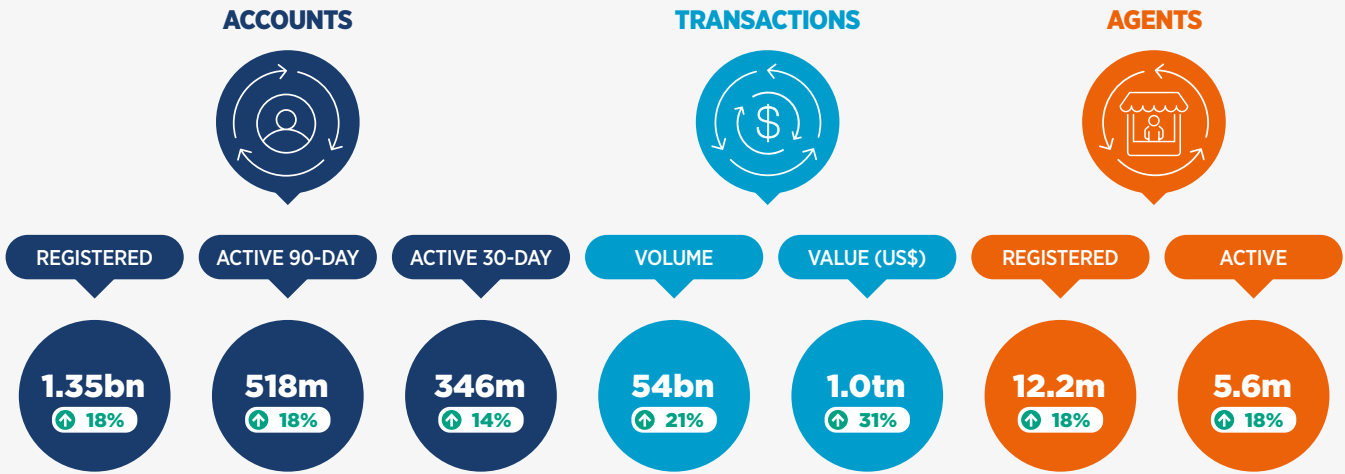


 **94%**

increase
year-on-year

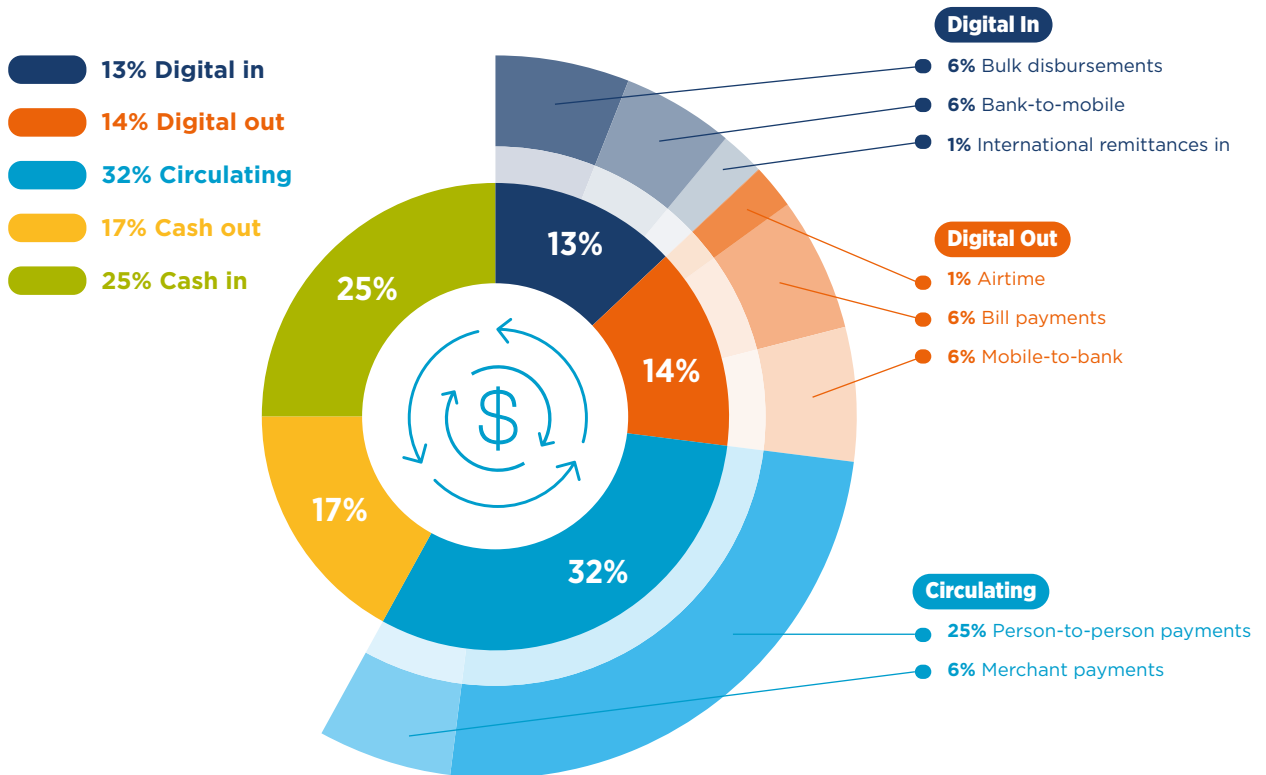


2021 GLOBAL OVERVIEW

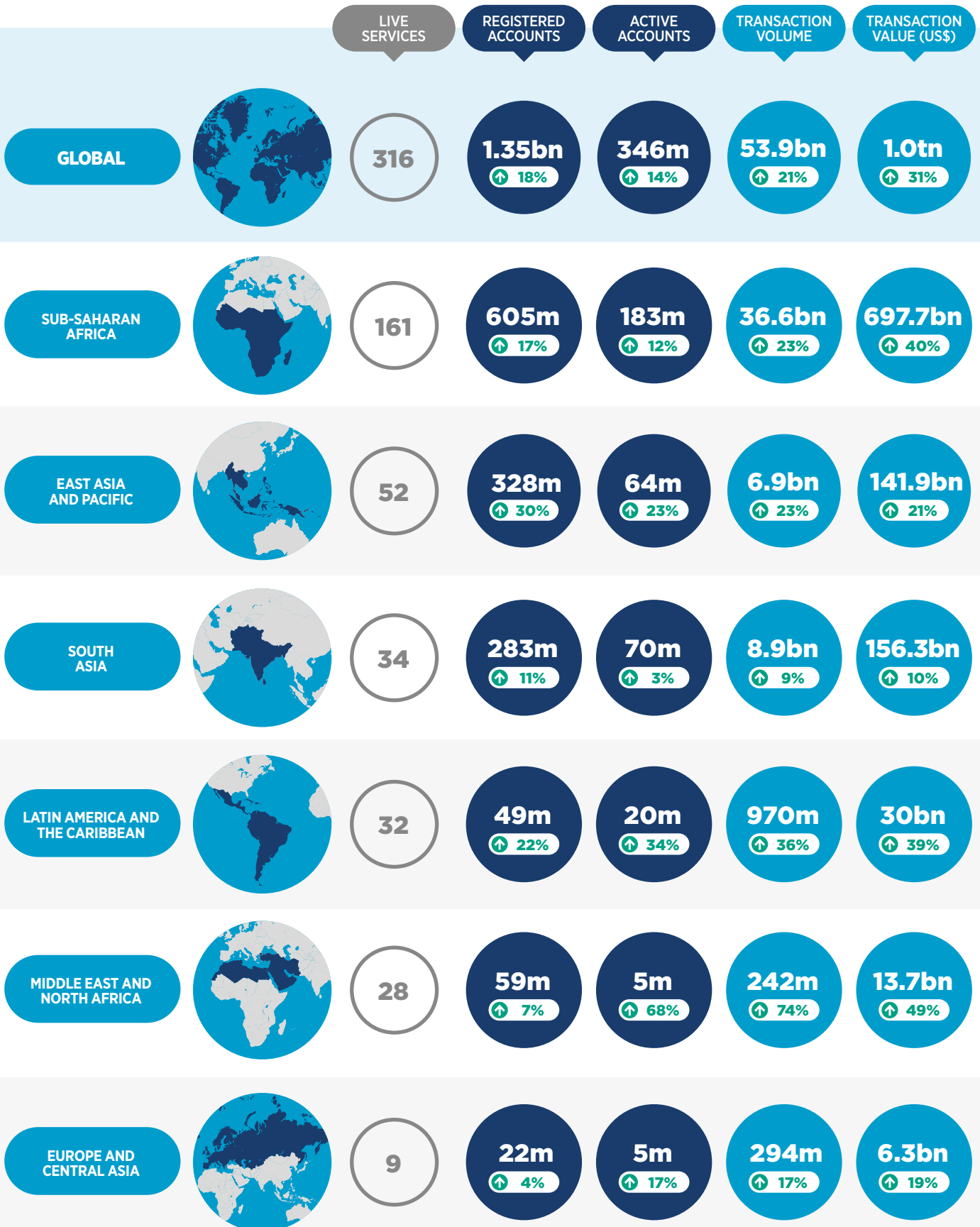


VALUE BREAKDOWN

December 2021

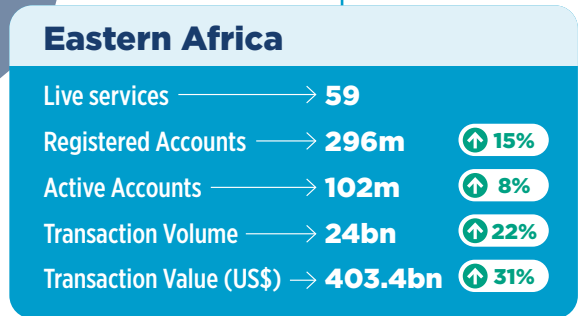
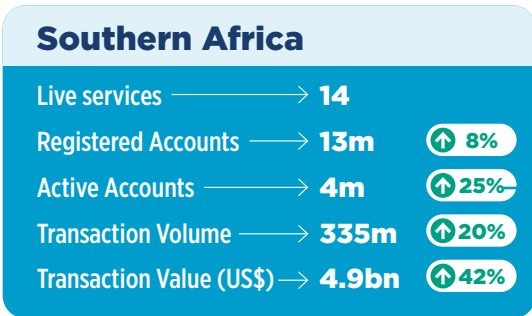
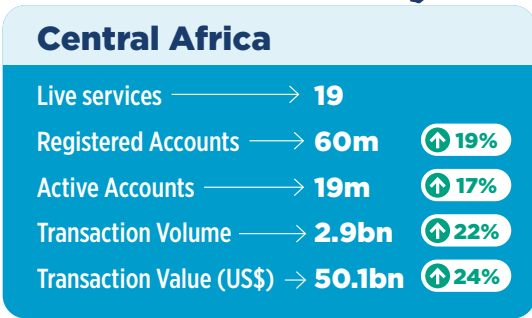
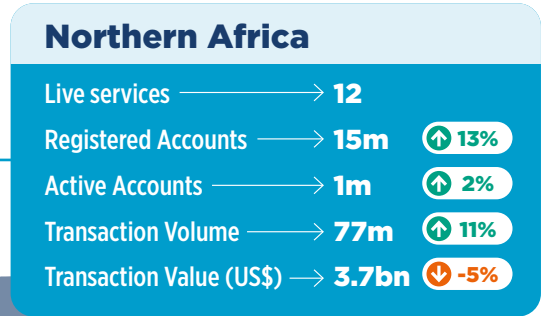
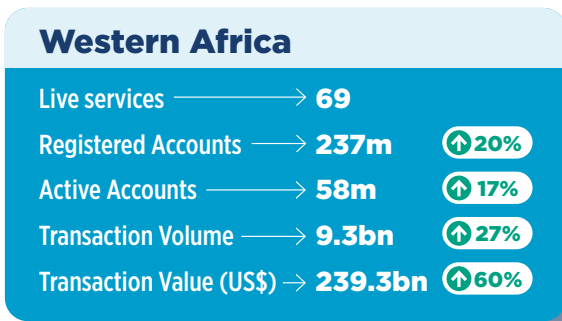
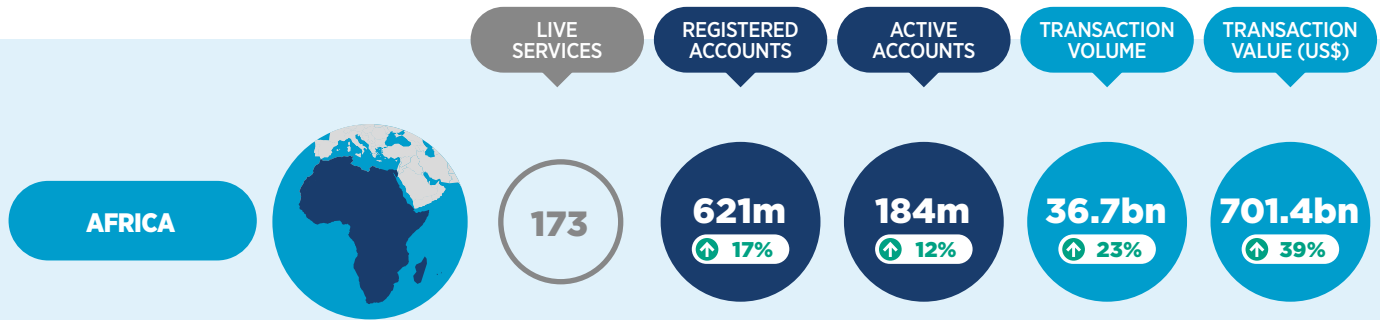


REGIONAL GROWTH IN 2021





GROWTH IN AFRICA IN 2021¹



The map is for illustrative purposes only

¹ The GSMA uses the United Nations geoscheme, which divides the countries of the world into regional and subregional groups. It was developed by the United Nations Statistics Division (UNSD) based on the M49 coding classification.



A decade of the State of the Industry Report



A decade of the State of the Industry Report

Every year for a decade, the GSMA has published the *State of the Industry Report on Mobile Money*, examining the major trends in the mobile money industry and tracking how mobile money is changing lives and socio-economic outcomes for people around the world, particularly in low- and middle-income countries (LMICs).² Topics have ranged from sizing the market to more technical aspects, always with a wide target audience in mind: the mobile and adjacent industries, global multilateral organisations, the tech and financial industries, the non-profit sector, government and academia, and so on.

Today, the report is the definitive guide to mobile-led financial inclusion. It continues to highlight not just the transformative power of mobile, but the vital role of the private sector in achieving the United Nations Sustainable Development Goals, and the GSMA could not be prouder.



² The State of the Industry Report on Mobile Money 2022 and the 2021 report are based on research and data collected during 2021 and 2020 respectively. The title of the report was updated in 2021 to reflect the launch date in line with new GSMA standards. To access all State of the Industry reports, visit: www.gsma.com/SOTIR.

Mobile money adoption continues its upward trajectory

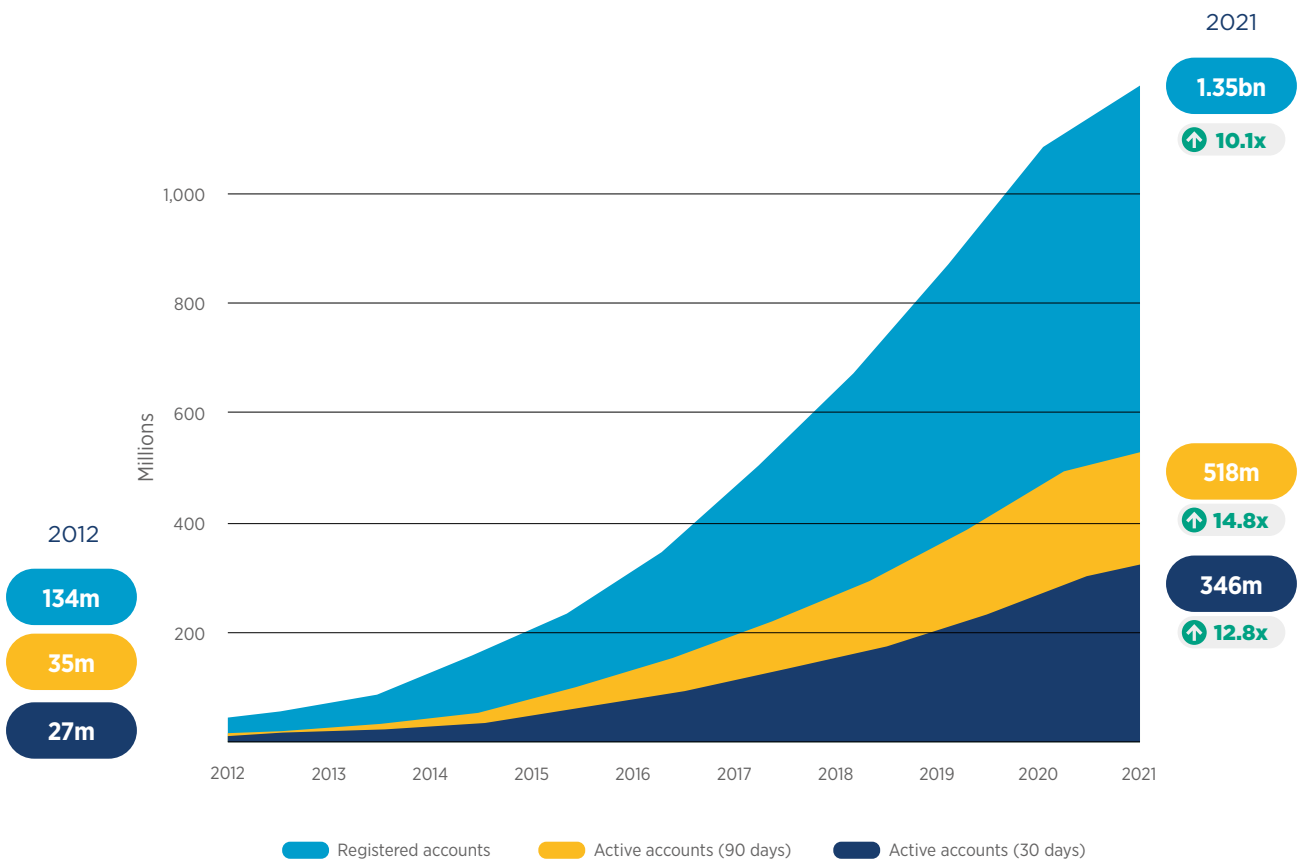
In 2021, there were more than **1.35 billion registered mobile money accounts** worldwide, a tenfold increase from 134 million in 2012. Year-on-year growth in new registrations continues, defying initial expectations that it would taper off.

Mobile money customers are also more active users. The proportion of accounts active on a 90-day basis has grown from 26 per cent to 38 per cent between 2012 and 2021, and from 20 per cent to 26 per cent for monthly (30-day) active accounts in the same time period.

Source: GSMA Global Adoption Survey

Figure 1:

Number of registered and active mobile money accounts, 2012-2021





With populations growing rapidly in most LMICs, mobile money markets are far from saturated, and demand for mobile financial services is likely to remain high among financially excluded and often marginalised populations. Despite progress in mobile money adoption, hundreds of millions of people in LMICs encounter barriers at every step of the mobile money journey, including mobile phone ownership (this is a particular barrier for women).³ Even among registered account holders, about one billion are not active on a monthly basis, representing an important opportunity for the industry to deepen financial inclusion and economic participation.

The annual GSMA Consumer Survey conducted in 10 LMICs in 2021 found that, among adult mobile owners who are aware of a mobile money service but do not have a mobile money account, some of the main structural barriers to account registration include: insufficient digital skills, unreliable mobile network, difficulties reading and writing, preference for cash, lack of trust in the system, lack of proper identification (ID) and unreliable electrical grids. Awareness of mobile money services also constitutes an important barrier in a number of markets.

Source: 2021 GSMA Consumer Survey, n= from 48 to 507

Figure 2:

Barriers to having a mobile money account, by country⁴

| | | Africa | | | Asia | | | | Latam | |
|------------------|------------------------------------------------|--------|---------|---------|------------|-------|-----------|----------|-----------|--------|
| | | Egypt | Nigeria | Senegal | Bangladesh | India | Indonesia | Pakistan | Guatemala | Mexico |
| Relevance | Preference for cash | 62% | 47% | 56% | 32% | 65% | 79% | 53% | 52% | 37% |
| | Alternatives to transfer money | 29% | 46% | 32% | 28% | 51% | 67% | 30% | 33% | 40% |
| | Friend/Family has MM account I can use | 24% | 7% | 58% | 31% | 39% | 22% | 27% | 21% | 16% |
| | Use OTC | 25% | 39% | 43% | 30% | 40% | 25% | 25% | 23% | 25% |
| | Lack of money | 34% | 23% | 49% | 25% | 46% | 42% | 38% | 37% | 39% |
| Knowledge/skills | Don't know how to use MM | 30% | 26% | 41% | 34% | 44% | 47% | 34% | 39% | 22% |
| | Difficulties using a handset/might make errors | 28% | 18% | 44% | 31% | 51% | 40% | 34% | 36% | 22% |
| | Literacy | 22% | 20% | 49% | 27% | 26% | 5% | 39% | 11% | 4% |
| Affordability | Affordability | 33% | 13% | 15% | 19% | 43% | 30% | 28% | 37% | 23% |
| Access/enablers | Unreliable network | 25% | 7% | 18% | 21% | 38% | 19% | 14% | 28% | 20% |
| | Lack of access to agents | 18% | 7% | 19% | 18% | 35% | 29% | 14% | 39% | 16% |
| | Lack access to electricity | 18% | 4% | 17% | 18% | 27% | 9% | 14% | 22% | 14% |
| | Lack of necessary documentation | 22% | 14% | 13% | 20% | 30% | 13% | 17% | 26% | 36% |
| Safety/security | Safety and trust | 33% | 19% | 23% | 27% | 50% | 38% | 26% | 46% | 36% |
| | Don't trust agents | 26% | 19% | 21% | 20% | 41% | 20% | 19% | 38% | 44% |
| Other | MM agents don't have cash | 22% | 3% | 8% | 19% | 30% | 13% | 16% | 27% | 20% |
| | Family does not approve | 17% | 3% | 1% | 13% | 39% | 23% | 17% | 21% | 19% |
| | Other | 18% | 12% | 21% | 18% | 26% | 12% | 16% | 10% | 4% |



3 GSMA. (2021). [The Mobile Gender Gap Report 2021](#).

4 Source: GSMA Consumer Survey 2021. Question: You said that you are aware of at least one of the [national] mobile money services but that you don't have a mobile money account. For each of the possible reasons that I read out, please indicate whether this is something that stops you at all from having a mobile money account. Percentages represent proportion of respondents who answer "Yes". Base: all adult mobile owners who are aware of at least one mobile money service but who do not have a mobile money account, n= from 48 to 507 Note: Kenya is excluded due to a small base.



These diverse and complex barriers to adoption suggest that enabling equal access to these services is not only the responsibility of mobile money providers, but also an array of other actors. From delivering sufficient consumer education to improving energy access, all stakeholders along the financial inclusion journey have a role to play.

As a more accessible and easy-to-use payment channel, mobile money has been able to overcome some of the barriers that might be experienced in the traditional financial sector. In Senegal, for instance, 71 per cent of adults reported they had used mobile money in the last 30 days even though nearly half of them stated they had great difficulties reading and writing or were completely unable to read or write.⁵ This demonstrates that, with the right design and user education, mobile money can overcome complex barriers to financial inclusion.

In the coming years, the GSMA expects account growth to come from both long-established mobile money markets and markets where mobile money services are still nascent, especially **South Asia** and African countries such as **Nigeria, Ethiopia** and **Angola**. For example, in 2021, Ethiopia saw the launch of a mobile network operator (MNO)-led mobile money service, and the Central Bank of Nigeria granted Approvals in Principle to leading MNOs to run mobile money services in the country.

In 2021, as in past years, the vast majority of new active (30-day) accounts were added in Africa and Asia, specifically Sub-Saharan Africa, East Asia and the Pacific. However, the fastest growth by far was in Middle East and North Africa (MENA) region due to remarkable growth in the Middle East. Although the region represents just four per cent of the industry, new active accounts were up 68 per cent, followed by Latin America and the Caribbean (34 per cent) and East Asia and the Pacific (23 per cent).

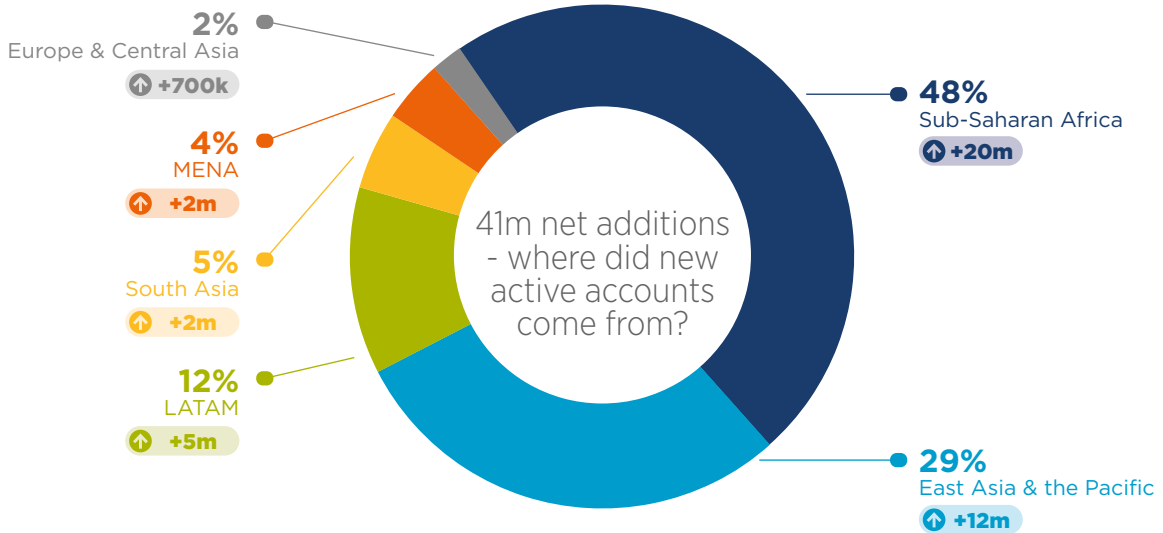
5 Source: 2021 GSMA Consumer Survey



Source: GSMA Global Adoption Survey

Figure 3:

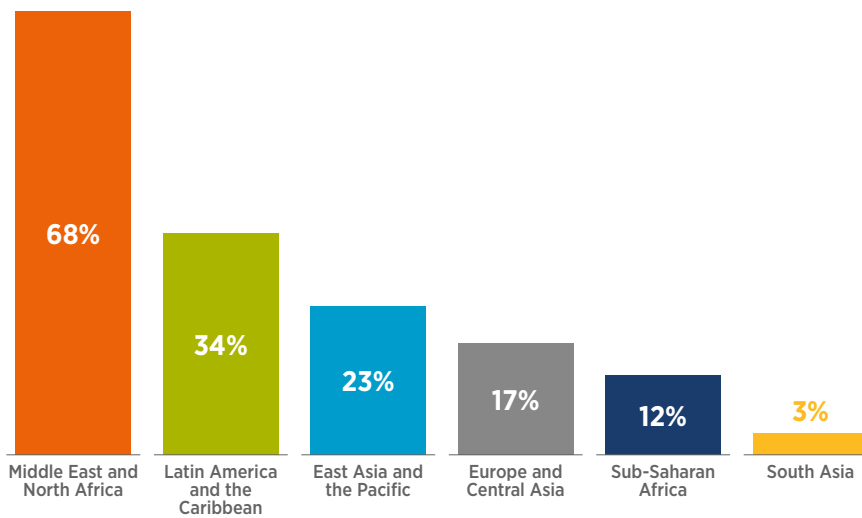
Percentage of (30-day) active account net additions by region, 2021



Source: GSMA Global Adoption Survey

Figure 4:

Growth rates for (30-day) active accounts by region, 2021



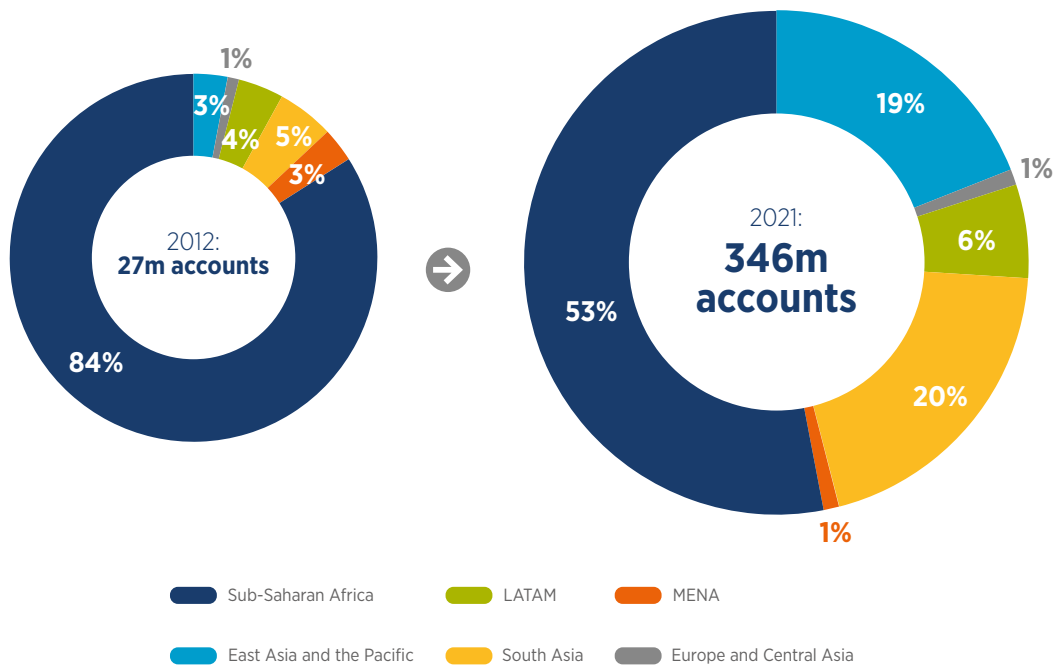
Today, the mobile money industry is more global than ever before. In 2012, mobile money was largely an East African phenomenon, with Sub-Saharan Africa accounting for 84 per cent of all active (30-day) accounts. In 2021, the mobile money map has been redrawn, with Sub-Saharan Africa accounting for just over half of active accounts and South Asia for 20 per cent, surpassing East Asia and the Pacific (19 per cent).

Meanwhile, Europe and Central Asia, Middle East and North Africa and Latin America and the Caribbean together account for 8.4 per cent of all active accounts, up only marginally from 2012 (8.3 per cent). Latin America and the Caribbean now dominate this smaller segment.

