GSMA

THE STATE OF THE INDUSTRY REPORT ON MOBILE MONEY 2023

GSMA

The GSMA Mobile Money programme works together with the industry achieve the full potential of digital finance for all. 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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Mobile Money

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

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Foreword from Mats Granryd

Director General of the GSMA and a Member of the Board.

Across the world mobile money services are growing, and growing fast. While it took the industry 17 years to reach the first 800 million customers, it took only 5 years to reach the next 800 million, and of that, 400 million accounts were added over the course of the pandemic. Today there are 1.6 billion registered mobile money accounts. Truly remarkable.

In 2022, we were clearly able to see the importance of mobile money during the Covid-19 pandemic, when it enabled millions of people across low- and middle- income countries to access digital financial services. Many of these were first-time users, who are now using these services for their everyday needs.

Our data shows that the habit of using digital payments, enforced by the pandemic, has stuck, leading to mobile money activity growth outstripping new registrations in many countries. This is hugely encouraging as we continue our work to drive financial inclusion around the world.

Some of the key contributors to the growth of mobile money in the past few years have been regulatory changes in large markets. In Nigeria, for example, new licenses have seen many new mobile money players emerge, and with this a 41% growth in the number of registered agents. Not only has this created employment for millions of new agents, but mobile money services are now accessible to more people in Africa's largest economy.

It has also been encouraging to see that mobile money is contributing to closing the financial inclusion gender gap. According to the World Bank, more women than men now own a mobile money account in at least seven countries in Sub-Saharan Africa. While there is a lot more work to be done in this space, this is a hugely positive advancement when women have access to mobile phones and mobile money, they can increase their economic independence and strengthen their role as financial decision-makers.

It is clear that mobile money is driving financial inclusion around the world. As it continues to grow, it offers an incredible opportunity to reach the 1.4 billion people who still do not have access to financial services.

In an increasingly complex global landscape with unprecedented natural, humanitarian and financial shocks, building resilience is more important than ever before. Our data shows that those with mobile money accounts are saving at the same rate as those with a bank account, enabling them to withstand the impact of shocks as they arise.

In just over 17 years, the mobile money industry has grown from a niche market offering to a mainstream financial service, transforming the lives of over 1 billion people. The depth and breadth of this impact cannot be underestimated. As we work towards a sustainable and resilient future in which everyone is connected, it is absolutely vital that we also keep working to design safe and secure financial services for all.

Mats Granryd

Director General of the GSMA and a Member of the Board.

This report was prepared by the GSMA's Mobile Money programme in collaboration with the mobile money industry, and with the generous support of the Bill & Melinda Gates Foundation.

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Executive summary

Mobile money is now considered a mainstream financial service in many countries

During the COVID-19 pandemic, mobile money enabled millions of people in low- and middle-income countries (LMICs) to access digital financial services (DFS) for their daily needs. As the impact of the pandemic eased, mobile money services grew faster in 2022 than during pre-COVID times. The habit of using digital payments, enforced by the pandemic, has stuck for many. In many countries, growth in mobile money activity is now outpacing new registrations – a sign that the industry is maturing beyond a handful of markets.

The pandemic itself led to a significant global expansion of mobile money services and accounts. Data from the annual GSMA Global Adoption Survey suggests that registered accounts and 30-day active accounts grew faster than forecast in 2019. The pandemic was partly responsible for an additional 400 million registered accounts between 2019 and 2022. This is at least 30% higher than forecast in 2019. Pandemic lockdowns and restrictions on movement drove up the use of digital payments, including mobile money, globally.

The State of the Industry Report on Mobile Money 2023 looks at the growth of mobile money in a post-pandemic world. The report highlights what this has meant for mobile money providers (MMPs), agent networks and the millions of new and existing customers that embraced mobile money in 2022.

Adoption and active usage continue to rise

Registered mobile money accounts grew by 13% year on year, from 1.4 billion in 2021 to 1.6 billion in 2022. This can be attributed, in part, to regulatory changes in Sub-Saharan Africa, particularly in Nigeria and Ethiopia where mobile money adoption rose rapidly. Accounts active on a 30-day basis also grew at the same rate year on year, with Sub-Saharan Africa driving the bulk of this increase. More customers are using mobile money accounts more frequently across all use cases.

Digital transactions are increasing as the use of cash slows down

Transaction values grew by 22% between 2021 and 2022, from $1 trillion to around $1.26 trillion. However, the share of cash-based transactions in the overall transaction mix declined, with cash-in and cash-out transactions dropping nearly two percentage points. This is due to a significant rise in digital transactions, particularly interoperable bank transfers and bill payments.

Global daily transaction values are exceeding predictions

In 2020, global daily transaction values exceeded $2 billion. The State of the Industry Report on Mobile Money 2021 (covering data from 2020) suggested this could reach $3 billion a day by the end of 2022. This figure has been surpassed, with $3.45 billion transacted daily via mobile money in 2022.

Growing agent networks continue to drive industry expansion

The number of mobile money agents grew from 12 million in 2021 to around 17 million in 2022 – a staggering 41% year-on-year increase. Much of this growth was in Nigeria where a liberalised regulatory regime has led to an increase in MMPs. Agents are an important part of any mobile network service and were responsible for two-thirds of all cash-in transactions in 2022.

Women in low- and middle-income countries are 28% less likely than men to own a mobile money account

More women have a mobile money account than ever before and are using it at a similar rate as men on a 30-day basis. However, there is still a gender gap in account ownership that

has recently widened in countries such as Nigeria and Pakistan.

One of the main barriers to closing the gender gap is mobile phone ownership: increasing mobile phone ownership can improve mobile money adoption rates among women. Other steps to close the mobile money gender gap include increasing women's digital skills and awareness of the benefits of mobile money, and tackling social norms and other barriers that are preventing women from using it.

Bill payments grew faster than all other use cases

In 2022, bill payments rose by 36% year on year, becoming the third most common transaction after person-to-person (P2P) transfers and combined cash-in/cash-out (CICO) transactions. Around 97% of MMPs surveyed in 2022 offer bill payments. Some of this growth was driven by greater integration between MMPs and companies, particularly energy suppliers. The ongoing increase in energy prices in many countries has led to several energy companies becoming the largest recipients of mobile money-based bill payments.

International remittances continue to benefit from pandemic-induced growth

In 2022, mobile money-enabled international remittances grew by 28% year on year. During the pandemic, many diasporas sent more funds via mobile money to friends and family than ever before. As a result, international remittances grew significantly in both 2020 and 2021, as many senders favoured mobile money for its efficiency, speed, safety and cost-effectiveness. This trend continued in 2022, albeit at a slower rate.

Mobile money is leading the pathway to reaching the UN SDG 10c. target of 3% for remittance transaction costs. The World Bank's Remittances Price Worldwide publication reported that the global average cost of sending $200 via mobile money was 3.73%, nearly half of the global average.

Fast-growing interoperable transactions are driving the industry too

MMPs are increasingly connected to local banks – 18 on average. **Bank-to-mobile interoperable transactions were among the fastest growing use cases in 2022, increasing 36% year on year, while mobile-to-bank transactions rose by 47%**.

Mobile money remains a key savings channel

In 2022, around 60% of MMPs offered users a savings account. Half of these providers did not offer a savings product in 2021. The World Bank Global Findex 2021 found that 15% of adults in Sub-Saharan Africa, or 39% of all mobile money account owners in the region, saved using a mobile money account.

The industry is edging back towards revenue diversification

MMPs remain reliant on customer fees, which contributed 79% of reported revenue as of June 2022. This is an improvement on the 87% share reported in 2020, which was influenced by many transactions being zero rated. MMPs have room for revenue growth from business and government fees, which made up 33% of their revenue in 2019.

Regulation has been influenced by challenges such as taxation and fraud

Regulation has focused on ensuring payment systems remain safe and efficient while also encouraging innovation. However, the mobile money industry is facing several regulatory challenges. Some countries have introduced taxes on mobile money transactions and fees that do not align with their financial inclusion objectives. Fraud also remains an industry-wide issue, which many regulators are aiming to overcome through improved consumer awareness and capacity building.

Mobile money in 2022

1.6 bn
Registered mobile money accounts

+ 13% YEAR-ON-YEAR GROWTH RATE

+ 13%
YEAR-ON-YEAR GROWTH RATE

401 m
Active 30-day accounts

586 m
Active 90-day accounts

+ 22%
YEAR-ON-YEAR GROWTH RATE

$1.26 tn
Value of transactions

17.4 m
Registered agents

+ 41% YEAR-ON-YEAR GROWTH RATE

7.2 m
Active agents

+ 25% YEAR-ON-YEAR GROWTH RATE

$22 bn
International remittances processed per year

+ 28% YEAR-ON-YEAR GROWTH RATE

$78 bn
Merchant payments processed per year

+ 17% YEAR-ON-YEAR GROWTH RATE

315
Live mobile money deployments

2022 Global overview

Accounts

Registered mobile money accounts	Active 30-day accounts	Active 90-day accounts
1.6 bn	401 m	586 m
+ 13%	+ 13%	+ 13%

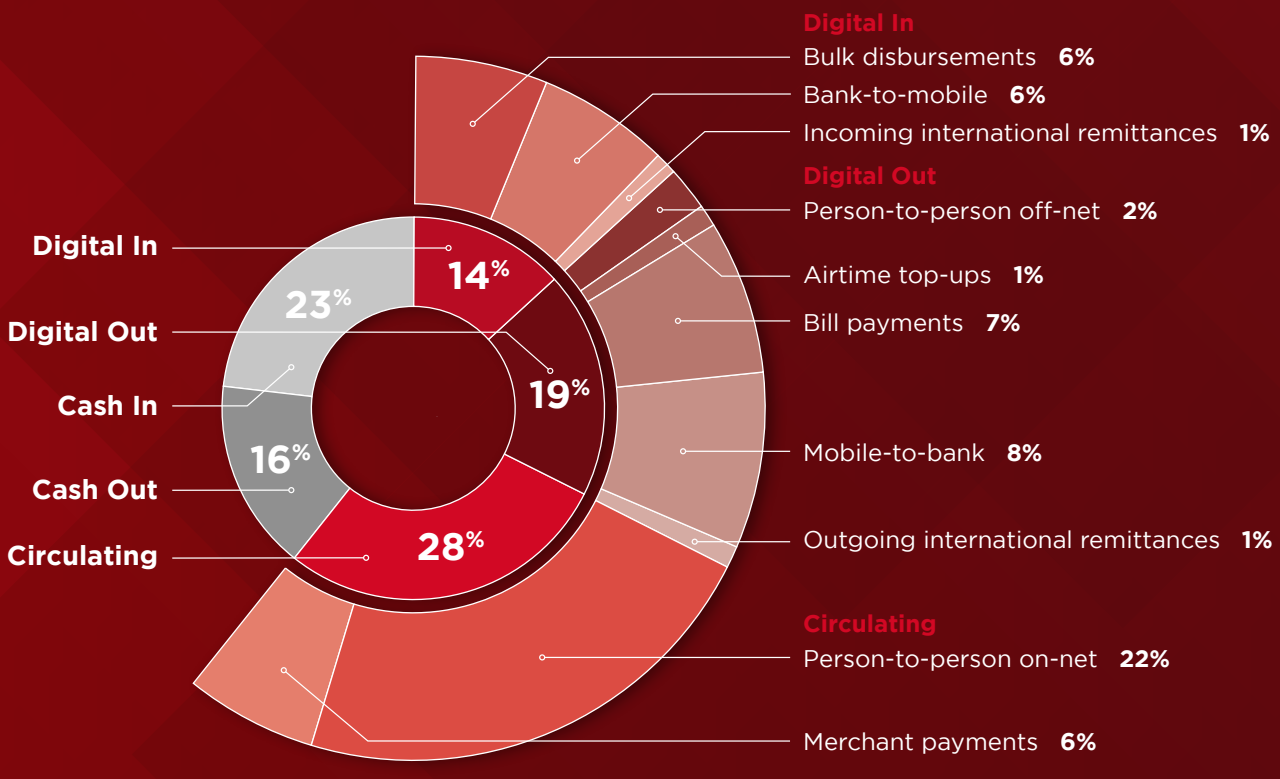
Transactions

Transaction volume	Transaction value ($)
65 bn	1.26 tn
+ 19%	+ 22%

Agents

Registered	Active
17.4 m	7.2 m
+ 41%	+ 25%

Monthly value snapshot - December 2022



*Percentages have been rounded to their nearest whole number.
Some breakdowns may not add up to their respective sub-totals due to rounding errors.

Regional growth in 2022

	Live services	Registered accounts	Active (30-day) accounts	Transaction volume	Transaction value ($)
Global	315	1.6 bn + 13%	401 m + 13%	65 bn + 19%	1.26 tn + 22%
Sub-Saharan Africa	154	763 m + 17%	218 m + 15%	45 bn + 21%	832 bn + 22%
South Asia	34	336 m + 13%	82 m + 12%	10 bn + 16%	185 bn + 20%
East Asia and Pacific	54	361 m + 7%	68 m + 6%	8 bn + 12%	180 bn + 21%
Latin America and the Caribbean	33	57 m + 13%	22 m + 16%	1 bn + 17%	35 bn + 17%
Middle East and North Africa	31	59 m + 7%	6 m + 39%	357 m + 53%	21 bn + 45%
Europe and Central Asia	9	22 m + 4%	5 m + 10%	345 m + 17%	6 bn + 19%

Growth in Africa in 2022

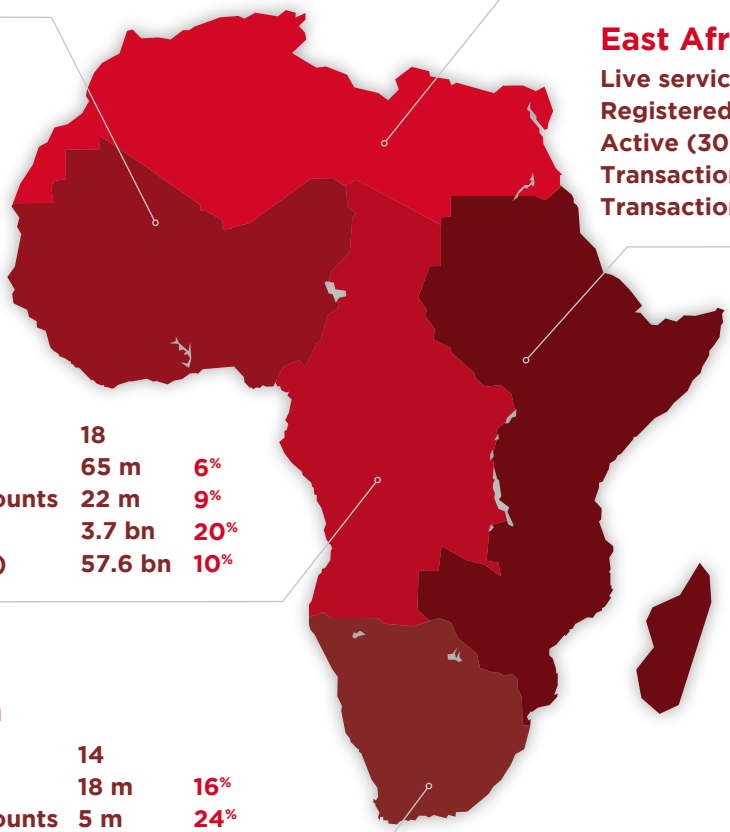
Africa	Live services	Registered accounts	Active (30-day) accounts	Transaction volume	Transaction value ($)
	166	781 m + 17%	219 m + 15%	44.9 bn + 21%	836.5 bn + 22%

West Africa

Live services	66	
Registered accounts	290 m	27%
Active (30-day) accounts	76 m	30%
Transaction volume	12 bn	29%
Transaction value ($)	277 bn	22%

North Africa

Live services	12	
Registered accounts	18 m	15%
Active (30-day) accounts	1 m	13%
Transaction volume	97 m	21%
Transaction value ($)	4.7 bn	28%



East Africa

Live services	56	
Registered accounts	390 m	12%
Active (30-day) accounts	115 m	8%
Transaction volume	28 bn	18%
Transaction value ($)	491.8 bn	23%

Central Africa

Live services	18	
Registered accounts	65 m	6%
Active (30-day) accounts	22 m	9%
Transaction volume	3.7 bn	20%
Transaction value ($)	57.6 bn	10%

Southern Africa

Live services	14	
Registered accounts	18 m	16%
Active (30-day) accounts	5 m	24%
Transaction volume	490 m	28%
Transaction value ($)	5.3 bn	14%

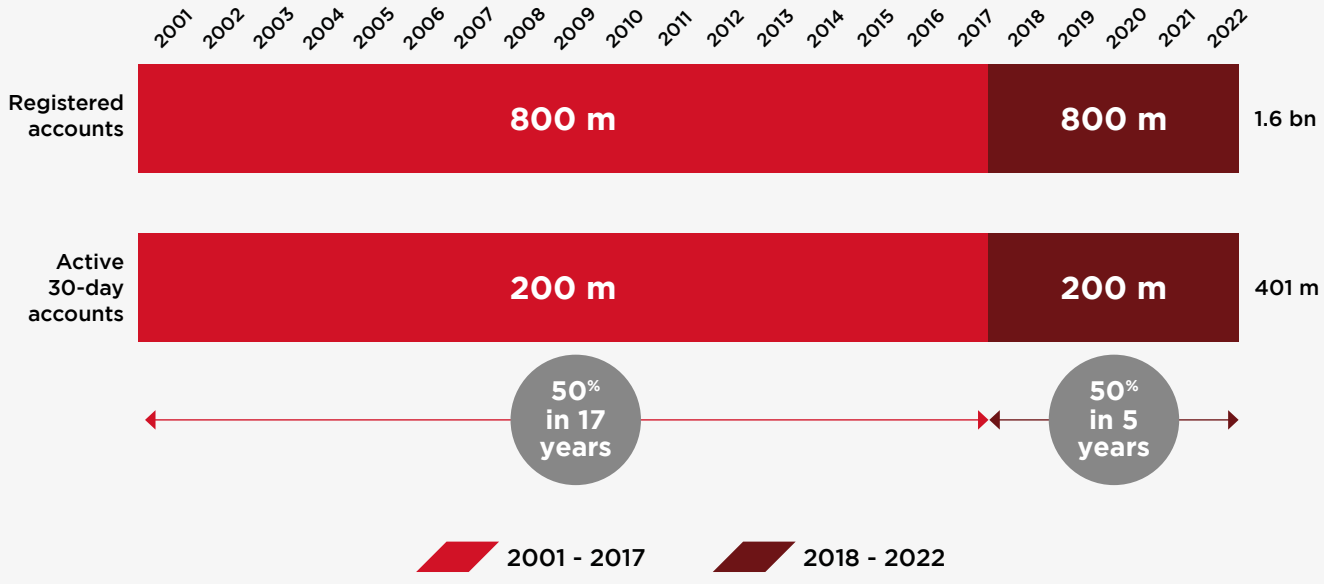
The big picture: mobile money in a post-COVID world

Long considered a niche offering in just a few markets, mobile money is now an important part of mainstream financial services in many low- and middle-income countries (LMICs). During the height of the COVID-19 pandemic, mobile money played an important role as millions of people used digital payments – many for the first time – for their daily needs. As the impact of the pandemic began to wear off, mobile money services continued to grow faster than pre-COVID rates. Services in several countries have seen mobile money activity growth outstrip new registrations, indicating a gradually maturing industry.

Registered and active accounts continue steady growth

As the world moves towards a post-COVID era, mobile money services have continued to show resilient growth. In 2022, there were nearly 1.6 billion registered mobile money accounts worldwide, more than double the number of registered accounts (772 million) in 2017. While it took around 16 years for the industry to top 750 million registered customers, it only took another five years for this number to double (Figure 1).