Source: GSMA Global Adoption Survey

Figure 5:

Percentage of (30-day) active accounts by region, 2012 and 2021





2012 vs 2021: how the landscape of mobile financial inclusion has changed

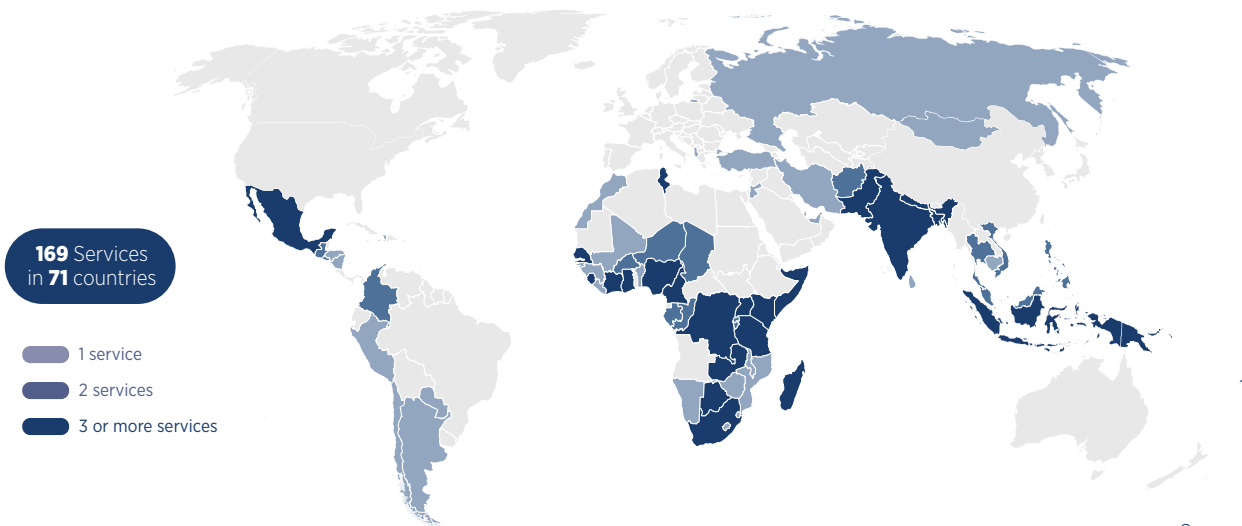
Since the first State of the Industry Report in 2012, the mobile money industry has gone from a money transfer service in several regions to financially empowering hundreds of millions around the globe.

As of December 2021, there were **316 services in 98 countries**, up from just 169 services in 71 countries in 2012.⁶

Source: GSMA

Figure 6:

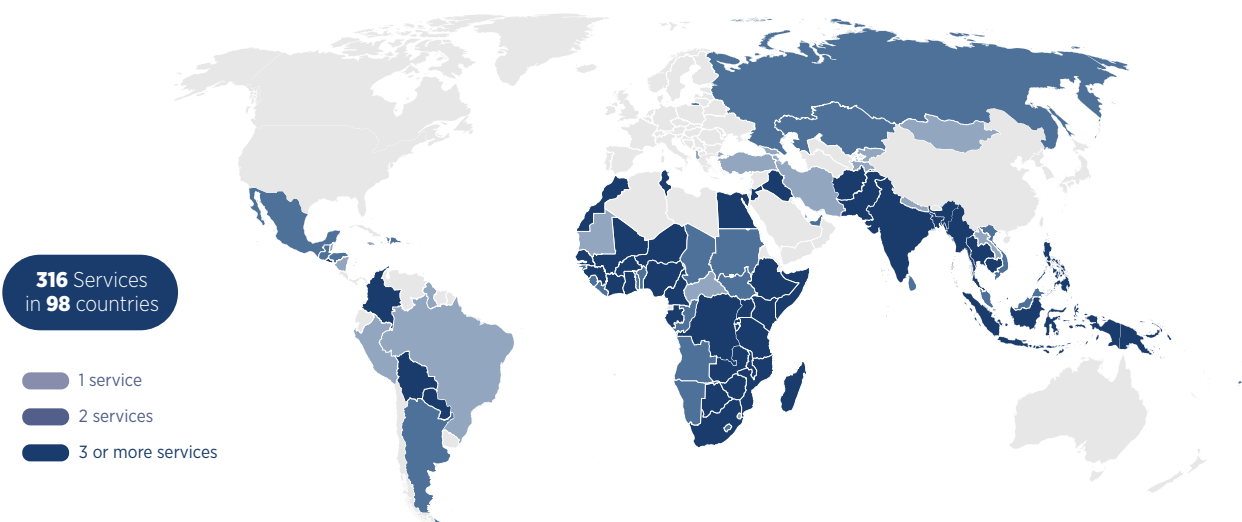
Number of live mobile money services in 2012, by country⁷



Source: GSMA

Figure 7:

Number of live mobile money services in 2021, by country



The maps are for illustrative purposes only

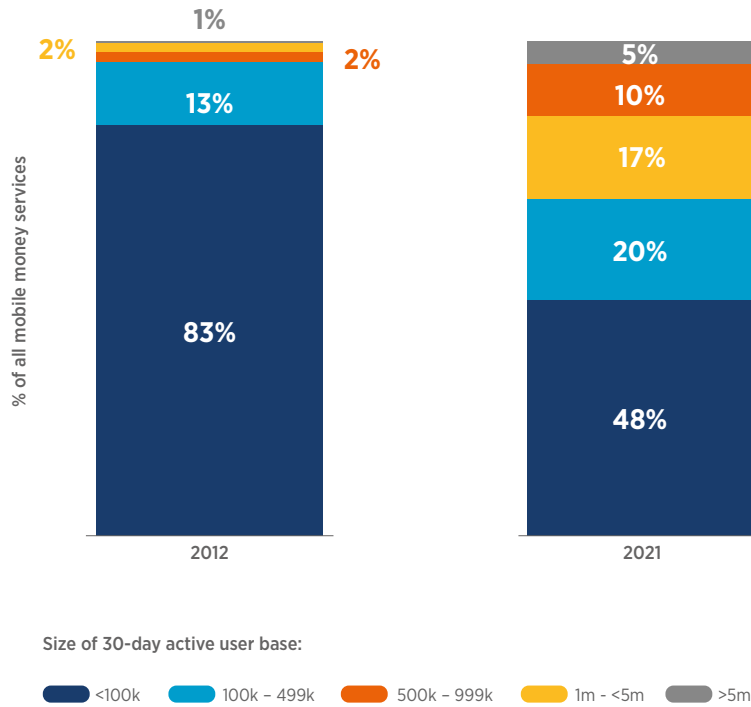
6 Read more about the Mobile Money Deployment Tracker at: <https://www.gsma.com/mobilemoneymetrics/#deployment-tracker>

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

Source: GSMA Global Adoption Survey

Figure 8:

Percentage of all mobile money services, by size of (30-day) active user base



In the span of a decade, the number of mobile money providers almost doubled and their reach grew dramatically. In 2012, most services (83 per cent) had fewer than 100,000 active accounts and only four (2 per cent) had more than a million active users. By 2021, this number had swollen to 67 services (22 per cent) and the landscape was much more complex, with services of all sizes.

In a larger and more globalised industry, mobile money has had to adapt to a range of cultural and socio-economic contexts. Increasingly diverse

and complex customer needs require a variety of use cases that are relevant and useful. This has demanded and fostered innovation, with markets and mobile money providers learning from each other, borrowing ideas and forging partnerships with 3rd parties. This diversity not only illustrates the sheer scale and maturity of the industry, but also the strong value proposition in addressing the core financial needs of customers across LMICs. The next chapter takes a closer look at how the industry is continuing to reinvent itself, and the partnerships that are emerging in different regions.



Source: GSMA

Box 1

Mobile Money Prevalence Index (MMPI)⁸

How customers use mobile money differs significantly between regions, sub regions and countries. Since 2012, the GSMA Mobile Money programme has collected and analysed data from mobile money services worldwide. Given the increasingly complex market dynamics and growing demand for country-level information, the GSMA has developed the Mobile Money Prevalence Index (MMPI) to provide additional insights on the state of mobile money for the mobile money and tech

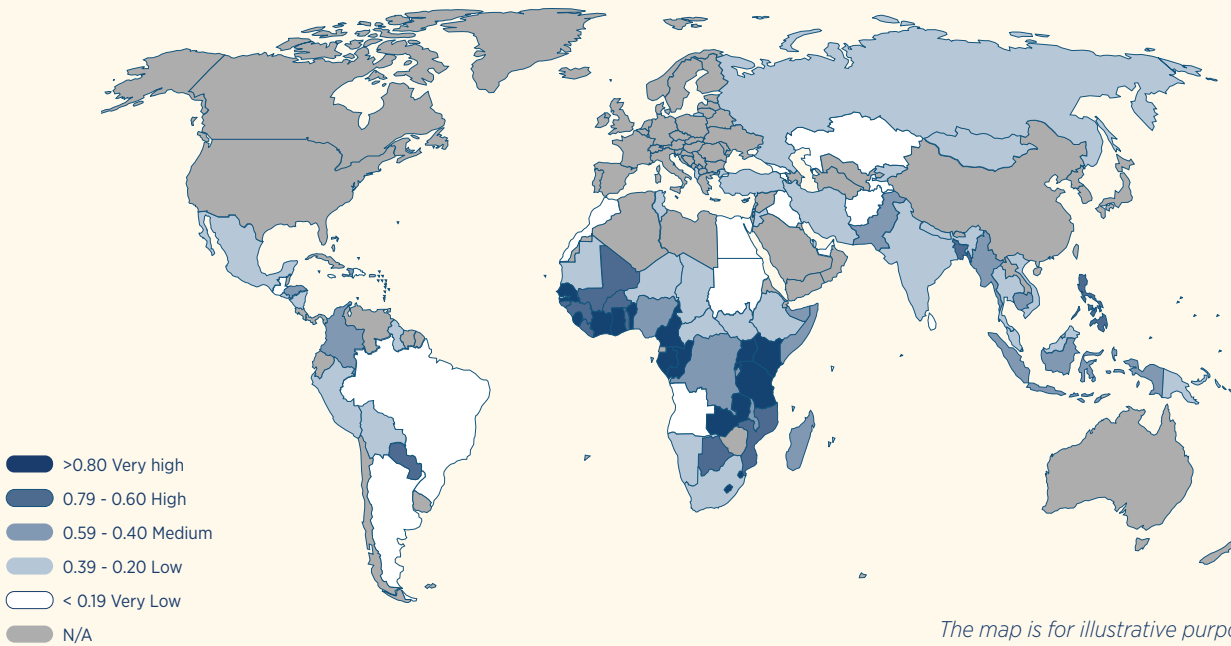
industries, academia and international organisations, while protecting industry data.

Since 2020, the largest changes in prevalence of mobile money were registered in Senegal, Sierra Leone, the Philippines and Nicaragua.

The next chapter takes a closer look at how the industry is continuing to reinvent itself, and the partnerships that are emerging in different regions.

Figure 9:

Prevalence of mobile money, by country



The map is for illustrative purposes only

**Zimbabwe's mobile money prevalence score was unable to be calculated for 2021. In 2020 its score was 'very high'.*

8 Read more about the MMPI at: <https://www.gsma.com/mobilemoneymetrics/#prevalence-index>

Surpassing a trillion dollars

In 2021, the mobile money industry reached a significant milestone: transacting more than one trillion dollars annually.

Source: GSMA Global Adoption Survey

Figure 9:

The value of the mobile money industry in 2021, by transaction type (USD)

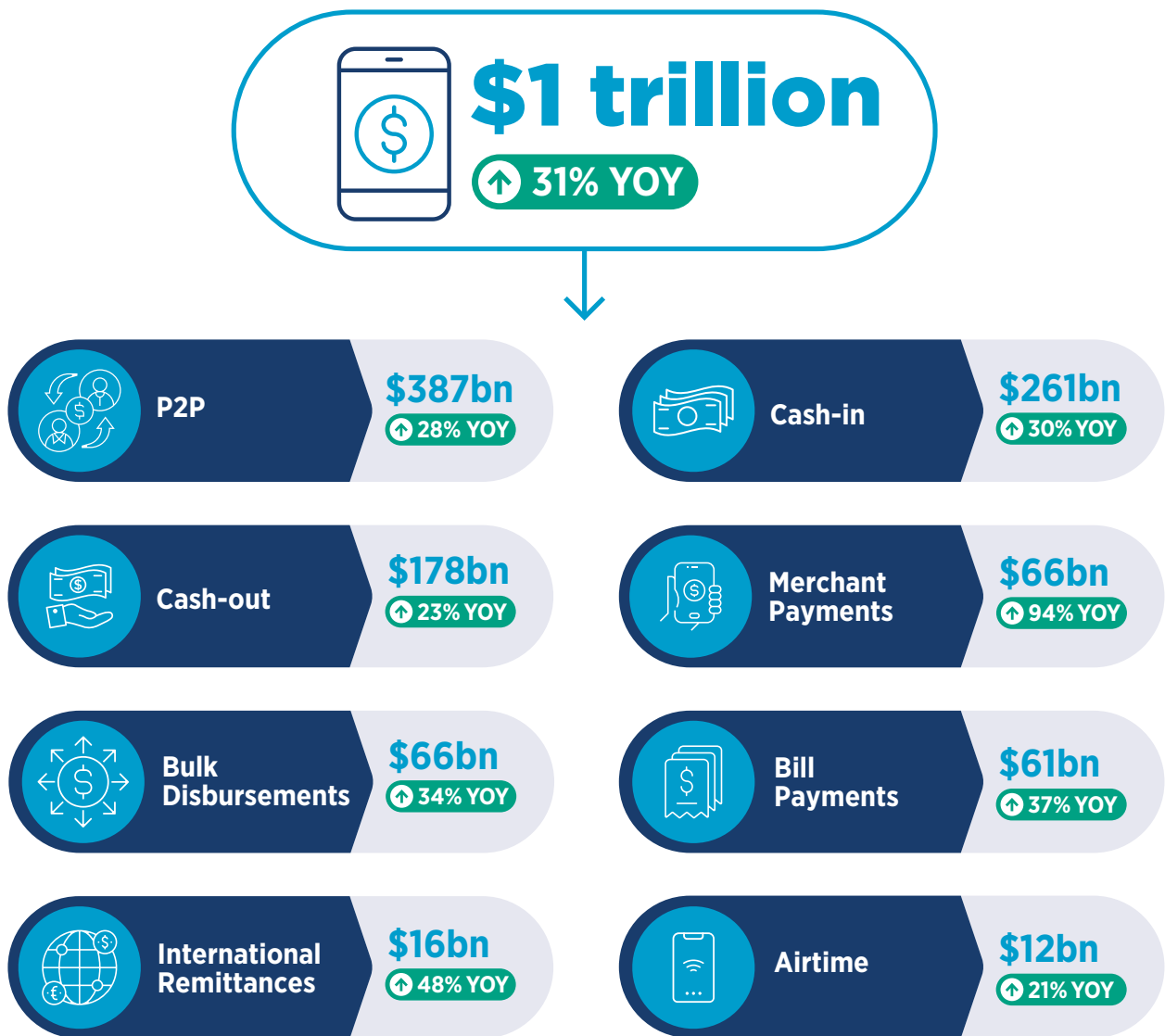
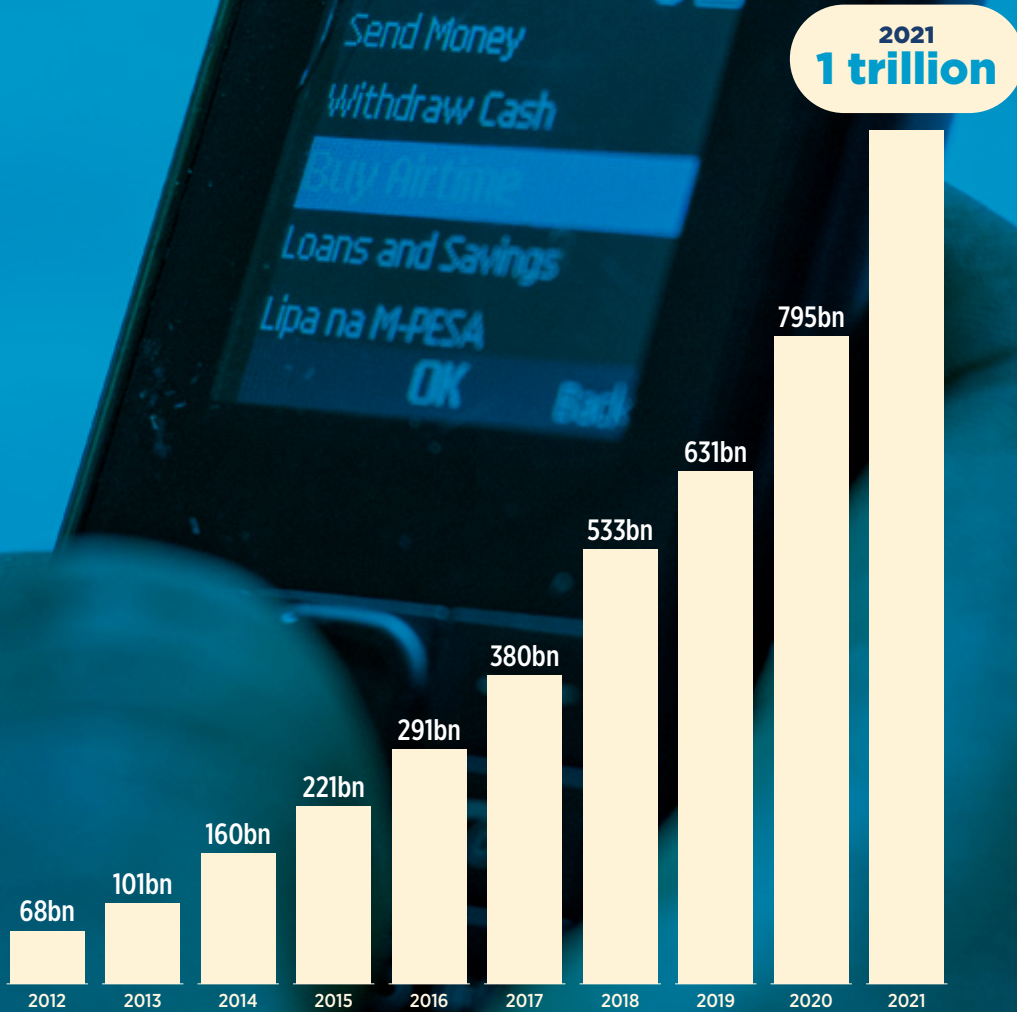




Figure 10:

Source: GSMA Global Adoption Survey

Total annual value of transactions, 2012–2021 (USD)



The total transaction value in 2021 was \$1.045 trillion, **up 31 per cent from 2020**. While the trillion-dollar mark was a long-awaited goal of the industry, the GSMA had initially predicted it would not be achieved until 2023.⁹ Several years of strong growth have prompted earlier forecasts to be revised more than once, due in part to the push for digitisation during the COVID-19 pandemic.

Year-on-year increases in transaction values have been driven by new customer uptake and higher activity rates, in part because of the growth of partner-driven transactions (see Figure 10). Cash-in, cash-out and person-to-person (P2P) payments still account for the bulk of value, but more people in LMICs are living increasingly digital lives thanks to mobile money – paying bills, school fees and a variety of online and offline merchants through mobile money accounts. These different use cases will be examined more closely in the next chapter.

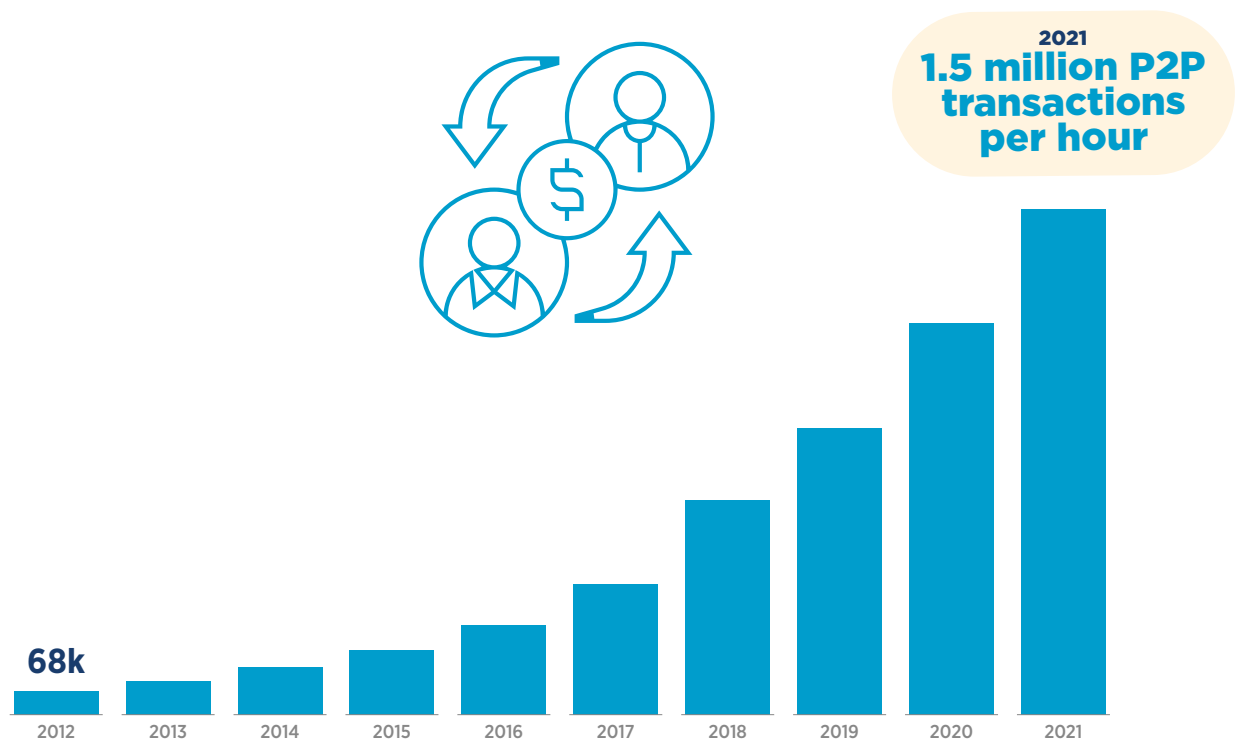
Another landmark for the industry was that, for the first time in 2021, P2P transactions topped \$386 billion or more than **\$1 billion a day**. Often a more accessible and affordable way to transfer funds, mobile money enables those without a formal financial account to send and receive money more safely and easily and to participate in the digital economy. Transaction values grew fastest in the Middle East and North Africa (49 per cent), Sub-Saharan Africa (40 per cent) and Latin America and the Caribbean (39 per cent).

The changes in the industry over the last 10 years should be viewed not only as transaction values, but also as the volume and frequency of transactions. In 2021, more than **1.5 million P2P transactions were made every hour** on average, 22 times more than in 2012. The average account makes **3.5 P2P transactions per month**.

Source: GSMA Global Adoption Survey

Figure 11:

Total P2P transactions per hour, 2012-2021



⁹ GSMA. (2020). [State of the Industry Report on Mobile Money 2019](#), p. 18.



Agent networks continue to grow despite the pandemic

Even though the COVID-19 pandemic had a negative impact on most economic sectors that require physical interaction, the number of mobile money agents has continued to rise. Between 2012 and 2021, the number of active agents multiplied more than 10 times, from 534,000 to **5.6 million**. The value digitised via mobile money agent networks **grew by 18 per cent** in 2021, reaching a total of \$261 billion or more than **\$715 million a day**. Even the most established and extensive agent networks registered strong growth, with the 25 largest

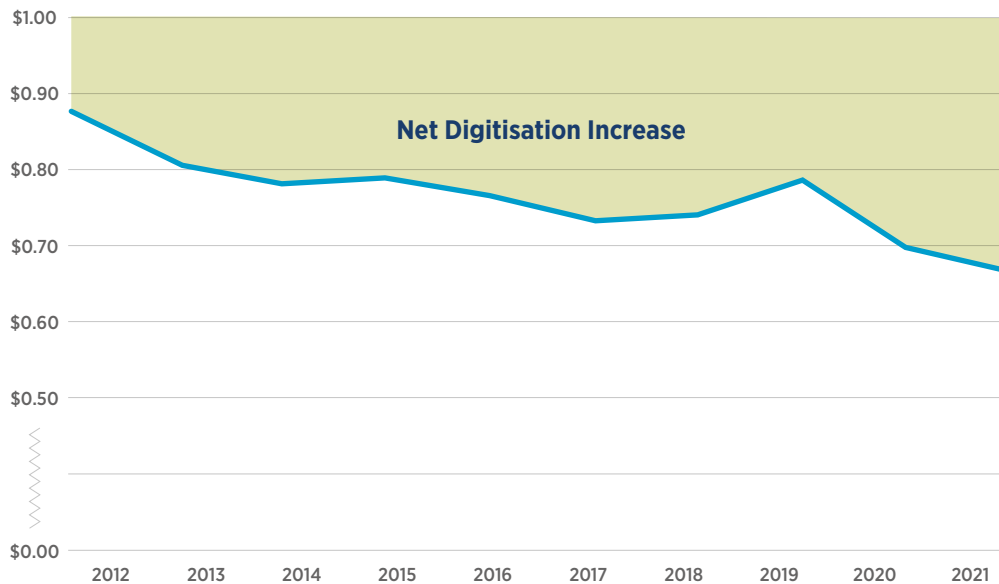
ones growing by an impressive **26 per cent** on average from 2020 to 2021.

There is a clear trend towards a more digitised mobile money ecosystem as more cash is converted into e-money and either continues to circulate as such or is spent digitally rather than being cashed out. In 2012, for every dollar cashed in, \$0.88 was cashed out. In 2021, this figure dropped by **24 per cent** to \$0.67 – meaning that **for every \$3 cashed in, only \$2 is cashed out** – a sign that mobile money users are becoming increasingly digital citizens.

Source: GSMA Global Adoption Survey

Figure 12:

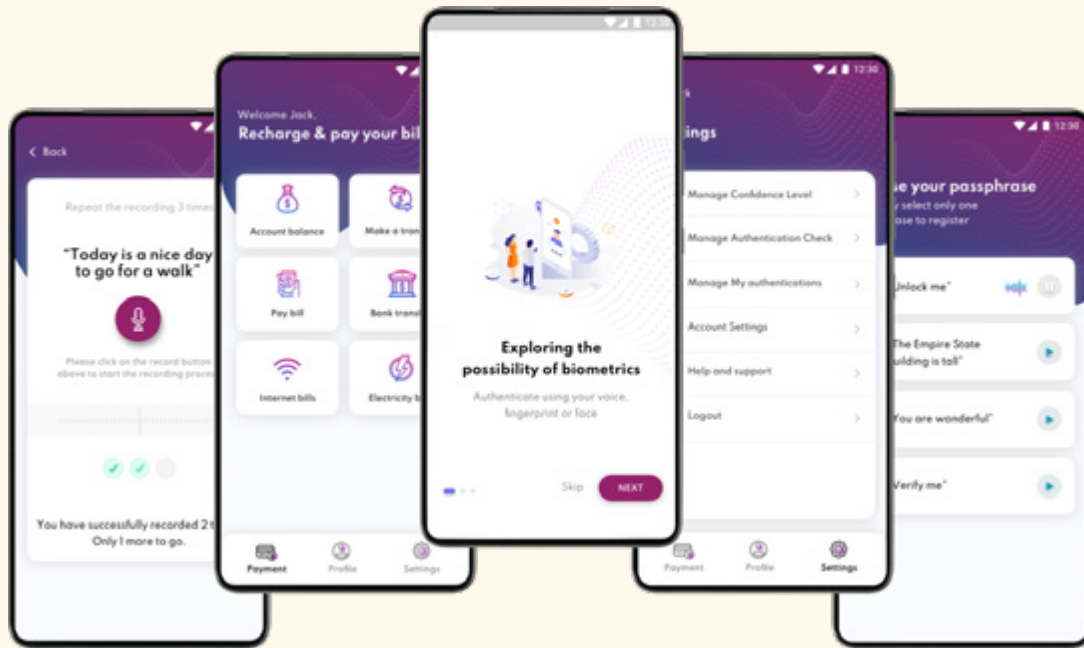
Net digitisation (dollars cashed out per dollar cashed in)



Source: GSMA Mobile Money Inclusive Tech Lab, 2021

Box 2

Developing a digital identity for all



Close to 40 per cent of adults in low-income countries (LICs) do not have an ID, which limits their ability to use digital services. To address this challenge, the GSMA Inclusive Tech Lab developed [Biometrics for All \(B4LL\)](#), a multimodal (voice, facial and fingerprint recognition), multi-use case biometric solution that allows digital service providers in emerging markets to test different solutions for their customer base in a safe environment.

B4LL was initially trialled in Pakistan with leading mobile money provider Easypaisa to simulate a voice-enabled IVR call centre experience (in Urdu) for their customers. The aim was to help Easypaisa assess whether the technology would be useful for its customers and, if so, to adopt it more widely in its operations. Feedback on the pilot has been favourable and Easypaisa is considering next steps on the use of voice-enabled authentication in its services across Pakistan.

“B4LL has been a highly useful asset for us to assess the utility of voice enabled biometric verification techniques for our customers and we are delighted to be working with the GSMA Inclusive Tech Lab on this partnership.”

– **Omar Moeen Malik**, Head of Easypaisa – Business, Telenor Microfinance Bank

Following the pilot in Pakistan, B4LL was launched as a mobile app with voice, fingerprint and facial recognition capabilities, and its code was released as open source. Despite the range of biometric authentication options available, B4LL solutions are targeted at LMICs and therefore built to be used on feature phones and low-tech smartphones.

B4LL is not a commercial service. It is simply intended to bridge the gap between digital service providers and biometric vendors, and accelerate the adoption of biometric authentication methods in emerging markets.

Policy and regulation is enabling the financial inclusion of millions

The progress achieved in expanding mobile money uptake, access and use – bridging the financial inclusion gap around the world – could not have been achieved without enabling regulation.

From driving investment, easing the rollout of new services, and lowering costs for consumers, regulators have been key to ensure that millions in LMICs access life-enhancing services through digital payments.

As a result, the GSMA's Mobile Money Programme has been carefully tracking country regulations that impact users and providers via its publicly available **Mobile Money Regulatory Index** (MMRI).¹⁰ The Index measures the extent to which a country's regulations provide an enabling framework for sustainable mobile money services and serves as an asset to the industry to provide direction on

advocacy priorities, investments and so on.

Additionally, the Programme regularly voices key considerations for financial regulators and other stakeholders, most recently with the publication of **The Mobile Money Policy and Regulatory Handbook**.¹¹ The Handbook assembles key considerations for financial regulators and other stakeholders in the mobile money industry in one place, drawing on the GSMA's unique insights into the mobile sector and mobile money industry.

Over the past decade, policy reforms have enabled mobile money to expand from a niche offering to a mainstream financial service. We look back at how mobile money policy and regulatory frameworks have evolved over the past 10 years.

A decade of regulatory frameworks: what has changed?

Early stage

“Light” regulation

The early years of mobile money regulation were marked by uncertainty. While some countries approached it as a telecommunications service subject to telecommunications regulation, the vast majority more appropriately deemed mobile money a financial service subject to financial sector regulation from the start. In many countries, regulatory frameworks were inadequate for such

revolutionary financial services. Some regulators adopted a test-and-learn approach – arguably the precursor to today's regulatory sandboxes – taking time to understand all the risks associated with mobile money before developing appropriate regulations. For example, in Kenya, regulations were first promulgated in 2014, seven years after the launch of the first mobile money product, M-PESA.

¹⁰ Read more about the MMRI at: <https://www.gsma.com/mobilemoneymetrics/#regulatory-index>

¹¹ GSMA. (2021). *Mobile Money Policy Handbook*

Box 3

Kenya's test-and-learn approach

“When regulators embrace a leadership role in developing the market, they become innovative and take reasonable risks inherent to making the changes needed to create a more inclusive financial sector. Although regulators’ main concern is always the safety and soundness of financial systems, those that have made the most progress have been willing to explore new routes or to use new tools to enhance traditional financial activities.”

– Prof. Njuguna Ndung’u, Governor, Central Bank of Kenya 2007–2015¹²

When MNOs began offering payment services, traditional financial service providers (FSPs) such as banks considered them competition to their banking products. Many erroneously thought there was a risk of disintermediation and called for mobile money providers to be regulated by central banks as stringently as they were.

As regulatory practices emerged, some common features became codified in many regulatory frameworks:

- **Authorisation** – who can provide mobile money services (banks/non-banks).
- **Anti-Money Laundering and Countering the Financing of Terrorism (AML/CFT)** – coincided with the enactment of AML/CFT laws and focussed on compliance with AML/CFT best practices by non-banks. Policymakers were keen to mitigate the risks of money laundering and terrorist financing and seize the opportunity to advance financial inclusion.

- **KYC** – the disparity between MNOs’ typically light KYC and the stringent KYC of FSPs led to the development of the risk-based approach (RBA) and mobile money-led financial inclusion.
- **Use of agents** – the role of agents in delivering cash-in/cash-out services and the liability of providers for agent actions/inaction.
- **Outsourcing of non-core functions** – the differences between core and non-core functions were defined, with regulators permitting outsourcing of non-core functions to third parties.
- **Transaction limits** – limits were set to keep mobile money a low-value, low-risk payment service.
- **Safeguarding of customer funds** – ensured that customer funds were ring-fenced if mobile money providers became insolvent.

¹² di Castri, S. (2013). “A conversation with Professor Njuguna Ndung’u, Governor of the Central Bank of Kenya, on the critical policy issues around mobile money”. GSMA Mobile for Development Blog. <https://www.gsma.com/mobilefordevelopment/country/kenya/a-conversation-with-professor-njuguna-ndungu-governor-of-the-central-bank-of-kenya-on-the-critical-policy-issues-around-mobile-money/>

Balancing financial inclusion and financial integrity

As more MNOs embraced mobile money around the world, these services became a viable way to achieve national financial inclusion objectives. Backed by enabling regulatory frameworks, mobile money also spurred innovation in a growing industry. As more and more people adopted mobile money services, regulators focused on mitigating the risks this new technology posed to the integrity of the financial system without compromising financial inclusion.

Existing financial integrity frameworks and their stringent compliance requirements were not suitable for low-risk services like mobile money and, in part, were why traditional financial services had such low adoption rates and excluded so

many. Financial exclusion, due to stringent KYC compliance requirements, was recognised as a significant money laundering and terrorist financing risk by global standard-setting bodies, which led to the 2012 revision of the Financial Action Task Force (FATF) International Standards on Combating Money Laundering and the Financing of Terrorism & Proliferation. These recommendations have formed the basis for the progressive adoption of risk-based approaches to KYC and AML/CFT by countries and the corresponding growth in customer adoption of mobile money services through innovative KYC solutions, such as tiered KYC and electronic KYC (eKYC), which the GSMA supports.

Box 4

The Financial Action Task Force risk-based approach

In February 2012, the FATF published¹³ the **FATF Recommendations**, a revised set of AML/CFT standards that provided a global framework for customer due diligence (CDD) and KYC requirements for financial institutions, including mobile money providers.

The 2012 Recommendations introduced a risk-based approach (RBA) to AML/CFT that became central to implementing all the FATF Standards. Under this approach, countries would base key elements of their AML/CFT regime on an assessment of the specific AML/CFT risks in different sectors, products, delivery channels and domestic conditions. The FATF allows exemptions from AML/CFT obligations

in proven low-risk cases and the use of simplified CDD measures in lower risk cases — two possibilities based on the risk assessment.¹⁴

The FATF has repeatedly emphasised that applying an overly cautious approach to AML/CFT safeguards can have the unintended effect of excluding legitimate businesses and consumers from the financial system. Ineffective regulation or controls may enable money launderers and terrorist financiers to abuse mobile money services, but AML/CFT controls should not inhibit access to formal financial services for low-income, rural, undocumented or other financially excluded and underserved groups.¹⁵

¹³ FATF. (2012). [The FATF Recommendations](#).

¹⁴ GSMA. (2015). [Proportional risk-based AML/CFT regimes for mobile money: A framework for assessing risk factors and mitigation measures](#).

¹⁵ FATF. (2017). [FATF Guidance on AML/CFT measures and financial inclusion, with a supplement on customer due diligence](#). See also: FATF. (October 2021). [Mitigating the Unintended Consequences of the FATF Standards](#).



Current policy and regulatory concerns

In 2018, the GSMA introduced the Mobile Money Regulatory Index (MMRI).¹⁶ The MMRI identifies six enablers of a successful mobile money service: authorisation, consumer protection, transaction limits, KYC, agent networks and investment and infrastructure environment. Each enabler is weighted based on its contribution to mobile money to thrive.

The MMRI currently covers 90 countries, most of which are covered by the Global Adoption Survey, and is reviewed annually to ensure it is up to date with current information on applicable mobile money regulatory frameworks.

Taxation

As mobile money becomes more pervasive and mobile money providers more profitable, tax authorities are introducing new tax regimes. For example, Côte d'Ivoire, Tanzania and Uganda have each introduced a tax on specific transactions that has made mobile money services less affordable. Countries contemplating similar taxes include Ghana and Cameroon.

In 2020, 14 countries recorded improvements (+1% or more) in their regulatory environments. These were Angola, Egypt, eSwatini, Ethiopia, Nepal, Pakistan, and the eight countries belonging to the West African Monetary Union (WAMU).

Despite the success of mobile money services in many countries, in others, the sustainability of mobile money services is being threatened by policy and regulatory interventions, from taxes on transactions to costly data localisation mandates. For mobile money providers, the fast-evolving policy and regulatory environment is creating new challenges.

Wrongly applied sector-specific taxes increase transaction costs and fuel the informal (cash-based) economy as consumers circumvent the use of mobile money services. This has a disproportionate impact on the poor, and it also increases the tax burden on providers and discourages investment in the mobile money sector.

¹⁶ GSMA. (2021). [Mobile Money Regulatory Index 2021](#).

Source: GSMA

Box 5

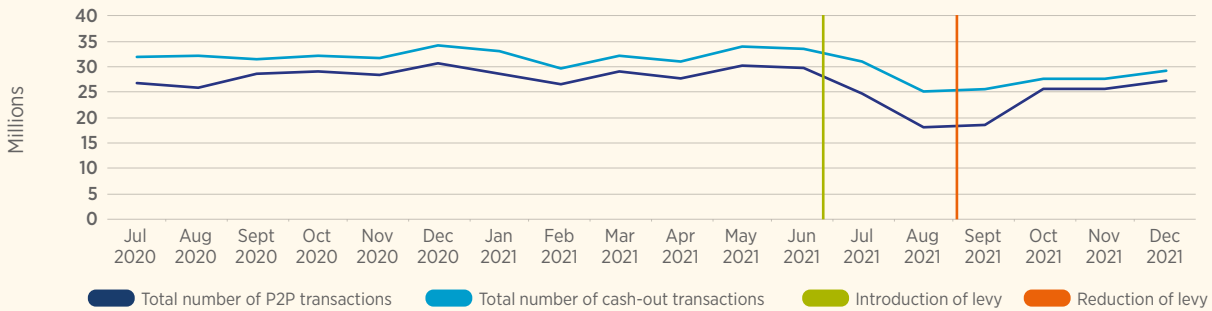
Impact of mobile money transaction levy in Tanzania

Source: GSMA analysis and operator's data

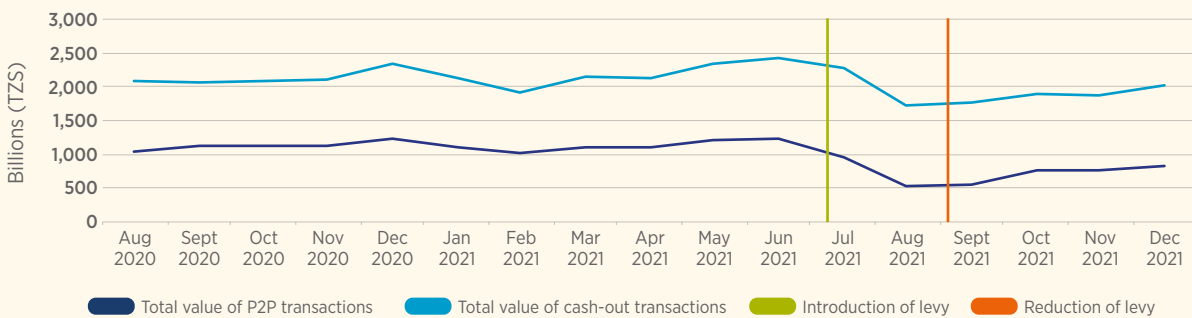
Figure 13:

Total number and value of transactions, per transaction type

Total number of transactions



Total value of transactions



In July 2021, Tanzania introduced a new tax on mobile money transfer and withdrawal transactions.¹⁷ Following this, the average transaction fee a consumer paid saw an increase of 3% to 369%, depending on the transaction value, compared to the previous month. This tax policy decision by the government, with its direct impact on increasing mobile money transaction costs, made mobile money services less affordable. As mobile money transactions became more expensive on account of the new levy, mobile money users rapidly reduced their usage of mobile money in favour of alternative payment methods such as cash. This is reflected by the sharp decrease in the total number of P2P transactions (-38%). Mobile money providers felt the effects both in lowering their transaction fees, but also in the reduced transaction volumes.

In September 2021, mobile money fees reduced marginally by 15% on average compared to fees applicable in July and August due to the levy reduction by the government and the reduction of fees by mobile money operators. From September 2021, mobile money operators reduced their fees to make mobile money services more affordable and counter the negative effects of the new levy. However, the transaction fees were still significantly higher than those charged in June 2021, with a price increase ranging from 3% to 258%, depending on transaction value.

The change in consumer behaviour leads to increased use of cash, reversing gains Tanzania had made in going cashless. Transitioning to cashless increases convenience and efficiency in the economy and reduces the cost of cash for the Government.¹⁸

17 This included on- and off-net P2P transactions and cash withdrawal fees and excluded merchant, business and government payment transactions

18 GSMA. (2021). [Tanzania Mobile Money Levy Impact Analysis](#).

Poorly designed and implemented instant payment solutions

There are many paths to achieving mobile money interoperability, highlighting the complex nature of the subject. The GSMA supports industry-led mechanisms to improve the safety, security and efficiency of payment systems including industry-led bilateral interoperability.¹⁹ However, increasingly, regulators are pushing the industry to connect to centralised instant payment schemes or switches (see Figure 14) with little or no consultation with industry players. This means that the technical architecture, operating rules, commercial models and governance structures of such public infrastructure may be inadequate for mobile money and may introduce new risks, to the detriment of mobile money users.

For example, industry consultation would ensure that appropriate customer redress mechanisms and business continuity plans are agreed upon in the event of system failure. These should not be imposed on system participants. Similarly, the system

participants would have different cost structures which would influence the cost of transactions on the instant payment platform. Such commercial arrangements must be subjected to deliberation and agreement with all system participants. Regulators and industry actors therefore need to engage in dialogue to ensure any planned public payments infrastructure achieves the intended policy objectives without compromising investor or consumer confidence.

Despite the varied approaches to interoperability, there is no evidence that centralised instant payment platforms are more advantageous to bilateral schemes. There is equally no evidence that current instant payment scheme deployments accelerate financial inclusion or increase operational efficiency. More research is therefore needed to critically analyse the varied approaches to interoperability in scaling mobile money services.

Costly data localisation mandates

Using cloud-hosted services has several benefits for mobile money providers, including lower costs for end users. However, it is quite common for regulators to insist on local hosting due to supervisory oversight, data privacy and national security concerns. The effects of such mandates are higher capital expenditure costs for hosting hardware, software and related infrastructure, and the on-going operational costs of maintaining them. It is important that regulators encourage the use of cloud-hosted

services to support scalability and bridge the financial inclusion gap sustainably.²⁰

As we celebrate 10 years of the GSMA Mobile Money programme, it is clear that enabling policy and regulatory frameworks that modernise the digital financial services ecosystem, improve safety and sustainability, encourage innovation and build new partnerships, will be vital to ensuring customers remain financially connected in this dynamically changing environment.

19 GSMA. (2020). [Many paths to mobile money interoperability](#).

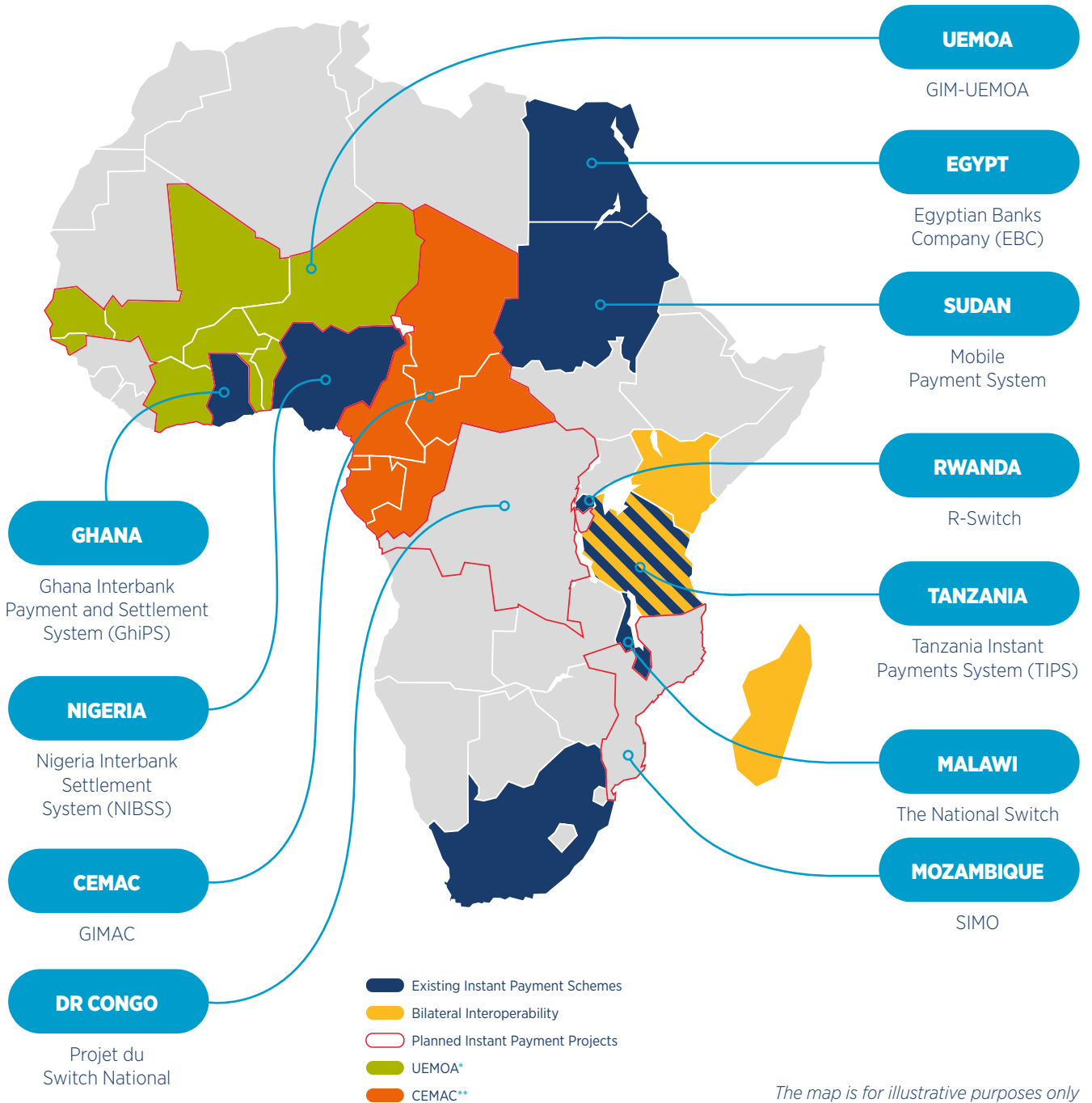
20 GSMA. (2020). [Demystifying regulatory concerns for the use of cloud services in mobile money](#).



Source: GSMA

Figure 14:

Development of instant payment schemes in Africa



The map is for illustrative purposes only

* UEMOA refers to Union Économique et Monétaire Ouest-Africaine or West African Economic and Monetary Union (WAEMU). Member states are Benin, Burkina Faso, Ivory Coast, Guinea-Bissau, Mali, Niger, Senegal and Togo

** CEMAC refers to Communauté Économique et Monétaire de l'Afrique Centrale or Central African Economic and Monetary Community. Member states are Cameroon, Central African Republic, Chad, Republic of Congo, Equatorial Guinea and Gabon.



Diversification and commercial sustainability

Diversification and commercial sustainability

A decade of growth in active accounts and transaction values has shown that mobile money is playing an increasingly important role in the daily lives of people in LMICs. **It is also diversifying its value proposition.** Beyond P2P transfers and cash-in/cash-out transactions, the growth of partnership-driven “ecosystem transactions”,²¹ such as bill payments, bulk disbursements, merchant payments and international remittances, together with interoperable transactions, are accounting for a greater share of the global mobile money transaction mix.

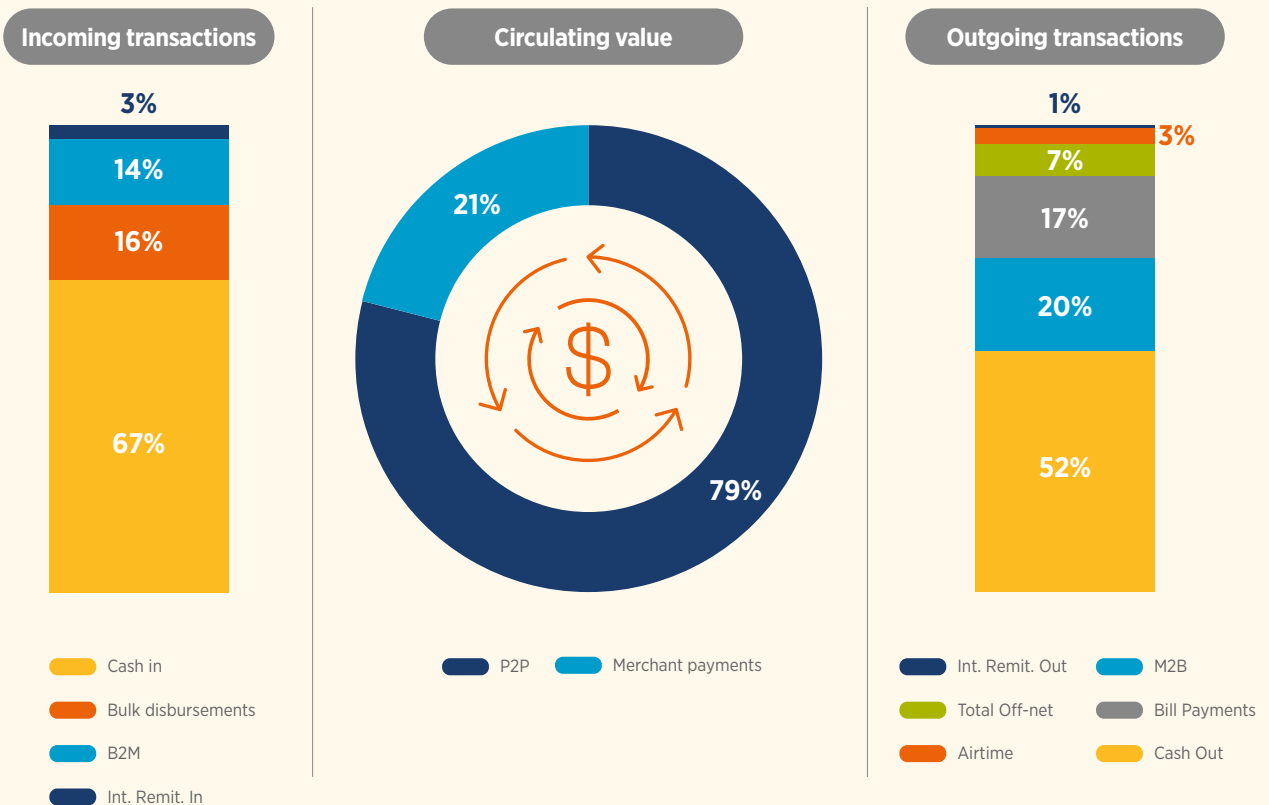
While money traditionally leaves the mobile money system by being cashed out, **digital transactions such as mobile-to-bank (M2B) or bill payments now constitute almost half of outgoing flows.** Another remarkable shift is in the transactions that

make up the circulating value (P2P and merchant payments). In the past two years, **the share of merchant payments hovered around 10 per cent, but they have since taken a leap forward and now account for 21 per cent of circulating value.**

Source: GSMA Global Adoption Survey

Figure 15:

The ins and outs of mobile money, December 2021



21 Ecosystem transactions = bill payments, bulk disbursements, merchant payments and international remittances

Merchant payments

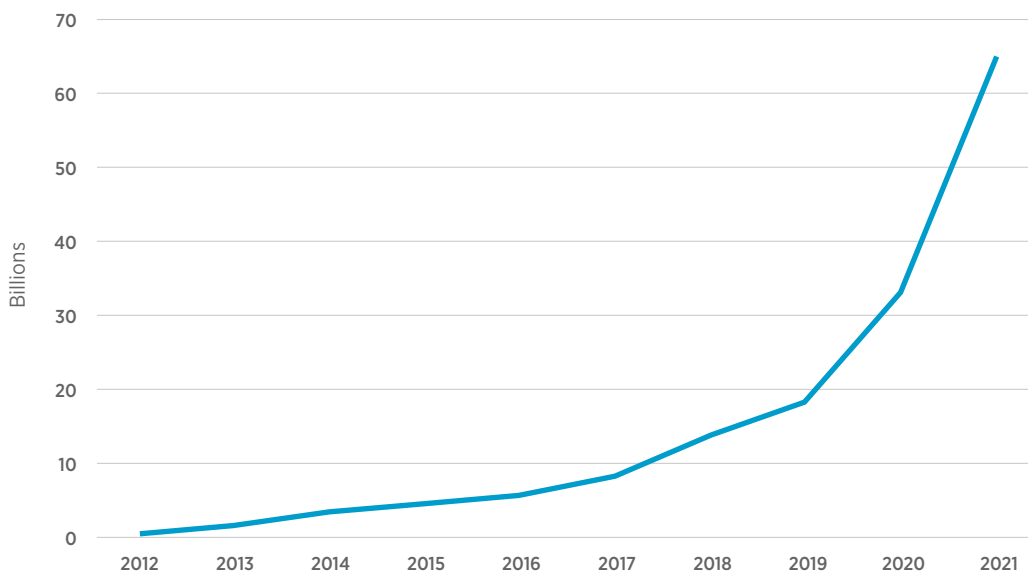
After a momentous year for merchant payments in 2020, this strong upward trend continued in 2021, reaching what could be considered a tipping point. **The value of merchant payments, including**

proximity and online payments, almost doubled, reaching an average of \$5.5 billion in transactions per month, up from \$2.8 billion on average in 2020.

Source: GSMA Global Adoption Survey

Figure 16:

Total annual value of merchant payments (USD)



Consistent with this trend is a **considerable increase in the number of businesses accepting and actively using mobile money as a payment method**. According to the 2021 Global Adoption Survey, between September 2020 and June 2021 there was a 47 per cent increase in the number of active merchants that had accepted a mobile money payment in the last 30 days. This growth may be driven in part by a significant proportion of MSMEs moving from the P2P channel to merchant payments.²²

It is also worth noting that, in late 2021, the average merchant payment value began to stabilise after years of consistent growth, as transaction volumes caught up with growth in values. This could mirror trends in the payment card industry²³ seen in high-

income markets, as merchant payments in LMICs may begin to be used more for smaller everyday purchases and ultimately play a bigger role in the daily lives of mobile money users.

Mobile money providers are demonstrating that they can attract businesses to their platform with better incentives, such as efficient remote onboarding processes. For example, since Safaricom's M-PESA began allowing businesses to register for an account online in Kenya, more than 18 per cent of new merchants are self-onboarding through the Lipa Na M-PESA portal. Still, according to the Global Adoption Survey, less than 10 per cent of mobile money providers allow businesses to register remotely on their platforms.

22 Evidence that small and microbusinesses in two Sub-Saharan African countries use their personal mobile money accounts for business needs. See Pasti, F. and Nautiyal, A. (2019). *Mobile Money for Enterprise Customers: Addressing the financial services needs of MSMEs in Sub-Saharan Africa*. GSMA.

23 UK: <https://blog.spendsk.com/en/credit-card-statistics>; Europe: <https://www.paymentscardsandmobile.com/payment-card-yearbooks-european-payments-continue-to-rise-rapidly/>; Australia: <https://www.rba.gov.au/publications/bulletin/2019/mar/new-payments-insights-from-the-updated-retail-payments-statistics-collection.html>; Austria: <https://www.statista.com/statistics/874483/average-value-of-credit-and-debit-card-transactions-in-austria/>



Policy and regulatory measures can also encourage businesses, particularly MSMEs, to adopt mobile money as a payment method or use merchant accounts rather than personal ones. For example, the Bank of Ghana introduced regulations to facilitate the on-boarding of MSME merchants that may not meet the threshold for KYC requirements set out in the Payment Systems and Settlement Act to access merchant accounts.²⁴

Even with the outstanding growth observed in merchant payments, there is still substantial room for mobile money-enabled online payments to grow, particularly in Sub-Saharan Africa. Based on responses to our Global Adoption Survey, **the vast majority of merchant payments in the region are still offline.** However, in 2021, new partnerships emerged between mobile money providers and payment technology companies such as Flutterwave, which are enabling more mobile money users to pay for online purchases.

²⁴ Bank of Ghana. (3 December 2020). "[Notice to Banks, E-Money Issuers, Payment Service Providers, Merchants and the General Public. Notice No. BG/GOV/SEC/202/15. New Merchant Account Categories.](#)"



International remittances

When the COVID-19 pandemic began in early 2020, the ensuing global recession and fears of mass unemployment were expected to result in a sharp decline in international remittance flows to LMICs. Instead, diasporas around the world continued to support those at home and, despite a challenging year, international remittances only dropped by 1.7 per cent in 2020.²⁵ In the same period, the number of international remittances sent and received via mobile money grew very quickly, enabled in part by a widespread and accelerated shift to digital transactions.

While total remittance flows to LMICs were expected to increase by 7.3 per cent in 2021, **mobile money-enabled remittances grew faster, by 48 per cent, to reach \$15.9 billion.** Despite this impressive growth, the total value of remittances sent through the mobile money channel still represents just 2.7 per cent of total forecasted flows to LMICs, estimated at \$589 billion²⁶ in 2021. This indicates that, even after remarkable growth, the mobile money channel still has considerable potential.

It remains to be seen whether higher rates of digitisation and mobile money-enabled international remittances will continue beyond the pandemic. Since digital international remittance flows are both faster to operate and tend to be more affordable (see Figure 15), it is likely that digitisation will continue. However, **the 2021 Global Adoption Survey found that more than 40 per cent of mobile money providers still do not offer any international remittance services to their customers.** This includes 30 per cent of respondents in Sub-Saharan Africa where the cost of sending money across international borders is the highest in the world, at eight per cent on average.²⁷ There are nonetheless encouraging signs that leading actors in the international remittance space are accelerating their move to digital, such as Western Union's commitment to step up integration with mobile money providers.²⁸

²⁵ KNOMAD and World Bank Group. (November 2021). *Recovery: COVID-19 Crisis through a Migration Lens*. Migration and Development Brief 35.

²⁶ Excluding China. Ibid.

²⁷ Ibid.

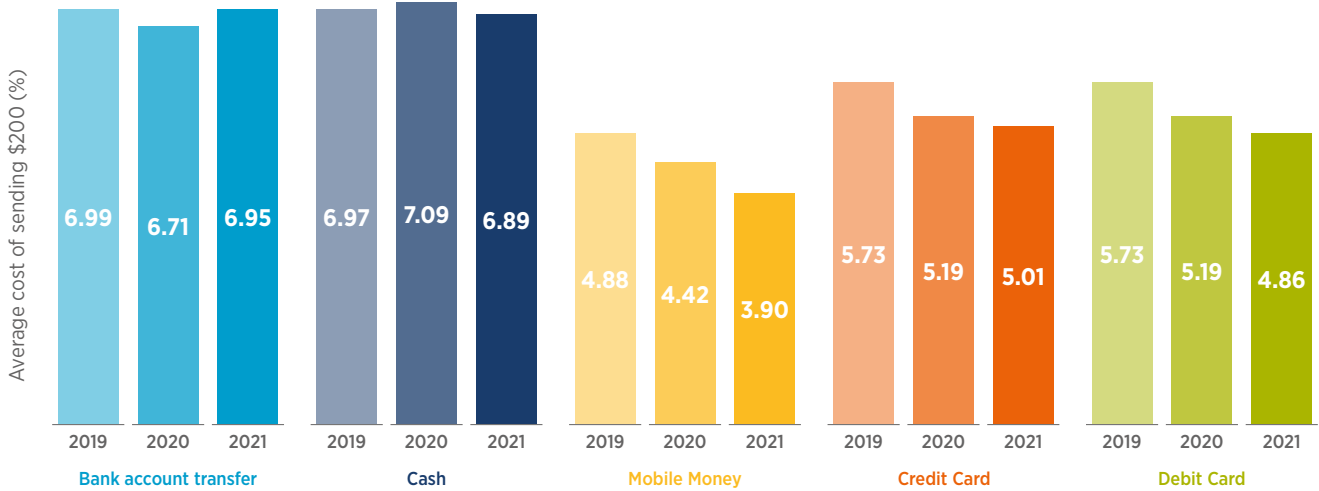
²⁸ This commitment was made as part of the Edison Alliance, of which the GSMA is a member. See: <https://www.westernunion.com/blog/improve-1-billion-lives-through-digital-inclusion/>



Source: World Bank

Figure 17:

Average cost of sending international remittances (% of transacted value)²⁹



Bulk disbursements

After registering 28 per cent growth in 2020, **mobile money-enabled bulk disbursements grew by another third in 2021, topping \$65.8 billion**. To an important extent, this growth can be attributed to an uptick in salary payments via mobile money as a larger proportion of employers in LMICs are turning to digital to pay their employees. In fact, mobile money providers that responded to the Global Adoption Survey reported that **the number of account holders receiving their salary via mobile money grew by close to 150 per cent** between September 2020 and June 2021.

Social and humanitarian cash transfers, including for pandemic relief, also play an important role in this growth. While some governments and non-governmental organisations (NGOs) cut back these

transfers once the most stringent pandemic-related restrictions were lifted, others resumed and even scaled them, including through mobile money. **Based on responses to the 2021 Global Adoption Survey, more than half of mobile money providers stated that they helped disburse COVID-19 relief funds** and, between September 2020 and June 2021, **the number of unique customer accounts receiving government-to-person (G2P) payments grew by more than 50 per cent**. This could indicate that governments and NGOs are interested in sustaining their new partnerships with mobile money providers and ensuring that both they and their recipients continue to benefit from the proven and efficient mobile money channel.