Figure 1: Number of years taken to achieve 50% of account share



Source: GSMA Global Adoption Survey 2022

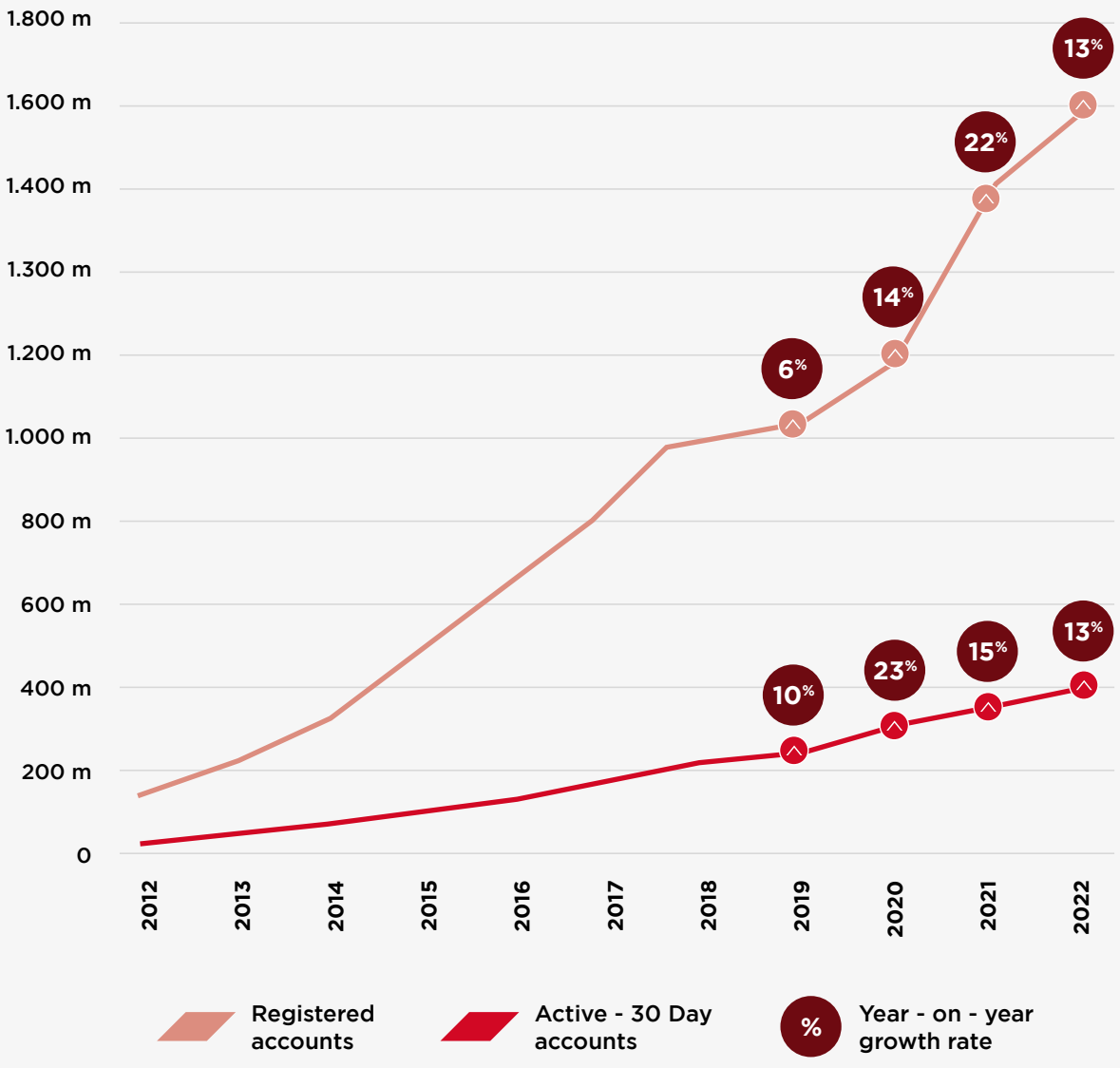
Registered accounts grew by 13% in 2022 compared to 2021

While the number of registered accounts increased faster during the height of the COVID-19 pandemic in 2020 and 2021, this was over double pre-COVID growth in 2019 (Figure 2). Nearly two-thirds of this growth was in Sub-Saharan Africa while a fifth was in South Asia.

The number of accounts active on a 30-day basis grew by 13% year on year too

Like registered accounts, this is lower than the growth rates seen in 2020 and 2021, but higher than the pre-pandemic growth rate in 2019. Much of this growth was in the same proportion as the growth in registered accounts in Sub-Saharan Africa (62%) and South Asia (19%).

Figure 2 Registered and active 30-day accounts and year-on-year growth rates, 2012-2022

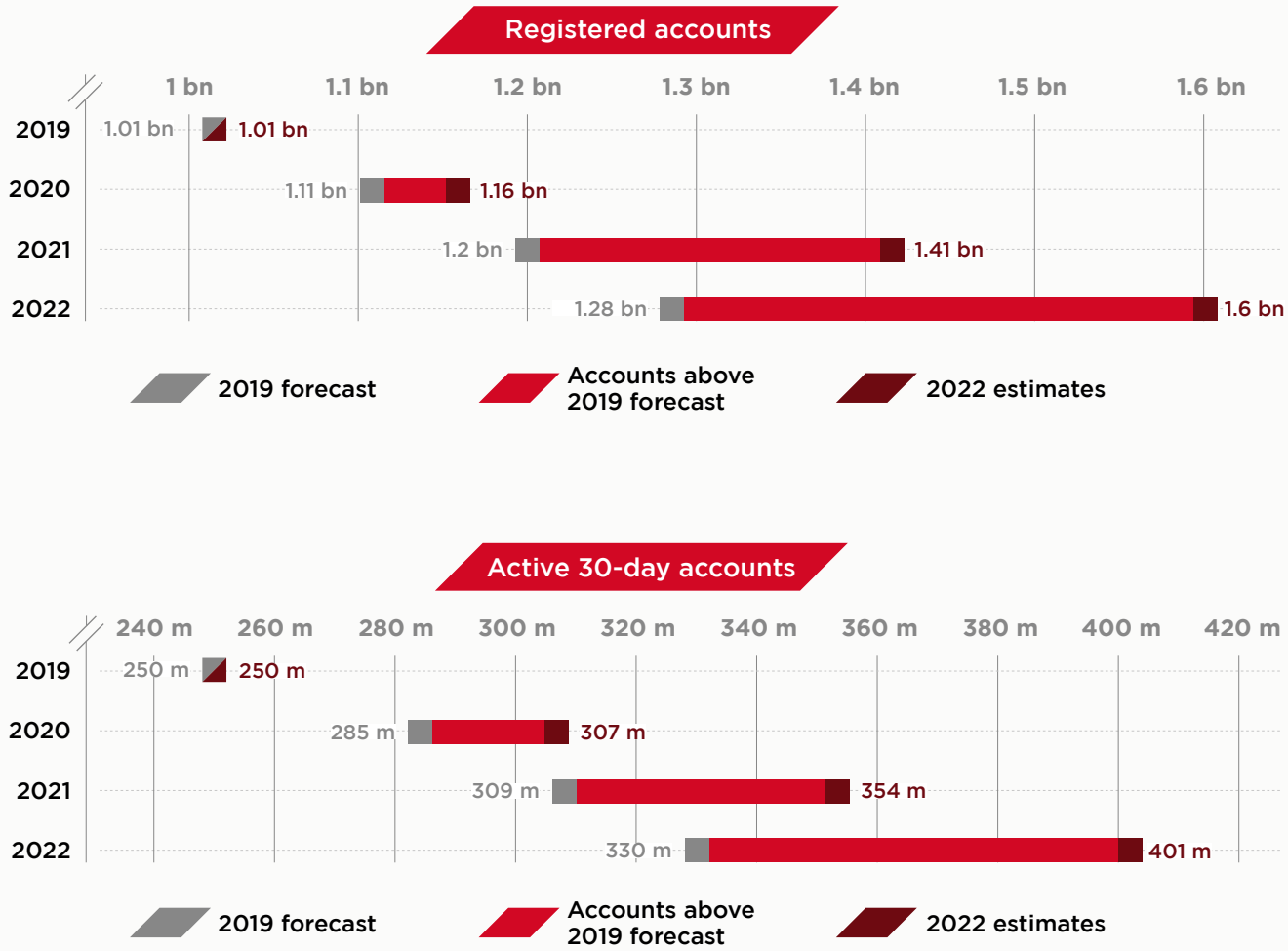


Source: GSMA Global Adoption Survey 2022

BOX 1: The impact of COVID-19 on mobile money

The GSMA Mobile Money team compared its forecasts from 2019 (pre-pandemic) and 2022 (when many countries had started lifting or already lifted COVID-19 restrictions) to understand the impact of the COVID-19 pandemic on the mobile money industry. The trends from this analysis (Figure 3) suggest that the pandemic supported an accelerated expansion of mobile money accounts. In 2020, registered accounts were 4% higher than forecast before the pandemic. Similarly, the number of active 30-day accounts surpassed forecasts by 8% in 2020. Both registered and active 30-day accounts grew faster than 2019 forecasts.

Figure 3: Forecasts and estimates for mobile money accounts, 2019–2022



Source: Source: GSMA Global Adoption Surveys and GSMA forecasts

Monthly activity rates have remained stable at around 25% year on year

While this is lower than the 26.6% rate in 2020 (Figure 4), the 30-day activity rate has increased from pre-pandemic levels. This trend is mirrored across all regions, except in Asia where activity rates have been dropping since 2019.

Mobile money services in Latin America and the Caribbean have seen a significant increase in activity between 2019 and 2022. This trend aligns with the fact that the region has traditionally had the highest activity rates globally.

Figure 4: Active 30-day activity rates by region, 2019–2022

	2019	2020	2021	2022
East Asia and Pacific	21.7%	21.1%	19.1%	18.9%
Latin America and the Carribean	33.3%	36.2%	38.0%	38.7%
South Asia	24.9%	26.3%	24.4%	24.3%
Sub-Saharan Africa	27.5%	31.1%	28.9%	28.5%
Global	24.7%	26.6%	25.0%	25.1%

Source: GSMA Global Adoption Survey 2022

Agents continue to be the backbone of the mobile money industry

In 2022, mobile money agents were responsible for digitising $294 million (total cash-in transactions), up 17% from 2021. Nearly two-thirds of all incoming transactions are cash-ins performed by agents, making agents the main gateway to digital financial inclusion in markets where cash dominates. Mobile money agents are the face of the industry globally and responsible for onboarding and educating hundreds of millions of customers. For many, agents remain a trusted entry point to the mobile money ecosystem, offering a convenient channel to digitise cash and providing the first line of customer support.

The number of registered agents reached 17 million in 2022, a 41% year-on-year increase from 12 million in 2021. In turn, this growth increased the number of active agents to 7.2 million in 2022, a 25% year-on-year increase. The bulk of this growth came from Sub-Saharan Africa, where agent outlets nearly doubled year on year. This was driven by a significant rise in agents in West Africa (Figure 5), where several new mobile money services were launched.

17 M
AGENTS
REGISTERED IN 2022

Figure 5: Registered agents, 2019–2022

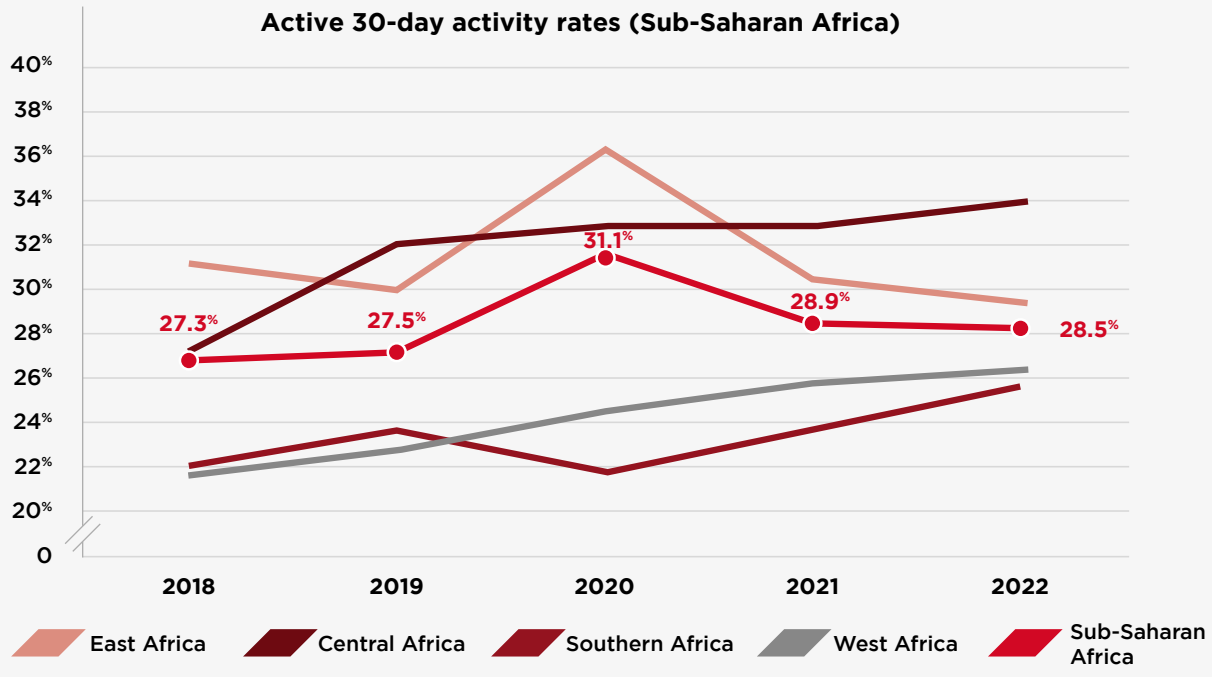
	Registered agents		Active agents	
	2021	2022	2021	2022
West Africa	2,457,000	6,493,000	1,215,000	2,128,000
East Africa	2,269,000	2,481,000	1,469,200	1,664,000
Central Africa	836,000	913,000	402,000	499,000
Southern Africa	89,000	114,000	36,000	49,000
Sub-Saharan Africa	5,652,000	10,001,000	3,123,000	4,339,000

Source: GSMA Global Adoption Survey 2022

Subregional analysis: West Africa now drives growth in Sub-Saharan Africa

In the early years of mobile money growth, East Africa was the powerhouse. The region had the highest activity rate in Sub-Saharan Africa in 2020, but this has fallen for two consecutive years (Figure 6). Activity rates in West Africa increased consistently between 2018 and 2022 and are now approaching Sub-Saharan African activity rates.

Figure 6: Activity rates (30-day) in Sub-Saharan Africa, 2018–2022

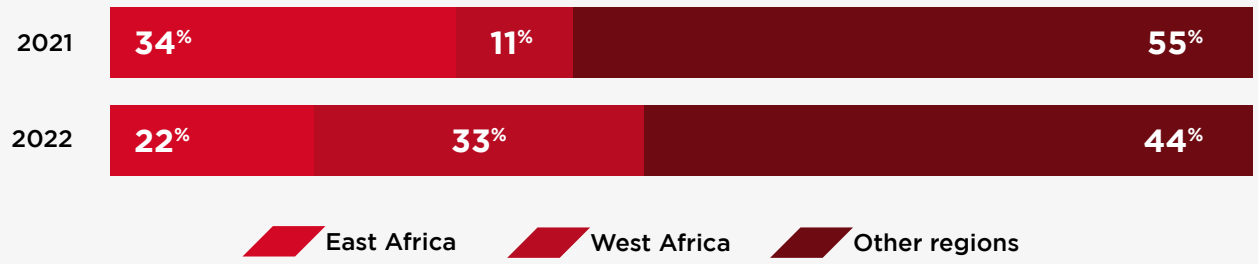


Source: GSMA Global Adoption Survey 2022

Annual growth in active accounts in West Africa has increased almost every year since 2018. Active accounts have risen faster, year on year, than registered accounts. In West Africa, active accounts grew by 25% between 2021 and 2022 while registered accounts grew by 21%. Not only are more people registering for mobile money accounts, but many who have signed up are actively using mobile money for their everyday needs – more than users have in previous years.

Mobile money adoption and usage have grown in West Africa. In 2022, the region had the highest number of new accounts of all subregions worldwide (Figure 7). Within West Africa, Côte d'Ivoire, Ghana and Senegal have been mobile money leaders, followed closely by Benin, Burkina Faso and Mali. Between 2020 and 2022, these countries were the main drivers of growth in the region. The introduction of the payment service bank (PSB) licence has had a significant impact in Nigeria, where mobile money usage has grown steadily.

Figure 7: Share of global registered mobile money accounts, 2021–2022



Source: GSMA Global Adoption Survey 2022 - Created with Datawrapper

The number of live services dropped for the first time

As of December 2022, there were 315 mobile money services in 102 countries. Compared to December 2023, this marks a drop in number of services available globally (319) (Figure 8). After years of consistent growth, the mobile money industry has started showing signs of maturity.

The drop in live services in 2022 was primarily due to fewer deployments in Sub-Saharan Africa. While by 2022, 11 mobile money services that were led by non-mobile network operators (MNOs) had closed, three new MNO-led services launched in Nigeria, South Sudan and Tanzania. Four new services were launched in the Middle East and in East Asia and Pacific. As a result, the number of countries with mobile money services rose from 98 to 102. New services launched in Bahrain, Barbados, Oman and Saudi Arabia in 2022, with mobile money launched for the first time in the latter three countries.

Figure 8: Mobile money service trends by region, 2019–2022

Region	2019	2020	2021	2022	2021–2022 change
Sub-Saharan Africa	144	156	161	153	-8
East Asia and Pacific	52	52	54	54	0
South Asia	38	36	34	34	0
Latin America and the Caribbean	27	29	32	33	1
Middle East and North Africa	23	30	29	32	3
Europe and Central Asia	9	9	9	9	0
Global	293	312	319	315	-4

Source: GSMA Mobile Money Deployment Tracker

2022 saw several market exits, mergers and acquisitions

Several markets experienced consolidation in 2022. Increasing competitive and regulatory pressure affecting both costs and prices prompted:

- A mobile money service launched by French bank Société Générale ceased operations in seven markets: Burkina Faso, Cameroon, Côte d'Ivoire, Ghana, Guinea, Madagascar and Senegal
- A consortium led by Axian Group and Tanzanian entrepreneur Rostam Aziz acquired MIC Tanzania PLC, which owns both Tigo and Zantel[1]
- Telenor divested from Wave (Myanmar), selling its stake to its co-investor Yoma Bank
- Africell sold its Uganda assets to Seacom[2], while preparing to launch mobile money services in Angola[3] in early 2023

[1] The Citizen Reporter. (6 May 2022). "Rostam, Axian Group to invest Sh1 trillion to expand Tigo and Zantel". The Citizen.
[2] Odendaal, N. (10 February 2022). "Seacom acquires Africell Uganda assets". Engineering News.
[3] Paul, E. (17 January 2023). "UK's Africell receives mobile money licence in Angola". Techpoint Africa.

BOX 2: Updates from the Mobile Money Prevalence Index

Launched in 2021, the Mobile Money Prevalence Index (MMPI) was developed to gauge the level of mobile-led financial inclusion at the country level (Figure 9). The MMPI measures the prevalence of active mobile money accounts and the accessibility of mobile money agent networks. However, it does not consider the number of MMPs in a given market.