29 World Bank Group. (June 2021). [Remittance Prices Worldwide Quarterly](#). Issue 38.

Bill payments

Like other ecosystem transactions, **the number of bill payments processed via mobile money leapt in 2021, growing by 37 per cent to exceed \$5 billion in transactions per month.** For customers, the appeal of digitisation is becoming clear. In addition to offering more practical ways to pay for services, mobile money-enabled bill payments can unlock access to a range of new services, such as off-grid energy, and help low-income users build economic identities. For government agencies and utility companies, mobile money-enabled bill payments

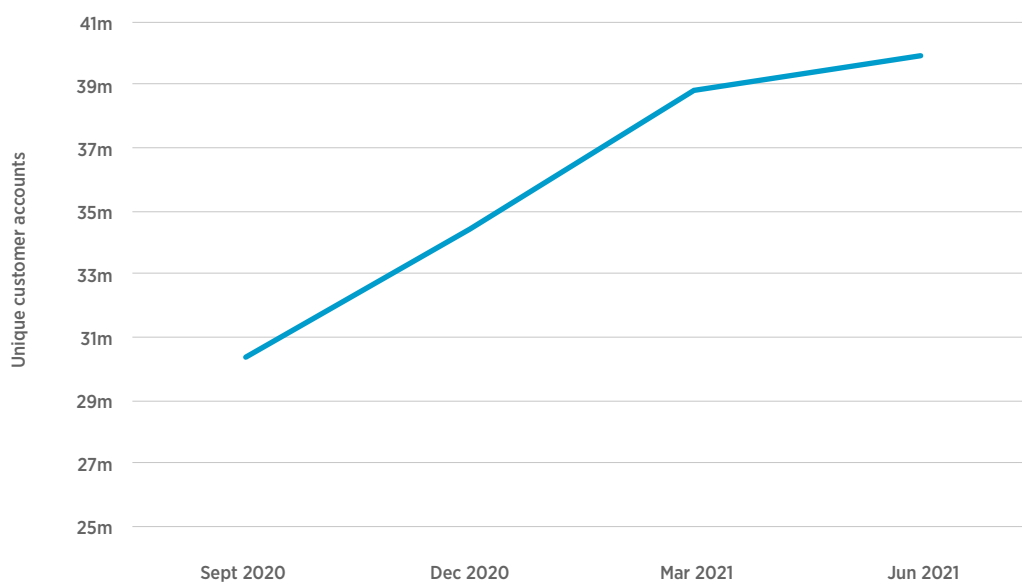
can make revenue collection more efficient and cost-effective, strengthen financial transparency and circumvent fraud.

Mobile money customers are also using mobile money more consistently to pay their bills. Based on responses to the 2021 Global Adoption Survey, the number of unique customer accounts that performed bill payments in the past 30 days grew by about a third between September 2020 and June 2021.

Source: GSMA Global Adoption Survey

Figure 18:

Number of unique customer accounts that initiate bill payments (past 30 days)



Energy payments still constitute a major proportion of bill payments processed via mobile money, with 68 per cent of mobile money providers reporting that their top billers (by value transacted) were electricity companies. However, tremendous progress has also been made in digitising payments

in other sectors, including government and education. In Côte d'Ivoire, for example, the vast majority of secondary school fees are now paid via mobile money thanks to government efforts to mandate digital payments.³⁰

30 GSMA. (2015). [Paying school fees with mobile money in Côte d'Ivoire: A public-private partnership to achieve greater efficiency.](#)



x2

The value of transactions flowing between banks and mobile money has **more than doubled** since 2019

Interoperability

After recording exceptional growth in 2020, **the value of transactions flowing between banks and mobile money platforms also grew quickly in 2021, up 46 per cent, and have more than doubled since 2019.** The continued acceleration of these

types of transactions confirms the complementary relationship between banks and the mobile money industry that has been observed in the past few years, confirming mobile money's key position in the financial ecosystem.

Business models and profitability

In 2020, COVID-19 lockdowns and restrictions caused a spike in mobile money transactions as many customers turned to digital transactions as a safer and more accessible option. Still, consumer spending dipped, and many markets introduced temporary fee waivers for transactions, leaving mobile money providers unable to reap the commercial benefits of

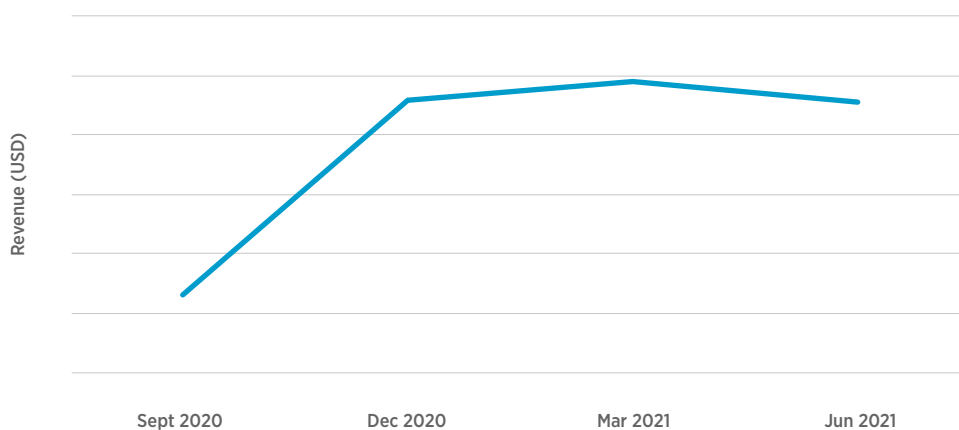
higher mobile money use. By June 2020, the revenue of many providers had recovered, however.

According to the 2021 Global Adoption Survey, on-going economic recovery in many markets and the roll-back of fee waivers in several markets caused provider revenue to climb until late 2020, before flattening between December 2020 and June 2021.

Source: GSMA Global Adoption Survey

Figure 19:

Monthly revenue (September 2020 to June 2021)



While it may be difficult to pinpoint why revenues levelled off, **overreliance on customer fees has clearly left mobile money providers vulnerable to disruption.** According to the 2021 Global Adoption Survey, as of June 2021, **79 per cent of all mobile money provider revenue came from cash-out and P2P transfer fees.** Higher competition in several markets has put significant pressure on prices, resulting in large reductions in cash-out fees, which still represent a significant proportion

of provider revenues. Moreover, **while most transaction fee waivers introduced by regulators during the COVID-19 pandemic were rolled back, some transactions remain zero-rated.** For example, in their latest half-year financial results (April-September 2021), Safaricom reported that mobile-to-bank and bank-to-mobile transactions, accounting for 18 per cent of total M-PESA transaction values, remained zero-rated.³¹

31 Safaricom PLC (10 November 2021). "[H1 FY22 Investor Presentation](#)".



79%

According to the 2021 Global Adoption Survey, as of June 2021, 79 per cent of all mobile money provider revenue came from **cash-out** and **P2P transfer fees**.

Whether transaction fees are incurred directly by customers or not, financial dependence on transaction fees can carry significant risk, particularly if providers have not taken full advantage of the online payment opportunity. According to a joint GSMA-BFA Global modelling exercise, **the transaction fee-based model has been successful in helping mobile money providers move from the start-up stage to maturity, but those that reach the “maturing transactional stage”³² may encounter challenges**, particularly in saturated markets, with declining average revenue per user (ARPU) and stagnating profits (gross margin, EBITDA margin and operating free cash flow).

To remain commercially sustainable, mobile money providers have an opportunity to expand their business models beyond transaction fees, paving the way for a transition to a “payments as a platform” model. For providers, this would be a strategic shift as more value would remain digital and revenue sources could be diversified. This additional income could be used to fund on-going financial inclusion efforts that expand their customer reach to excluded customer segments.

Building on trends in the mobile money and fintech industries, GSMA modelling shows two additional tiers of profitability embraced by many mobile money providers (**Tier 1** corresponds to a transaction fee-based model):

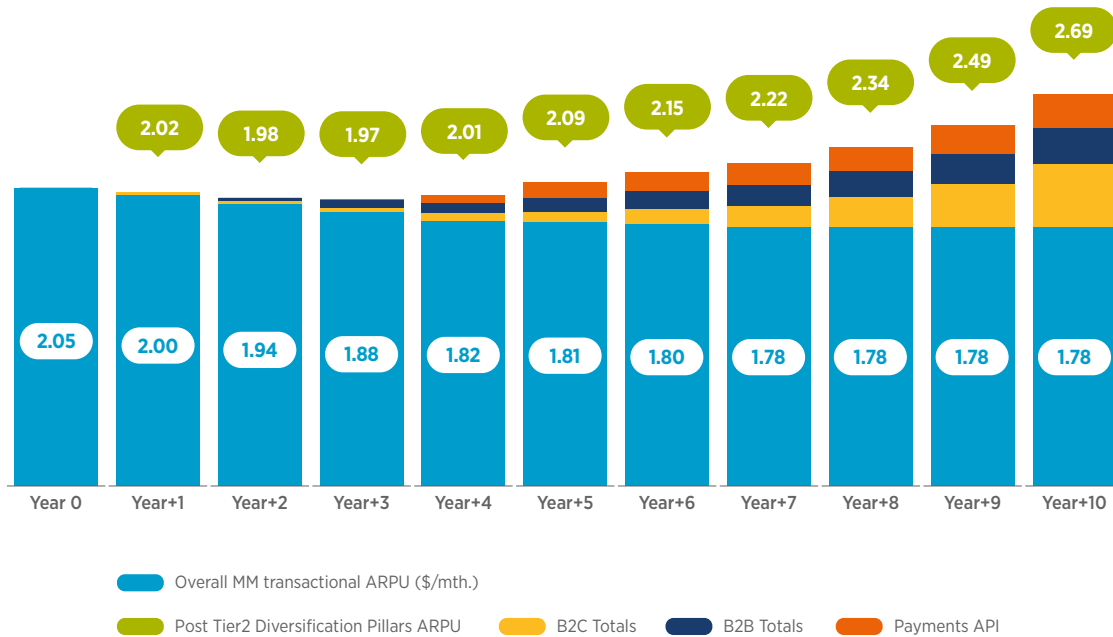
- **Tier 2** products and services help providers diversify their offerings and reverse declining ARPUs. Considered “low-hanging fruit” by the industry, these products and services include:
 - **Mobile money-enabled financial services** for consumers (credit, savings, insurance and wealth management);
 - **B2B products**, including payments and accounts, and tailored financial services for businesses; and
 - **Payment APIs**, such as the GSMA Mobile Money API, which provides plug-and-play access for third parties and unlocks new transactions (e.g. bulk disbursements and merchant and bill payments).

32 Coined by the GSMA and BFA Global in [Profitability 2.0: Ecosystem-driven business modelling & the future of mobile money margins](#).

Source: GSMA 2021

Figure 20:

Evolution of Tier 1 (transaction fee-based) and Tier 2 (diversification pillars) mobile money ARPU contributions over the next 10 years



- **Tier 3** products and services are ecosystem innovations such as:
 - Data APIs and Analytics as a Service;
 - Agents as a Service (AaaS);
 - Super apps and embedded features in third-party apps;
 - Finance as a Service (FaaS); and
 - Infrastructure as a Service (IaaS).

Increasingly, mobile money providers are diversifying their business and ensuring commercial sustainability while also opening access to life-enhancing products and services. Today, about one

quarter of providers have already opened their APIs to the public, an important step in enabling seamless integration with third parties.

Research conducted by the GSMA Inclusive Tech Lab with nearly 100 organisations shows that, **in addition to open APIs, barriers to integration are being addressed with solutions such as greater standardisation, enhanced developer tools and a wider selection of API use cases.**³³ For example, since the launch of their open API programme, which features documentation, a sandbox and additional products, MTN MoMo has attracted more than 900 partners that provide life-enhancing services, such as pay-as-you-go (PAYG) solar and other financial services.³⁴

33 GSMA Inclusive Tech Lab. (2021). *Mobile Money API Industry Report: The Challenges of Seamless Integrations*.
 34 McKay, C. and Hanouch, M. (28 October 2021). "MTN Mobile Money Opened APIs – Was it Worth It?" *CGAP Blog*.



Source: GSMA 2021

Box 6

Contribution of the GSMA Mobile Money API to the Sustainable Development Goals

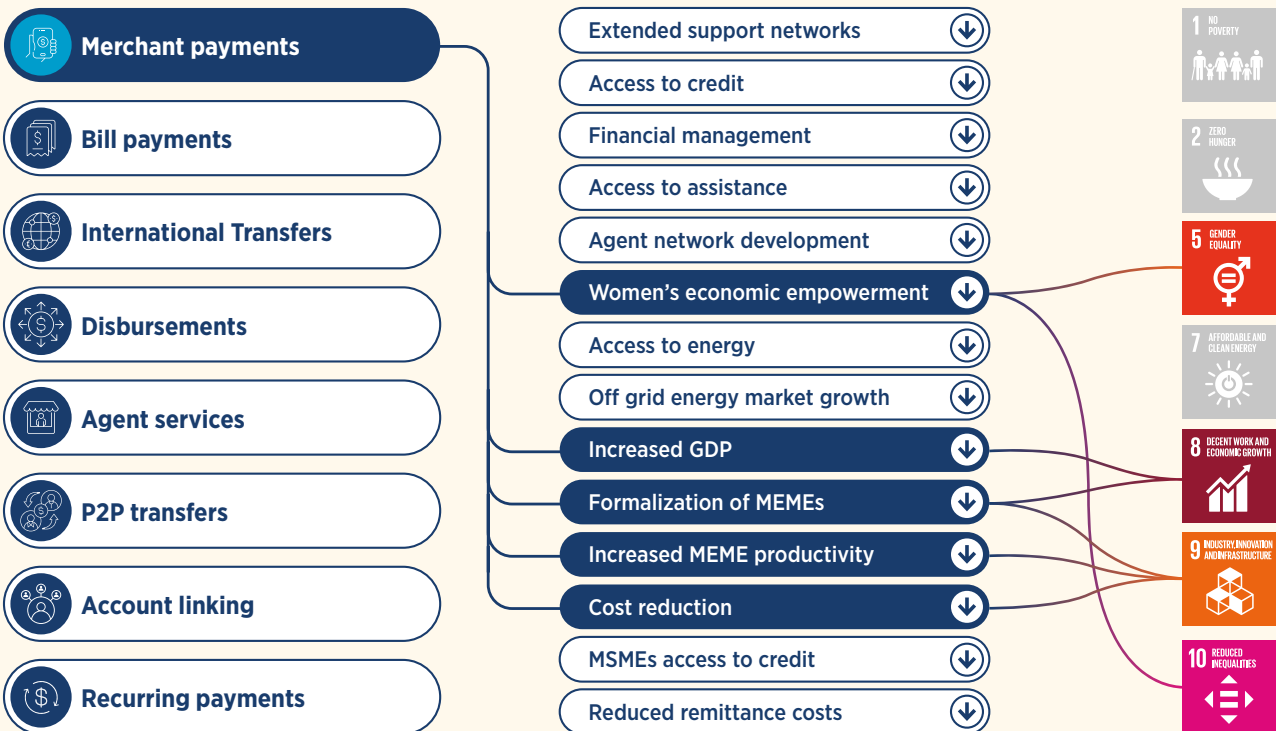
The GSMA Mobile Money API, developed in collaboration with the mobile money industry, seeks to simplify and accelerate third-party integrations with mobile money providers, alleviating costs and difficulties of integration. This in turn helps extend access to services and products to users in LMICs,

thereby contributing to the SDGs in multiple ways.³⁵ The contributions to SDGs are identified for each of the use cases that the GSMA Mobile Money API enables, using a mapping approach which can also be visualised using a dynamic infographic (see example below).³⁶

Source: GSMA 2021

Figure 21:

GSMA mobile money API as an enabler for the Sustainable Development Goals - dynamic infographic (merchant payments selected as an example)



35 GSMA. (2021). *The GSMA Mobile Money API as an Enabler for Sustainable Development Goals: Mapping GSMA Mobile Money API use cases to the SDGs.*

36 GSMA. (2021). *GSMA Mobile Money API and the UN Sustainable Development Goals.*

Source: Interview with Safaricom executives

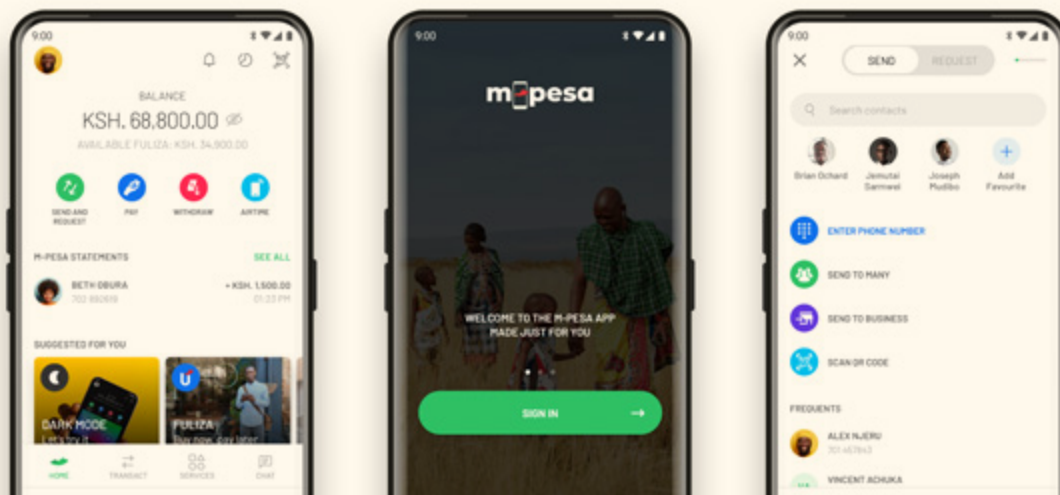
Box 7

Safaricom’s M-PESA Super App enables the discovery of third-party services

As one of the most successful mobile money services in the world, Safaricom’s M-PESA has transformed the financial lives of millions. In 2021, following the launch of its business app, Safaricom launched a consumer super app,³⁷ harnessing fast-growing smartphone ownership to provide users with a seamless mobile money experience.

The app introduces smarter ways to authenticate one’s identity through fingerprint and facial

recognition, and to transact through the “send to many” and “request money” functionalities. The app allows M-PESA customers to track their spending through detailed statements, much like a digital bank app. However, what could be a first in Sub-Saharan Africa is the “Discover” functionality: mini apps within the M-PESA app that enable users to access third-party products and services.



As detailed in GSMA studies,³⁸ there are numerous advantages to making third-party services available within the mobile money interface:

- Users can discover and use services they otherwise would not be aware of, and find alternative (better or more affordable) service providers;
- Higher customer awareness through the mini apps allows third parties to grow their business,³⁹ stimulating entrepreneurialism and innovation; and
- Mobile money providers can keep third-party interactions on their platform, ensuring stronger customer retention while also earning discovery fees.

As of December 2021, the M-PESA app has been downloaded by more than 4.2 million users. It provides access to more than 18 mini apps (with 70 in the pipeline), such as the National Hospital Insurance Fund (public health insurance), BuuPass (public transport) and mGas (liquefied petroleum gas for cooking and heating). These apps were used by more than 730,000 users in the 90 days running up to December 2021, an indication of the early success and promise of this diversification strategy.

37 Defined as “a mobile application that offers various services through a single app”. See: <https://www.forbes.com/sites/forbestechcouncil/2021/09/16/is-your-business-ready-to-build-a-super-app/>

38 GSMA. (2019). *Embracing payments as a platform for the future of mobile money*; GSMA and BFA Global. (2021). *Profitability 2.0: Ecosystem-driven business modelling & the future of mobile money margins*.

39 Bump, P. (22 September 2020). “What Are Mini-Apps & Why Marketers Should Care”. HubSpot.



Credit, savings and insurance

With just **26 per cent** of registered mobile money customers currently active on a monthly basis,⁴⁰ diversifying mobile money portfolios and use cases tailored to customer needs will be key to driving financial inclusion among unserved and underserved communities in LMICs and strengthening the value proposition of additional use cases.⁴¹ Of all the services that mobile money providers can offer their subscribers (in addition to payments), credit, savings and insurance are some of the most compelling. According to the 2021 Global Adoption Survey, 44 per cent of mobile money providers offer mobile money-enabled credit, savings and insurance

products. These providers tend to have a higher EBITDA and customer activity rate than those that do not offer these products.

For informal workers, MSMEs and low-income communities in LMICs, credit, savings and insurance can be a financial lifeline in times of crisis. The ability to access credit through a mobile money account, for example, can help MSMEs grow by providing much-needed working capital, helping them to invest in necessary assets and build a credit profile to seek future financing.

Source: GSMA Global Adoption Survey

Figure 22:

Mobile money providers offering credit, savings or insurance products

Among all respondents to the GSMA 2021 Global Adoption Survey:



Mobile-enabled credit, savings or insurance products

Currently offering

44%

EBITDA

At least **half** of mobile money providers offering credit, savings or insurance have an EBITDA margin of >15%

Among those who do not offer these products, **less than 1/5** have an EBITDA margin of >15%

Customer activity rate

Customer activity rate⁴² among providers offering a credit, savings or insurance product is **37%** (compared to a **20%** customer activity rate among providers who do not offer these products).

40 According to the 2021 GSMA Global Adoption Survey. An active mobile money account in this instance is a mobile money account that has been used to conduct at least one transaction during a 30-day period.

41 Zetterli, P. (November 2021). *The Great Unbundling: How Technology is Making Financial Services Modular and What It Means for Inclusion*.

42 Percentage of customers registered to a mobile money account active in a 30-day period.

Mobile-enabled credit

According to the 2021 Global Adoption Survey, around three in five mobile money providers offer, or are planning to offer, credit⁴³ facilities to mobile money customers, while a quarter of all providers offer credit to smallholder farmers. This is a signal that the industry has recognised the value of mobile-enabled credit and has potential to grow. In a separate study highlighting actual use of mobile-enabled credit, analysis of anonymised M-PESA transactional data in Kenya revealed that around 50 per cent of customer accounts were using financial services such as credit.⁴⁴

Despite the benefits of mobile-enabled credit,

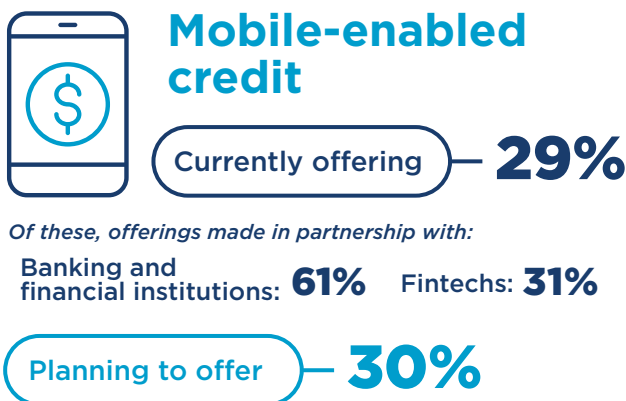
digital credit lenders and mobile money providers have a responsibility to prevent over indebtedness and other risks that can have adverse economic effects on consumers and harm provider revenues and reputations, such as violations of data privacy. To ensure they are offering responsible credit products, providers can conduct financial education campaigns, robustly monitor determinants of financial health, provide clear terms and conditions on interest and repayments and make efficient customer support channels available.⁴⁵ Public-private cooperation will be necessary to implement some of these measures.

Source: GSMA Global Adoption Survey

Figure 23:

Mobile money providers offering credit

Among all respondents to the GSMA 2021 Global Adoption Survey:



Among respondents offering credit:

≥9 Mobile money providers launched credit products in 2020–2021, **8 for the first time**

1-5 Number of credit products offered by each mobile money provider

43 Examples of FSPs partnering/integrating with mobile money providers to offer credit include the Commercial Bank of Africa (Safaricom/Vodacom), which develops credit scores based on mobile money usage. Safaricom Kenya also offers its own microcredit service, M-Shwari, and a form of overdraft facility called Fuliza for M-PESA customers, while Vodafone Tanzania offers a similar microcredit service, M-Pawa.

44 Shirono, K. et al. (2021). *Is Mobile Money Part of Money? Understanding the Trends and Measurement*. IMF.

45 GSMA. (2019). *Digital credit for mobile money providers: A guide to addressing the risks associated with digital credit services*.

Source: GSMA

Box 8

MTN Rwanda: Digital agricultural credit products



In Rwanda, MTN is designing a digital input credit product for farmers in partnership with NCBA, a financial services provider, with support from the GSMA AgriTech Innovation Fund. Building on the experience of MoKash, a digital savings and instant loan product for the mass market launched in 2017, MTN and NCBA aim to become relevant to farmers by offering bundled digital financial services, including savings, short-term loans and insurance.

With a large customer base and trusted and recognised brand, MTN Rwanda is responsible for KYC verification, marketing and distribution, customer engagement and data collection. NCBA, meanwhile, has developed an in-house credit-scoring model for digital lending based on more than 160 mobile money variables, including the recency, frequency and monetary value of mobile money transactions.

According to the GSMA Consumer Survey, uptake and demand for mobile money-enabled credit appears to be healthy. Results show that those using mobile money to access loans range from two per cent of respondents in some countries to 36 per cent in others. There is generally higher uptake of loans in markets with higher prevalence of mobile money, particularly Kenya (36 per cent). India (18 per cent) and Pakistan (16 per cent) are the exception – although both countries have low to medium mobile money prevalence, uptake of loans is still relatively high (see Figure 24).

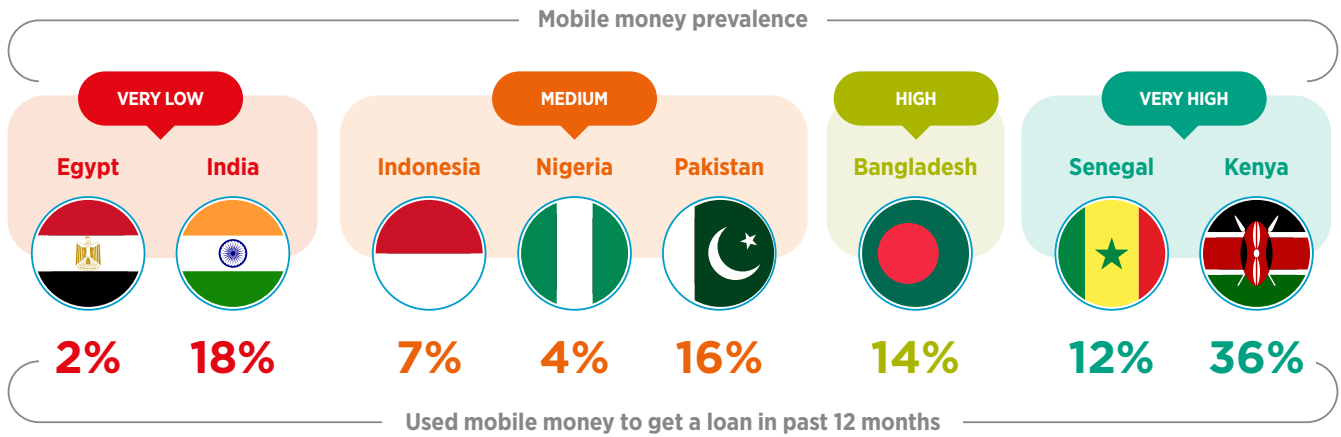
Compared to before the COVID-19 pandemic, respondents in markets where mobile money is more prevalent (Bangladesh, Kenya and Senegal) show a trend towards less-frequent loan use. The same trend has been observed among respondents in Egypt, a market with very low mobile money prevalence. In India, Nigeria and Pakistan however, there is a more even spread of respondents using loans either more, less or the same. Indonesia is different with a majority of respondents reporting that their use of loans had not changed since before the COVID-19 pandemic (see Figure 25).

Source: 2021 GSMA Consumer Survey, n=190-940

Figure 24:

Consumers using mobile money to get a loan, by maturity of mobile money market⁴⁶

Percentage of adults who have a mobile money account or have used shop/agent (OTC) services

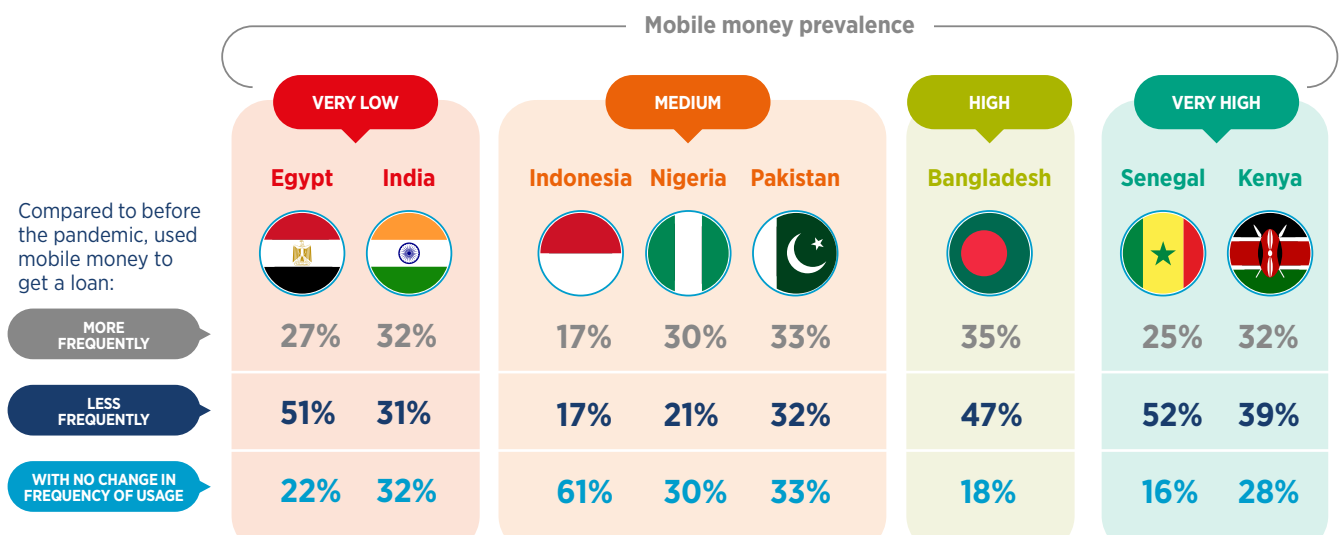


Source: 2021 GSMA Consumer Survey, n=158-925

Figure 25:

Consumers' change in use of mobile money to get a loan since the COVID-19 pandemic, by maturity of mobile money market⁴⁷

Percentage of adults who have ever used mobile money for an activity and are aware of COVID-19



46 Source: GSMA Consumer Survey 2021. Question: Which, if any, of the following have you ever used mobile money for in the past 12 months? Base: All those who have a mobile money account or have used shop/agent services, n=190-940. Sample: nationally representative

47 Source: GSMA Consumer Survey 2021. Question: For each of the following activities, would you say you are now doing this more frequently or less frequently than before the pandemic, or are you doing this with the same level of frequency? Base: All adults who have ever used mobile money for an activity and are aware of COVID-19 (including those answering 'Don't know'), n=158-925. Sample: nationally representative



Mobile-enabled savings, pensions and investments

Savings are key to driving financial inclusion in LMICs as they enable account holders to accumulate assets (and interest) and improve their standard of living. Savings also provide an asset that individuals can use to meet their business, household and educational needs, particularly when they are coping with irregular income or financial shocks during emergencies.

More than half of the mobile money providers that responded to the 2021 Global Adoption Survey already offer, or are planning to offer, savings, pension or investment products, and 16 per cent also offer savings products to smallholder farmers

specifically. Among the providers offering savings, pension or investment products, there was a 22 per cent increase in unique customers sending money to a savings account between September 2020 and June 2021. In various African countries where mobile-enabled savings⁴⁸ had been offered, there is evidence that savings account balances, and the use of multiple savings products, has progressively increased.⁴⁹ Since account usage depends on customers perceiving mobile money-enabled savings as a useful tool, being able to access and use savings effectively is vital. Mobile money providers can support this through training and financial and digital literacy initiatives.⁵⁰

48 Examples of mobile money-enabled savings include: Kenya Commercial Bank Group (KCB) providing a savings service that enables M-PESA customers to earn interest on their savings balance.

49 Donovan, K. (August 2012). "Chapter 4: Mobile Money for Financial Inclusion" in *Maximizing Mobile*. pp. 61–73. World Bank Group.

50 Mebur, J. and Bordage, J. (3 November 2020). "Digital Literacy Training Guide: For mobile money agents and digital literacy change agents". *GSMA Mobile for Development Blog*.

Source: GSMA Global Adoption Survey

Figure 26:

Mobile money providers offering savings, pensions or investments

Among all respondents to the GSMA 2021 Global Adoption Survey:



Mobile-enabled savings, pension or investment products

Currently offering — **26%**

Planning to offer — **29%**



Mobile-enabled pension products

Currently offering — **8%**

Planning to offer — **8%**



Mobile-enabled investment products

Currently offering — **5%**

Planning to offer — **17%**



Mobile-enabled savings for smallholder farmers

Currently offering — **16%**

Among respondents offering savings, pensions or investments:

22%

Increase in unique customers sending money to a savings account (Sep 2020–Jun 2021)

5

Mobile money providers that launched savings products in 2020–2021

Data from the 2021 GSMA Consumer Survey shows little correlation between mobile money prevalence and the use of savings at the country level. However, the use of mobile money-enabled savings among respondents in general is noticeably higher than the use of mobile money-enabled credit or insurance across all countries. Respondents who used savings ranged from 10 per cent in Senegal to 54 per cent in Nigeria (see Figure 27).

Compared to before the COVID-19 pandemic, a majority of respondents in Indonesia, Pakistan, Senegal and particularly Nigeria, have been using mobile money-enabled savings more frequently. However, the other countries in this study (Bangladesh, Egypt, India and Kenya) are showing an opposite trend, with a majority of respondents using savings less frequently than before the COVID-19 pandemic (see Figure 28).

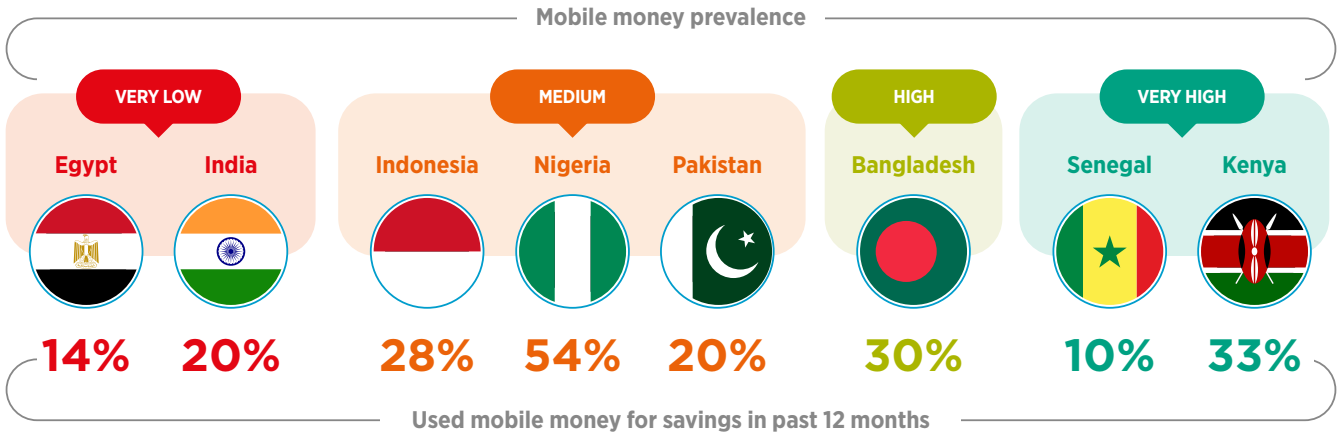


Source: 2021 GSMA Consumer Survey, n=190-940

Figure 27:

Consumers using mobile money for savings, by maturity of mobile money market⁵¹

Percentage of adults who have a mobile money account or have used shop/agent (OTC) services

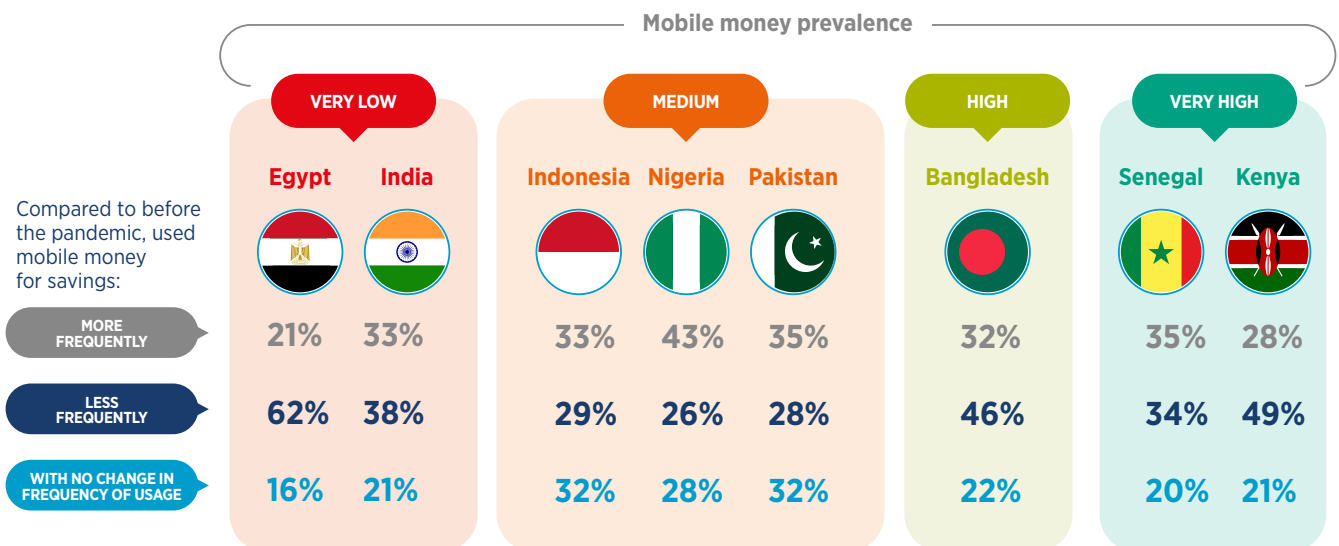


Source: 2021 GSMA Consumer Survey, n=158-925

Figure 28:

Consumers' change in use of mobile money for savings since the COVID-19 pandemic, by maturity of mobile money market⁵²

Percentage of adults who have ever used mobile money for an activity and are aware of COVID-19



51 Source: GSMA Consumer Survey 2021. Question: Which, if any, of the following have you ever used mobile money for in the past 12 months? Base: All those who have a mobile money account or have used shop/agent services, n=190-940. Sample: nationally representative

52 Source: GSMA Consumer Survey 2021. Question: For each of the following activities, would you say you are now doing this more frequently or less frequently than before the pandemic, or are you doing this with the same level of frequency? Base: All adults who have ever used mobile money for an activity and are aware of COVID-19 (including those answering 'Don't know'), n=158-925. Sample: nationally representative



Mobile-enabled insurance

The expansion of mobile and mobile money in LMICs, particularly since the start of the COVID-19 pandemic, has played an important role in the growth of inclusive insurance products. Almost half of respondents to the 2021 GSMA Global Adoption Survey offer, or are planning to offer, mobile money-enabled insurance products. Mobile has allowed insurance providers to deliver insurance directly to consumers, providing protection against financial shocks and devastating life events. The use of mobile money has helped to improve the economics of serving small value customers. It has simplified premium collection for insurance providers, made claim pay-outs faster and seamless for customers and created an accessible and

affordable service for the underserved, particularly low-income populations that have never had access to insurance before.

Mobile-enabled insurance services⁵³ often specialise in certain elements of the insurance value chain (see Figure 29). Although they have traditionally been based on customer loyalty (through airtime deductions), mobile money can now also be used to collect premiums and pay out claims. Partnerships and joint ventures between the insurance sector and mobile money providers offer the benefits of scale, mobile payments, geographic and demographic insights and the use of big data to tailor offerings for underserved populations.

53 Examples of mobile-enabled insurance services include Britam third-party motor insurance offered through M-PESA in Tanzania, and Airtel Nigeria's health insurance offered through a partnership with AXA Mansard.

Source: GSMA

Figure 29:

Insurance value chain responsibilities, by operational model



Source: GSMA Global Adoption Survey

Figure 30:

Mobile money providers offering insurance

Among all respondents to the GSMA 2021 Global Adoption Survey:



Mobile-enabled insurance

Currently offering — **29%**

Planning to offer — **19%**



Mobile-enabled insurance products for smallholder farmers

Currently offering — **24%**

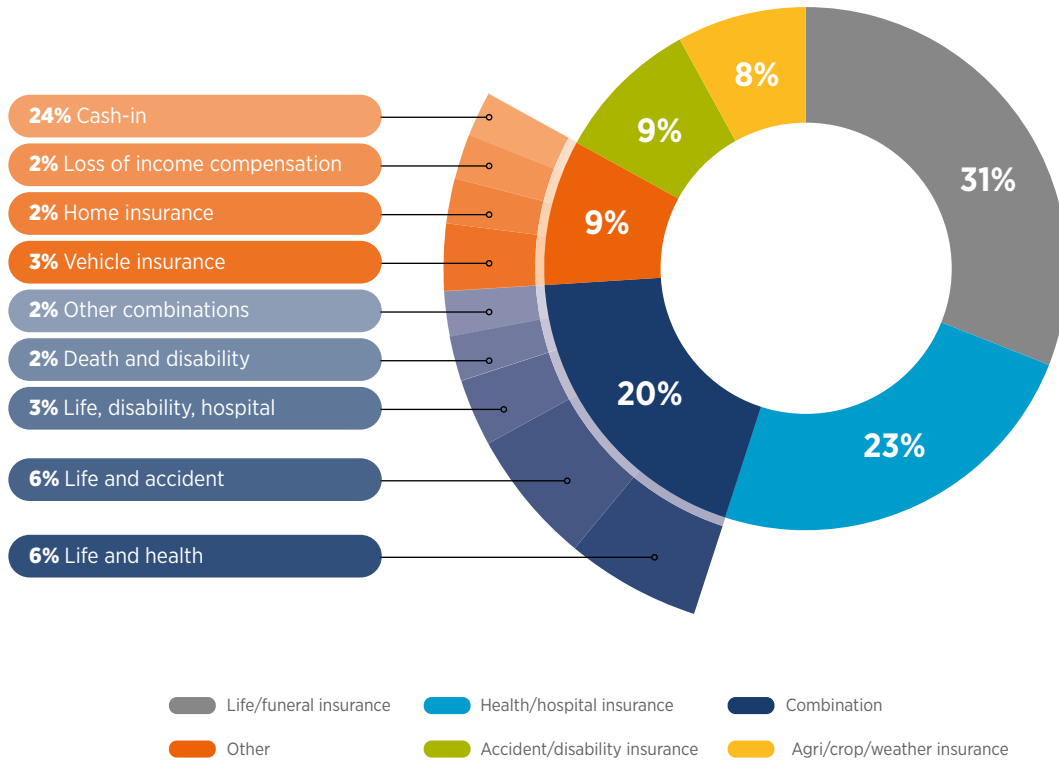
There are currently 130 mobile-enabled insurance services in 28 countries, with more than half offering coverage for life and funeral or health and

hospitalisation.⁵⁴ In 2020, 43 million policies were issued, two-thirds of which (29 million) were life and health insurance policies.

Source: GSMA Insurance Tracker 2021

Figure 31:

Mobile-enabled insurance,⁵⁵ by policy type



Insurance is a more nascent service offered through mobile money platforms. Data from the 2021 GSMA Consumer Survey found that while there is little correlation between mobile money prevalence and uptake of insurance at the country level, between three per cent (Senegal) and 17 per cent (India) of respondents in each country said they use mobile money to buy insurance (see Figure 32).

Compared to before the COVID-19 pandemic, a majority of respondents in Bangladesh, Egypt and India report using mobile money-enabled insurance differently, either more or less frequently. A slight majority of respondents in Kenya and Senegal say they use it less frequently, while only Pakistan shows a trend towards increased use of mobile money-enabled insurance. Otherwise, in Indonesia and Nigeria, insurance use has remained stable for a majority of respondents (see Figure 33).

54 GSMA. (2021). *Partnership models for mobile-enabled insurance*.

55 Mobile-enabled insurance services includes those that offer mobile money as a payment mechanism for both premiums and claims. 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 used as a channel for a traditional insurance product are not included.

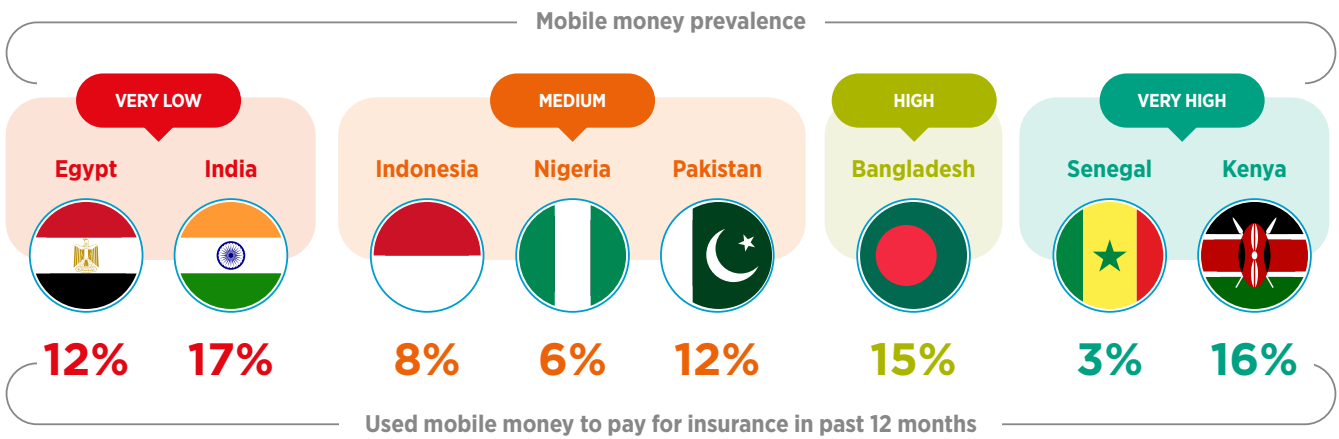


Source: 2021 GSMA Consumer Survey, n=190-940

Figure 32:

Consumers using mobile money to pay for insurance, by maturity of mobile money market⁵⁶

Percentage of adults who have a mobile money account or have used shop/agent (OTC) services

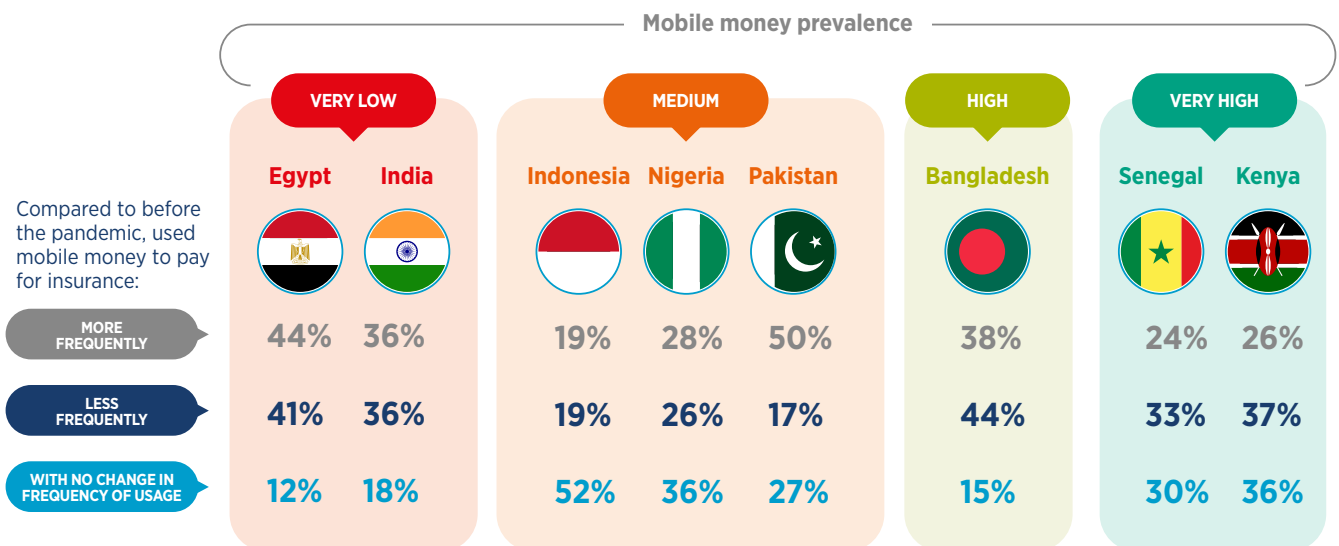


Source: 2021 GSMA Consumer Survey, n=158-925

Figure 33:

Consumers' change in use of mobile money to pay for insurance since the COVID-19 pandemic, by maturity of mobile money market⁵⁷

Percentage of adults who have ever used mobile money for an activity and are aware of COVID-19



56 Source: GSMA Consumer Survey 2021. Question: Which, if any, of the following have you ever used mobile money for in the past 12 months? Base: All those who have a mobile money account or have used shop/agent services, n=190-940. Sample: nationally representative

57 Source: GSMA Consumer Survey 2021. Question: For each of the following activities, would you say you are now doing this more frequently or less frequently than before the pandemic, or are you doing this with the same level of frequency? Base: All adults who have ever used mobile money for an activity and are aware of COVID-19 (including those answering 'Don't know'), n=158-925. Sample: nationally representative

Source: Interview with aYo Holdings executives

Box 9

Partnerships are unlocking mobile money-enabled insurance in Africa



Partnership and vision: aYo began as a microinsurance joint venture between MTN and MMH, but is now wholly owned by MTN. The vision is to make aYo the largest digital insurer in Africa and ensure that everyone, especially informal workers and the self-employed, has access to and uses affordable insurance and microfinancial products and services.

Scale: aYo has to date enrolled 15.4 million customers in Ghana, Uganda, Zambia, and Côte d'Ivoire with new services due to be launched for customers in 2022, and merchants and SMEs in future years. There are also plans to expand into Nigeria and Cameroon in 2022.

Mobile-enabled insurance products: aYo offers low-cost, mobile-enabled hospital and life insurance to low- and middle-income MTN subscribers via two products. The first is Recharge with Care (airtime and mobile money-collected), which allows customers to purchase insurance every time they, for example, recharge their airtime. The second is Pay with Care, or Send with Care in some markets (mobile money-collected), which allows customers to buy insurance cover when they remit via mobile money. Both products offer

a hospital cash insurance benefit and a life cover benefit. The products are real-time, paperless, simple, transaction-driven insurance with low cover amounts and premiums, providing flexible term policies. Customers can access their insurance via USSD and an app (usually zero-rated), submit claims via WhatsApp and receive claims payments into their mobile money wallet.

Impact on underserved communities: Microinsurance can have a transformative impact, as it can shield millions of people from economic shocks that would otherwise keep them locked in poverty. Before mobile-enabled products such as aYo, many relied on three main coping mechanisms in times of need: loans from friends, family and community members, life savings and selling assets. With insurance, reliance on these coping mechanisms is reduced, providing them with greater security and peace of mind. According to aYo, customers across all markets appear to appreciate easily accessible and affordable insurance with flexible payment terms and the ability to protect themselves and their families against financial shocks.





Addressing the mobile money gender gap

Addressing the mobile money gender gap

Despite significant gains in mobile-led financial inclusion over the last decade, women still have lower access and use of mobile money services compared to men. 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.

This is a lost opportunity, since mobile money can improve financial inclusion for women, increase their economic independence and strengthen their role as financial decision-makers.⁵⁸ The accessibility and affordability of mobile money accounts can disproportionately benefit women who, because of cultural norms, family responsibilities or lower wages, may face greater barriers than men to using traditional formal financial services.⁵⁹

Since the onset of the COVID-19 pandemic, mobile money has helped women and their families in LMICs in a variety of ways, from sending funds to family in need to paying for essential bills and services, using virtual marketplaces to support microbusinesses or find essential products and receiving emergency funds as governments extend social and humanitarian cash transfer programmes in response to the pandemic.⁶⁰

Ensuring that women can access and use mobile money on par with men will bring benefits to individual women and their households, as well as to the mobile industry and the economy while also contributing to the achievement of the Sustainable Development Goals, in particular SDG 5 (Achieve gender equality and empower all women and girls).

A growing number of international organisations, policymakers and mobile money providers are taking action on this crucial issue. Since 2016, 26 mobile network operators (MNOs) across Africa, Asia and Latin America have made formal commitments to reduce the gender gap in their mobile money customer base as part of the GSMA Connected Women Commitment Initiative.⁶¹ They are spearheading initiatives to reach women, including recruiting female agents and merchants, developing savings and loans products tailored to women's needs, redesigning mobile money apps to appeal to both women and men and helping women's agricultural groups to see the benefits of mobile money for payments.⁶²

Understanding the gender gap and barriers at different stages of the mobile money customer journey is critical to informing action. In this section we look at each stage of the mobile money customer journey through a gender lens, from mobile ownership to awareness of mobile money, account ownership and regular and diverse mobile money use (Figure 34). Data is drawn primarily from the latest GSMA Consumer Survey,⁶³ which provides nationally representative data and insights on the lives of men and women across 10 LMICs.

58 Delaporte, A. and Naghavi, N. (21 October 2019). "[The promise of mobile money for further advancing women's financial inclusion](#)". GSMA Mobile for Development Blog.

59 Better than Cash Alliance, World Bank Development Research Group, Bill & Melinda Gates Foundation, Better Than Cash Alliance and Women's World Banking. (2015). [Digital Financial Solutions to Advance Women's Economic Participation](#).

60 GSMA. (2021). [The Mobile Gender Gap Report 2021](#).

61 See the GSMA [Connected Women Commitment Initiative and partners](#). 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 Côte 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.

62 GSMA. (2020). [Reaching 50 Million Women with Mobile: A Practical Guide](#).

63 See appendices for methodology.

Source: GSMA

Figure 34:

Mobile money user journey

Mobile ownership

Owning a mobile phone is an important pre-requisite to mobile money use, but there is a persistent gender gap in mobile ownership.⁶⁴

Across LMICs, women are seven per cent less likely than men to own a mobile phone. In certain parts of the world, including South Asia and Sub-Saharan Africa, this gender gap is even wider. For example, in Bangladesh, a more mature mobile money market, 84 per cent of men own mobile phones, but only 65 per cent of women (Figure 35). Across LMICs, the mobile ownership gender gap also tends to be greatest in rural areas and among

certain populations, including those with lower literacy levels, low incomes, disabilities or those who are older.

The key barriers to mobile phone ownership⁶⁵ are handset affordability, literacy and skills. Other important barriers are safety and security concerns, lack of relevant content and services and lack of access. Social norms and structural inequalities between men and women, including gender disparities related to education and income, mean that women typically feel these barriers more acutely than men.

64 GSMA. (2022). [The Mobile Gender Gap Report 2022](#). The gender gap (e.g. in ownership, use or awareness) is calculated using the following formula throughout this chapter: gender gap in ownership, use, awareness (%) = (male owners, users, aware as % of male population - female owners, users, aware as % of female population) / (male owners, users, aware as % of male population). See appendices for gap calculation.

65 Learn more in the GSMA's annual Mobile Gender Gap Report: <https://www.gsma.com/r/gender-gap/>

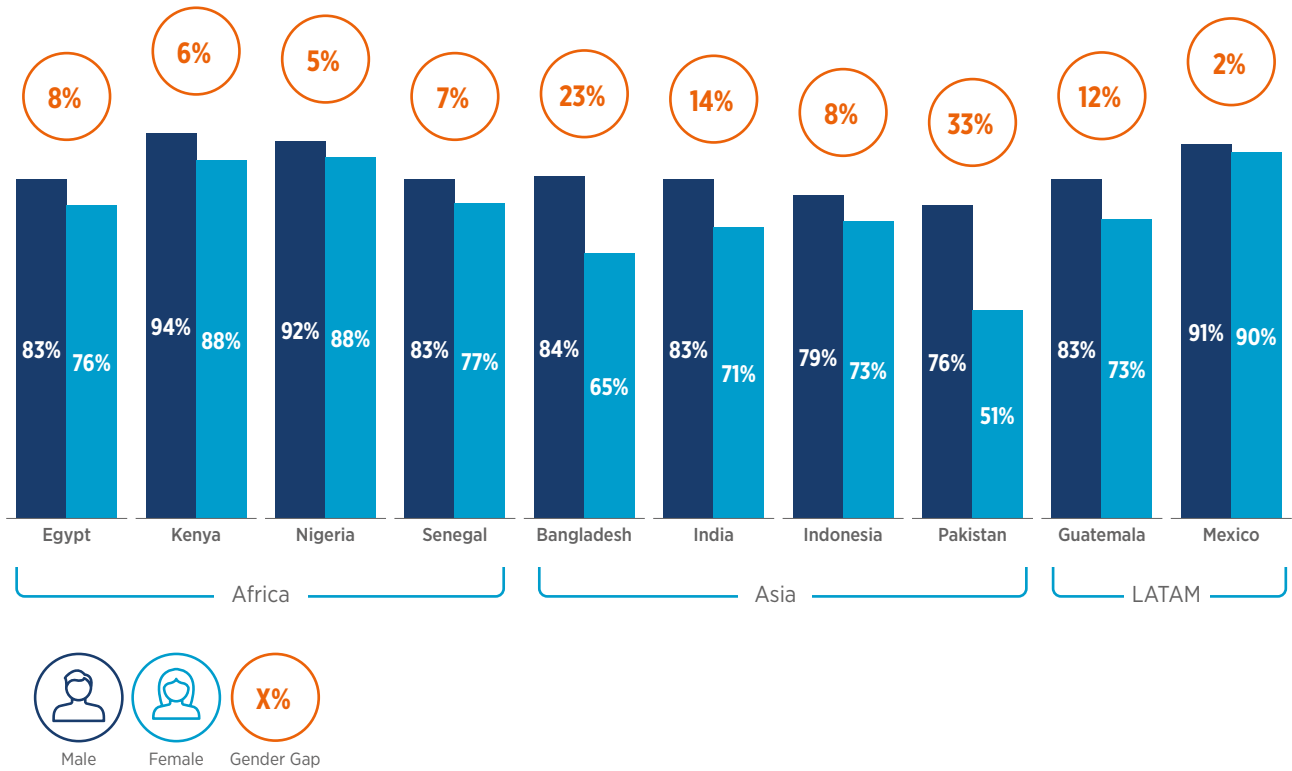


Source: 2021 GSMA Consumer Survey, n=496-966 for women and 469-1,131 for men

Figure 35 :

Male and female mobile ownership, by country⁶⁶

Percentage of total adult population



66 Source: GSMA Consumer Survey 2021. Base: All respondents, n=496-966 for women and 469-1,131 for men. Sample: nationally representative. Note: a mobile owner is defined as a person who has sole or main use of a SIM card (or a mobile phone that does not require a SIM) and uses it at least once a month.

Awareness of mobile money

Awareness of mobile money can be driven by various factors, particularly the maturity and competitiveness of the local market, the presence of extensive agent networks and the robustness of mobile and mobile money infrastructure.

In the latest GSMA Consumer Survey we asked respondents if they had heard of the leading mobile money brands in their country. Figure 36 shows those men and women who reported that they were aware of at least one brand. Using this definition of “awareness”, women have a lower awareness of mobile money than men in seven of the eight survey countries⁶⁷ (excluding Kenya and Senegal where mobile money awareness is near universal⁶⁸). The widest gender gap in mobile money awareness is in India where only 22 per cent of women are aware of at least one mobile money brand versus 40 per cent of men. The gender gap in mobile money awareness is usually more pronounced in rural settings. For example, in rural Egypt, one in three women have

never heard of a mobile money brand, in contrast to one in four men.

The gender gap in mobile money awareness is lower than that for mobile ownership in seven of the 10 countries, demonstrating the importance of addressing the mobile ownership gap to improve financial inclusion for women. In Pakistan, for instance, 77 per cent of men and 70 per cent of women have heard of at least one mobile money brand, whereas 76 per cent of men but only 51 per cent of women own a mobile phone.

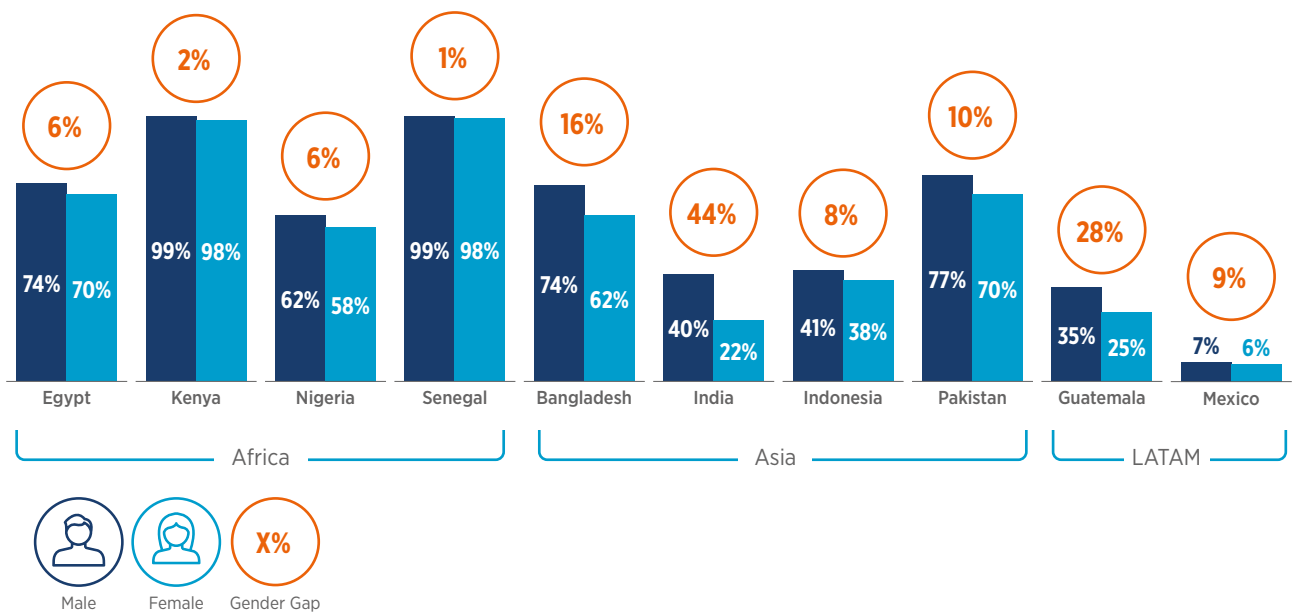
While this smaller gender gap in mobile money awareness is encouraging, it is important to note that the ability to recognise a mobile money brand does not necessarily mean a person understands what mobile money is for, how to use it or why it could be relevant to their life. Differences between men and women in areas such as these are contributing to gender gaps in account ownership and use.