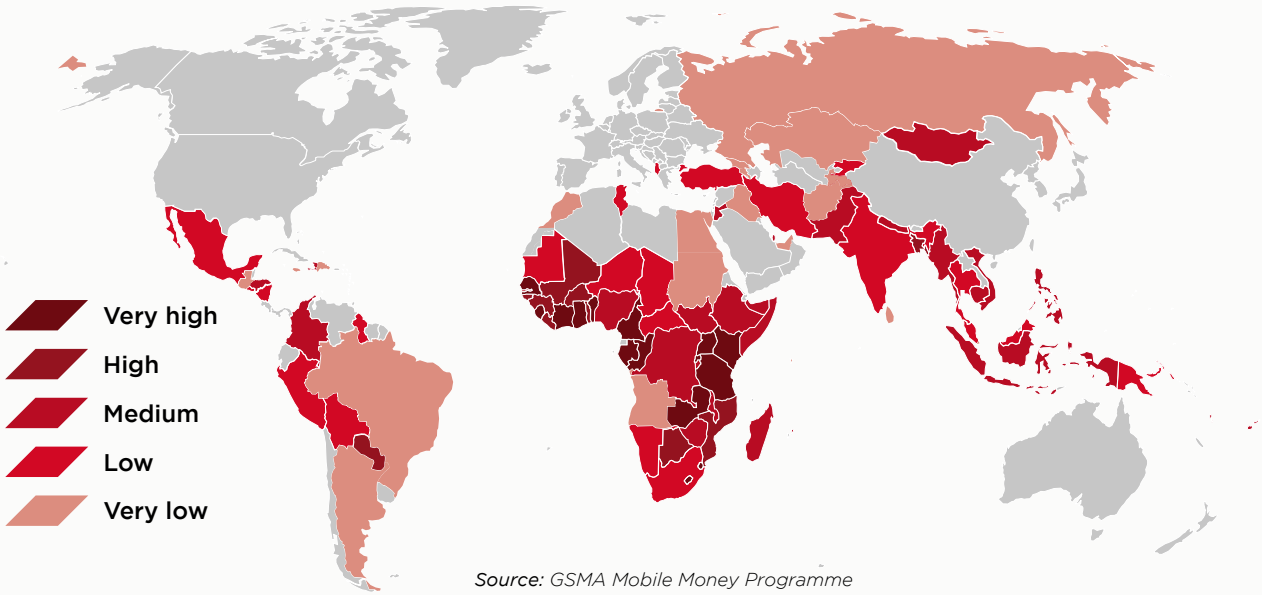
The MMPI has three main dimensions:

Adoption
The number of mobile money accounts per adult

Activity
The share of registered accounts active on a 90-day basis

Accessibility
The number of agents per 100,000 adults

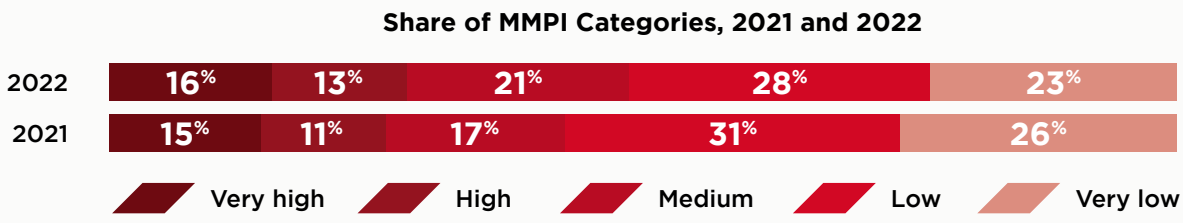
Figure 9: MMPI 2022 map



Source: GSMA Mobile Money Programme

In 2022, some countries saw their MMPI position change. Examples include Zimbabwe, which moved from a "Very low" rating to "Medium", and Nigeria, which moved from "Low" to "Medium". Both countries experienced market growth due to a change in regulations. Between 2021 and 2022, the share of countries with low and very low MMPI scores fell by 6% (Figure 10), while the share of countries with medium to very high MMPI scores rose by a similar amount.

Figure 10: Movement in the share of MMPI categories, 2021–2022



Source: GSMA Mobile Money Programme

BOX 3: Mobile money in Ethiopia and Nigeria: growth in recently liberalised markets

Awakening giants

Ethiopia and Nigeria are the most populous countries in Africa with a combined population of more than 340 million. Both markets have mobile money and digital financial services (DFS), albeit with limited reach. They are considered medium prevalence mobile money markets by the GSMA.[4]

Enabling regulation

Both countries recently introduced regulations to allow MMPs to launch services. The Central Bank of Nigeria introduced the payments service bank (PSB) licence in 2018, enabling MNOs to offer licensed financial services.[5] This framework makes it easier to comply with know-your-customer (KYC) requirements for small deposit accounts and enables PSBs to open accounts more quickly. Two PSBs (9 and Hope) launched in 2020 with three more – Smartcash (Airtel), MoMo (MTN) and MoneyMaster (Glo) – launching in 2022.[6] In 2020, the National Bank of Ethiopia introduced regulations allowing MNOs and other entities to offer mobile money services,[7] prompting Ethio Telecom to launch Telebirr in 2021.

Insights on mobile money growth in Nigeria

Data from the nationally representative 2022 GSMA Consumer Survey shows that access and usage of mobile money in Nigeria has grown since the recent PSB launches (Figure 11). Among all adults that are aware of mobile money and have used a mobile phone, mobile money account ownership has grown from 16% to 22% in the last year. Of all adults with a mobile money account, 88% have one registered in their own name (a nine percentage point increase year on year).

[4] See: GSMA Mobile Money Metrics.
[5] Central Bank of Nigeria. (26 October 2018). Circular to all Stakeholders on Guidelines for Licensing and Regulation of Payment Service Banks in Nigeria.
[6] Okeleke, K. and Shahid, N. (2022). Payment Service Banks in Nigeria: Opportunities and Challenges. GSMA.
[7] National Bank of Ethiopia. (2020). Licensing and Authorization of Payment Instrument Issuers Directive No. ONPS/01/2020.

Insights on mobile money growth in Ethiopia[8]

Despite relatively low mobile ownership and awareness of mobile money in Ethiopia, among all adults that are aware of mobile money and have used a mobile phone, 18% own an account. As a new and growing mobile money market, this figure is almost on par with Pakistan (20%), which is a relatively more established market. Most mobile money account owners have an account registered in their own name. Among adult account owners, 51% had used it in the last 30 days and 30% in the last seven days.

Figure 11: Usage and impact of mobile money in Ethiopia and Nigeria

	Ethiopia	Nigeria
I used mobile money in the last 30 days	51% of mobile money account owners	80% of mobile money account owners
Most-performed ecosystem and adjacent use cases[9] by mobile money users[10] in the last 30 days	1: Being paid by a customer 2: Bill payment 3: Saving	1: Saving 2: Being paid by a customer 3: Bill payment
Impact of mobile money	66% of mobile money users say "Mobile money helps me better manage my everyday affairs"	81% of mobile money users say "Mobile money helps me save time"

Source: 2022 GSMA Consumer Survey

[8] The sample for Ethiopia excludes regions affected by the Tigray conflict and security concerns. See the Consumer Survey Methodology in the appendices.
[9] More advanced use cases, excluding CICO, P2P transfers and airtime top-ups.
[10] Adults who have a mobile money account or have used shop/agent services.

Industry highlights in 2022

In 2022, the mobile money industry underwent several changes. New services and strategic partnerships were launched and new use cases were introduced. At the same time, some parent companies divested from their mobile money services and taxation policies were launched or amended in some markets.

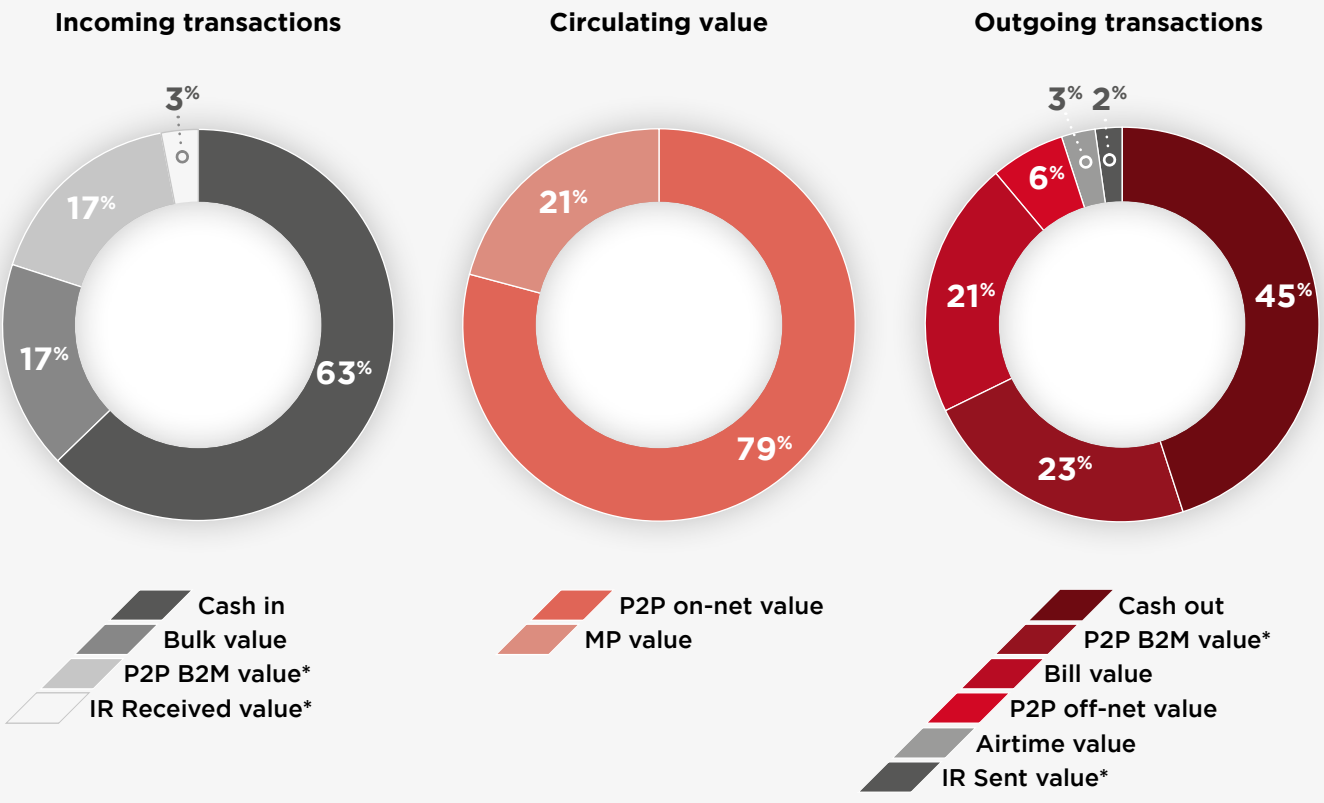
	Type of development	Details
JAN	Divestment	Telenor agrees to sell its majority share in Wave Money to Yoma Group, and exit Myanmar.
	Service launch	Africell is granted a licence to launch its Afrimoney mobile money service in Angola.
FEB	Strategic partnership	MTN MoMo and Orange Money allow users in Cameroon to receive remittances from Europe through Orange Bank.
MAR	Consumer protection	Hormuud Telecom in Somalia is awarded GSMA Mobile Money Certification.
APR	Service launch	The Central Bank of Nigeria issues PSB licences to MTN MoMo and Airtel Money Commerce Nigeria.
	Service launch	Wave Digital Finance is granted a licence to launch mobile money in Benin, Burkina Faso, Côte d'Ivoire, Guinea Bissau, Mali, Niger, Senegal and Togo.
	Interoperability	Safaricom's M-PESA begins accepting merchant payments from Airtel Money in Kenya.
MAY	Taxation	Ghana introduces the Electronic Transfer Levy (1.5% of the value of transfers) on all electronic transactions.
JUN	Innovative use cases	Visa and Safaricom M-Pesa launch the M-PESA Global Pay Visa virtual card, enabling millions of M-PESA users to make digital payments globally.
	Taxation	The Government of Tanzania reduces mobile money transaction fee levies from $3 to $1.72 – a 43% drop.
JUL	Strategic change	Cameroon's Ministry of Finance permits Orange Cameroon to launch a dedicated financial services subsidiary to build on Orange Money's existing offering.
SEPT	Innovative use case	MTN Mobile Money Uganda announces that all customers will be paid interest for mobile money balances held between April and June 2022.
OCT	Strategic change	Airtel Kenya separates their telecommunications and mobile money businesses into separate legal entities.
NOV	Pricing policy	Airtel Money and MTN Mobile Money harmonise their cross-network P2P transfer charges in Uganda.
	Taxation	Ghana's Ministry of Finance reduces the e-levy introduced in May 2022 to 1% of transfer values.

Drivers of ecosystem growth and commercial sustainability

The mobile money industry is both more integrated with the wider financial ecosystem and more digital, with the share of cash-based transactions declining year on year. Compared to 2021, the proportion of cash-in and cash-out transactions in the overall transaction mix dropped by nearly two percentage points, as their respective values grew more slowly than total transaction values. Driven in part by interoperable bank transfers and bill payments, digital transactions now account for 61% of all mobile money transactions. Most notably, only 45% of funds that leave the mobile money system do so in the form of a cash-out transaction (Figure 12).

In December 2022, for every dollar cashed in, $0.66 was cashed out. In 2021, 3% less was cashed out for every dollar cashed in

Figure 12: The ins and outs of mobile money, December 2022



Source: *GSMA Global Adoption Survey*

Partner-driven transactions, or "ecosystem transactions",[11] enable mobile money users to access a wider range of products and services. For MMPs, the growth of ecosystem transactions is key to diversifying revenue streams. In line with recent trends, ecosystem transactions grew at a faster rate than other types of transactions – by 25% in value compared to 2021.

Use case growth

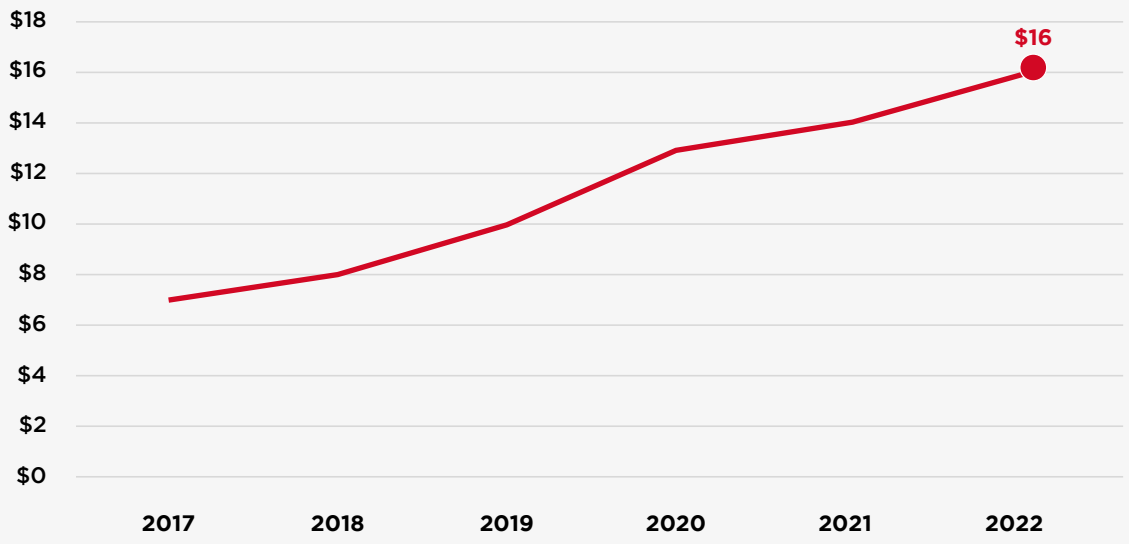
Bill payments

Increasing by 36% in 2022, bill payments had the fastest growing transaction values, reaching nearly $88 billion. After P2P and cash-in/cash-out (CICO) transfers, bill payments are the most prevalent type of transaction, accounting for 7% of transaction values in the industry. On the supply side, bill payments have become an essential product offering for MMPs: 97% of the 2022 Global Adoption Survey respondents offered bill payments. On the demand side, there was strong adoption of bill payments: 46% of mobile money users in Kenya claimed to have performed a bill payment in the last 30 days, as well as 36% in Indonesia, 27% in Senegal and 25% in Pakistan.

On average, MMPs are integrated with 176 billers, including 42 government agencies or state-owned companies (excluding utilities).

Bill payment transaction values have grown faster than transaction volume, pushing up average transaction values (Figure 13). This is due to multiple factors, such as increased use of a biller's service (e.g., increased electricity or water use). With global energy prices rising, inflation, inflation may have played a part too. This is supported by 43% of Global Adoption Survey respondents who indicated that electricity companies were the largest billers.

Figure 13: Average transaction value of mobile money-enabled bill payments in 2022 ($)



Source: GSMA Consumer Survey

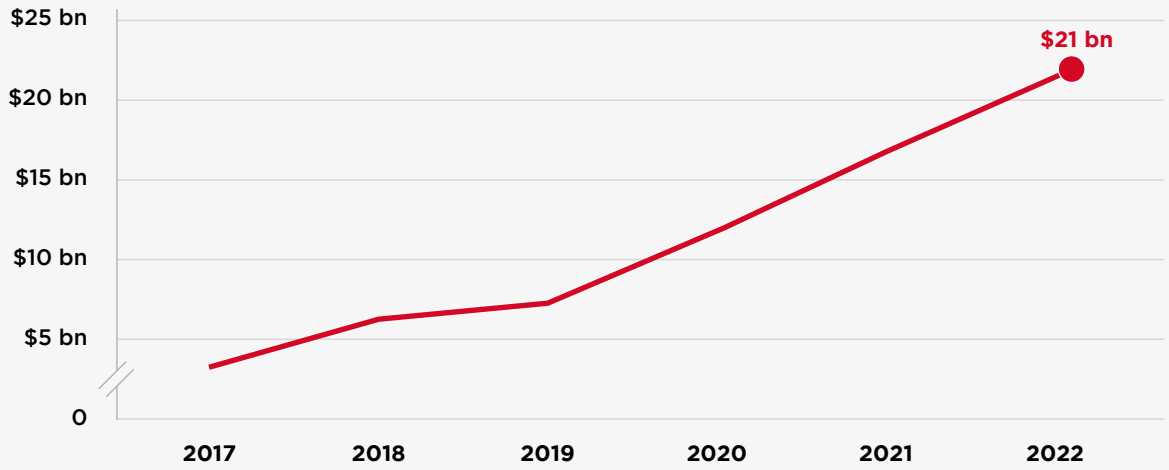
[11] Consisting of merchant payments, bill payments, bulk disbursements and international remittances.
[12] Demand-side data obtained through the GSMA's nationally representative 2022 GSMA Consumer Survey.

While very common in the banking industry, recurring payment systems, such as direct debits and standing orders, are not a common feature of mobile money services. For users that can afford to pay bills regularly, recurring payments can simplify monthly payments and ease access to products such as insurance. For the first time, respondents to the Global Adoption Survey were asked whether their service featured a recurring payment use case. Only 14% offer such a service, with many more yet to roll them out.

International remittances

In 2022, mobile money-enabled international remittances grew by 28% to top $21 billion (Figure 14). During the COVID-19 pandemic, many diasporas turned to mobile money to send funds home, spurring rapid growth in international remittances in 2020 (59%) and 2021 (38%). While the current rate of growth is slower than the past two years, it is almost identical to the pre-pandemic rate in 2019.

Figure 14: Total annual value of mobile money-enabled international remittances ($)



Source: GSMA Global Adoption Survey

On the supply side, around 74% of respondents to the 2022 Global Adoption Survey offered international remittances. Of these, nearly 18% started offering this service in 2022, demonstrating that the industry considers international remittances as a core value proposition. Based on the 2022 GSMA Cost of Sending Survey,[13] 45 MMPs offer international remittances across 161 country-to-country corridors. This includes 23 sending countries and 37 receiving countries.

Regional and country-level differences persist in the use of mobile money to send or receive funds internationally. Based on the GSMA 2022 Consumer Survey, 20% of mobile money users in Senegal and Bangladesh claimed to have received funds from a relative or friend living abroad in the last 30 days. However, this was much lower in Pakistan (6%), Kenya (7%) and Ghana (9%).