Source: 2021 GSMA Consumer Survey, n=496-966 for women and 469-1,131 for men

Figure 36:

Male and female mobile money awareness, by country⁶⁹

Percentage of total adult population



67 In Mexico there was no significant difference in level of awareness between men and women

68 In both Kenya and Senegal, 98% of women (vs 99% of men) have heard of at least one mobile money brand, with almost no difference between women living in rural and urban areas.

69 Source: GSMA Consumer Survey 2021. Question: Which, if any, mobile money brands are you aware of? Note: Percentages represent the proportion of respondents who reported that they recognised at least one of the leading mobile money brands in their country from a list read out to them. Base: All respondents, n=496-966 for women and 469-1,131 for men. Sample: nationally representative.

Mobile money account ownership

Owning a handset and being aware of mobile money does not necessarily translate into owning a mobile money account, particularly for women. In Pakistan for instance, 76 per cent of men and 51 per cent of women own a mobile phone, 77 per cent of men and 70 per cent of women have heard of at least one national brand of mobile money, but only 19 per cent of men and six per cent of women have a mobile money account.

According to the latest available data from the Global Findex database (2017)⁷⁰ – the most comprehensive demand-side dataset on financial inclusion – overall, women in LMICs were 33 per cent less likely than men to have a mobile money account. More recent data from 10 LMICs from the

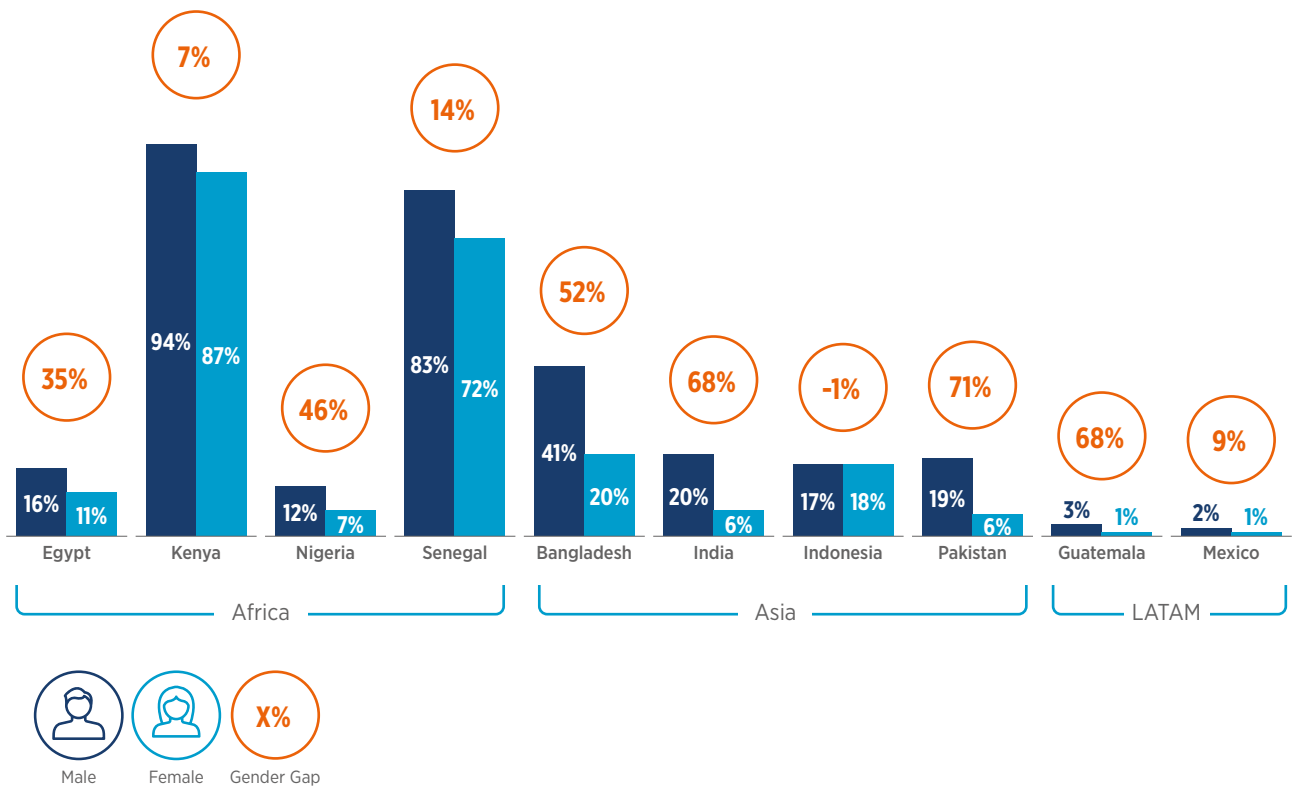
latest GSMA Consumer Survey reveals that there is still a gender gap in account ownership (Figure 37). Of the 8 countries in which overall mobile money account penetration is more than just a few percent,⁷¹ women are less likely than men to have an account in all of them except Indonesia, where account ownership among men and women is very similar. The largest gender gaps in mobile money account ownership are in the South Asian survey countries, as observed in Pakistan (71 per cent), India (68 per cent) and Bangladesh (52 per cent). In Africa, Nigeria (46 per cent) and Egypt (35 per cent) also have considerably large gender gaps in mobile money account ownership.

Source: 2021 GSMA Consumer Survey, n=496–966 for women and 469–1,131 for men

Figure 37:

Male and female mobile money account ownership, by country⁷²

Percentage of total adult population



70 Global Findex database: <https://globalfindex.worldbank.org/>

71 Excludes Guatemala and Mexico

72 Source: GSMA Consumer Survey 2021. Question: Which [mobile money provider], if any, do you have a mobile money account with? Base: All respondents, n=496–966 for women and 469–1,131 for men. Sample: nationally representative.

While inequalities remain, historical data from these countries (from the 2017 Findex and GSMA Consumer Survey data from past years) reveals that the gender gap in mobile money account ownership has narrowed in most countries as overall mobile money penetration has grown. Of the eight countries in which overall mobile money account penetration is more than just a few percent,⁷³ all have growing mobile money markets and all but one has experienced a reduction in the gender gap in mobile money account ownership.⁷⁴ In Bangladesh, for instance, women’s account ownership nearly doubled between 2018 and 2021 from 11 per cent to

20 per cent, whereas the increase for men was from 26 per cent to 41 per cent.

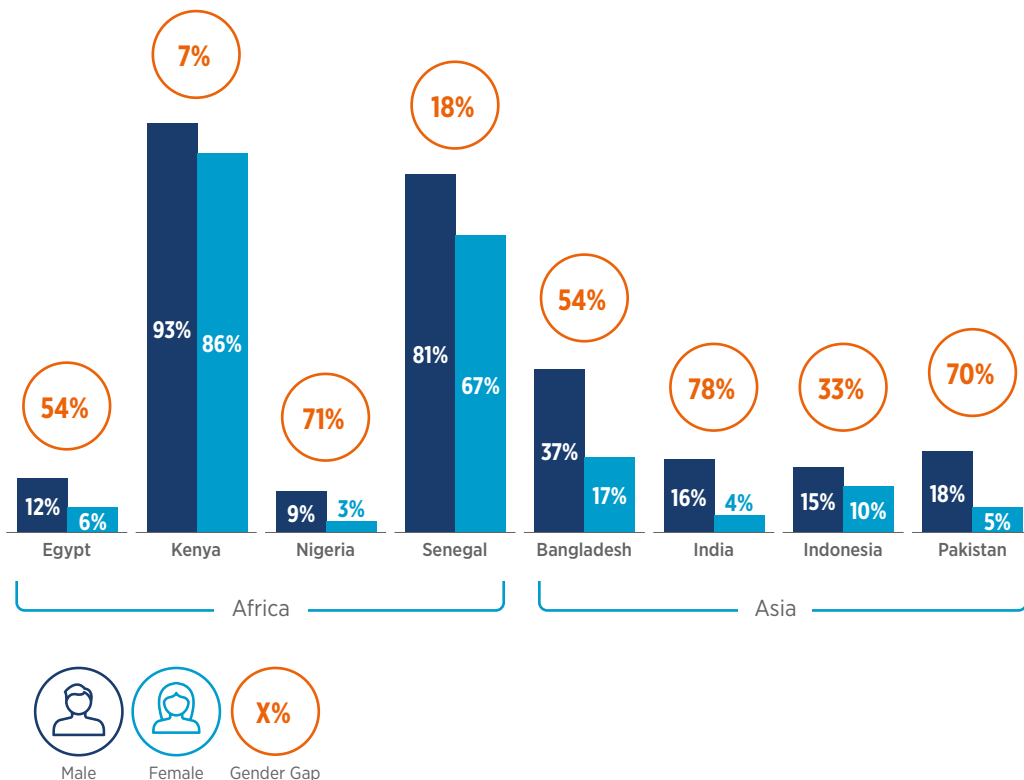
The gender gap in mobile money account ownership tends to be higher among certain groups in the population. For instance, in most of the survey countries, the gender gap in account ownership is greater among those living in rural areas. Figure 38 shows how account ownership levels are significantly lower for rural women than rural men across the sample countries,⁷⁵ even in more mature mobile money markets such as Kenya and Senegal.

Source: 2021 GSMA Consumer Survey, n=227-670 for women and 231-751 for men

Figure 38:

Rural male and female mobile money account ownership, by country⁷⁶

Percentage of total rural adult population



73 Excludes Guatemala and Mexico

74 In the remaining country, Nigeria, the gender gap in mobile money account ownership has remained relatively stable.

75 Excludes Guatemala and Mexico due to insufficient sample size.

76 Source: GSMA Consumer Survey 2021. Question: Which [mobile money provider], if any, do you have a mobile money account with? Base: All rural respondents, n=227-670 for women and 231-751 for men. Sample: nationally representative. Note: Guatemala and Mexico are excluded due to small bases



Barriers preventing women and men from having a mobile money account

What are the main barriers to account ownership for women and how do they compare to men? The 2021 GSMA Consumer Survey asked mobile owners who were already aware of mobile money but do not have a mobile money account whether certain barriers were standing in their way.⁷⁷

There is no single barrier to account ownership in our sample markets, rather, a combination of many (Figure 39).

⁷⁷ More specifically, these were adult mobile owners who are aware of at least one mobile money service in their country, but who do not have a mobile money account.

Source: 2021 GSMA Consumer Survey, n= 93–252 for women and 66–295 for men

Figure 39:

Barriers preventing male and female mobile owners from having a mobile money account, by country⁷⁸

All mobile owners, aware of at least one mobile money service but who do not have an account

| | | Africa | | | | | | Asia | | | | | | Latam | | | |
|------------------|------------------------------------------------|--------|-----|---------|-----|---------|-----|------------|-----|-------|-----|-----------|-----|----------|-----|-----------|-----|
| | | Egypt | | Nigeria | | Senegal | | Bangladesh | | India | | Indonesia | | Pakistan | | Guatemala | |
| | | M | F | M | F | M | F | M | F | M | F | M | F | M | F | M | F |
| Relevance | Preference for cash | 59% | 65% | 46% | 48% | 61% | 54% | 26% | 38% | 67% | 61% | 80% | 77% | 56% | 48% | 49% | 56% |
| | Alternatives to transfer money | 30% | 28% | 47% | 45% | 32% | 31% | 30% | 27% | 53% | 49% | 65% | 70% | 40% | 19% | 32% | 35% |
| | Friend/Family has MM account I can use | 26% | 22% | 7% | 8% | 52% | 60% | 28% | 35% | 37% | 41% | 22% | 22% | 29% | 25% | 21% | 22% |
| | Use OTC | 26% | 23% | 37% | 40% | 45% | 41% | 29% | 31% | 43% | 36% | 25% | 25% | 31% | 17% | 21% | 26% |
| | Lack of money | 34% | 33% | 22% | 25% | 40% | 54% | 30% | 21% | 46% | 46% | 39% | 46% | 42% | 34% | 32% | 43% |
| Knowledge/skills | Don't know how to use MM | 29% | 31% | 25% | 28% | 45% | 40% | 33% | 35% | 45% | 44% | 41% | 55% | 36% | 32% | 38% | 40% |
| | Difficulties using a handset/might make errors | 25% | 31% | 15% | 22% | 50% | 41% | 36% | 28% | 53% | 47% | 33% | 48% | 43% | 22% | 33% | 41% |
| | Literacy | 22% | 22% | 14% | 25% | 36% | 56% | 29% | 24% | 26% | 26% | 4% | 6% | 47% | 30% | 10% | 12% |
| Affordability | Affordability | 28% | 38% | 15% | 12% | 11% | 17% | 18% | 21% | 44% | 42% | 25% | 37% | 35% | 20% | 33% | 41% |
| Access/enablers | Unreliable network | 22% | 28% | 9% | 5% | 14% | 20% | 21% | 22% | 37% | 40% | 15% | 23% | 16% | 12% | 27% | 29% |
| | Lack of access to agents | 19% | 18% | 6% | 7% | 20% | 18% | 19% | 18% | 33% | 37% | 24% | 34% | 17% | 10% | 35% | 43% |
| | Lack access to electricity | 18% | 18% | 5% | 3% | 15% | 18% | 17% | 19% | 26% | 28% | 10% | 8% | 19% | 9% | 20% | 25% |
| | Lack of necessary documentation | 23% | 20% | 14% | 14% | 13% | 14% | 17% | 23% | 27% | 35% | 13% | 12% | 21% | 12% | 22% | 30% |
| Safety/security | Safety and trust | 30% | 36% | 20% | 18% | 26% | 21% | 31% | 24% | 52% | 48% | 35% | 41% | 33% | 18% | 47% | 46% |
| | Don't trust agents | 26% | 25% | 18% | 19% | 17% | 23% | 22% | 18% | 43% | 38% | 18% | 23% | 22% | 14% | 41% | 34% |
| Other | MM agents don't have cash | 22% | 22% | 3% | 3% | 9% | 8% | 21% | 17% | 32% | 28% | 10% | 17% | 19% | 13% | 29% | 26% |
| | Family does not approve | 16% | 17% | 4% | 2% | 0% | 2% | 9% | 16% | 38% | 39% | 17% | 31% | 14% | 20% | 18% | 25% |
| | Other | 21% | 16% | 12% | 11% | 20% | 21% | 18% | 18% | 24% | 29% | 7% | 17% | 21% | 10% | 9% | 11% |



⁷⁸ Source: GSMA Consumer Survey 2021. Question: You said that you are aware of at least one of the [national] mobile money services but that you don't have a mobile money account. For each of the possible reasons that I read out, please indicate whether this is something that stops you at all from having a mobile money account. Percentages represent proportion of respondents who answered "Yes". Base: all adult mobile owners who are aware of at least one mobile money service but who do not have a mobile money account. n= 93–252 for women and 66–295 for men. Sample: nationally representative. Note: Kenya and Mexico excluded due to a small base.

The extent to which certain barriers are considered important varies by country and, to a lesser extent, between men and women in the same country. This illustrates the importance of taking the local context into account.

Nevertheless, there are some similarities between countries. The most important barriers preventing both male and female mobile owners who are aware of mobile money from having an account are lack of perceived relevance (e.g. a preference for cash, alternatives to transfer money) or lack of knowledge and skills (e.g. difficulties using a handset, low literacy, not knowing how to use mobile money). These concerns were among the three most common barriers reported by both men and women in five of the eight sample countries.⁷⁹

With the exception of men in Bangladesh, lack of perceived relevance was the most commonly reported barrier among both male and female respondents in all eight sample countries. In particular, a preference for cash was reported as a reason for not owning a mobile money account by about half or more of male and female mobile owners in Guatemala, Egypt, India, Indonesia, Nigeria, Pakistan and Senegal.

This highlights that there are many barriers preventing mobile money account adoption which apply to both men and women. By addressing them, we can increase access for all.

Nevertheless, some of the most important barriers are experienced more acutely by female respondents in certain countries, and addressing them in these markets could benefit women disproportionately. For example:

- **Knowledge and skill-related barriers** have a disproportionate impact on female respondents in Guatemala, Indonesia and Nigeria, all markets

with low account ownership levels. In Guatemala, for example, 41 per cent of female mobile owners report difficulties using a handset as a reason they do not have a mobile money account, compared to 33 per cent of their male counterparts.

- **Unaffordable transaction fees** have a disproportionate impact on female respondents in Guatemala, Egypt, Indonesia and Senegal. In Egypt, for example, 38 per cent of female mobile owners report transaction fees as a reason they do not have a mobile money account, compared to 28 per cent of their male counterparts.
- **Lack of access to agents** has a disproportionate impact on female respondents in Guatemala, India and Indonesia. In Indonesia, for example, 34 per cent of female mobile owners report difficulty finding a mobile money agent as a reason they do not have an account, compared to 24 per cent of their male counterparts.

One barrier, while less important than others overall but that tends to have a disproportionate impact on women in several countries is **lack of family approval** for having an account. Social norms and underlying structural inequalities in society tend to disproportionately prevent women from accessing and using mobile technology.⁸⁰ In Bangladesh, Guatemala, Indonesia and Pakistan, a higher proportion of female mobile owners than men reported lack of family approval was preventing them from having a mobile money account (responses were more similar among men and women in the other four countries). In Indonesia, for instance, 31 per cent of female mobile owners who do not yet have a mobile money account reported lack of family approval as a barrier, compared with 17 per cent of their male counterparts.

⁷⁹ Mexico and Kenya excluded due to small sample size.

⁸⁰ For example, see the GSMA Connected Women report, [Bridging the gender gap: Mobile access and usage in low- and middle-income countries](#); and Butler, C. and Shanahan, M. (27 August 2020). "[Does just being a woman reduce the likelihood of using mobile?](#)". GSMA Mobile for Development Blog.

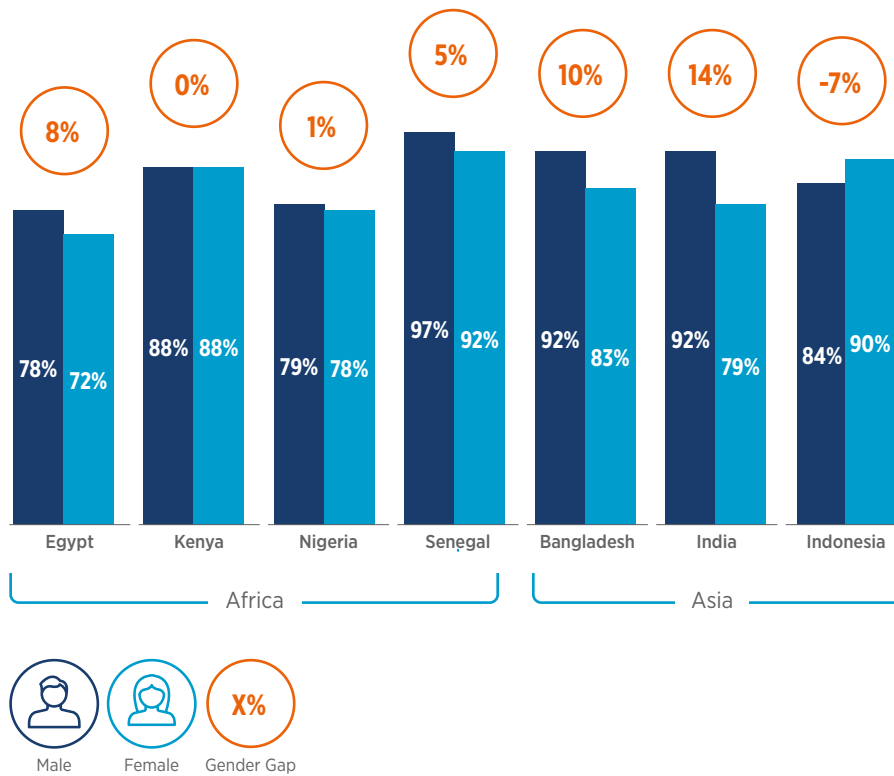
Even when women have a mobile money account, they are less likely than men to have it registered in their own name (Figure 40). In four of the seven countries sampled⁸¹ – Bangladesh, Egypt, India and Senegal – more male mobile money account owners had their account(s) registered in their own name than women. In Kenya and Nigeria,

there was no difference, and in one country – Indonesia – more female account holders had their account(s) registered in their own name. More research is needed on whether having an account registered in someone else’s name limits privacy and appetite for use.

Source: 2021 GSMA Consumer Survey, n=35-529 for women and 75-689 for men

Figure 40:

Proportion of male and female mobile money account owners who have their account(s) registered in their own name⁸²



81 Pakistan, Guatemala and Mexico excluded due to small sample size.

82 Source: GSMA Consumer Survey 2021. Question: You said that you have a mobile money account with the following providers. For each provider, please tell me whether this is registered in your name or someone else’s? Base: All mobile money accounts held by adult respondents, n= 35-529 for women and 75-689 for men. Sample: nationally representative. Note: Guatemala, Mexico and Pakistan are excluded due to a small base.



Source: GSMA primary research with entrepreneurs in Ghana, November 2021

Box 10

Overcoming barriers to mobile money: a woman entrepreneur’s journey in Ghana



Name: Agnes

Location: Peri-urban Accra, Ghana

Job: Seamstress (own shop/online)

Phone type: Smartphone

Family life: Married with two children

Literacy: Literate, some formal education

Agnes’ journey to regular mobile money use

“The fact it was something new was appealing”. Agnes first became aware of mobile money in 2015. Eventually, her brother bought her a mobile phone and SIM card. She then registered for a mobile money account in her own name and received regular payments from her classmates in 2018 after sewing for them. She found it easy to use and it helped bring in income when her husband had irregular income. Since 2019, she has learned about other use cases from navigating her account USSD menu and talking to mobile money agents, family

and friends. Today she runs her own business and uses the following services regularly: P2P (send and receive), savings, cash-in/cash-out, airtime top-ups and bill payments.

Agnes has also become aware of and sees the benefit of using other services in the future, such as digital credit. **“Currently I only buy materials that I need, but if I want to start buying in bulk then I would need some extra money and that would make me take the loan.”**

Source: GSMA primary research with entrepreneurs in Ghana, November 2021

Box 10
*(cont...)***Overcoming barriers to mobile money: a woman entrepreneur's journey in Ghana****What barriers did she overcome?**

Agnes was able to overcome some of the common barriers to having a mobile money account, in particular, that of **mobile ownership**, after convincing her brother to buy her a mobile and SIM card. This enabled her to register an account in her own name. ***“He told me [a mobile money account] is good and you can save money on there.”***

Lack of perceived relevance (e.g. preference for cash, alternatives to mobile money) was not an issue for Agnes who finds mobile money relevant because she can use it to save money and avoid unnecessary spending. ***“Sometimes [customers] say they would want to give [a payment] to me as cash but I refuse because if I have the money on me, I would spend it.”*** She also understood that money can be sent to her immediately without having to incur travel time and costs.

While she recognises the value of mobile money, Agnes sometimes feels some **social pressure** to use mobile money, stating, ***“I have to learn it because... we are the ones going to use it, so if we don't know how to do it, someone might shame us by saying this thing has been [around] for a long time now so how come I don't know how to use it.”***

Safety and security is another barrier which Agnes was able to overcome. She understood that, when using mobile money, money could not be stolen in the same way cash could. She said ***“I feel like, if I keep leaving money around, someone might steal from me but if I put it into my MoMo wallet, then it is safe”***. Furthermore, her brother reinforced for her that ***“No one can steal your money unless the person knows your code”***.

Lack of knowledge and skills (e.g. difficulties using a handset, low literacy, not knowing how to use mobile money) was less of an issue for Agnes as she was able to get advice from her brother on how to use mobile money and save when, initially during account registration, the agent's advice was not clear. She then gained the confidence to learn how to use mobile money further, particularly as she could ask others for help, but also because she could read the USSD menu, select different options and access information and instructions by herself. She did however, have initial difficulty changing her PIN code due to someone else discovering it, but she overcame this by navigating her USSD menu options again. ***“It was important [to use all mobile money services] because I want to use them, that is why I registered. I have to explore [the menu] so that when someone asks for my assistance with regards to mobile money, then I would be able to help the person out.”***

Lack of ID is a barrier for Agnes because a cash-out transaction requires a government-approved ID card and while she has registered for one, she has not yet received it. She sometimes also experiences issues when trying to purchase goods from suppliers who cannot accept mobile money digitally because they also do not have an ID card and cannot cash-out.

Source: GSMA Mobile Money Inclusive Tech Lab, 2021

Box 11

Improving the safety and security of mobile money for women through tokenisation

[Research](#) has consistently shown that safety and security concerns related to mobile are a key barrier, and one that women tend to experience more acutely than men across a number of countries.

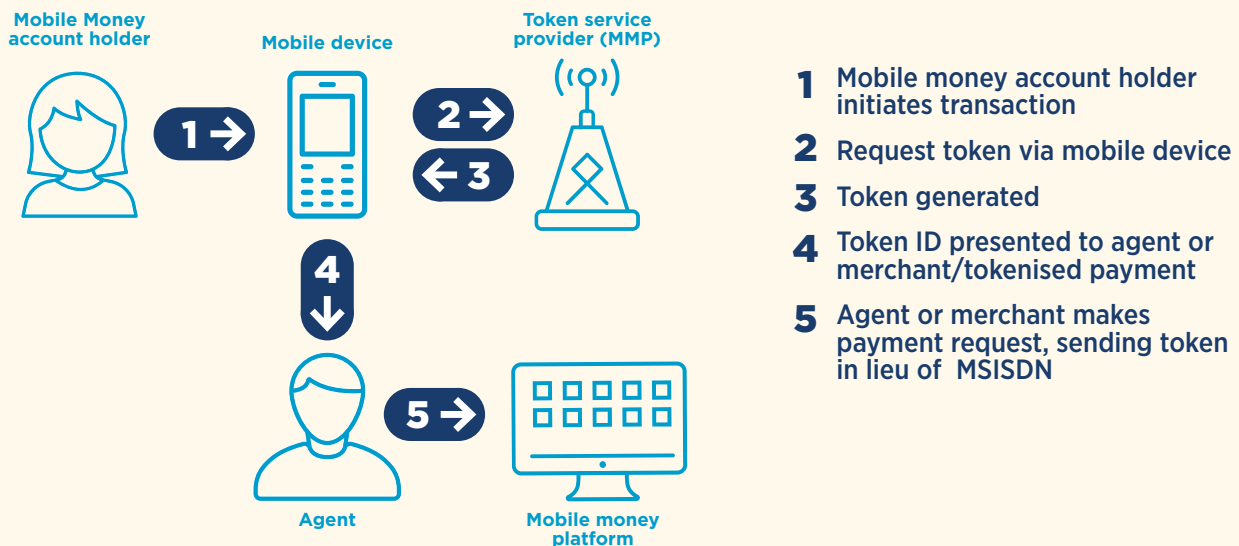
Issues are wide ranging and include [mobile-related harassment, theft, fraud and security](#), which inhibit women from benefitting from or even wanting to use a mobile. A key concern is unsolicited phone calls and text messages, which some women receive when their mobile numbers are misused by agents or at points of sale. In LMICs, customers' phone numbers are commonly shared with the agent or merchant when they purchase airtime or use mobile money, as their mobile phone number is typically also their mobile money account number.

Mobile-related security issues can be improved through tokenisation, a process of replacing sensitive data with a unique string of numbers, which has been successfully implemented in other industries. In the context of mobile money, the phone number represents the user's contact details and mobile money account.

In collaboration with [GSMA Connected Women](#), MTN Ghana and other partners, the [GSMA Inclusive Tech Lab](#) is [designing a system to tokenise mobile numbers](#), which can be used to protect customers' contact details and identity. The tokens are issued in real time and used in various environments, including for cash-in/cash-out, P2P transfers and merchant payments.

Figure 41:

Mobile number tokenisation process



This system will be designed alongside MTN Ghana as the generated tokens will be linked to the user's phone number. The generated token can be designed, if required, to use the same format as the phone number sequence in the selected market so it can seamlessly replace MSISDNs⁸³ in requests to mobile money platforms. The mobile account number is never compromised when tokenised, so there is little possibility that the token can be used for fraudulent activity.

The security of mobile technology remains an important barrier, especially for women, and this innovation has potential to improve women's lives by reducing the fear associated with using mobile technology and enabling them to reap the full benefits, including access to financial services. Solutions such as these can also improve customer acquisition, ARPU and retention for mobile operators.

83 The Mobile Station International Subscriber Directory Number (MSISDN) is the number identifying a mobile number internationally

Mobile money usage

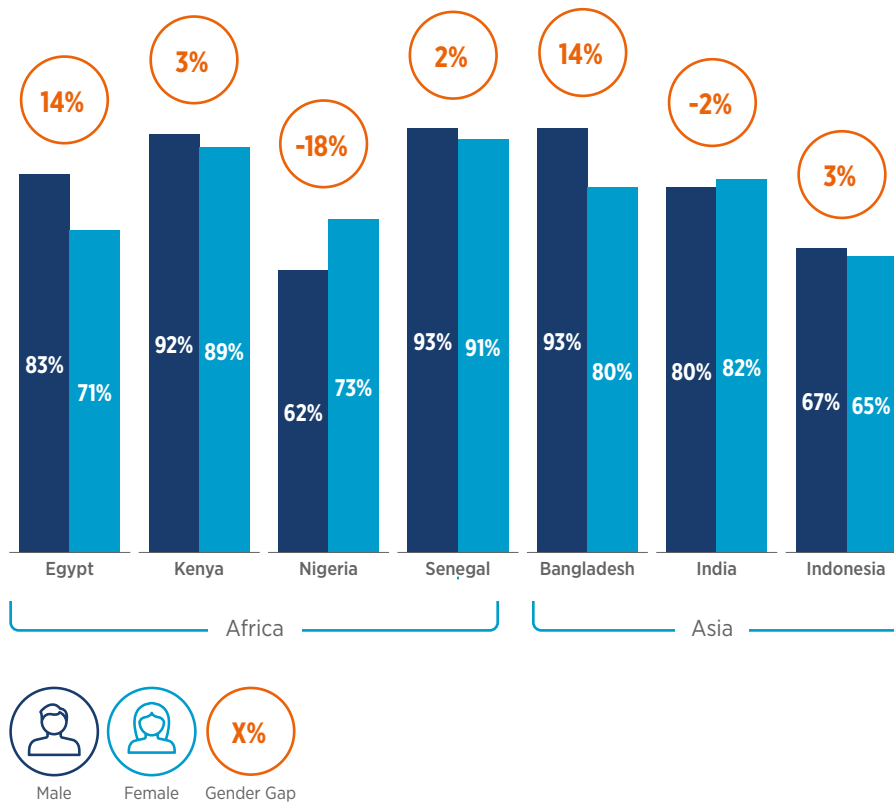
Beyond account ownership, measuring a person’s true level of digital financial inclusion requires understanding how often mobile money is used and for what purpose. To assess this, the 2021 GSMA Consumer Survey included questions on activity and diversity of use. Male and female mobile money account owners were asked whether they had used their accounts in the last 30 days (Figure 42), and mobile money users (both account owners and those who use over-the-counter (OTC) services) were asked whether they had performed certain use cases over the last year, such as sending money to friends or relatives or paying for food and clothes using mobile money (Figure 43).