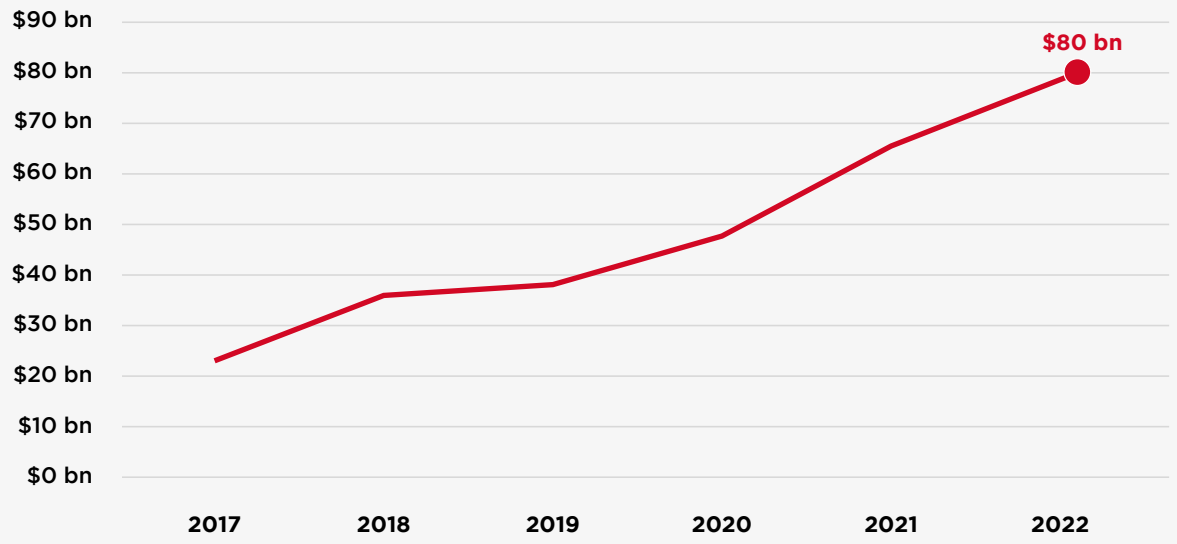
While boosted heavily by the digitisation push during the pandemic, mobile money is becoming a popular choice to send funds abroad. Indeed, mobile money remains the cheapest option for remittances, with an average fee of 3.73% to send $200.[14]

[13] Carried out by DMA Global.
[14] GSMA Cost of Sending Survey 2022.

Bulk disbursements

Bulk disbursements, e.g., salary payments and social and humanitarian cash transfers, grew by 23% in 2022, exceeding $80 billion in value (Figure 15). Although this is a slightly slower increase than in 2020 (27%) and 2021 (35%), it is faster than pre-COVID levels (14% in 2019).

Figure 15: Total annual value of mobile money-enabled bulk disbursements ($)



Source: GSMA Global Adoption Survey

The growth experienced in 2020 and 2021 could be attributed to pandemic-induced policy and regulatory measures, such as cash transfers and salaries being paid digitally. However, the continued rise in bulk disbursement values shows that mobile money use has been sustained beyond the peak of the pandemic. Many organisations have embraced bulk disbursements due to their practical and affordable nature.

As of June 2022, MMPs that responded to the 2022 Global Adoption Survey are integrated with an average of 264 organisations for bulk disbursements.[15] There is untapped potential, as more than a third of responding MMPs did not claim to offer a bulk disbursement service.

The volume of bulk disbursement transactions has grown by 22% to nearly three billion – a similar rate to 2020 and marginally lower than in 2021 (28%). More people are also receiving bulk disbursements: the overall number of unique accounts that received bulk disbursements grew by 54% between September 2021 and June 2022. For accounts held by women, bulk disbursements increased by 66%. This suggests that bulk disbursements can have significant benefits for women, enabling them to receive wages and social and humanitarian cash transfers.

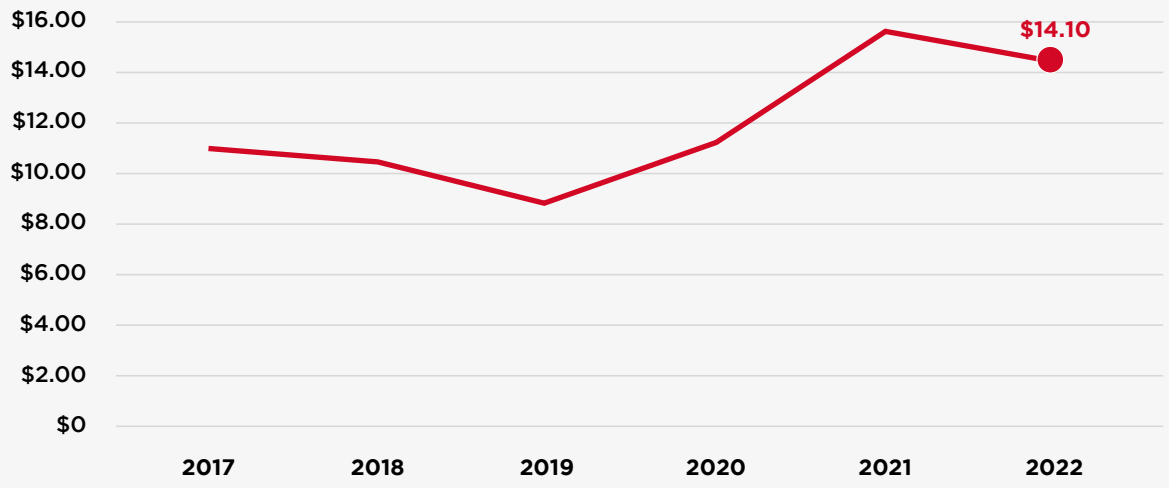
While social and humanitarian cash transfers have become increasingly digitalised since the start of the COVID-19 pandemic, many users still do not receive payments via mobile money. Apart from Bangladesh, fewer than 10% of surveyed mobile money users had received any government-to-person (G2P) payments in the last three months.[16] Salary payments in the same period were received via mobile money much more frequently in several countries, including 27% in Kenya, 18% in Bangladesh and 17% in Ghana.

[15] This excludes one high-performing outlier connected to 8,000–10,000 organisations.
[16] GSMA Consumer Survey 2022.

Merchant payments

After almost doubling in 2021, the transaction values of mobile money merchant payments grew by 17% in 2022 to reach around $78 billion. Transaction volumes grew by 26%, slower than in 2021 (43%). With transaction volumes growing faster than values in 2022, the average ticket size of each merchant payment has decreased (Figure 16). This trend was anticipated towards the end of 2021 when average transaction values began to stabilise after pandemic-induced growth. With more frequent transactions, merchant payments have become an integral part of mobile money users' day-to-day transactions.

Figure 16: Average transaction value of merchant payments in 2022 ($)



Source: GSMA Global Adoption Survey

According to the 2022 GSMA Consumer Survey, most mobile money merchant payments are likely to be proximity payments (e.g., for physical purchases in a shop), rather than products or services purchased online. For example, in Ghana, 20% of surveyed mobile money users claimed to have made a purchase in a physical shop in the last 30 days compared to 11% who made an online purchase. In Kenya, the disparity is even greater, with 51% making a payment in a physical shop but only 12% online. In surveyed countries, only Indonesia had a greater share of respondents claiming to have performed an online transaction (38%) than a proximity payment (34%).

Merchant payment growth has not been limited to transaction volumes and values. Businesses that accept mobile money payments have also increased, with the number of monthly active merchants growing by 48% between September 2021 and June 2022.

BOX 4: Mobile money and payment cards

The range of new partnerships between MMPs and global payment processing systems, such as Visa and Mastercard, has driven the integration of the industry with the wider financial ecosystem. These partnerships have enabled mobile money users to access both virtual and physical payment cards, which serve different purposes.

Virtual cards typically enable users to purchase products and services internationally using funds from their mobile money account, either online or while travelling abroad. This is similar to how a debit card works. Current examples are limited to more established players, which have only recently established this type of offering. These include:

MTN MoMo, which partnered with Mastercard to make virtual cards available in all 16 countries of operation in 2021

Safaricom M-PESA's GlobalPay solution with Visa launched in Kenya in 2022

These services can benefit both banked and unbanked users. For instance, microentrepreneurs who do not own a bank account can now use virtual cards to make purchases on global platforms such as Alibaba. Banked users can use their mobile money-enabled payment cards to potentially benefit from more favourable foreign exchange rates.

Physical cards tied to a mobile money account, as offered in Pakistan by JazzCash and Telenor Bank's EasyPaisa, enable account owners to pay both physical and online businesses, as well as withdraw cash from ATMs. In markets where accessing a bank account can be challenging for rural or low-income segments, such cards can drive financial inclusion by providing access to payment systems normally reserved for banked individuals.

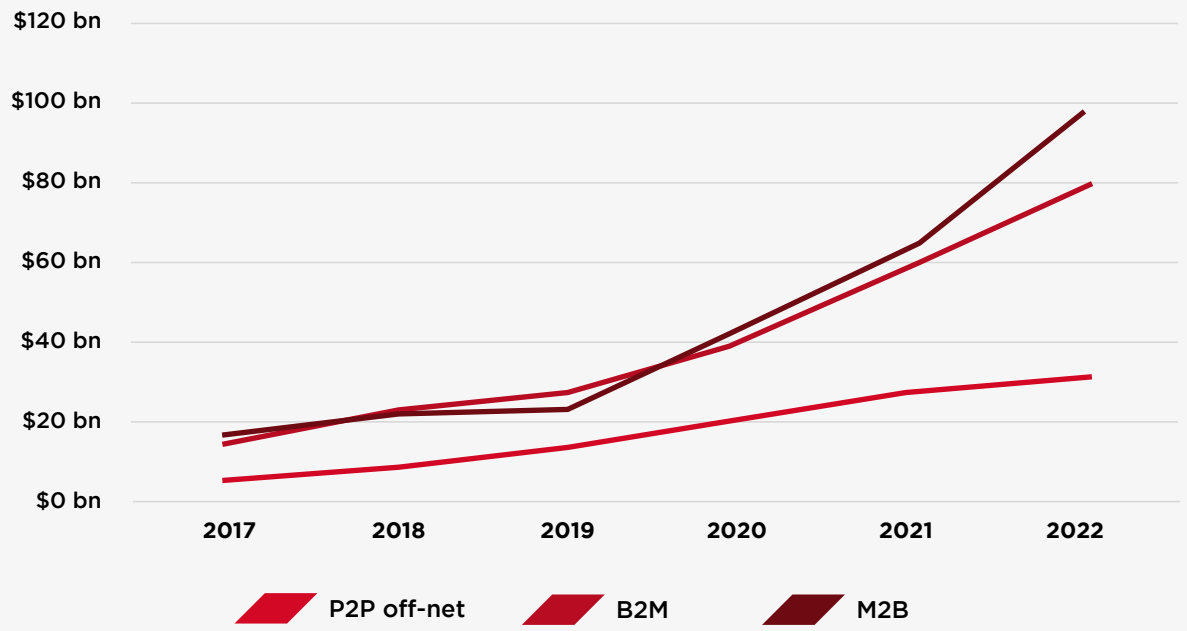
[17] Mastercard. (16 February 2021). "Mastercard and MTN empower millions of consumers in Africa to make payments on global platforms, advancing digital financial inclusion". Press release.
[18] Ndege, A. (5 July 2022). "M-Pesa Visa undercuts banks on forex charges". Business Daily Africa.
[19] The Paypers. (18 October 2021). "JazzCash and Mastercard offer financial solutions in Pakistan".

Interoperability

The growing use of mobile money across different transaction types shows that it is becoming more integral to the wider financial ecosystem, including mobile money-based international remittances and connections with local banks. On average, a MMP is now connected to around 18 banks.

In terms of transactions, interoperable bank transfers were among the fastest growing in 2022 (Figure 17). Bank-to-mobile transactions reached close to $78 billion, growing by 36% – the same rate as in 2020, but slower than in 2021 (48%). Mobile-to-bank transactions rose faster than bank-to-mobile, by 47%, reaching $98 billion – almost the same rate as 2021 (53%), but slower than 2020 (85%).

Figure 17: Total annual value of interoperable mobile money transfers ($)



Source: GSMA Global Adoption Survey

Account-to-account (A2A) interoperability, namely, off-network P2P transactions, has continued an upward trend, albeit at a slower pace than in the past two years when off-net transactions in several countries were zero rated. Off-net transactions grew by 17% in 2022 to top $27 billion. This is significantly lower than the growth experienced in 2021 (35%) and 2020 (85%).

Credit, savings and insurance

Savings, investments and pensions

Mobile money has become a key savings tool, particularly in Sub-Saharan Africa. The 2021 Global Findex Database suggests that 5% of all adults in LMICs saved using a mobile money account. In Sub-Saharan Africa, 15% of adults – or 39% of all mobile money account owners – saved using a mobile money account. This is equal to the share of adults who saved via a formal financial institution, such as a bank.

According to the 2022 Global Adoption Survey, around 51% of respondents offer a savings product. Of those, 23% claimed they did not offer such products the year before. For example, launched in 2021 in partnership with the Bank of Africa, Tigo Pesa's Kibubu savings account in Tanzania saw rapid uptake by hundreds of thousands of users within a year of launch. While more MMPs are offering savings accounts, fewer provide similar products. Only 4% of respondents offered an investment product while 8% offered a pensions.

On the demand side, the 2022 GSMA Consumer Survey found that the use of savings accounts remains unequal between mobile money markets. In Kenya, 30% of surveyed mobile money users said they had sent money to a savings account in the last 30 days. In Nigeria, more than 51% of respondents claimed the same. However, only 4% of respondents in Senegal and 8% in Pakistan reported doing so.

Credit

Credit, when provided responsibly, can solve both short-term and long-term challenges. Micro, small and medium enterprises (MSMEs) can invest in their future while households can overcome the impact of unexpected financial shocks. Credit has been the most prevalent non-payment financial service offered by MMPs. The 2022 Global Adoption Survey found that 53% of MMPs offer at least one credit solution to their users. More than half do so in partnership with a bank or other financial institution –29% partner with a fintech and 27% with both fintechs and banks.

An already popular product in many markets, mobile money-enabled credit is continuing to see fast uptake. Between September 2021 and June 2022, the number of unique customers receiving loans through their mobile money account grew by 18%. In the same period, the cumulative number of loans disbursed (since the launch of each respondent's service) grew by 29%. Based on the results of the 2022 GSMA Consumer Survey, there is room for significant growth. Apart from Kenya, fewer than 10% of mobile money users in each surveyed country had taken out a loan in the last 30 days.

Insurance

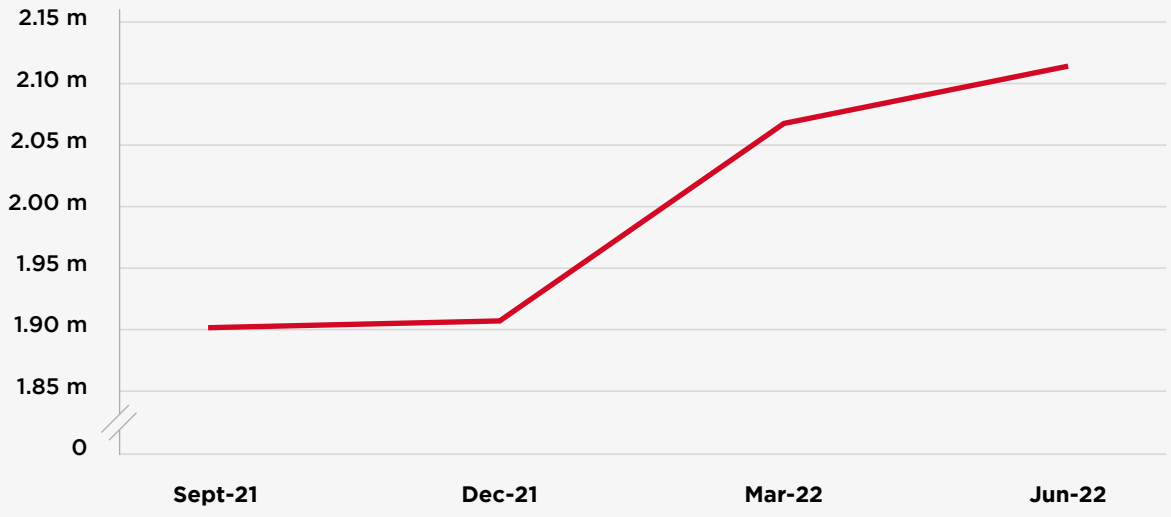
Offered by 18% of MMPs offer mobile money-enabled insurance cover. Yet, in many LMICs, there is a particularly wide social protection gap in health care, disability support, old-age protection and climate shocks or natural disasters. In 2020, the International Labour Organization (ILO)[21] found that low-income countries have limited social protection coverage with only four out of 10 people having access to health care and only 1% of individuals receiving disability protection.

Health and life insurance are the most popular types of mobile money insurance products, followed by disability insurance. Agricultural insurance (crop and livestock) is still only offered by a handful of MMPs. While mobile money-enabled insurance is still nascent, there are encouraging signs of growth. According to the 2022 Global Adoption Survey, the number of insurance policies in force grew by 11% between September 2021 and June 2022 (Figure 18).

[20] Neither pension nor investment products.

[21] ILO. (2020). Financing Gaps in Social Protection: Global estimates and strategies for developing countries in light of the COVID-19 crisis and beyond. ILO Working Paper 14.

Figure 18: Number of mobile money-enabled insurance policies in force (reported)

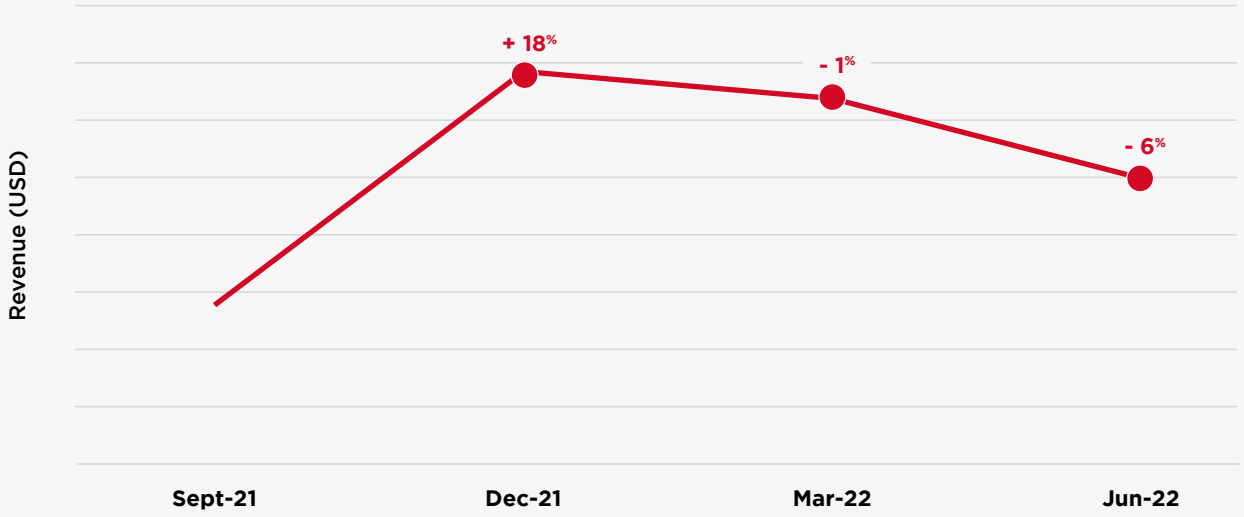


Source: GSMA Global Adoption Survey

Business models, profitability and investment

The sustained growth in mobile money transactions throughout 2022 will only be translated into revenues if transaction fees remain constant year on year. With increasing competition and regulatory measures, such as taxation and zero rating, mounting pressure on pricing may impact profit margins for MMPs. When monthly revenue figures between September 2021 and June 2022 are compared, similar trends to 2021 can be observed. Revenue levels grew significantly in December 2021 before levelling off in June 2022 (Figure 19).

Figure 19: Monthly revenue of MMPs



Source: GSMA Global Adoption Survey

The fast growth in December can be attributed to a high rate of spending during the holiday season in many mobile money markets. The slight decrease in March 2022 came despite an uptick in values for each transaction type. This may be due to lower margins and fees per transaction. Increased competition may have had an impact too, as it led to pricing pressure for many MMPs in the first half of 2022.

The industry's performance in 2022 showed that revenue diversification beyond customer fees enables MMPs to be more resilient to competitive and regulatory pressure on pricing. However, provider revenues from customer fees, as opposed to business or government fees (e.g., merchant discount rates), continue to contribute the bulk of reported revenues: 79%[22] as of June 2022. This is lower than the 87% reported in 2020, but higher than in 2019 (67%).

At the product level, the 2022 Global Adoption Survey found a more diversified revenue profile than in previous years. As of June 2022, cash-out fees and domestic P2P fees represented a combined 56% of overall provider revenue.[23] While this number still accounts for most of the industry's revenue mix, additional income streams are increasingly prevalent, particularly fees from bill and merchant payments, international remittances and digital credit. This suggests there is significant potential for mobile money revenues to grow as ecosystem transactions increase.

BOX 5: The road to profitability for payment service banks in Nigeria[24]

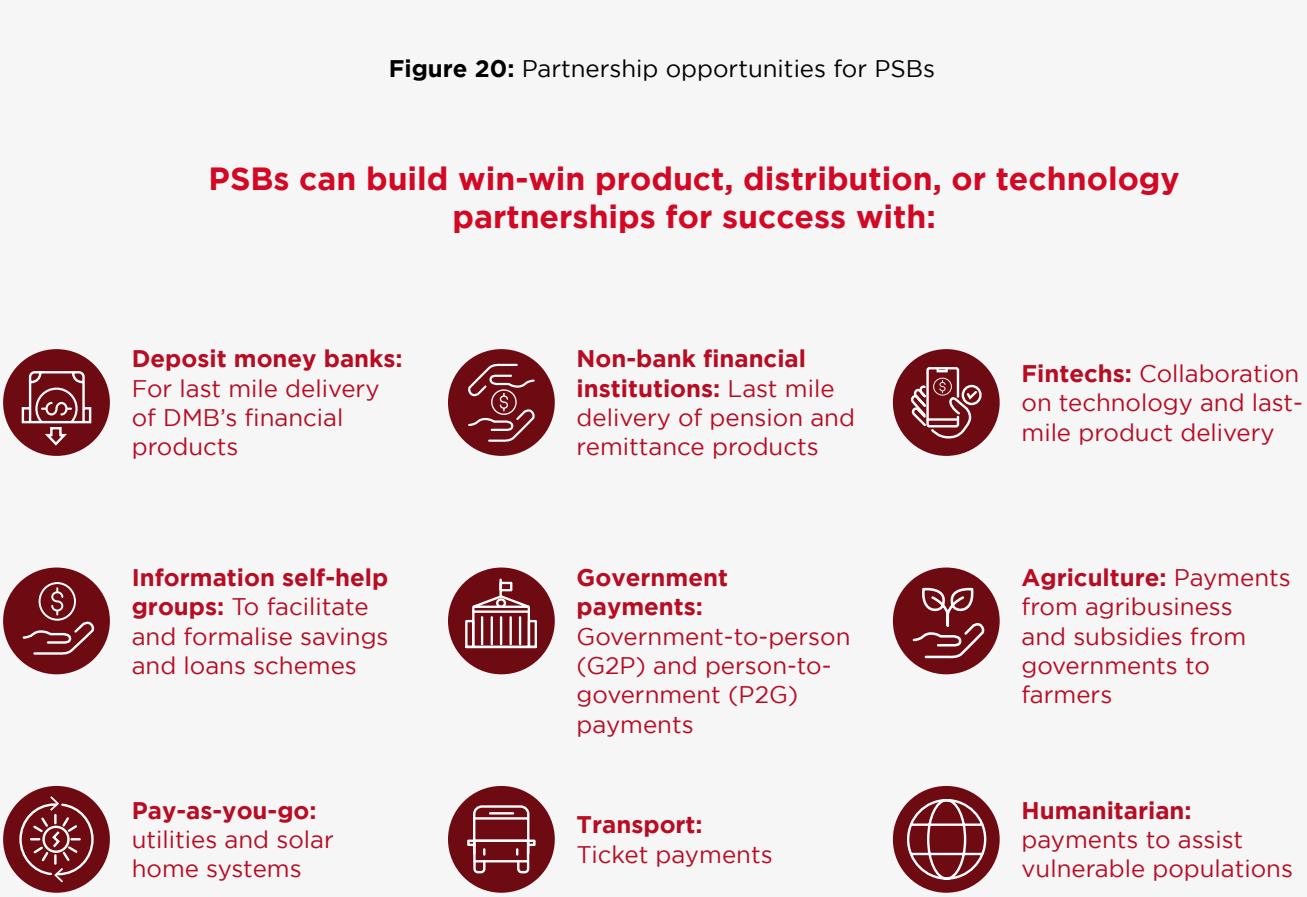
To expand quickly, payment service banks (PSB) in Nigeria have adopted different market entry strategies. For example, Smartcash PSB started operations in major cities across Nigeria, intending to expand to other areas as brand awareness and uptake grow. 9PSB has proactively pursued partnerships with fintechs to integrate their solutions and open access to a broader audience. MoneyMaster PSB has enabled customers to use their phone numbers as account numbers to make onboarding quicker and easier, taking a high-volume approach to account opening and transactions.

The current regulation limits the products and services that PSBs can offer. For instance, PSBs cannot yet underwrite insurance or offer credit, even in partnership with other financial institutions. These restrictions limit their product and revenue diversification efforts, and may pose a risk to their commercial sustainability in the long run. While transaction fees comprise the bulk of PSB revenues, multiple revenue streams are needed to reduce reliance on CICO transactions and achieve profitability.

The GSMA has identified several types of partnerships at the product, distribution and technology level that PSBs could pursue to accelerate commercial sustainability (Figure 20).

[22] GSMA Global Adoption Survey 2022.
[23] The sample includes services with more than one million active accounts.
[24] Okeleke, K. and Shahid, N. (2022). Payment Service Banks in Nigeria: Opportunities and Challenges. GSMA.

Figure 20: Partnership opportunities for PSBs



Source: GSMA

PSBs can form a range of mutually beneficial, high-value partnerships to digitalise different use cases. This includes G2P payments for subsidies and social protection schemes, payments to farmers for agricultural produce, transport transactions and cash management services for e-commerce businesses.

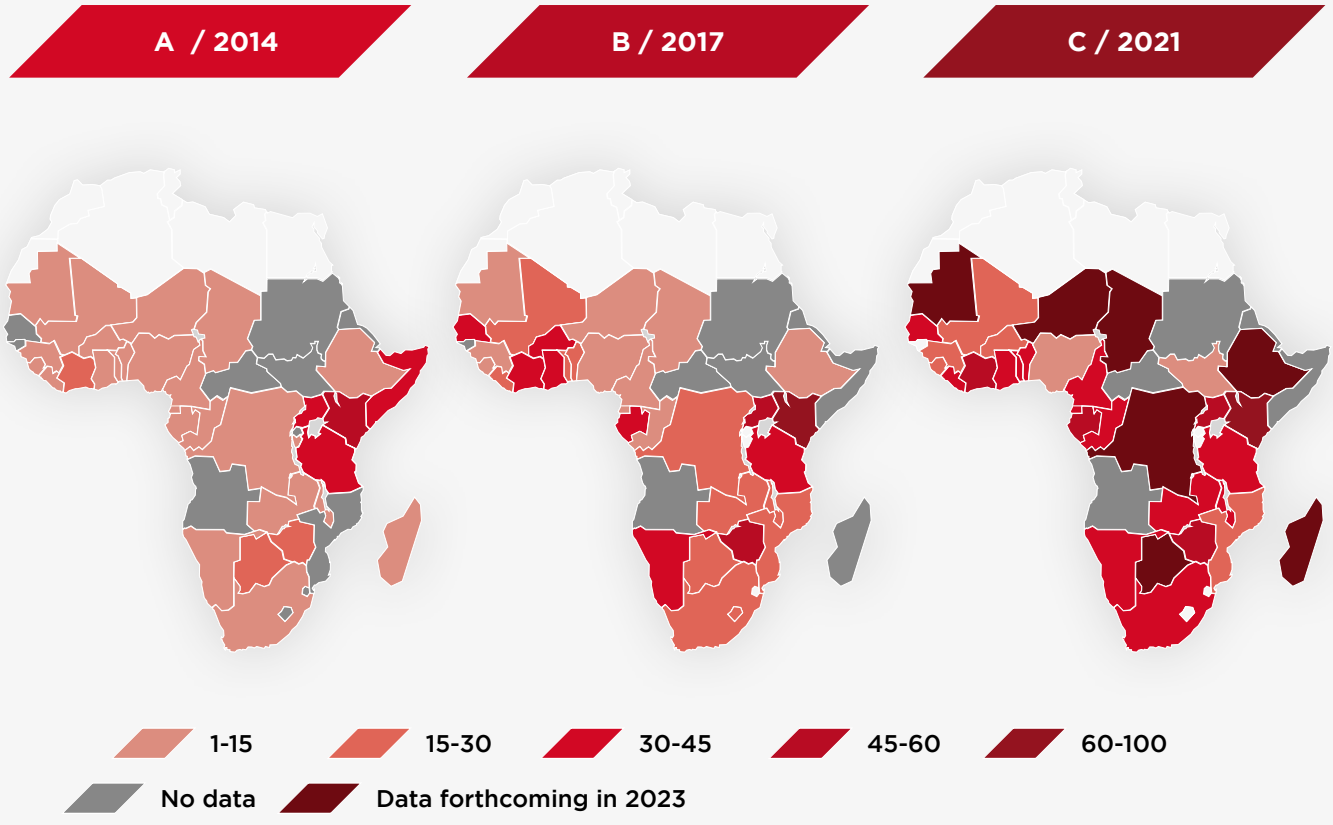
Nigeria's model is based on India's payments bank (PB) approach. India's PBs have benefited from regulatory evolution that was based on market evidence and led to commercial sustainability. A similar approach could benefit PSBs in Nigeria. In October 2022, the Central Bank of Nigeria updated regulations by allowing PSBs to sell US dollars received as cross-border remittances to authorised foreign exchange dealers. This offers PSBs an additional revenue stream.

Mobile money data from the Global Findex 2021[25]

Over the past decade, mobile money accounts have become critical to the financial system in Sub-Saharan Africa (Figure 21). Data from the 2021 Global Findex found that 33% of adults in the region have a mobile money account – a significant trend given that only 55% have a financial account of any kind. Mobile money appears to be single-handedly responsible for the 12-percentage point increase in account ownership in the region since 2017.

Mobile money accounts are driving gender equity in account ownership, too. On average, men and women in Sub-Saharan Africa are equally likely to use only a mobile money account, although men are 12 percentage points more likely than women to use a bank or other financial institution account.

Figure 21: Adults with a mobile money account (%) in Sub-Saharan Africa, 2014, 2017 and 2021



Source: Global Findex Database 2021

[25] Since 2011, the World Bank Global Findex Database has been the definitive source of data on the ways in which adults around the world use financial services and manage adverse financial events. The database and the underlying economy-level data are available at: http://www.worldbank.org/globalfindex.

P2P payments have made room for other payment types.

The first mobile money products were designed by MNOs and facilitated domestic P2P payments from family members living in other parts of the same country. This use case defined the mobile money space for years, but it is only part of today's story. In 2021, about 74% of account owners used their mobile money account to make or receive at least one payment that was not P2P.

In terms of payments received, 68% of mobile money account owners in Sub-Saharan Africa received a payment into their account (any type), with around 52% receiving a remittance payment. Beyond remittances, 22% received a private sector wage payment, 13% received a payment for the sale of agricultural products and 8% received a government payment.

Nearly all mobile money account owners (98%) also made a direct payment from their account, including domestic remittances, bill payments, merchant payments and utility payments. Beyond payments, around 39% of account owners used their account to formally save money for the future and 20% used digital credit.

Mobile phone access could help increase account ownership in Sub-Saharan Africa.

Despite the impact of mobile money on financial inclusion in Sub-Saharan Africa, only 55% of adults in the region have any kind of financial account – far below the 71% average in LMICs. When asked why they do not have a mobile money account, the second-most common reason people give is that they do not have a mobile phone. Unbanked women are seven percentage points more likely than unbanked men to say this.

The digitalisation of payments by governments, private sector employers and agricultural buyers offers an opportunity to motivate unbanked adults to get accounts. For example, there are around 70 million unbanked adults in Sub-Saharan Africa who receive cash payments for the sale of agricultural goods. Digitalising some of these payments could increase the share of banked adults in the region by up to 10 percentage points.

Efforts to expand financial inclusion through mobile money must consider both user capabilities and market risks. Mobile money accounts require digital skills, but there are also risks for consumers, including lack of transparency about fees and other terms of service, aggressive marketing, poor dispute resolution, data or identity theft and mobile app fraud. Even adults that already have mobile money accounts may be vulnerable to fraud: 31% of mobile money account holders in Sub-Saharan Africa cannot use their account without help.

Regulatory and policy trends in 2022

The sustained digitalisation of financial services after the COVID-19 pandemic has continued to shape mobile money policy and regulation. Regulation has focused on ensuring that payment systems remain safe and efficient while encouraging innovation. However, some regulatory overlaps have emerged as different government bodies look to mobile money to drive their policy objectives. As a result, emerging policies on DFS need to be aligned with financial inclusion objectives, especially for the last mile.

The pursuit of an inclusive digital financial ecosystem has been at the heart of many regulatory and policy frameworks. This has been driven mainly by the need to ensure that no one is left behind and that citizens can access safe, reliable and affordable financial services. The increased digitalisation and interconnectedness of the financial sector present unique risks that should be mitigated through a collaborative and coordinated approach. The mobile money industry maintains the integrity of the financial system by implementing relevant risk mitigation measures in line with global best practices and regulatory compliance. This must be a shared responsibility with other ecosystem players.

Fiscal policies can worsen financial exclusion and exacerbate a poor economic situation if not developed with financial inclusion in mind. Such policies were launched in some countries in 2022, demonstrating the need for public-private dialogue to develop an enabling environment. For example, the mobile money levy implemented in Ghana shows that the country's fiscal policies are not aligned with its financial inclusion objectives.

Fraud remains a key issue for the industry and is being tackled through national financial literacy initiatives, standard setting and data protection and cybersecurity legislation. Regulators, policymakers and MMPs are working together to combat fraud by developing national financial education policies and strategies on consumer awareness and capacity building. An example is the Digi#ances Partnership Initiative between *Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ)* and the Bank of Jordan. This collaboration focused on improving financial awareness and designing campaigns to enhance the responsible use of DFS.

1 Enabling a sustainable regulatory and policy environment

A An overview of mobile money licensing

Over the past 15 years, mobile money policy and regulatory frameworks have evolved rapidly. Most markets are in growth-to-mature stages, with central banks favouring the payment institution model as mobile money is "mainstreamed" into countries' payment systems. Meanwhile, central banks have continued to prioritise the safety and stability of financial systems and consumers.

In Kenya, mobile money has largely been

[26] MTN. (11 April 2022). "The Central Bank of Nigeria Grants Final Approval for MoMo Payment Service Bank Limited to Commence Operations". Press release.

[27] Airtel Africa. (19 May 2022). "Nigeria PSB commencement of operations".

telco-led. However, in 2022, Airtel Kenya Networks split its mobile money business into a separate entity that the Central Bank of Kenya regulates as a stand-alone business. Kenya's case is unique since parliament has driven this separation. Regulators in markets with a telco-led regulatory framework might adopt a similar policy once the results are clear. This model contrasts with Ethiopia and Nigeria, where MNOs and non-banks must set up separate legal entities to obtain mobile money licences. In the Central African Economic and Monetary Community (CEMAC) region, payment services are provided by payment institutions licensed by the Bank of Central African States (BEAC).

Licensing wins of 2022

In 2022, more MMPs were granted licences to offer payment services than in 2021 and 2020. In Nigeria, MTN and Airtel obtained PSB licences, allowing them to operate mobile money services. In addition, the Central Bank of Nigeria issued Airtel Africa's subsidiary, Airtel Mobile Commerce Nigeria Limited, a super-agent licence allowing Airtel to create a network serving customers of banks and other MMPs. Both moves have the potential to bridge the gap between the banked and the unbanked in Nigeria.

In Ethiopia, the central bank amended payment system legislation to pave the way for new market entrants to provide mobile money services. The ongoing reforms in the financial sector may be an opportunity to create a flourishing DFS ecosystem supported by the high adoption rates experienced by existing service providers, such as Ethio Telecom.

In Uganda, with the introduction of a new regulatory framework, MTN and Airtel were awarded new licences in 2022 that changed their operating model to a bank-led one.

Fintech ecosystem

Partnerships between MMPs and emerging fintech players are rising steadily. However, most central banks need to formulate an overarching policy and regulatory framework to support emerging fintech business models, as well as to avert complications from existing regulations, product and service approval delays and the risk assessments necessary for collaboration. The *Banque Centrale des États de l'Afrique de l'Ouest* (BCEAO) and the Bank of Uganda are among the few regulators that licensed emerging fintechs in 2022. In Senegal, Wave became the first non-telco non-bank to receive an e-money licence in the West African Economic and Monetary Union (WAEMU) region. The Bank of Uganda also licensed several similar players, such as Chipper Cash and Wave.

B Know-your-customer (KYC)

According to the 2022 Global Adoption Survey, at least a third of respondents indicated that KYC regulations have become more enabling. The Mobile Money Regulatory Index (MMRI) further shows that 52 countries do not have a widespread roll-out of national or government-issued[28] identity documents (IDs). Yet, regulations in many of these countries do not allow other types of documents as proof of identity to access mobile money services. Flexibility around the IDs used for KYC and customer due diligence (CDD) checks has driven the adoption of mobile money, for example, in Lesotho and Rwanda,[29] especially for vulnerable groups that may not have immediate access to national IDs.

Despite the increased digitalisation of the payments sector, automated KYC has yet to be achieved in several countries, such as the Democratic Republic of the Congo (DRC), Ethiopia, Mongolia, Nicaragua, Samoa and countries in the WAEMU region.[30]

In these countries, KYC verification is a time-consuming and costly manual process. KYC digitalisation would be a welcome move: according to the World Bank, electronic verification can reduce the average cost of verifying customers from $15 to $0.50.[31]

Some countries have rolled out new citizen registration campaigns and KYC digitalisation, leading to a complete overhaul of KYC requirements for mobile money services. For instance, the Bank of Ghana stated that from July 2022, the Ghana Card would be the only acceptable form of ID for all transactions licensed and regulated by the bank, including mobile money services. However, this directive failed to consider the registration challenges that mobile money users were likely to face in meeting the bank's strict deadline. Before this initiative, the Bank of Ghana accepted various functional IDs for KYC checks, including voter identification cards, driving licences, passports and National Health Insurance Scheme cards.

[28] Bahia, K., Kipkemboi Sawe, K. and Wambugu, W. (2022). Three years of the Mobile Money Regulatory Index: Insights, opportunities and challenges. GSMA.
[29] Bahia, K., Sanchez, M. and Taberner, P.A. (2020). Exploring the relationship between mobile money regulation and usage. GSMA Intelligence.
[30] WAEMU countries include Benin, Burkina Faso, Côte d'Ivoire, Guinea-Bissau, Mali, Niger, Senegal and Togo.
[31] Gelb, A. and Castrillon, D. (2019). Identifying and Verifying Customers: When are KYC Requirements Likely to Become Constraints on Financial Inclusion? Center for Global Development.