Encouragingly, once women have a mobile money account, their likelihood of using it in the last 30 days is almost on par with men (Figure 42). While 30-day active rates are lower among female mobile money account owners than their male counterparts in Bangladesh and Egypt, they are similar in Kenya, India, Indonesia and Senegal, and are higher in Nigeria.⁸⁴ Since 30-day active rates are only one measure of regular mobile money use, more research is needed to understand whether these trends persist on a weekly and daily active basis.

Source: 2021 GSMA Consumer Survey, n=33-475 for women and 66-463 for men

Figure 42:

Proportion of male and female mobile money account owners who have used mobile money in the last 30 days, by country⁸⁵



84 Guatemala, Mexico and Pakistan excluded due to small sample size.

85 Source: GSMA Consumer Survey 2021. Question: Have you used a mobile money account in the last 30 days? Base: All respondents who have a mobile money account, n=33-475 for women and 66-463 for men. Sample: Nationally representative.

Despite these promising signs, overall, female mobile money users – defined as both mobile money account owners and OTC users – are using mobile money for a smaller range of activities than their male counterparts (Figure 43). This is true even in Kenya, a mature mobile money market where 30-day active rates are similar among men and women. Addressing this gender gap and increasing the diversity of women's mobile money use can increase their economic and social participation, improve their livelihoods and resilience to financial shocks and represents a revenue diversification opportunity for mobile money providers.

There are a few interesting exceptions to this trend in our survey countries, where women's use of mobile money for certain activities is relatively high compared to men, potentially indicating areas of opportunity for providers seeking to attract female customers:

- While not one of the top use cases overall, a similar number of male and female mobile money users paid for household items using mobile money in seven of the eight survey countries over the last 12 months.
- In Pakistan, female mobile money users are more likely than their male counterparts to have received money from friends and relatives and the government via mobile money in the last 12

months. They are also more likely to have used mobile money to pay for services such as labour and deliveries.

- In Egypt, female mobile money users are more likely than their male counterparts to have received payment from customers via mobile money over the last 12 months (24 per cent versus 17 per cent).
- In Nigeria, female mobile money users are more likely than their male counterparts to have sent money to their friends and relatives using mobile money over the last 12 months (63 per cent versus 58 per cent).

Another interesting gender difference is apparent with sending and receiving money from friends and relatives – by far the most common mobile money use case across markets.⁸⁶ While female mobile money users are overall less likely than their male counterparts to send and receive money, there is a gender skew, in line with previous research,⁸⁷ where women are usually more likely to receive money from friends and family, and men more likely to send it. Across all eight survey countries, male mobile money users have similar levels of sending and receiving money, or are more likely to send, whereas in four of the eight survey countries (Bangladesh, Kenya, Pakistan and Senegal), women are more likely to receive money than send it.

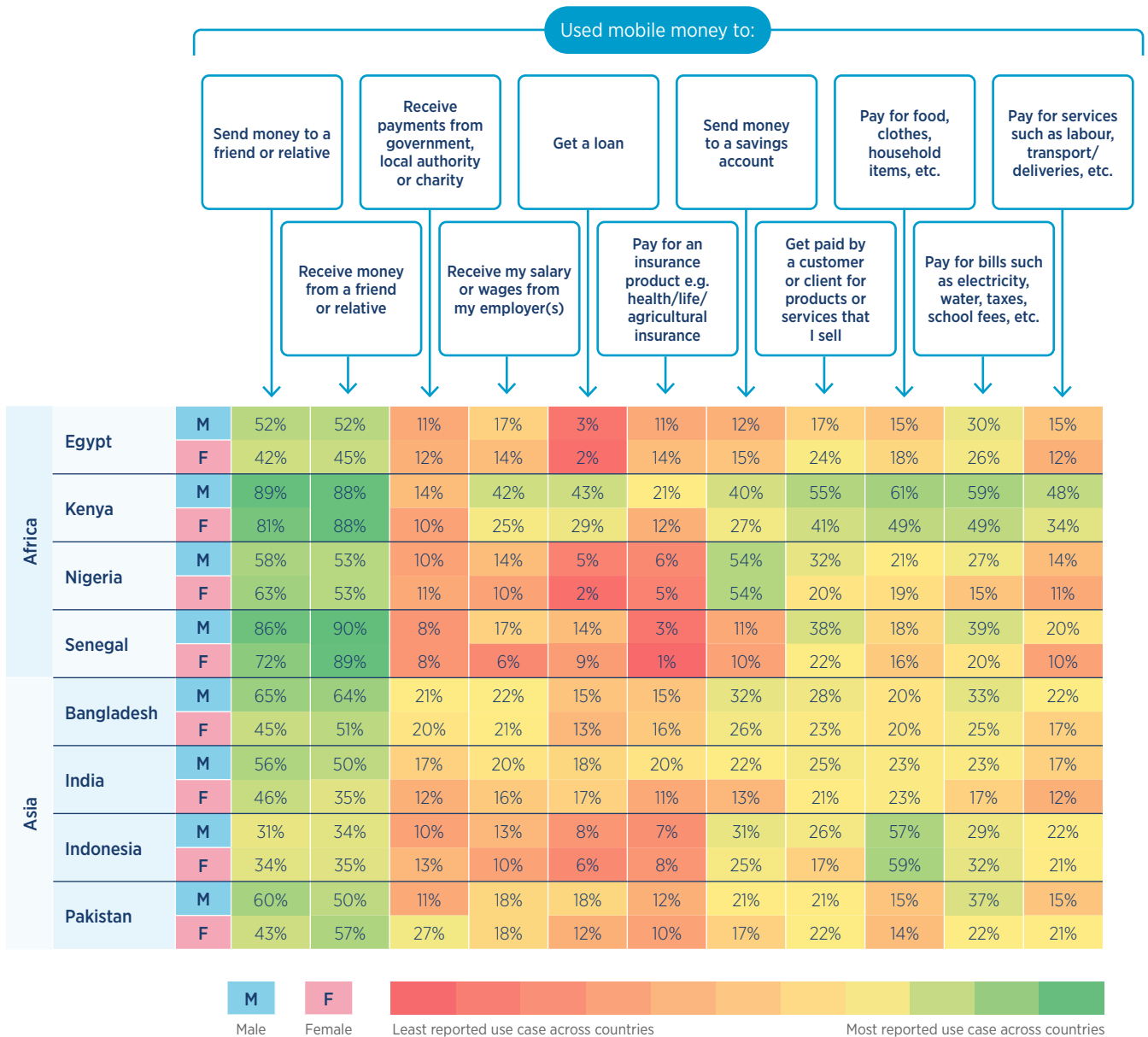
⁸⁶ The 2021 GSMA Consumer Survey excluded the airtime top-ups use case which, according to GSMA Mobile Money Metrics, exceeds mobile money P2P transaction volumes but accounts for much less in value

⁸⁷ For instance, see GSMA, Visa and Bankable Frontier Associates. (2013). [Unlocking the Potential: Women and Mobile Financial Services in Emerging Markets](#).

Source: 2021 GSMA Consumer Survey, n= from 47 to 497 for women and from 101 to 481 for men

Figure 43:

Proportion of male and female mobile money users who have performed each use case over the last year, by country⁸⁸



88 Source: GSMA Consumer Survey 2021. Question: Which, if any, of the following have you ever used mobile money for in the past 12 months? Base: All those who have a mobile money account or have used shop/agent (OTC) services, n=47-497 for women and 101-481 for men. Excludes Mexico and Guatemala due to low sample size. Sample: nationally representative.



Looking forward

A deeper understanding of the gender inequalities across the mobile money customer journey is crucial for stakeholders to ensure that women's access and usage is on par with men's. Addressing the persistent gender gap in mobile ownership is an essential prerequisite to women's mobile money adoption, and it is also vital to address barriers related to a lack of perceived relevance, digital skills and social norms that can disproportionately prevent women from having an account and reaping the full benefits

of mobile money. Considering the country and local context is also important.

While some progress has been made, more must be done to address the mobile money gender gap across LMICs. Concerted action is required from policymakers, the private sector, donors and other stakeholders to learn from success stories, address the issue and ensure that existing gender inequalities are not further entrenched, especially in light of the COVID-19 pandemic.



Mobile money for development



Mobile money for development

The GSMA strongly believes that mobile money is an enabler of many other services, such as ones that provide access to basic utilities, sustain the livelihoods of smallholder farmers and deliver rapid financial relief to large and dispersed populations during humanitarian crises. For mobile money providers, these use cases represent valuable opportunities to diversify, which many have already embraced. Most of the GSMA Mobile for Development programmes naturally integrate mobile money in their work and solutions. The following are three examples of GSMA Mobile for Development programmes in which mobile money can be transformative.



Humanitarian assistance

Mobile money in humanitarian contexts

Mobile money can play a vital role in the delivery of life-enhancing services to people affected by crisis, primarily in the delivery of humanitarian cash transfers.

The challenge: In 2021, 235 million people needed humanitarian assistance, an increase of 40 per cent from pre-pandemic levels.⁸⁹ This number is predicted to soar to 274 million in 2022⁹⁰ as people continue to suffer the effects of various crises, including the on-going effects of the COVID-19 pandemic.

The opportunity: Over the past decade, the humanitarian sector has rapidly increased the amount of cash assistance it provides to individuals affected by crisis. In 2020, cash and voucher assistance (CVA) represented 19 per cent of global humanitarian assistance,⁹¹ increasing from just 11 per

cent in 2016.⁹² Compared with in-kind assistance, CVA can be delivered more quickly, provide greater choice and dignity for recipients and support local markets.⁹³ In recent years, the sector has started using digital payment systems, such as mobile money and ATM cards, instead of cash in envelopes. These digital channels can often make delivery systems more efficient and transparent for humanitarian actors and donors, and a safer, more accessible option that can open the door to financial inclusion for recipients.

Humanitarian actors are increasingly forging partnerships with FSPs to deliver CVA, including mobile money providers. Today, mobile money deployments are active in 36 of the 44 countries that have United Nations Humanitarian Response Plans for 2022.⁹⁴

89 UN OCHA. (2020). [Global Humanitarian Overview 2021](#).

90 UN OCHA. (2021). [Global Humanitarian Overview 2022](#).

91 Development Initiatives (2021) [Global Humanitarian Assistance Report 2021](#).

92 CALP Network. (2020). *The State of the World's Cash 2020*.

93 OCHA Inter-Agency Standing Committee (IASC). (n.d.). "Increase the Use and Coordination of Cash Based Programming".

94 Based on the GSMA Mobile Money Metrics Deployment Tracker and UN OCHA. (2021). [Global Humanitarian Overview 2022](#).

The past 10 years

The digitisation of cash and voucher assistance

The ubiquity and scale of mobile networks around the world, combined with the growth of mobile money services, have made MNOs an attractive partner for humanitarian organisations. However, there are still significant barriers to sending CVA

efficiently via mobile money, including proof-of-identity requirements to access mobile services, the challenges of managing agent networks, low connectivity, low digital literacy and lack of access to reliable electricity for charging.

Box 12

Mobile money-enabled UN humanitarian cash transfer programmes



World Food Programme (WFP) cash programming

The WFP sent \$2.1 billion worth of cash transfers to recipients in 67 countries in 2020, 25 of which used mobile money.⁹⁵



UNHCR digital payment programmes

UNHCR, the UN Refugee Agency, sent \$700 million in CVA to 8.5 million recipients in 100 countries in 2020. They have set up digital payment programmes in 47 of these countries, 15 of which use mobile money. In [Niger](#), Malian refugees in Tabareybarey camp receive cash via mobile money and, in [Cameroon](#), urban refugees receive one-time cash payments via MTN Mobile Money. In Burundi, refugees that have returned to the country receive cash assistance via Lumitel's mobile money service.

The role of the GSMA

Supporting inclusive digitisation of CVA and mobile money-led financial inclusion

The GSMA Mobile for Humanitarian Innovation (M4H) programme, funded by the UK Foreign, Commonwealth & Development Office (FCDO), has worked with humanitarian partners and MNOs on digital CVA initiatives since 2018. The M4H programme supports partners to deliver humanitarian CVA projects, such as the [Voice-ID project in Somaliland](#) where, together with CARE and Telesom, M4H supported a mobile voice identification pilot to verify 2,000 households receiving CVA. The M4H team also worked with Alight and MTN in Rwanda to [train 800 Rwandan mobile money agents](#) to better serve marginalised communities, including refugees, with cash transfers. A similar initiative is being scaled up in Uganda.

The M4H programme has published research to

facilitate the use of mobile money-enabled CVA. This includes [Mobile money-enabled cash assistance: User journeys in Burundi](#), which documents the user experiences of marginalised communities receiving cash in Burundi; [The Digital Lives of Refugees](#), which measured access to mobile technology, including mobile money, in three displacement settings; and the [Connectivity Needs and Usage Assessment \(CoNUA\) Toolkit](#), which helps stakeholders collect connectivity data themselves.

The team has also developed a range of guidance and training resources, most recently an [online course](#) based on M4H [handbooks](#) that walks humanitarian practitioners and MNOs through the steps of operationalising mobile money-enabled CVA.

95 World Food Programme. (2021). ["12 things you did not know about WFP."](#)

The next 10 years

The number of people in need of humanitarian assistance is unlikely to decline in the coming decade. The on-going impacts of the COVID-19 pandemic and climate change are both driving humanitarian need. Climate change is increasing the prevalence and severity of disasters, increasing displacement, disrupting food production and having a disproportionate impact on those in fragile circumstances.⁹⁶ Humanitarian organisations will likely combine CVA with their interventions and programmes to strengthen the resilience⁹⁷ of communities in crisis, and contribute to efficiency and effectiveness of emergency response, which are key goals for humanitarians, donors and governments alike. It is with this commitment to resilience in mind that many humanitarian organisations are seeking to link their CVA

programmes to longer-term initiatives, such as financial inclusion.^{98,99}

In many humanitarian settings, the digitisation of CVA via mobile money has proven potential to foster financial inclusion. For example, GSMA research in Bidi Bidi refugee camp in Northern Uganda and Kiziba camp in eastern Rwanda¹⁰⁰ have shown the positive impacts of mobile money services in refugee communities, and an analysis of CVA by the GSMA and Mercy Corps¹⁰¹ shows the potential of mobile money to play an even more prominent role in humanitarian settings.

The GSMA is committed to continue working with the humanitarian sector and the mobile industry to advance inclusive digital and financial inclusion for those who need it most.

96 GSMA. (2021). [The Climate Crisis: Mobile enabled solutions in humanitarian emergencies](#).

97 "Resilience refers to the ability of individuals, households, communities, national institutions and systems to prevent, absorb and recover from shocks, while continuing to function and adapt in a way that supports long-term prospects for sustainable development, peace and security and the attainment of human rights." Source: UNHCR. (1 March 2017). "Resilience and self-reliance from a protection and solutions perspective".

98 "Financial inclusion means that individuals and businesses have access to useful and affordable financial products and services that meet their needs – transactions, payments, savings, credit and insurance – delivered in a responsible and sustainable way". Source: World Bank Group. (n.d.). "[Financial Inclusion: Overview](#)."

99 Kuewor, R. (3 August 2021). "Why financial inclusion is key to integrating and empowering refugees". World Economic Forum.

100 GSMA. (2019). The digital lives of refugees: how displaced populations use mobile phones and what gets in the way.

101 Warmington, M. and Casswell, J. (11 November 2021). "[Pathways from CVA to long term financial inclusion: A framework for success](#)". CALP Network.

Source: interview with Mon Cash executives

Box 13

Providing financial resilience during crises in Haiti



Crises in Haiti: The people of Haiti have had to cope with a string of crises in recent years. The country has been severely affected by natural hazard disasters, including earthquakes and hurricanes of different magnitudes, as well as social unrest and protests that stem, to some extent, from poor living conditions and lack of infrastructure.

Mon Cash Haiti is part of the mobile money arm of Digicel, a global MNO with operations in the Caribbean, Central America and South Pacific. Their vision is to enhance digital financial inclusion for all Haitians, including unbanked and underbanked populations.

Business impact and mitigation of crises: Mon Cash has been affected in various ways from the crises in Haiti, both directly and indirectly. Some impacts were felt immediately while others were more gradual. They included:

- **Customer service** – diminished access to mobile money when agents and merchants were forced to close, leaving no or limited POS for cash-in and cash-out transactions.
- **Customer experience** – customers had to wait until shops reopened to receive support.
- **Transactions** – the volume of transactions that are performed at agents' locations declines i.e. cash in/out due to business closure.
- **Third parties** – third parties, such as banks and agents, cannot operate or are restricted from operating.
- **Business infrastructure** – assets have been destroyed (shops, cars, towers) or vandalised (fibre cuts).
- **Staff** – some staff are limited in their ability to travel to work and support customers, especially in case of country lockdowns where they may be required to work remotely.

Operating during a crisis tends to be expensive, risk prone and unsafe. For example, relocating staff and operations, investing in insurance and hiring security during times of social unrest. Mon Cash has sought to mitigate the impacts of crises and maintain their mobile money operations by strategically positioning staff; ensuring buildings and infrastructure are more resilient; strengthening security to protect premises and staff; increasing company communications; and working more aggressively after a crisis to ensure business operations are sustainable.

Impact of crises on customers: Until mobile money operations resume, customers are restricted or prevented from transacting freely and transferring money to family who need financial support. This has had a particular impact on women, who tend to suffer more effects in times of crisis. After each crisis, Mon Cash has seen an increase in newly registered mobile money customers receiving “relief money” from family members. They have also observed a customer preference for digital mobile money transactions over cash and other alternatives. This trend became evident during the COVID-19 pandemic, where Mon Cash took the opportunity to encourage customers to more regularly use mobile money for making money transfers (i.e. P2P) as it appeared to them to be an effective financial instrument during a crisis.



Access to essential utility services

Mobile money-enabled utility services in LMICs

Over the past decade, remarkable progress has been made in achieving universal access to clean water and sanitation services (SDG 6) and affordable and clean energy (SDG 7). This is allowing cities in LMICs to better cope with challenges related to population growth, climate change and inequality. The proportion of the global population using safely managed water services increased from 66 per cent in 2010 to 74 per cent in 2020,¹⁰² while the global electrification rate increased from 83 per cent to 90 per cent during the same period.¹⁰³

The challenge: Despite this progress, one in three urban residents – more than 1.2 billion people – still lack access to core urban services (good-quality housing, transport, water, sanitation and energy).¹⁰⁴ A quarter of the world's population do not have access to safely managed water services, 3.6 billion people lack access to safely managed sanitation services¹⁰⁵ and more than 770 million do not have a reliable source of energy. The nature, quality and accessibility of utility services have important

implications for income equality, public health, connectivity, climate change, education and gender equality – some of the most important determinants of productive, liveable and resilient cities and communities.

The opportunity: The expansion of mobile money services has been instrumental in enabling utility service providers to confront this challenge and serve low-income populations with affordable and reliable services at scale. Digital payments, sometimes in combination with other digital innovations such as machine-to-machine (M2M) connectivity or smart meters, will continue to play a central role in utility services in the next decade. As access to utility services expands, there will be corresponding demand for effective payment options, and many of the business models gaining traction in utilities sectors, such as PAYG and digital platforms, have instant digital payments at their core.

102 WHO/UNICEF. (2021). [Progress on Household Drinking Water, Sanitation and Hygiene: 2000–2020](#).

103 SE4ALL. (2021). [Tracking SDG 7: The Energy Progress Report 2021](#).

104 Mahendra, A. et al. (2021). [Seven Transformations for More Equitable and Sustainable Cities](#). World Resources Institute.

105 WHO/UNICEF. (2021). [Progress on Household Drinking Water, Sanitation and Hygiene: 2000–2020](#).

The past 10 years

Mobile money-enabled payments have had a major impact on utility service delivery in LMICs in recent years, benefitting service providers, end users and mobile money providers alike.

Digital payments have lowered operational costs

Payments through mobile money have lowered operational costs for all utility service providers while also making it more convenient for customers to pay. According to a 2019 GSMA-CGAP study, digital payments reduced revenue collection costs by 57 per cent to 95 per cent for water and sanitation service providers.¹⁰⁶ In a sector known for small profit margins, these cost savings are critical.

Digital payments introduce transparency and accountability

Another benefit of mobile money is the accountability and transparency of digital records. To unlock impact financing, it is important to demonstrate to investors, with data, the impacts of digital payments. [Togo's off-grid solar subsidy programme](#) or [Rwanda's PAYG results-based financing](#) (RBF) scheme would not have existed without such technology.

Digital payments enable new business models and reach more customers

Mobile-enabled payments have allowed decentralised utility services to scale. This has been particularly striking in African countries with fast-growing PAYG solar home system (SHS) markets. The pace of this growth, and the influx of capital that has accompanied it, have transformed PAYG solar into a global industry that provides clean and affordable electricity to an estimated 27 million

people.¹⁰⁷ Digital payments offer a flexible, remote and secure payment solution for energy services for millions of unbanked customers, not only for PAYG SHS, but also in the mini-grid sector with prepaid smart metering solutions.¹⁰⁸ Many PAYG companies and other market players have begun using consumer asset financing to offer new products, including PAYG smartphones.

Utility services have been a strong “hook” for new MNO customers and customer retention

Evidence from a [multi-country GSMA study](#) on the value of PAYG for MNOs showed that around a fifth of mobile money customers activated or reactivated their account when they subscribed to PAYG off-grid energy services. It also found that PAYG customers make significantly more, and more diverse, transactions than regular MNO customers.¹⁰⁹ This data demonstrates the value of partnerships with utility service providers for MNOs, as they help to build consumer trust and confidence in mobile money and, ultimately, access to more financial services.

Integration with mobile money platforms is improving

Despite growing recognition of the value of utility services for mobile money penetration, payment integrations with MNOs remain a challenge in certain contexts.¹¹⁰ As the mobile money industry strives to transition to a [platform-based approach](#)¹¹¹ and connect consumers with third-party services across a range of industries, facilitating entry and integrations will be vital.

¹⁰⁶ CGAP. (2019). [Testing the Waters: Digital Payments for Water and Sanitation](#).

¹⁰⁷ Boarst, R. et al. (2021). [“How a New Set of Metrics Is Poised to Transform PAYGo Solar”](#). CGAP Blog.

¹⁰⁸ Kibala Bauer, G. (2019). [“Mini-grids, macro impact?”](#) GSMA Mobile for Development Blog.

¹⁰⁹ GSMA. (2020). [The Value of Pay-as-you-go Solar for Mobile Operators](#).

¹¹⁰ Kibala Bauer, G. and Kore, L. (2019). [“Mobile money transaction fees and utility bill payments in emerging markets”](#). GSMA Mobile for Development Blog.

¹¹¹ Naghavi, N. (2019). [“Payments as a platform: The future of mobile money”](#). GSMA Mobile for Development Blog.

The role of the GSMA

Since 2013, the GSMA Digital Utilities programme, funded by the UK Foreign & Commonwealth & Development Office (FCDO), Scaling Off-Grid Energy (USAID), and supported by the GSMA and its members, has enabled access to essential utility services in LMICs via digital solutions and innovative partnerships. Through the Digital Utilities Innovation Fund, the programme has catalysed some of the most notable innovations in the sector to drive access to essential utility services.¹¹² Over three phases, the Innovation Fund has supported 50 organisations with a total of £9.4 million in grant funding, directly benefitting more than 6.5 million people. Collectively, these 50 organisations have raised more than £309 million in follow-on funding after receiving support from the Fund.

The programme has supported some of the first PAYG SHS companies – Fenix, Mobisol (both now operating as ENGIE Energy Access), M-KOPA and PEG – pioneers in a fast-growing industry that has opened access to energy for millions of people. Lessons from this experience have since been applied to other sectors, including water and sanitation, as well as new energy use cases, such as mini-grids, clean cooking and solar-powered irrigation. This is exemplified by the programme's support for companies such as Citytaps,¹¹³ a start-up providing PAYG smart metering solutions to water utilities that has scaled in multiple African countries, and KOPAGAS¹¹⁴ (now Circle GAS), a PAYG clean cooking provider that was acquired by a consortium

that included Safaricom in what is thought to be the largest-ever private equity investment in the clean cooking technology sector.

To facilitate market entry and mobile money integrations for utility service providers, the Digital Utilities programme has supported the development of the Instant Payment Notification (IPN) Hub. The IPN Hub provides a single point of integration between mobile money providers and the growing PAYG sector. It not only enables small PAYG utility service providers to integrate easily with providers, but also provides them with instant payment notifications, which are critical to serving customers in real time. The IPN Hub has processed notifications for more than 4.7 million unique payment transactions. The GSMA has transitioned the IPN Hub to Beyonic Inc. (now MFS Africa) and is excited to support its future growth.¹¹⁵

The Digital Utilities programme has also facilitated 48 partnerships between MNOs and utility service providers. The programme will use the lessons and achievements of these partnerships to support urban resilience in LMICs through access to essential services, including energy, water, sanitation, transport and waste management. Emphasis will be placed on facilitating partnerships between innovators, MNOs and government providers of utility services, with a key focus on driving digital payments across the utilities sector.

112 GSMA. (2019). [Mobile for Development Utilities Innovation Fund: Grant Portfolio](#).

113 GSMA. (2020). [CityTaps: Delivering safe water to the urban poor through prepaid smart metering and mobile money](#).

114 GSMA. (2020). ["Circle Gas has acquired clean cooking PAYG technology and are launching it in Kenya"](#). GSMA Mobile for Development Blog.

115 GSMA. (2020). [The GSMA Instant Payment Notification \(IPN\) Hub: Impact and insights from inception to industry transition](#).

The next 10 years

Trends shaping the industry today are set to accelerate over the next decade and transform the relationship between mobile and utility services. For example, smartphone ownership is increasing rapidly in LMICs, with penetration in Sub-Saharan Africa predicted to increase to 64 per cent by 2025 and to 83 per cent in Asia Pacific.¹¹⁶ For the utilities sector, higher levels of smartphone ownership and mobile internet use will offer more opportunities to provide customers with advanced, tailored services. For the mobile money industry, this will generate more competition from non-operator payment providers, but partnerships with utility service providers will also allow mobile money providers to champion operator-led mobile money services as critical infrastructure.

In parallel, the use of big data analytics and artificial intelligence (AI) will become more prevalent in the mobile industry and utilities sector.¹¹⁷ Mobile money transactions will be used as data sources and combined and enhanced with utility service providers' data to provide new insights. This will allow service providers to innovate and plan future product offerings more effectively, while also having a positive impact on the user journey and customer experience with utility services.

Rapid urbanisation and climate change will make digital payments essential for centralised utilities

Rapid urbanisation in LMICs will lead to growing demand for centralised (grid) utility services, especially energy and water. In markets with mature mobile money ecosystems, many centralised utility service providers are already becoming cashless, and this trend will certainly accelerate over the next 10 years. These providers will need to operate more efficiently and intelligently, using smart metering and digital payment solutions to improve revenue collection, the customer experience and data-driven decision making.¹¹⁸

Decentralised utility services flourish with digital payments at their core

There has been strong growth in decentralised (off-grid) utility services over the past decade, and this is set to continue. In the energy sector, the PAYG model is likely to mature and expand to more countries and products. PAYG smartphones bundled with a solar kit is a fast-growing product offering that could boost mobile internet use over the next 10 years. In the water and sanitation sector, water kiosks and other decentralised services are likely to continue to be relevant as formal services may not be able to keep pace with demand. New types of decentralised services are likely to emerge, complementing existing ones.¹¹⁹ Micro- and mini-grid energy solutions are expected to become more widespread, and new use cases in the waste management industry will be developed, such as digital platforms that optimise collection logistics and enable circular economy solutions.

Platform models gain traction, necessitating instant digital payments

The rise of smartphone and internet adoption in urban areas could open the door to new business models for all urban services, particularly transport and waste management, since smartphone-enabled features such as location, traceability or access to a digital marketplace are essential to operations. In markets such as Indonesia, digital platform models are scaling from transport to other use cases,¹²⁰ and this trend provides a major opportunity for MNOs to gain traction with their own platform-based service offering. Increased smartphone penetration will also lead to less fragmentation in digital services as governments and private innovators seek to bundle digital payment solutions for a range of utility services. For mobile money providers, strategic partnerships will be important as recurring payment use cases like utility services become a vital part of the mobile money ecosystem.

116 GSMA. (2021). [The Mobile Economy 2021](#).

117 GSMA. (2021). [Innovative Data for Urban Planning: The Opportunities and Challenges of Public-Private Data Partnerships](#).

118 Ibid.

119 Mahendra, A. et al. (2021). [Seven Transformations for More Equitable and Sustainable Cities](#). World Resources Institute.

120 GSMA. (2020). ["Mobile Money Live Learning in Indonesia"](#). Video.



Agriculture

Mobile money-enabled agricultural solutions in LMICs

Smallholder farmers¹²¹ are the backbone of rural economies in LMICs and play a crucial role in agricultural production. Globally, nearly 500 million households depend on smallholder farming for their livelihoods, most of which are in South and Southeast Asia (208 million) and Sub-Saharan Africa (48 million).¹²² Smallholder farmers manage 25 per cent of the world's cropland and are responsible for producing around a third of the world's food.¹²³

The challenge: While the opportunity to provide mobile money-enabled digital financial services for farmers is significant, there is still a huge financing gap in smallholder agriculture. The estimated annual demand for credit from smallholders in LMICs is \$238 billion, or eight per cent of the agriculture sector's contribution to GDP.¹²⁴ However, less than a third of this demand is being met.¹²⁵ Smallholders typically require between \$500 and \$1,500 in short-term financing and \$500 to \$2,000 in long-term financing every year to cover their agricultural expenses (depending on the value chain).¹²⁶ There is a 98 per cent gap in smallholder demand for long-term

agricultural financing, and there are also significant shortfalls in short-term agricultural financing (67 per cent) and non-agricultural financing (34 per cent).

The opportunity: Agricultural digital financial services, or agri DFS, are bringing smallholder farmers into the digital economy and mobile money is playing a key role.¹²⁷ The uptake of mobile money and the growth of mobile money-enabled digital payments in agriculture in the past decade have enhanced financial inclusion for farmers and created new opportunities for mobile money providers to reach smallholder farmers at scale with use cases tailored to rural customers.

Mobile money has provided an alternative to cash payments for crop procurement and an entry point to much-needed financial services, such as savings and credit products. Mobile money transactional data, combined with data generated from the use of other digital agriculture solutions, presents an opportunity to create economic identities¹²⁸ for smallholder farmers that FSPs can use to make credit risk assessments and provide access to credit.