C Mobile money taxation

As many countries struggle with the economic impact of the COVID-19 pandemic and a looming recession, several governments in Africa have resorted to taxing mobile money (Figure 22). In 2022, the governments of Ghana, Tanzania and Cameroon introduced mobile money levies, joining a growing list of countries implementing levy collection through mobile money. These taxes have highlighted gaps in how tax laws and fiscal policies are formulated, as the tax burden is not only increasing for MMPs but for consumers, too.

Figure 22: Summary of mobile money taxation policies by African country and year

2013	Country Tax base Value/rate	**Uganda** Transaction fee. **10%** of transaction fee.
2015	Country Tax base Value/rate	**Côte d'Ivoire** Transaction fee. **18%** of transaction fee.
2018	Country Tax base Value/rate	**Zimbabwe** All transfers, with exceptions. **2%** of value transferred.
	Country Tax base Value/rate	**Kenya** Transaction fee. **12%** of transaction fee.
	Country Tax base Value/rate	**Uganda** Withdrawals. **0.5%** of value of withdrawal.
2019	Country Tax base Value/rate	**Congo** Transaction value. **1%** of transaction value.
	Country Tax base Value/rate	**DRC** Total revenue. **3%** of total revenue.
	Country Tax base Value/rate	**Côte d'Ivoire** Total revenue. **2%** of total revenue.
2021	Country Tax base Value/rate	**Côte d'Ivoire** Transaction fee. **18%** of transaction fee.
	Country Tax base Value/rate	**Tanzania** Transaction value. Different rates ranging from TZS 10 to TZS 2,000 as of 1 October 2022.
2022	Country Tax base Value/rate	**Cameroon** Transaction fee. **0.2%** of transaction value.
	Country Tax base Value/rate	**Ghana** Transaction value. **1.5%** of transactions over 100 Ghanaian cedi ($13).
	Country Tax base Value/rate	**Benin** Transaction revenue. **5%** of all mobile financial transaction revenue with a minimum tax base per transaction category.

Source: Respective countries' tax codes

The mobile money industry supports many economies through essential financial services, such as person-to-government (P2G) payments. As a result, fiscal policies related to the industry should consider the impact of unintended consequences, particularly among underserved segments. Mandating MMPs to collect levies could harm public perception of the industry and create misconceptions about increases in mobile money transaction costs.

Mobile money can be better used to collect taxes for governments. Widening informal sector tax nets, rather than increasing the tax burden on mobile money users and providers, would allow mobile money to continue driving socio-economic development. To achieve this, governments need to align fiscal policies with financial inclusion policy objectives, the empowerment of youth and women, and poverty reduction, among other national goals. While tax collection is important for economic development, it should not deter investment or lower demand for goods and services, both important aspects of economic growth.

F International money transfers

Mobile money is the cheapest and most convenient way to send money abroad. According to the GSMA Mobile Money Remittance Price Survey, mobile money-enabled international remittances cost 3.73%. While mobile money-led international money transfers (IMTs) have grown significantly, there is still a considerable opportunity for markets with regulatory restrictions. Foreign exchange control, which applies to all financial services, is a major stumbling block to mobile money-driven IMTs. Affected markets include Ethiopia and the countries of the West African Economic and Monetary Union (WAEMU) and the Central African Economic and Monetary Community (CEMAC). In most markets, only inward remittances are permitted, hindering potential IMT growth.

While IMTs play an increasingly important role in sustaining the livelihoods of many families, they are also a key enabler of international trade. Many governments recognise the significance of IMT reforms for facilitating bilateral and multilateral trade, especially in LMICs. A lack of regional regulatory harmonisation on tiered KYC continues to impede the growth of IMTs too. Other issues, such as legal and regulatory challenges, payment system infrastructure constraints, informality and international trade barriers, all make a multisectoral approach essential to unlocking the benefits of mobile money-enabled IMT.

G Mobile Money Regulatory Index (MMRI)

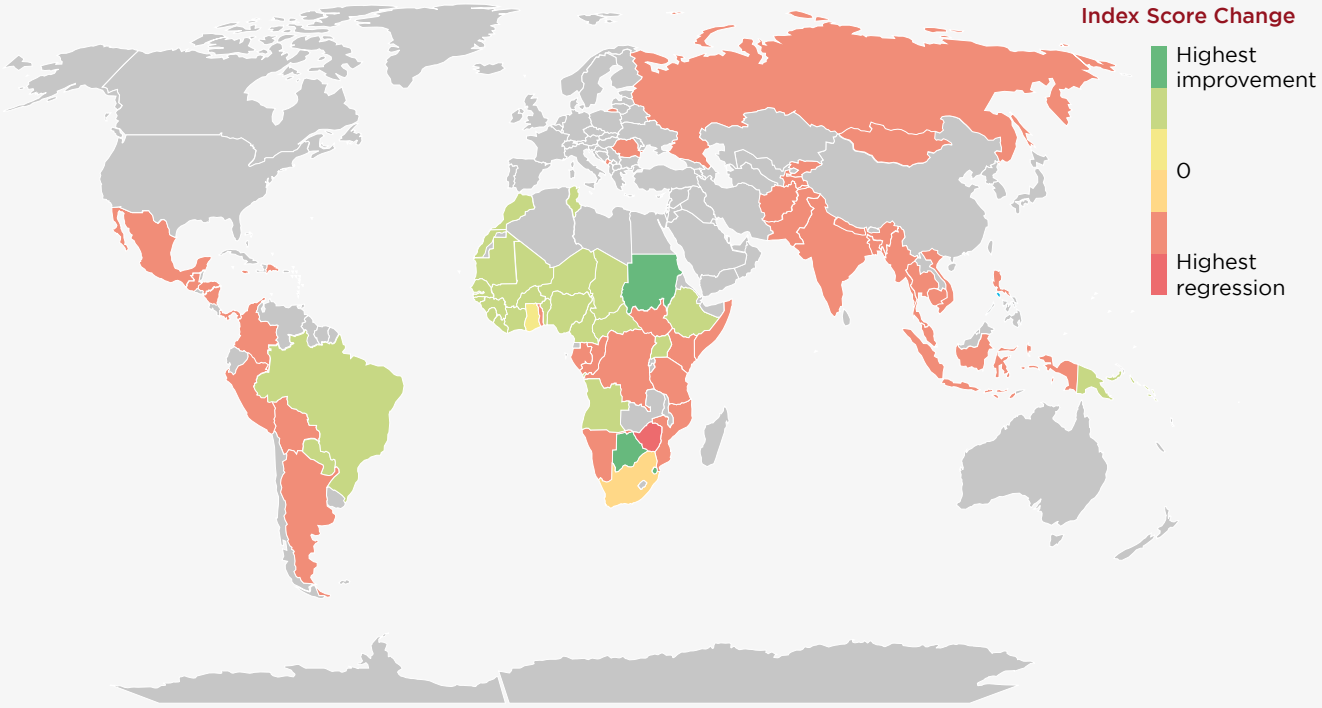
According to the 2022 MMRI, 48 countries have improved their score since the index launched in 2018 (Figure 23). Mobile money regulatory frameworks continue to create safer and more efficient environments for mobile money services and, most importantly, for consumers.

The MMRI has played an essential role in shaping the regulatory discussions that have contributed to these improvements.

By December 2021, most countries had effective and enabling regulations for several initiatives, including creating a level playing field, consumer protection, safeguarding funds, agent networks, international remittances, affordability, KYC requirements, trust account interest payments, transaction limits and financial inclusion strategies. Most countries have room for improvement in KYC automation, deposit insurance and settlement access indicators.

Figure 23: Countries with the most improved MMRI scores between 2018 and 2021

MMRI Index Score (Change between 2018 and 2021)



Source: *GSMA Mobile Money Regulatory Index*

2 Consumer protection and safety

A Financial health

Despite an increase in mobile money usage, consumer financial health has declined, particularly in LMICs. In Kenya, 83% of adults are financially included, but only 24% are considered financially healthy. Financial inclusion does not necessarily lead to an immediate improvement in financial health.

Such trends have forced policy interventions to improve consumers' financial health. This includes the UNSGSA Financial Health Working Group, which has published two policy notes to guide future work on financial health.

Governments and regulators in the Philippines, Kenya and elsewhere have included financial health as a goal in their national financial inclusion strategies (NFIS).

With financial health now a focus area, MMPs may need to design products that serve consumers' financial needs and ensure they remain financially healthy. This can be achieved through a partnership-based approach that aims to improve consumers' financial competence and literacy through financial literacy training.

B Fraud

With mobile money transactions growing rapidly every year, MMPs need to ensure their security systems can handle both existing and emerging types of fraud, as well as other risks in the financial services ecosystem. This includes mobile app fraud and scams, biometric identity fraud and social engineering incidents.

Fraud can erode consumer trust, impacting mobile money usage and financial inclusion for vulnerable users. Given that trust is a key driver of adoption, combating fraud has become a growing concern for the industry. Policymakers and regulators have been pushing MMPs to adopt customer-centric consumer protection frameworks, promote consumer awareness, education and product transparency and improve complaints handling.

BOX 6: GSMA Mobile Money Certification programme

The GSMA has been working with MNOs to promote responsible practices through our Mobile Money Certification programme. The programme aims to encourage safer, more reliable and more resilient mobile money services. The certification process requires compliance with more than 300 detailed requirements covering consumer protection, anti-money laundering and combating financing of terrorism (AML/CFT) and fraud management and cyber and systems security.

Hormuud Telcom's journey to certification

In Somalia, the mobile money sector plays an important role in the country's economy. At least 80% of the population uses mobile money while just 6% use cash. The mobile money market circulates around $2.7 billion in transactions per month, with close to 80% of customers using mobile money regularly. Mobile money supports a growing and vibrant entrepreneurial sector that drives the economy and bridges access to financial services in the last mile, contributing to financial inclusion.

As in many other countries, the mobile money sector in Somalia evolved ahead of government legislation. The lack of national identity documentation – no national IDs or birth certificates were issued for more than three decades – has made Somalia a challenging environment for the private sector.

Hormuud Telecom is the largest MNO and MMP in Somalia. The company has grown significantly over the past 20 years and has strategic partnerships with banks, remittance providers and other partners. Hormuud Telecom used the GSMA Mobile Money Certification process to meet international standards, apply best practices and improve its policies, procedures and business practices. This has enabled the company to better manage risk, improve trust, enhance consumer protection and position itself for future commercial partnerships.

Mobile Money Certification has benefited Hormuud Telecom and consequently the Somali economy. The company now has a more robust risk management system and stronger business foundations, and is more resilient and trusted. There has been a 15% increase in the identification of AML/CFT and fraud, improved customer care processing, a 20% increase in customer satisfaction and significant improvements in penetration testing.

3 Inclusivity

A Industry growth

Technological innovation has led to a surge in new market entrants – including many fintechs – into the mobile money ecosystem. This innovation has been driven by the need to make payments more accessible to all and affordable. Regulatory sandboxes have created an enabling landscape that has allowed new and existing entrants to test their products before launching. While sandboxes are not new, more regulators have embraced them to support industry development.

Regulators keen to support innovation and drive competition in financial services are giving more attention to regulatory sandboxes. In August 2022, Bangko Sentral ng Pilipinas, the central bank of the Philippines, launched a regulatory sandbox framework. The Bank of Ghana published its framework that month too. Sandboxes can play a key role in opening the ecosystem to small fintech players while also allowing regulators to assess the risks.

What to watch for in 2023

Central banks are deliberating whether to adopt central bank digital currencies (CBDCs), with many unsure due to varying motivations and concerns. A new concept, the role of CBDCs in the monetary system is still being explored and understood. More evidence is needed to determine whether they can drive financial inclusion better than existing technologies. Understanding how CBDCs might add value to existing payment systems within public-public and public-private partnership models is key, as are the economic incentives that participants might need.

With the exponential growth of mobile money, interoperability is becoming more relevant in national and international payment ecosystems. Unlike market-led approaches, mandated approaches to interoperability have proven to be more complex, both to develop and implement. In 2023, regulators may embrace a more participatory approach to pushing for a more interconnected financial ecosystem.

Closing the mobile money gender gap

While there have been substantial gains in mobile-led financial inclusion over the past few years, women are still less likely than men to use mobile money services. The reasons for this include not owning a mobile phone, not being aware of mobile money, not perceiving the relevance of mobile money and having low literacy and digital and financial skills. The ongoing economic crisis from the COVID-19 pandemic has also had a disproportionately negative impact on women,[33] exacerbating their lower access to, and use of, mobile money.

The gender gap in mobile money account ownership and usage is a missed opportunity for both women and MMPs. Women who use mobile money can become more financially included, economically independent and play a stronger role as financial decision-makers. In turn, this can have a positive impact on their communities and the broader economy.

To understand mobile money from the perspective of end users, the GSMA conducts an annual consumer survey. This face-to-face survey is nationally representative and provides demand-side[34] data on mobile money for men and women across nine LMICs: Bangladesh, Ethiopia, Ghana, India, Indonesia, Kenya, Nigeria, Pakistan and Senegal.

Data from the 2022 GSMA Consumer Survey[35] shows that mobile money has a positive effect on women's lives. Across most of the nine countries surveyed, more than half of female mobile money users reported that mobile money helps them better manage their finances and everyday affairs, such as shopping and paying bills. In all countries surveyed, most female users reported that mobile money helps them save time too.

A growing number of international organisations, policymakers and MMPs are taking steps to close the mobile money gender gap.[36] Gender-disaggregated data is crucial to supporting women's financial inclusion and empowerment. This is particularly important in recently liberalised mobile money markets, such as Ethiopia and Nigeria, where this data can be used to track uptake and drive more equitable growth.

The mobile money user journey

This section looks at each stage of the mobile money user journey (Figure 24) through a gender lens, from mobile ownership to awareness of mobile money, account ownership and regular and diverse use of mobile money. Understanding the gender gap and the barriers women face at different stages of the mobile money user journey is essential to informing action.

Figure 24: Mobile money user journey

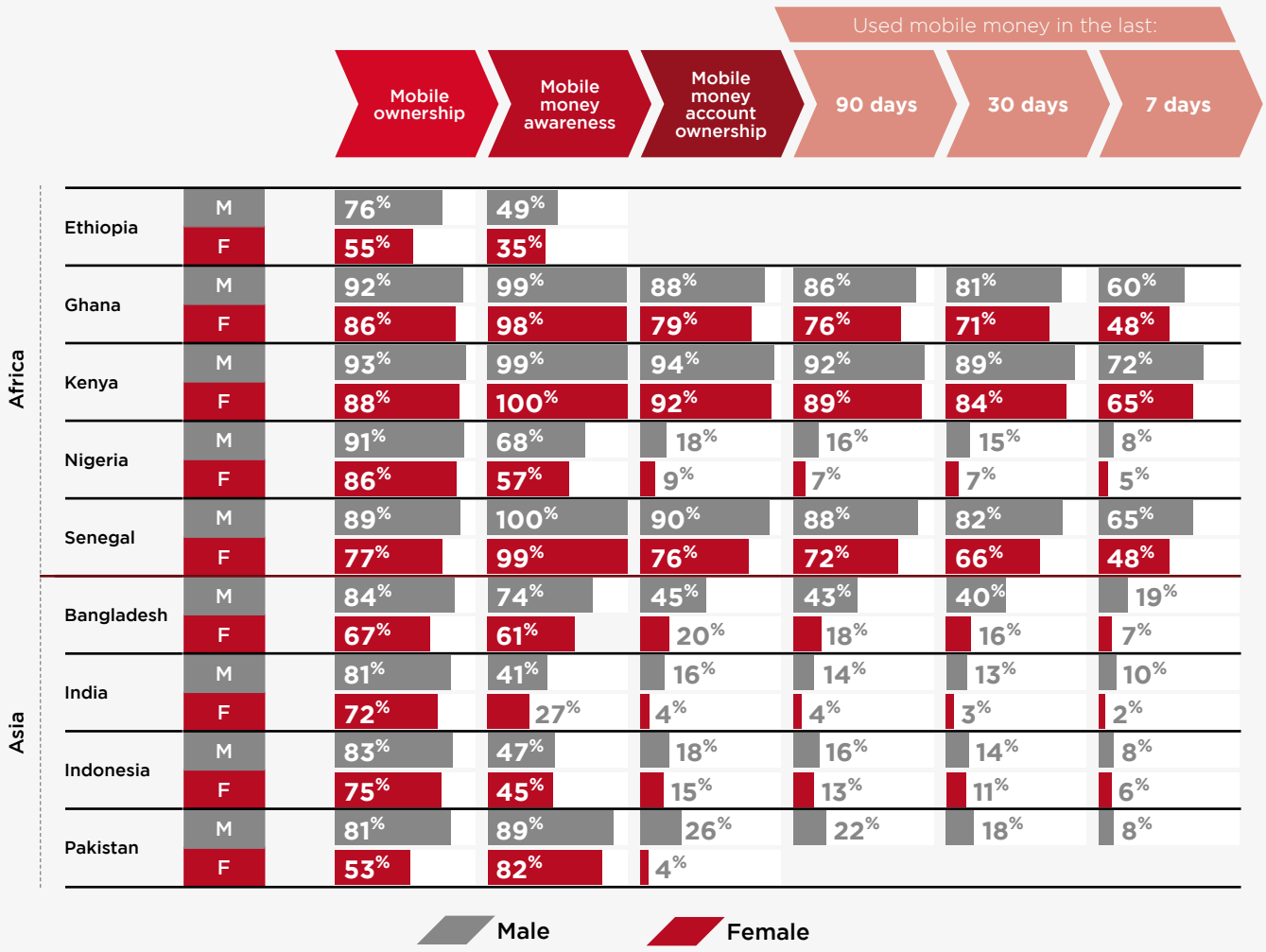
Source: GSMA

[33] UN Women. (16 September 2020). "COVID-19 and its economic toll on women: The story behind the numbers".
[34] Demand-side data: data sourced from and focused on consumers.
[35] Fieldwork was conducted in Q3 and Q4 2022.
[36] For example, since 2016, 26 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.

Progress along the mobile money user journey differs for women and men by country (Figure 25), due to the maturity of the mobile money market, social norms and other factors. However, there are some common trends:

- In most countries, **lower mobile ownership** among women still contributes to the mobile money gender gap, including in more mature markets where mobile money awareness is near-universal.
- **Mobile money awareness is much lower** for women than men in some markets, such as Bangladesh, Ethiopia, India and Nigeria, and is an important barrier to be overcome.
- When women are aware of mobile money, barriers other than the lack of a mobile phone have created a relatively **wide gender gap in mobile money account ownership** (except in Kenya).
- Once women have a mobile money account, they **have similar usage levels as men on a 30-day basis**, although the gender gap tends to be wider for more frequent usage.

Figure 25: Proportion of men and women at each stage of the mobile money user journey in 2022, by country[37] (percentage of the total adult population)



Source: 2022 GSMA Consumer Survey

Mobile ownership

Owning a mobile phone is a prerequisite for mobile money use, but there is a persistent gender gap in mobile ownership across LMICs. Women are 7% less likely than men to own a mobile phone,[38] although this varies significantly by country. For example, in Kenya, where mobile ownership levels are high, 88% of women own a mobile phone compared to 93% of men. However, in Pakistan, only around half of all women own a mobile phone while 81% of men do. Without concerted efforts, women's mobile ownership will continue to lag, preventing them from progressing along the mobile money user journey.

Awareness of mobile money

Several factors can increase awareness of mobile money.[39] Key drivers include 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 three most mature mobile money markets in the survey – Ghana, Kenya and Senegal – both women's and men's awareness of mobile money is near universal. In all other survey countries, women are less aware of mobile money than men. This is especially true in India and Ethiopia, where women are 35% and 29% less likely than men to be aware of mobile money, respectively.

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 Ghana, although mobile ownership is high and 99% of men and 98% of women are aware of mobile money, only 88% of men and 79% of women own a mobile money account. A similar pattern emerged in Pakistan where, despite high levels of awareness, account ownership is very low (Figure 26).

Despite overall growth in mobile money account ownership across LMICs, a substantial gender gap remains. According to GSMA's analysis of the World Bank's Global Findex 2021, women in LMICs are 28% less likely than men to own a mobile money account.[40] More recent data from the GSMA Consumer Survey reveals that apart from Kenya, the most mature mobile money market in the survey, there is still a wide gender gap in mobile money account ownership (Figure 26). Senegal and Ghana both have high levels of mobile money account ownership, yet women are 15% and 10% less likely than men to have an account, respectively. India and Pakistan have the largest gender gaps in mobile money account ownership, which is due to a range of factors, including social norms and low mobile ownership among women.

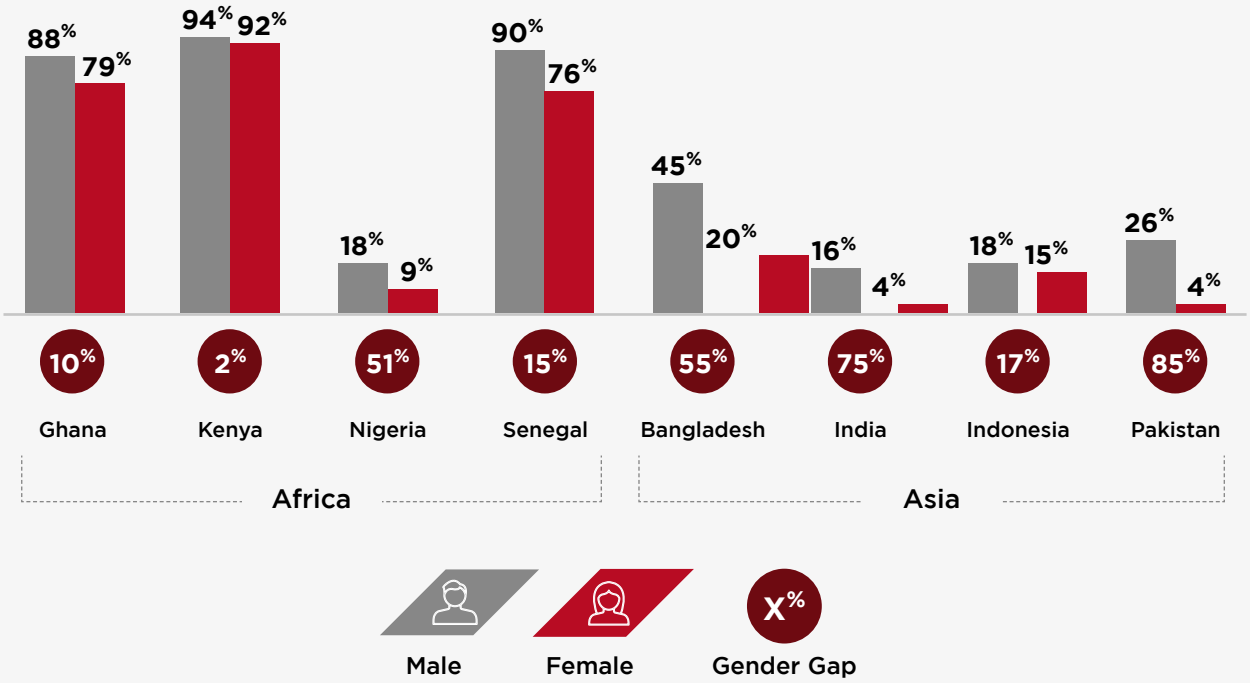
[37] Source: GSMA Consumer Survey 2022. "Mobile phone owner" is defined as a person who has sole or main use of a SIM card or mobile phone that does not require a SIM and uses it at least once a month. Base: All adults. n=500–983 for women and 481–1,176 for men. Question: Which, if any, [national] mobile money brands are you aware of? Base: All adults. n=500–983 for women and 481–1,176 for men. Question: And which, if any, do you have a mobile money account with? Base: All adults aware of at least one [national] mobile money brand and have used a mobile phone. n=209–532 for women and 221–573 for men. Question: Have you ever used a mobile money account to send, pay or receive money, or to deposit or withdraw money? Mobile money account owners were asked how often they use their accounts. Base: All adults who have a mobile money account. n=41–500 for women and 70–523 for men. Sample: nationally representative. Notes: Data on women's mobile money usage in Ethiopia and Pakistan was excluded due to low sample sizes. The sample for Ethiopia excludes regions affected by the Tigray conflict and security concerns (see the consumer survey methodology in the appendices). For questions on mobile money account ownership and usage, the results are rebased to be shown as a proportion of the total adult population in each country.

[38] GSMA. (2022). The Mobile Gender Gap Report 2022.

[39] The GSMA Consumer Survey asks all respondents if they had heard of at least one mobile money brand in their country. 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.

[40] Awanis, A. and Shanahan, M. (7 November 2022). "Findings from Findex: Mobile money is driving financial inclusion for women, but more work needs to be done". Mobile for Development Blog. GSMA.

Figure 26: Male and female mobile money account ownership in 2022, by country[41]
(percentage of the total adult population)



Source: 2022 GSMA Consumer Survey

In five of the seven survey countries with available data (Bangladesh, India, Indonesia, Nigeria and Pakistan), the gender gap in mobile money account ownership widened over the past year primarily due to mobile ownership among men growing at a faster pace than women's. In Pakistan, men's account ownership grew from 19% to 26% in the past year while women's has remained unchanged at 4%. Similarly, in Bangladesh, women's account ownership has stayed the same while men's account ownership increased from 41% to 45%.

The gender gap in mobile money account ownership tends to be higher among certain demographics. For instance, in eight of the nine countries surveyed, the gender gap in mobile money account ownership is greater among those living in rural areas. Men, and especially women, who live in rural areas tend to experience the barriers to mobile money account ownership more acutely than their urban counterparts, including lower awareness, lack of a mobile phone, lower digital skills and more restrictive social norms.

[41] Source: GSMA Consumer Survey 2022. Question: And which, if any, [national mobile money service] do you have a mobile money account with? Base: All adults aware of at least one mobile money brand and have used a mobile phone. n=209–532 for women and 221–573 for men. Sample: nationally representative. Notes: The sample for Ethiopia excludes regions affected by the Tigray conflict and security concerns (see the consumer survey methodology in the appendices). The results are rebased to be shown as a proportion of the total adult population in each country.

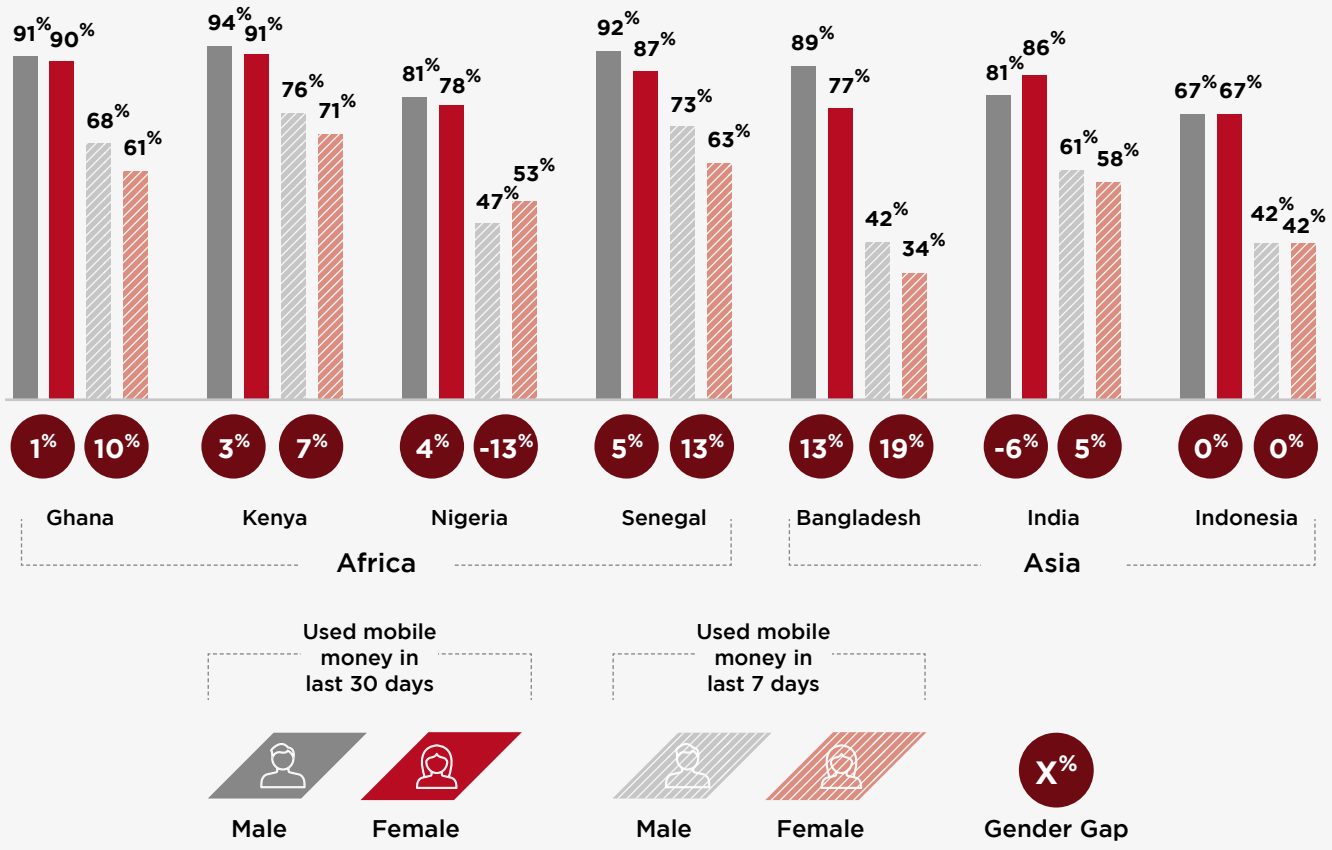
[42] To assess this, the 2022 GSMA Consumer Survey asked mobile money account owners how frequently they used their accounts, and mobile money users (both account owners and those who use over the counter (OTC) services) how frequently, if at all, they had performed certain use cases, such as sending money to family or friends, saving or paying for food using mobile money. Time periods were: longer than 12 months; in the last 12 months; in the last 3 months; in the last 30 days; and in the last seven days.

Mobile money usage

Beyond account ownership, another measure of financial inclusion is how often one uses mobile money and for what purpose.[42] When women have a mobile money account, they have similar levels of usage as men on a 30-day basis. While 30-day activity rates are lower among female mobile money account owners than men in Senegal and Bangladesh, they are similar in Ghana, Kenya, Nigeria and Indonesia, and higher in India.[43] These findings align with additional survey data showing that 59% to 87% of female mobile money users in each of these countries report that mobile money is relevant to them.

Survey data on more frequent mobile money usage shows a clear gender gap (Figure 27)[44]. Female mobile money account owners are less likely than their male counterparts to use mobile money on a weekly basis in half of the survey countries with available data (Ghana, Kenya, Senegal and Bangladesh). Conversely, female account owners are more likely than their male counterparts to use mobile money on a weekly basis in Nigeria.

Figure 27: Male and female mobile money account owners who have used mobile money in the last 30 days and the last 7 days, by country[45]



Source: 2022 GSMA Consumer Survey

[43] Excludes Ethiopia and Pakistan due to small sample sizes.

[44] This resonates with GSMA research in Côte d'Ivoire and Mali, which revealed that women were less likely than men to be "high power" mobile money users (using it less frequently and for lower amounts).

[45] Source: GSMA Consumer Survey 2022. Question: Have you ever used a mobile money account to send, pay or receive money, or to deposit or withdraw money? Mobile money account owners were asked how often they use their accounts. Base: All respondents who have a mobile money account, n=41–500 for women and 89–523 for men. Sample: nationally representative. Note: Ethiopia and Pakistan were excluded due to small sample sizes.

A gender gap is evident with mobile money use cases too. Female mobile money users[46] are using mobile money for a narrower range of mobile money services than men (Figure 28) regardless of the time frame (i.e., the last seven days, last 30 days or last 12 months). Even in the three most mature markets surveyed – Ghana, Kenya and Senegal – there are still gender gaps in mobile money usage, especially for ecosystem transactions and adjacent financial services.[47] Some use cases are more relevant to women in certain contexts. In Pakistan, while women are less likely than men to engage in most use cases, they are more likely to use mobile money to send and receive remittance payments, both domestically and internationally.

[46] "Mobile money users" are defined as both mobile money account owners and OTC users.
[47] "Ecosystem transactions" refer to more advanced mobile money use cases, such as bill and merchant payments. "Adjacent financial services" refer to loans, savings or insurance.

Figure 28: Men and women who have performed each use case in the last 30 days, by country[48] (percentage of adult mobile money users in 2022)

		Africa								Asia							
		Ghana		Kenya		Nigeria		Senegal		Bangladesh		India		Indonesia		Pakistan	
		M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F
Core services	**Cash-in**	67%	51%	76%	63%	36%	39%	62%	39%	36%	29%	20%	16%	34%	27%	15%	8%
	Cash-out	76%	69%	82%	75%	46%	45%	69%	59%	48%	42%	21%	22%	28%	36%	20%	8%
	Send money within this country (P2P)	63%	50%	79%	71%	45%	35%	57%	42%	49%	37%	31%	17%	25%	28%	16%	22%
	Receive money within this country (P2P)	63%	59%	82%	80%	32%	28%	66%	55%	48%	39%	38%	28%	29%	14%	16%	21%
	Top-up airtime	71%	60%	85%	76%	38%	28%	54%	34%	26%	18%	28%	23%	63%	51%	16%	0%
Ecosystem services	**Receive payments from government,** local authority or charity (bulk disembursement)	5%	6%	6%	3%	10%	4%	6%	4%	8%	10%	5%	1%	3%	0%	3%	0%
	Receive my salary or wages (bulk disembursement)	15%	10%	26%	13%	14%	6%	11%	5%	15%	8%	12%	6%	11%	13%	7%	2%
	Get paid by a customer or client (merchant payment)	38%	27%	52%	41%	27%	15%	30%	14%	16%	9%	14%	15%	23%	20%	11%	3%
	Pay for services (merchant payment)	21%	12%	45%	31%	14%	10%	16%	6%	8%	5%	14%	20%	16%	18%	6%	2%
	Pay in a physical shop or in person (merchant payment)	24%	16%	56%	46%	20%	14%	16%	10%	12%	12%	38%	38%	35%	34%	4%	5%
	Pay online (via a website or app) (merchant payment)	13%	9%	14%	10%	16%	11%	9%	5%	11%	10%	21%	17%	42%	34%	3%	2%
	Pay for bills	14%	8%	53%	40%	22%	19%	35%	19%	22%	13%	21%	21%	35%	38%	25%	27%
	Send money to a different country (international remittance)	5%	5%	4%	3%	12%	3%	14%	6%	14%	9%	11%	6%	6%	3%	5%	11%
	Receive money from a different country (international remittance)	11%	7%	7%	7%	10%	9%	21%	19%	23%	16%	8%	10%	2%	7%	5%	10%
Adjacent services	Get a **loan** (credit)	7%	5%	30%	22%	5%	2%	12%	7%	8%	10%	6%	2%	1%	5%	6%	2%
	Send money to a **saving** account	16%	11%	37%	24%	51%	51%	5%	2%	22%	13%	23%	18%	37%	34%	8%	4%
	Pay for an **insurance** product	12%	5%	12%	8%	7%	4%	4%	2%	8%	7%	5%	2%	4%	6%	4%	0%

M Male F Female

Most reported use case across countries — Least reported use case across countries

Source: 2022 GSMA Consumer Survey

[48] Source: GSMA Consumer Survey 2022. Question: Which, if any, of the following have you ever used mobile money for? Mobile money users were asked how often they use each use case. Base: All those who have a mobile money account or have used shop/agent (OTC) services, n=60–502 for women and 86–568 for men. Sample: nationally representative. Note: Excludes Ethiopia due to low sample size.

Barriers preventing women and men from owning and using a mobile money account

Owning a mobile phone and being aware of mobile money do not necessarily translate into owning an account or using it. The 2022 GSMA Consumer Survey asked mobile owners who were aware of mobile money but did not have a mobile money account whether other specific barriers were preventing them from owning an account (Figure 29). The extent to which particular 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.

Figure 29: Barriers preventing men and women mobile owners from having a mobile money account in 2022, by country[49]. (All mobile owners who are aware of at least one mobile money service but do not have an account)

		Africa				Asia							
		Ethiopia		Nigeria		Bangladesh		India		Indonesia		Pakistan	
		M	F	M	F	M	F	M	F	M	F	M	F
Relevance	Preferance for cash	41%	49%	48%	50%	52%	44%	60%	66%	69%	64%	60%	70%
	Alternatives to tranfer money	28%	36%	43%	52%	23%	14%	47%	40%	43%	38%	31%	18%
	Friend/Family has MM account I can use	3%	8%	11%	8%	30%	28%	24%	28%	10%	14%	24%	26%
	Use OTC	14%	9%	35%	43%	36%	29%	26%	23%	20%	13%	29%	16%
	Lack of money	50%	50%	23%	28%	23%	17%	40%	41%	25%	29%	46%	46%
Knowledge/ skills	Don't know how to use MM	53%	48%	29%	31%	28%	33%	39%	50%	35%	42%	39%	33%
	Difficulties using a handset/might make errors	36%	41%	26%	26%	28%	22%	43%	50%	31%	31%	29%	30%
	Literacy	19%	23%	20%	24%	37%	27%	25%	24%	4%	5%	36%	39%
Affordability	Cost-effectiveness	23%	22%	11%	22%	22%	15%	33%	35%	24%	15%	26%	20%
Access/ enablers	Unreliable work	25%	15%	10%	9%	10%	5%	20%	25%	11%	11%	13%	11%
	Lack of access to agents	33%	26%	5%	6%	7%	9%	22%	26%	19%	18%	14%	11%
	Lack of access to electricity	27%	18%	5%	7%	7%	5%	9%	14%	2%	6%	9%	8%
	Lack of necessary documentation	5%	6%	11%	17%	13%	7%	20%	21%	10%	11%	10%	6%
Safety/ security	Safety and trust	17%	9%	26%	33%	26%	21%	41%	38%	29%	34%	19%	16%
	Don't trust agents	10%	6%	27%	24%	29%	21%	30%	27%	11%	18%	13%	11%
Other	MM agents don't have cash	14%	8%	3%	5%	11%	5%	19%	17%	11%	11%	12%	10%
	Family does not approve	2%	2%	3%	7%	9%	19%	22%	28%	8%	23%	8%	23%
	Other	5%	2%	8%	9%	20%	21%	11%	14%	6%	8%	9%	9%

M Male F Female

Lowest barrier cited across countries — Highest barrier cited across countries

Source: *2022 GSMA Consumer Survey*

Barriers to owning a mobile money account

For both male and female mobile owners who are aware of mobile money, the most important barrier preventing them from owning an account is that they do not perceive mobile money as being relevant to their lives. For example, they may have a preference for cash, a lack of money or access to alternative ways to transfer money. The second greatest barrier is a lack of knowledge and skills, such as not knowing how to use mobile money, difficulties using a handset or low literacy. These were the most-reported barriers by both men and women in six survey countries.[50] In Ethiopia, among mobile owners who are aware of mobile money but do not have an account, more than 40% of men and women prefer cash while 50% of men and women reported they lack the money for mobile money services to be relevant. Furthermore, around 50% of male and female respondents in Ethiopia indicated they did not know how to use mobile money.

Certain barriers are experienced by more female respondents than males in specific countries. Given the higher proportion of women without a mobile money account, overcoming these barriers could have an outsized positive impact. For example, in India, women were more likely than men to report that not knowing how to use mobile money, and difficulties using a handset, are preventing them from owning a mobile money account.