121 Smallholder farmers are farmers who produce crops or livestock on two hectares of land or less.

122 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](#); GSMA AgriTech. (2020). [Digital Agriculture Maps](#).

123 Ritchie, H. (2021). [Smallholders produce one-third of the world's food, less than half of what many headlines claim](#). University of Oxford.

124 GSMA calculation based on World Bank data.

125 This figure includes LMICs in Sub-Saharan Africa, South and Southeast Asia and Latin America. 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](#).

126 Ibid. Short-term financing is defined as loans with a tenure of less than 12 months while long-term financing is defined as loans with a tenure of more than 12 months.

127 See chapter on Agri DFS in GSMA. (2020). [Digital Agriculture Maps](#).

128 Economic identities are a form of functional identity that enables financial institutions to use innovative credit-scoring models that assess the credit risk of previously unbanked farmers and their ability to repay loans. See "Digital footprints and economic identities for farmers" in GSMA. (2020). [Toolkit for the Digitisation of Agricultural Value Chains](#).



The past 10 years

Mobile money has helped digitise payments in agricultural value chains

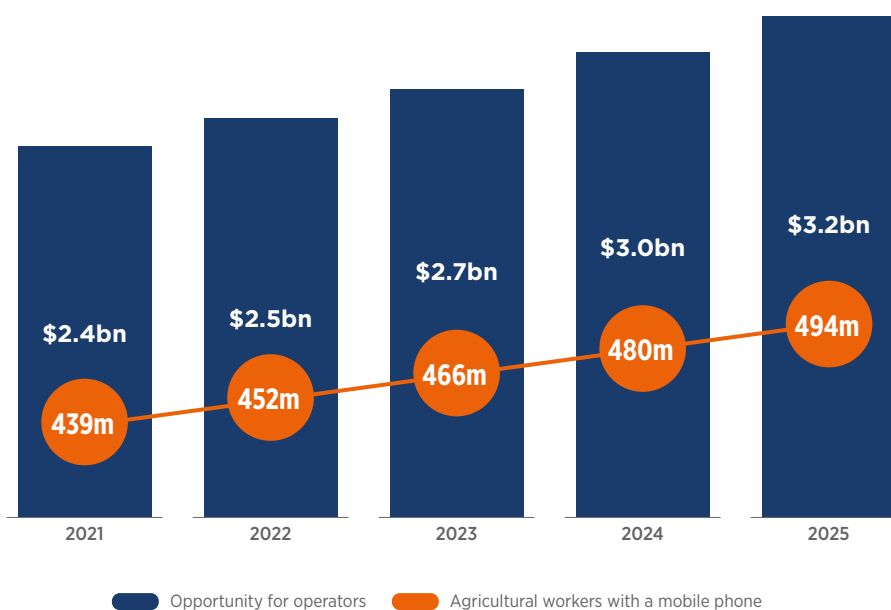
Digital business-to-farmer (B2P) payments for crops are becoming more common in agricultural value chains. Buyers in the food and agriculture sectors, such as agribusinesses and cooperatives, are increasingly seeking to switch from cash to digital given the inefficiencies and risks associated

with cash payments (e.g. security and cost). The GSMA estimated the total value of cash-based B2P payments available for digitisation in agricultural value chains at \$392 billion in 2021. This is expected to swell to around \$491 billion in 2025. Mobile money providers stand to capture up to \$3.2 billion in total direct annual revenue by 2025 through the digitisation of B2P payments.¹²⁹

Source: GSMA

Figure 44:

Potential direct revenue opportunity and addressable market



According to last year’s State of the Industry Report, 39 per cent of mobile money providers offering bulk payments also provided agricultural value chain payments to farmers, and 120 agricultural organisations had digitised value chain payments via mobile money, 75 per cent of which were in Sub-Saharan Africa. Besides the direct revenue opportunity, digitising agricultural payments could also have measurable indirect benefits for mobile money providers, including the acquisition of new mobile money users, increased customer loyalty, higher transaction volumes and greater mobile

money account activity to support a sustainable agent network.

Agribusinesses and agritech companies are also enabling value chain payments. TruTrade Africa,¹³⁰ a social enterprise serving as a crop aggregator in Kenya and Uganda, has fully digitised agricultural payments across their value chain. Farmers bring their produce to collection points where TruTrade Africa sourcing agents check for quality, weigh the produce and make a purchase offer. If the offer is accepted, the agent triggers a payment directly to the farmer’s mobile money account.¹³¹

129 GSMA. (2020). [Digitising payments in agricultural value chains: The revenue opportunity to 2025](#).

130 See: <http://www.trustradeafrica.net/>

131 World Bank. (2020). [Digitisation of Agribusiness Payments in Africa: Building a Ramp for Farmers’ Financial Inclusion and Participation in a Digital Economy](#).

Mobile money has spurred a broader offering of agri DFS

According to the GSMA AgriTech programme’s *Digital Agriculture Maps*, a state of the sector report on digital agriculture, there were 150 agri DFS in LMICs as of January 2020. Agri DFS include digital agricultural payments, as well as adjacent financial services that require partnerships with FSPs, including agricultural credit (e.g. input financing), savings (e.g. digital wallets designed to support

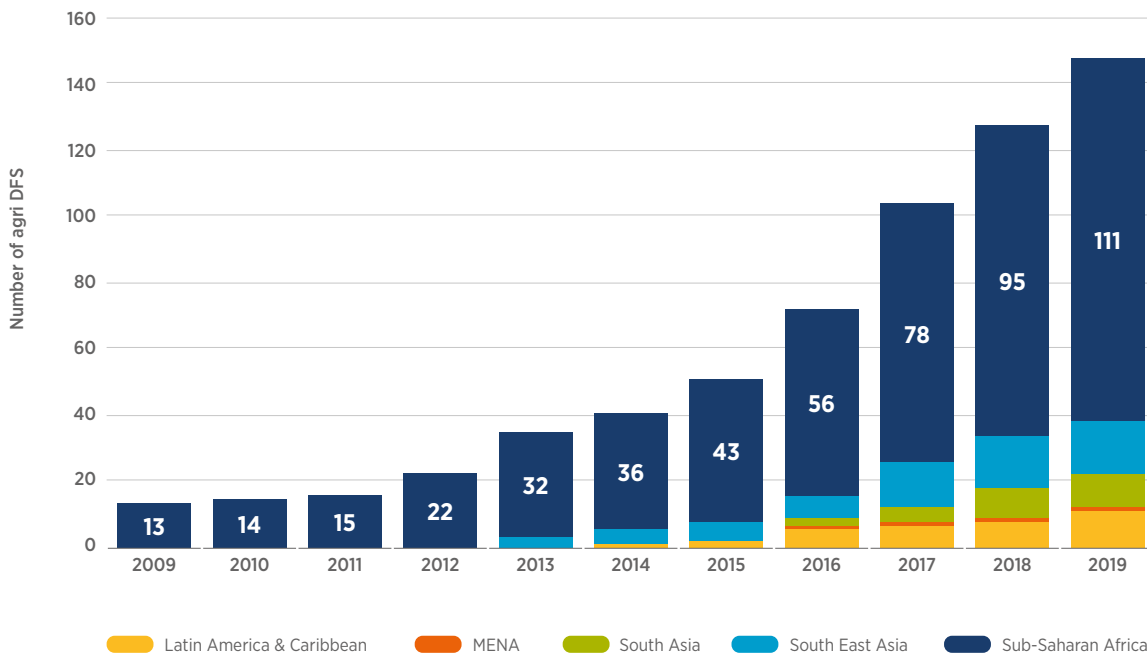
specific agriculture sector activities) and insurance.

Of the 150 agri DFS tracked by the AgriTech programme, 111 were in Sub-Saharan Africa where growth is far more pronounced due to the wider availability of mobile money. Sixteen of the services were in Southeast Asia, 12 in Latin America and the Caribbean and 10 in South Asia (see Figure 45).

Source: GSMA

Figure 45:

Agri DFS by region, 2009–2019



This growth in DFS has been driven by the prevalence of mobile money in markets across Sub-Saharan Africa. Mobile money has made it viable to provide financial services via mobile phones and extend services to farmers, a customer segment once considered too difficult and expensive for traditional FSPs to serve. However, this growth has been largely concentrated in East Africa where mobile money adoption is more widespread. Of the 111 digital financial services targeted at the agriculture sector in Sub-Saharan Africa, 49 are in just five countries: Burundi, Kenya, Rwanda, Tanzania and Uganda.

Importantly, in Sub-Saharan Africa, the integration of mobile money in agri DFS solutions is driving overall investment in digital agriculture, which still suffers from a lack of private investors. Research conducted by the CTA¹³² shows that half of all venture capital and private equity investment in agritech in Sub-Saharan Africa occurs in Kenya. Here, mobile money provides a platform to move funds digitally, a vital service not only for farmers, but also for agribusinesses, cooperatives and farmer groups.

132 CTA. (2019). [The Digitalisation of African Agriculture Report, 2018-2019](#).

Mobile money-enabled agri DFS models

A range of providers are offering agri DFS to farmers, from traditional FSPs like banks and microfinance institutions (MFIs) to mobile money providers and fintech companies. FSPs have integrated digital technology to optimise their operating models and launch new products aimed at the rural sector. Meanwhile, governments and NGOs are using agri DFS to deliver financial services to farmers, such as input subsidies.

The agri DFS space is becoming increasingly complex as more solution providers leverage their

data, technologies and relationships with farmers to provide access to financial services. However, early experience has shown it is challenging to provide specific agri DFS solutions sustainably and at scale since farmers and other value chain actors face multiple challenges that require holistic solutions. Service bundles that are combined within the same solution or platform, where agri DFS is combined with other digital agriculture services (e.g. digital advisory, market access), are emerging in response.

The role of the GSMA

Enabling the financial inclusion and climate resilience of farmers through Agri DFS

The GSMA AgriTech programme, funded by the UK Foreign, Commonwealth & Development Office (FCDO) and the Australian Department of Foreign Affairs and Trade (DFAT) and supported by the GSMA and its members, works with mobile money providers and agritech companies to scale digital solutions for the agricultural sector. The programme is currently running an [Innovation Fund](#) to support the digitisation of agricultural value chains, enhance financial inclusion and strengthen the climate resilience of smallholder farmers.

Each Innovation Fund grantee has formed a consortium with local agribusinesses and FSPs to offer bundled digital agriculture solutions such as credit, savings and insurance products. The programme offers support with [user experience](#)

[\(UX\)](#) research and design, analysis of business intelligence data and on-going strategic advisory on sustainability and product road maps.

The AgriTech team publishes research to identify emerging innovations, best practices and the operational and business models that support them. The [Toolkit for the Digitisation of Agricultural Value Chains](#) is a collection of resources to help service providers prioritise digital interventions, including mobile money-enabled solutions. Other resources include research on emerging [agri DFS business models](#), partnership models and approaches to scale DFS and [Agricultural Insurance for Smallholder Farmers](#), a study that looks at the role of mobile money in automating and scaling insurance services.

The next 10 years

Globally, smallholder farmers are under increasing pressure to adapt to climate change. While agriculture is an income source for two-thirds of adults living in poverty,¹³³ they typically lack the resources to maximise yields and respond to production challenges, such as adverse weather conditions, crop pests and diseases, which have all been exacerbated by climate change.

Over the next decade, providers of digital agriculture services, such as agritech companies and mobile money providers, will need to transition from specialised services to holistic solutions that address the multiple challenges farmers face. Financing activities that strengthen the climate resilience of farmers will be especially important to support food systems worldwide.

Agri DFS can be a catalyst for climate resilience, allowing farmers to invest in agricultural inputs for the next season after suffering losses in the last, and to access irrigation and mechanisation assets. Given the huge financing gap¹³⁴ in smallholder agriculture, agri DFS will likely be at the core of many digital agriculture solutions, with mobile money driving widespread uptake.

An embedded finance model¹³⁵ that uses API-driven banking and payments services to integrate financial services in the agritech ecosystem will be vital to scaling up agri DFS. Agritech companies, together

with a handful of mobile money providers, are using an embedded finance approach to deliver bundled offerings or digital platforms for farmers. The most notable example is [Safaricom's DigiFarm](#) platform in Kenya, which leverages the reach of M-PESA to provide an integrated mobile solution for farmers accessible from a basic feature phone. The platform includes access to advisory services, inputs, buyers and value-added services, such as soil analysis, insurance and credit products.

The agri DFS ecosystem is changing rapidly and becoming more sophisticated as mobile money providers, agritech companies, agribusinesses and FSPs build relationships with farmers, provide services and generate data. Supporting the financial inclusion and climate resilience of farmers will require partnerships between multiple organisations and clear incentives for all actors in the ecosystem to serve farmers.

The GSMA AgriTech programme is committed to continue catalysing these partnerships, documenting best practices and leveraging technology solutions, including mobile money, to automate and scale up digital agriculture solutions.

133 Castañeda, A. et al. (2018). "A New Profile of the Global Poor". *World Development*, 101, pp. 250–267.

134 The estimated annual demand for credit from smallholders in LMICs is \$238 billion, or eight per cent of agriculture's contribution to GDP. However, less than a third of this demand is being met. There is a 98 per cent gap in smallholder demand for long-term agricultural financing, and there are also significant shortfalls in short-term agricultural financing (67 per cent) and non-agricultural financing (34 per cent). Source: 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](#).

135 GSMA. (2021). [Agri DFS: Emerging business models to support the financial inclusion of smallholder farmers](#).

Conclusion

In just 10 years, mobile money has expanded from a niche offering in a handful of markets to a mainstream financial service, moving millions of households in LMICs from the cash economy into a more inclusive digital economy. After two years of uncertainty, we have seen our industry, other sectors and wider society adapt to and embrace mobile money. As we celebrate a decade of the GSMA State of the Industry Report on Mobile Money, we also mark the first year that mobile money transactions surpassed a trillion dollars.

This boost has come from new customer uptake and activity across a growing number of use cases, especially merchant payments, international remittances and bill and bulk payments. While in 2012 these represented just 10 per cent of all mobile money transactions, today they account for 20 per cent. Merchant payments have nearly doubled, exceeding \$65 billion on an annual basis. International remittances via mobile money grew by 48 per cent to \$16 billion, bill payments increased by 37 per cent to exceed \$5 billion per month and bulk payments grew by another third, topping \$65.8 billion.

Mobile money is also enabling services that address critical socio-economic and environmental challenges in LMICs. Embraced by providers, these transformative services are providing access to essential utilities, expanding financing options for smallholder farmers and delivering rapid financial relief to vulnerable populations exposed to humanitarian crises.

Agents continue to provide vital, in-person access to mobile money services. Over the past decade, the number of active agents has grown more than 10 times. As of 2021, there were 5.6 million agents globally and the 25 largest agent networks grew by more than 25 per cent on average from 2020 to 2021. Through these agents, customers cashed in and digitised a total of \$261 billion.

The number of registered mobile money accounts, another indicator of growth in the industry, reached 1.35 billion globally in 2021, 10 times more than there were in 2012. Of these accounts, 518 million were active on a 90-day basis and 346 million on a 30-day basis, growing nearly 15 times and 13 times, respectively, since 2012. Still, around a billion registered accounts are not active on a 30-day basis,

and these customers may be running up against barriers to access and use that have kept them financially excluded.

Many of these barriers affect women. Across LMICs, women are still less likely than men to own a mobile money account. There are many reasons for this, including not owning a mobile phone (a prerequisite for account ownership), lack of awareness of mobile money, not perceiving mobile money as relevant to their lives, low digital skills and restrictive social norms. Encouragingly, once women have a mobile money account, they are almost as likely to use it as men.

2021 has shown how the scale and power of mobile money can build a more inclusive world. Behind the numbers and milestones in this report are hundreds of millions of people participating in a more inclusive digital economy. Individuals, communities and the public, private and non-profit sectors are all reaping the socio-economic benefits of mobile money.

Yet, even more profound benefits are possible if the industry and all stakeholders can catalyse efforts, reducing the mobile gender gap and meeting diverse customer needs to activate the billion registered customer accounts that are currently so infrequently used. In practical terms, this can also mean delivering more fast and secure cash transfers among the over 235 million people in need of humanitarian assistance; providing credit, insurance and other risk management tools to more of the nearly 500 million smallholder farmers growing a third of the world's food; and opening further access to affordable, reliable and safe water, energy and sanitation among the more than 1.2 billion people without access to core urban services.



Appendices

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 2021 Global Adoption Survey on Mobile Money and Mobile Money Estimates and Forecasts. This supply-side data is further enhanced with nationally representative quantitative primary research from the 2021 GSMA Consumer Survey of 10 LMICs.

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 Tracker¹³⁶

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 2021 survey. Respondents supplied standardised operational metrics about their services for the months of September 2020, December 2020, March 2021 and June 2021, on a confidential basis. A total of 86 service providers from 59 countries participated in the 2021 survey. The full list of survey participants is included in the Appendices below.

¹³⁶ GSMA Mobile Money Deployment Tracker: www.gsma.com/mobilemoneymetrics/#deployment-tracker

GSMA Global Adoption Survey 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 its analytical and telecoms expertise with the Mobile Money programme’s industry knowledge.

Our dataset covers 21 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, unique 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 five main steps:

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.¹³⁷ 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.

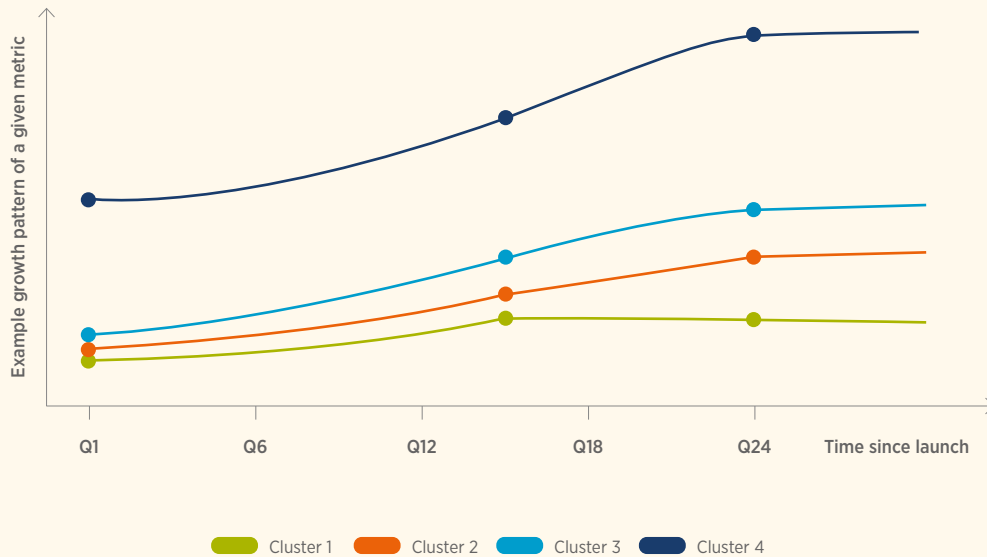
| | | |
|--------------------------------------------------|------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ↑ 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 |

¹³⁷ GSMA. (2016). [Success factors for mobile money services: A quantitative assessment of success factors](#).



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 identified any outliers and checked for further explanation. This validation process requires close collaboration between GSMA Intelligence and the Mobile Money programme’s market experts.

GSMA Mobile Money Prevalence Index (MMPI) Methodology¹³⁸

The MMPI is based on the GSMA's country-level estimates informed by publicly available data from regulators as well as mobile money service-level data collected by the GSMA since 2011. As a composite index, the MMPI consists of three components: the Adult Penetration Rate, the Activity Rate Index and the Agent Distribution Index.

The MMPI uses the **geometric mean** to ensure that poor performance in one component cannot be compensated by movement in another.

$$MMPI = \sqrt[3]{APR * ARI * ADI}$$

APR = Adult Penetration Rate

ARI = Activity Rate Index

ADI = Agent Distribution Index

The core component of the MMPI is the **Adult Penetration Rate (APR)**, which is calculated by dividing the number of active (90-day) mobile money accounts in a country or region by the number of adults in the same country or region.

$$APR = \frac{\text{Active accounts}}{\text{Adult population}}$$

The purpose of the MMPI is to gauge the prevalence of mobile money, using it as a proxy for the level of mobile-led financial inclusion in a country. As such, the index is meant for use in countries where there are *fewer* active mobile money accounts than adults.¹³⁹ For this reason the APR is a bound variable and capped at 1, as increases above full adult population penetration of active accounts are considered immaterial to the furthering of financial inclusion. This means that any country that has an APR above 1 should be considered to have an APR of 1.

¹³⁸ GSMA. (2021). *The GSMA Mobile Money Prevalence Index (MMPI): A Country-Level Indicator for Assessing the Adoption, Activity and Accessibility of Mobile Money*.

¹³⁹ At the time of writing this applies to all mobile money markets globally.

The MMPI uses 90-day active accounts rather than monthly or 30-day active accounts. This is because the MMPI looks to establish what share of a population is reachable via mobile money. Therefore, the index does not attempt to segregate accounts with high-frequency usage from those with lower frequency usage.

The APR is complemented by two additional components:

The **Activity Rate Index (ARI)**, which is calculated by dividing the natural logarithms of the number of active (90-day) accounts and the number of registered accounts.

$$ARI = \frac{LN(\text{Active accounts})}{LN(\text{Registered accounts})}$$

The **Agent Distribution Index (ADI)**, which is calculated by dividing the natural logarithms of the number of active agents per 100,000 adults and the constant of 3,000. The figure of 3,000 has been chosen to indicate the upper limit of the number of agents per 100,000 adults. This figure relates to the conditions in countries with the most widespread agent networks. Should the market foundations shift significantly in future this figure may require adjustment.

$$ADI = \frac{LN(\text{Active agents per 100,000 adults})}{LN(3,000)}$$

The MMPI uses the natural logarithms to reflect the relative diminishing meaningfulness of increases in the ARI and ADI indices as they get higher.

In the case of ARI, the use of natural logarithms is meant to increase the binarity in the component. The argument is that once services in a given country have significant shares of registered accounts active on a 90-day basis, these services should simply be considered as “active”. Increasing the share of active accounts as a proportion of registered accounts beyond this point therefore only increases ARI marginally.

With the **Agent Distribution Index (ADI)**, natural logarithms have been introduced to account for the inherent double counting of agents in markets with several mobile money providers. This is because the higher the number of providers there are in a market, the likelier it is that one agent outlet offers the services of more than one provider. If the MMPI did not use natural logarithms for the ADI, a market would more easily attain a higher score merely as a result of having a higher number of mobile money providers. Therefore, the MMPI seeks to moderate the impact of competition and market structure as these are not indicative metrics for the prevalence of mobile money in a market.

GSMA Consumer Survey Methodology

Consumer insights presented in this report are based on a nationally representative survey conducted in 10 LMICs (Bangladesh, Egypt, Guatemala, Indonesia, India, Kenya, Mexico, Nigeria, Pakistan and Senegal) that were part of the broader Consumer Survey conducted annually by the GSMA. Fieldwork was conducted between Q3 and Q4 2021. This research aimed to unpack consumer use of mobile money and mobile money-enabled services.

In all countries, a nationally representative sample of the adult population aged 18 and over was surveyed. A minimum of 1,000 interviews were conducted in each country, with 2,000 interviews undertaken in India.

To achieve a nationally representative sample, quotas were applied in line with census data (or other appropriate sources) on the following metrics:

- Age category by gender;
- Urban and rural distribution by gender;
- Region/state; and
- Socio-economic class (SEC) to ensure a representative segment of lower income respondents were included

While a quota was not applied to education (other than where it contributed to SEC classification), it was tracked regionally and nationally during and after the fieldwork as an important indicator of a representative sample.

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 (200 in India).

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.

The survey was delivered via interviewer-administered computer-assisted personal interviewing (CAPI). Survey interviews were conducted in the local language(s) by both female and male interviewers. Interviews were conducted at respondents' homes. Within sampling points, systematic random routes were used for residence selection.

Weights were applied to the data using a random iterative method (RIM) whereby several non-interlocking quotas were applied in an iterative sequence and repeated as many times as needed for the quotas to converge. This corrected any imbalances in the profiles, although weightings (and the resulting impact on effective sample sizes) were minimised as much as possible by controlling key quota variables over the course of the fieldwork.

The sampling approach was designed to achieve full national representativeness where practical; however, some more remote rural areas or regions with ongoing unrest or security concerns were excluded from sampling. This may have had an impact on results, especially since mobile phone coverage, access and use will be different, and likely most limited, in these areas, particularly for women.

As a consequence of the coronavirus pandemic no interviewing was conducted inside a home, with interviewing instead taking place on the doorstep or other appropriate location. All necessary precautions were taken to ensure the safety of interviewers and respondents to comply with guidelines issued (e.g. sanitising of materials and use of PPE).

Glossary

Agent outlet

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.

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.

Agent tills are provider-issued “lines”, which can be SIM cards or POS machines, authorised and used to facilitate mobile money transactions.

Airtime top-up

Purchase of airtime via mobile money, funded from a mobile money account.

Anti-money laundering/combating the financing of terrorism (AML/CFT)

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).

Application programming interface (API)

For the mobile money industry, an application programming interface is the set of design principles, objects and behaviours for software developers to enable interactions between mobile money platforms and vendors.

Average revenue per user (ARPU)

Calculated as recurring revenues divided by total number of unique subscribers.

Bank account-to-mobile money account transfer

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.

Bill payment

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.

Bulk disbursement

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 beneficiaries.

Cash-in

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.

Cash-out

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.

Circular economy

A model of production and consumption which may involve sharing, leasing, reusing, repairing, refurbishing and recycling existing materials and products for as long as possible.

Country corridor

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.

Credit enabled by mobile money

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:

- 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 that 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).

Diaspora

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.



| | |
|---------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| EBITDA | Earnings before interest, taxes, depreciation, and amortisation is an indicator of a company’s financial performance and profitability. |
| E-money | 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. |
| Escrow (trust) account | 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. |
| Float | 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. |
| Gender gap | Based on results from the GSMA Consumer Survey, the gender gaps (e.g. for ownership of a mobile money account, use or awareness of mobile money) in this report, are calculated using the following formula: |
| | $\text{Gender gap in ownership/ use/awareness (\%)} = \frac{\text{Male owners/users/aware (\% of male population)} - \text{Female owners/users/aware (\% of female population)}}{\text{Male owners/users/aware (\% of male population)}}$ |
| 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 of 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

Insurance enabled by mobile money uses a mobile phone to provide microinsurance services. The GSMA Mobile Money programme tracks insurance products enabled by mobile money that meet the following criteria:

- 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)

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.

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.

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).

Low- and middle-income countries (LMICs)

Countries classified by the World Bank as low income (GNI per capita of \$1,035 or less in 2019), lower-middle income (GNI per capita between \$1,036 and \$4,045) or upper-middle income (GNI per capita between \$4,046 and \$12,535).

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.

| | |
|-------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Mobile financial services (MFS) | 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 all mobile financial services. |
| Mobile money | <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 a 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. |
| Mobile money account (registered/active) | An e-money account that is primarily accessed using a mobile phone and that 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 that has been used to conduct at least one transaction during a certain period (usually 90 days or 30 days). |
| Mobile money account- to-bank account transfer | 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. |
| Mobile owner | "Mobile phone owner" and "mobile owner", in the context of the GSMA Consumer Survey results, are used interchangeably in this report to mean a person who has sole or main use of a SIM card or mobile phone that does not require a SIM and uses it at least once a month. |
| Off-net transfer | Transfers that 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". |

Over-the-counter (OTC) services

Some mobile money services are offered primarily over the counter (OTC). In such cases, a mobile money agent performs the transactions on behalf of the customer, who does not need to have a mobile money account to use the service.

Pay as you go (PAYG)

Pay-as-you-go systems refer to services that are paid for before use and cannot be used more than the amount paid for.

Point of sale (POS)

A retail location where payments are made for goods or services. A “POS device” denotes a specialised device that is used to accept the payment, for example, a card reader.

Regulator

In the context of mobile money, this typically refers to the regulator that has supervisory authority over financial institutions within a particular country, usually the central bank or other financial authority.

Savings enabled by mobile money

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:

- 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:
 - A mobile investment that uses a mobile phone to provide investment facilities (e.g. in government bonds); and
 - A mobile pension that uses a 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)**

An organisation that provides its customers with technology-based solutions. In the context of mobile money, a TSP is a financial technology (fintech) company that develops, provides and supports the technology systems used to deliver mobile money services.

Underbanked

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.

Unregistered users

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.

Voucher

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.

| Latin America and the Caribbean | |
|---------------------------------|------------------------|
| Bolivia | Tigo |
| El Salvador | Tigo |
| Guatemala | Tigo |
| Guyana | Guyana T&T Company |
| Haiti | Digicel, Haitipay |
| Honduras | Tigo |
| Mexico | Transfer |
| Nicaragua | Banpro Grupo Promerica |
| Paraguay | Claro, Personal, Tigo |

| Europe and Central Asia | |
|-------------------------|--------------|
| Armenia | VivaCell-MTS |

| South Asia | |
|-------------|-----------------------------|
| Afghanistan | Roshan |
| Bangladesh | Grameenphone |
| India | Eko, Airtel (Bharti Airtel) |
| Maldives | Dhiraagu, Ooredoo |
| Nepal | Fonepay |
| Pakistan | Jazz, Telenor, Ufone |
| Sri Lanka | Mobitel |

| East Asia & Pacific | |
|---------------------|----------------------|
| Cambodia | MetFone, Wing |
| Laos | Unitel |
| Malaysia | Merchantrade |
| Myanmar | Telenor |
| Papau New Guinea | Nationwide Microbank |
| Phillipines | PayMaya |
| Vanuatu | Vodafone |

| Middle East and North Africa | |
|------------------------------|-----------------------|
| Egypt | Orange |
| Iraq | Zain |
| Jordan | Orange |
| Morocco | Al Barid Bank, Orange |
| Tunisia | Orange |

| Sub-Saharan Africa | |
|----------------------------|---------------------------------|
| Benin | MTN |
| Botswana | Botswana Post, Orange |
| Burkina Faso | Orange, Wizall |
| Cameroon | MTN, Orange |
| Central African Republic | Orange |
| Chad | Moov Africa |
| Congo | MTN |
| Congo, Democratic Republic | Orange, Vodacom |
| Côte d'Ivoire | Orange, Wizall |
| Ethiopia | M-BIRR |
| Gambia | Africell |
| Ghana | GCB Bank, MTN, Vodafone, Zeepay |
| Guinea | MTN, Orange |
| Guinea-Bissau | Orange |
| Kenya | Safaricom |
| Lesotho | Vodacom |
| Liberia | Orange |
| Madagascar | Orange, Telma |
| Malawi | TNM |
| Mali | Orange, Wizall |
| Mozambique | Vodacom |
| Nigeria | Access Bank, Teasy Mobile |
| Senegal | Free, Orange, Wizall |
| Sierra Leone | Africell, Orange |
| South Sudan | Trinity Technologies |
| Swaziland | MTN |
| Tanzania | Tigo, Vodacom |
| Togo | Moov Africa |
| Uganda | MTN |
| Zambia | Zamtel, Mangwee, Zoon, MTN |
| Zimbabwe | Econet, Telecel |

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