Similarly, concerns about safety and trust were reported more by women than men in Nigeria and Indonesia. In Nigeria, a third of female mobile owners who are aware of mobile money but do not have an account reported safety concerns as a barrier to mobile money account ownership, compared to 26% of men. Among women in South Asia, lack of family approval can be a significant barrier to owning an account. Social norms and underlying structural inequalities tend to prevent many women from accessing and using mobile technology, including mobile money.[51]

Barriers preventing mobile money users from using it more frequently

The barriers preventing mobile money account owners from using their accounts more frequently are similar to those preventing mobile owners who are aware of mobile money from having an account.[52] In Ghana and Senegal, the most important barriers preventing both male and female account owners from using mobile money more often are a lack of perceived relevance and knowledge and skills.

[49] Source: GSMA Consumer Survey 2022. 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 [national] mobile money service but who do not have a mobile money account. n=131–229 for women and 120–257 for men. Note: Ghana, Kenya and Senegal were excluded due to small sample sizes caused by very high levels of account ownership.

[50] Ghana, Kenya and Senegal were excluded due to small sample sizes caused by high levels of mobile money account ownership.

[51] Croxson, H. and Rowntree, O. (2017). Triggering mobile internet use among men and women in South Asia. GSMA.

[52] Mobile money account owners who had not used their account in the last 30 days were asked whether certain barriers were preventing them from doing so.

Conclusion

Many more women own a mobile money account than in 2021 and use it at a similar rate as men on a 30-day basis. However, there is still a mobile money gender gap and it has shown signs of widening over the past year in India, Indonesia, Nigeria and Pakistan. Tackling the persistent gender gap in mobile ownership is essential for women to adopt mobile money in greater numbers. The lack of perceived relevance and digital skills, social norms and other barriers need to be considered to enable women to reap the full benefits of mobile money. This will require a variety of actions, including ensuring enabling policy and regulation are in place and designing mobile money infrastructure and services that consider women's needs, circumstances and challenges.

While some progress has been made, more must be done to close the mobile money gender gap across LMICs. This is particularly important in nascent markets where women's needs should be considered at inception in the design and roll-out of mobile money services. Concerted action is required from policymakers, the private sector, development community and other stakeholders, to learn from success stories, tackle the issues and ensure that existing gender inequalities are not further entrenched. Given the ongoing economic crisis, this is more important than ever.

A foundation for lasting socio-economic impact

Mobile money has benefited the lives of many underserved people and is key to advancing financial inclusion. Users have felt its impact in several ways. Based on the GSMA Consumer Survey 2022, users across nine countries explained how mobile money helps them with their everyday needs (Figure 30). Adult users broadly found that mobile money had a positive impact on their economic status. Findings from the survey show that:

Figure 30: Percentage of mobile money users in nine survey countries who agreed that mobile money helps them with the following life need.[53]

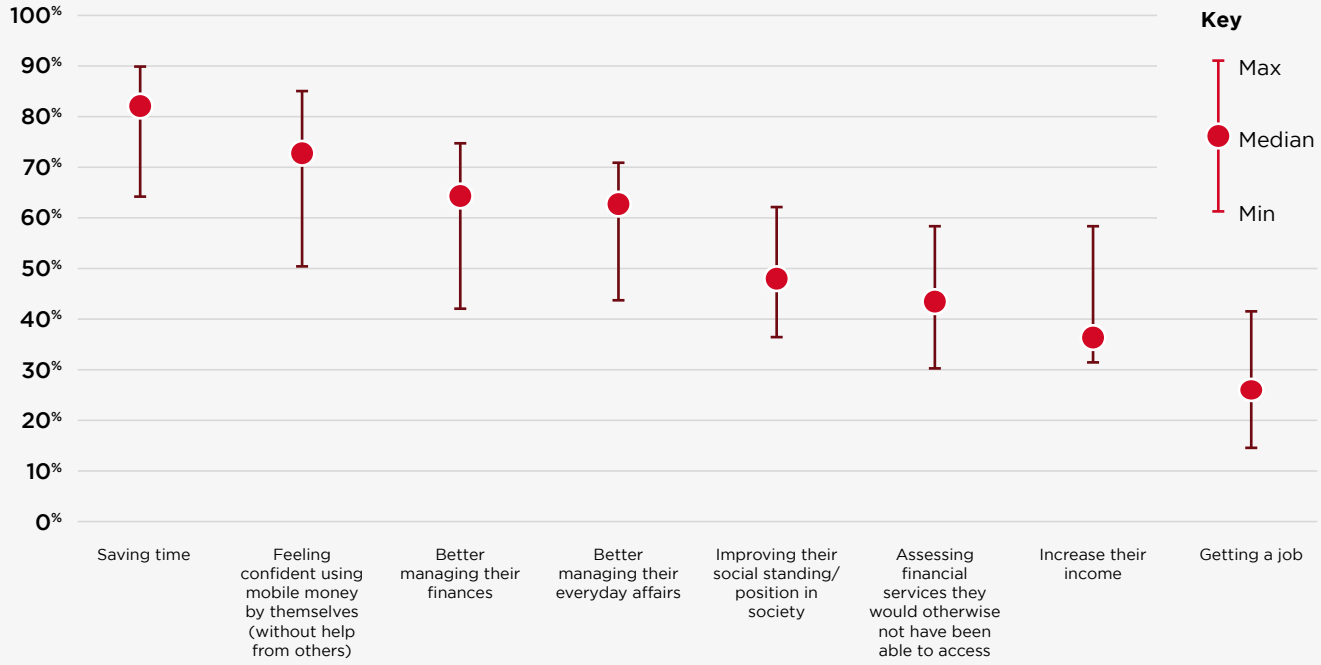
66% - 90% of adult users agreed that mobile money helps them save time

43% - 74% agreed that mobile money helps them better manage their finances

44% - 71% agreed that mobile money helps them manage their everyday affairs

30% - 58% agreed mobile money helps them access financial services they would otherwise not have been able to access

32% - 58% agreed that mobile money helps to increase their income



Source: GSMA Consumer Survey 2022

[53] Source: GSMA Consumer Survey 2022. Question: Thinking now about mobile money and your everyday life, please tell me how much you agree or disagree with each of the following statements. Mobile money users were asked whether they strongly agree, somewhat agree, neither agree nor disagree, somewhat disagree or strongly disagree with a series of statements. Base: All adults who have a mobile money account or have used shop/agent services. n=79–931. Note: Percentages reflect those that strongly agree or somewhat agree that mobile money helps them with each life need. Survey countries included Bangladesh, Ethiopia, Ghana, India, Indonesia, Kenya, Nigeria, Pakistan and Senegal.

Mobile money enables many other services that help people with their day-to-day needs, and in coping with financial shocks. Millions have become economically empowered, more resilient to the impacts of climate change and gained access to essential utilities and clean energy. Mobile money has improved smallholder farmers' livelihoods, while large and dispersed populations have received rapid financial relief during crises. These use cases present opportunities for MMPs to diversify and build commercially sustainable and socially impactful business models.

Digitalising agricultural value chains in Tanzania

Smallholder farmers largely operate in the informal economy. Most cannot access formal financial services and face significant challenges accessing information, markets and assets, such as mechanisation and automation equipment. Digitalising agricultural value chains offers several benefits to smallholder farmers, from better access to financial services, agronomic advisory, buyers, input suppliers and transport.

The GSMA supported Vodacom Tanzania to improve and scale its M-Kulima service

In 2020, Vodacom Tanzania was awarded a grant under the GSMA AgriTech Innovation Fund[54] to digitise cotton, dairy and maize value chains in Tanzania. By digitalising crop procurement records, farmers can transition from cash to digital payments and develop a digital footprint that can start them on the path to financial inclusion. Vodacom's interest in agriculture is aligned with its objective to support Tanzania's Vision 2025 development programme.[55]

Agriculture is an important contributor to Tanzania's economy (Figure 31). The sector offers MMPs an opportunity to diversify their revenue beyond core offerings and serve an underserved population segment. For Vodacom, targeting the agriculture sector could increase their market share and mobile money revenues. For farmers, financial inclusion, income and climate resilience are likely to be improved through the simultaneous use of digital technologies.

Figure 31: Agriculture in Tanzania

Source: GSMA

[54] The GSMA AgriTech Programme, funded by the UK Foreign, Commonwealth & Development Office (FCDO)m and the Australian Department of Foreign Affairs and Trade, concluded an Innovation Fund to support the digitisation of agricultural value chains, enhance financial inclusion and strengthen the climate resilience of smallholder farmers.

[55] Planning Commission of the United Republic of Tanzania. (n.d.). The Tanzania Development Vision 2025.

The GSMA supported Vodacom to develop the M-Kulima app, which captures farm and farmer data at registration, such as fingerprints, photos and farm location. Over two years, the GSMA provided Vodacom with technical assistance on user-centric design and solution development. This was based on user experience (UX) insights and the analysis of business intelligence and monitoring, evaluation and learning (MEL) data.[56]

M-Kulima allows crop buyers (agribusinesses and agricultural marketing cooperative societies[57]) to deliver agronomic advisory to farmers and use Vodacom's mobile money platform, M-PESA, to digitalise crop payments. Through partnerships, M-Kulima provides adjacent products and services for farmers, such as overdraft (via FINCA International), digital advisory (via Pula Advisors), weather index insurance (via ACRE Africa) and access to markets, equipment and inputs. Through this service, the Ministry of Agriculture has used a digital farmer profiling system to distribute fertiliser subsidies.

Impact of M-Kulima on farmers' financial inclusion

For many farmers in Tanzania, M-Kulima has played an important role in their first steps towards financial inclusion. The service has digitalised more than 600,000 farmer profiles, processed over 10,000 mobile money payments and generated at least 10,000 digital procurement transactions. The platform has enabled around 17,500 overdraft-based loans and 290 insurance pay-outs.

Vodacom's initial plan was to partner with a financial service provider (FSP) to provide tailored input loans based on digital footprints captured by M-Kulima. However, when FSPs were reluctant to lend to farmers, Vodacom repurposed its mass market overdraft service, M-PESA Songesha, integrating it in the M-Kulima USSD platform. This made the service more accessible to farmers.

Outlook

The digital footprints generated by M-Kulima, digital crop procurement and mobile money payments have the potential to enable access to credit for farmers. Vodacom is piloting a new digital agriculture loan with FINCA that will use M-Kulima farmer data for their credit scoring model. Vodacom plans to digitise more value via M-Kulima, introduce device financing to increase rural smartphone penetration, customise the app to cater to livestock and horticulture, and continue to develop the platform's software-as-a-service (SaaS) model.

Digitalising agricultural value chains in Tanzania

As of 2022, around 103 million people worldwide were estimated to be forcibly displaced – a third as refugees.[58] For refugees, affordable access to relevant financial services in host countries can provide protection and long-term positive outcomes.[59] Research by the GSMA shows there are high levels of mobile phone access and ownership among refugees across many settings.[60] This presents an opportunity[61] for mobile money to improve financial inclusion. However, for users who are forcibly displaced, mobile money may not necessarily lead to financial inclusion unless several enablers are in place.

[56] GSMA. (2022).
[57] AMCOS (Agricultural Marketing Cooperative Society) is a small local cooperative society that enables the local purchase of agricultural input supplies and helps farmers market their crops. See: https://iringahope.org/how-iringa-hope-works/amcos/
[58] UNHCR Refugee Data Finder, accessed 1 November 2022.
[59] AFI. (2018). Advancing the Financial Inclusion of Refugees through an Inclusive Market System Approach.
[60] GSMA and UNHCR. (2022). The Digital Worlds of Displacement Affected Communities; Caswell, P. and Downer, M. (2022). Digital Access and Barriers in Displacement-affected Communities in White Nile, Sudan. GSMA and Norwegian Refugee Council.
[61] Excluding European nations, where mobile money is not prevalent, mobile money is available in nine of the 10 countries hosting the most refugees.

Regulation

Several policy levers impact the financial inclusion of refugees, including regulatory barriers that other groups do not face, such as direct legal access to services. In 2019, only six of the 18 refugee host countries assessed by the United Nations High Commissioner for Refugees (UNHCR) ensured access to mobile wallets for refugees in their name without restrictions or with restrictions that were easy to overcome.[62] Regulation can also affect access to agent networks and financial health if policies restrict refugees from working or the type of employment they can pursue.[63] Where barriers exist, stakeholders should advocate for more enabling frameworks and regulations, such as tiered KYC specifically for refugees.[64, 65]

Agent and mobile networks

Connectivity and agent networks are essential for mobile money services to enable meaningful financial inclusion. However, one or both components are often less accessible to refugees than host communities, particularly for people living in camps and camp-like settings. Humanitarian actors can work with MNOs and MMPs to expand their networks. This can be achieved by de-risking or sharing infrastructure construction costs, or designing livelihood programmes that encourage refugees to work as mobile money agents. Regulatory regimes that are flexible about agent identities are more likely to allow refugees to provide mobile money agent services.

Digital and financial literacy

Effective and safe use of mobile money requires a range of skills and knowledge. Without these, access to mobile and the use of mobile money can lead to users falling victim to misinformation and scams. This is a major challenge for some refugee groups. A GSMA study found that 37% of Syrian refugees in northern Lebanon had experienced scams related to cash assistance or personal finance.[66] Stakeholders should actively include refugees in digital skills initiatives and target needs-based educational campaigns at these groups.

Relevance and trust

Refugees and other forcibly displaced persons typically have different financial needs. For example, some West Papuan refugees in Papua New Guinea primarily need to receive emergency cash,[67] while some Congolese refugees in Rwanda use mobile money to run successful businesses.[68] By considering refugees as a customer segment, organisations can design products and services that meet their daily needs. People are more likely to use mobile money services that they trust and find relevant to their lives.

Financial health

For financial inclusion to have an impact, refugees need to have access to funds and be in relatively good financial health. Mobile money offers an easy way to receive cash, both from humanitarian organisations and through remittances, and as a payment channel for work or to run a business. This can improve refugees' financial health, although humanitarian cash assistance alone may not necessarily improve financial inclusion and financial health in the long run.

[62] UNHCR. (2019). Displaced and Disconnected.
[63] AFI. (2022). Towards Inclusive Financial Services, Financial Capability and Financial Health for All: A Policy Framework for the Financial Inclusion of Forcibly Displaced Persons.
[64] Kipkemboi Sawe, K. (2019). Overcoming the Know-Your-Customer Hurdle: Innovative Solutions for the Mobile Money Sector. GSMA.
[65] Okong'o, K. (2020). Proportionate Regulation in Uganda: A Gateway for Refugees Accessing Mobile Services in their own Name. GSMA.
[66] GSMA and UNHCR. (2022). The Digital Worlds of Displacement Affected Communities.
[67] Ibid.
[68] Casswell, J. (2019). The Digital Lives of Refugees. GSMA.

Accessing utilities and clean energy: from PAYG solar to PAYG everything

MMPs and pay-as-you-go (PAYG) solar providers have been collaborating since these services first came to market. MNOs and MMPs offer the basic requirements for PAYG through mobile money and connectivity while PAYG can boost operator revenues through increased mobile money transactions.

It began with solar

Over the past decade, PAYG solar has emerged as a dominant use case. From a few start-ups, PAYG solar has grown into a global industry that serves millions of customers and attracts billions in commercial investment. Between 2010 and 2021, approximately 270 million solar energy kits were sold, providing more than 490 million people with energy services. The total off-grid energy market is currently valued at $2.8 billion annually,[69] with PAYG a leading catalyst for inward investment.

Despite this progress, more than 730 million people globally were still living without any energy access in 2020. Nearly 300 million were in markets with little commercial off-grid solar activity. Countries such as the DRC, Ethiopia and Nigeria do not have mature mobile money ecosystems, a prerequisite for PAYG solar to grow. However, recent regulatory changes in Ethiopia and Nigeria, and rising uptake in the DRC, could see this trend shift in the future. Off-grid energy is likely to be the cheapest electrification option for 41% of new connections between 2020 and 2030.[70]

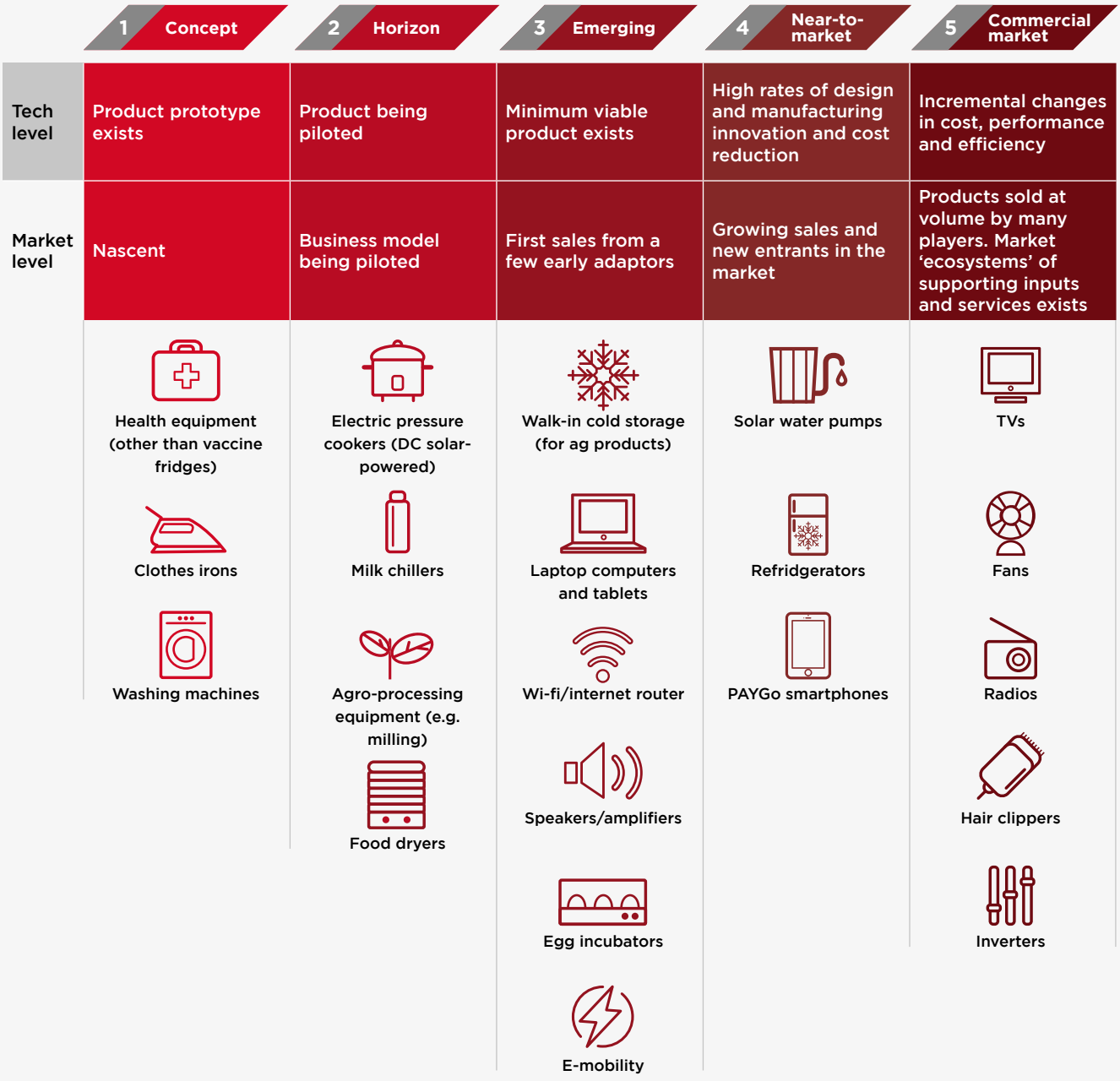
PAYG everything?

The business model for PAYG solar can be repurposed for a range of use cases. By providing solar home systems (SHS) through PAYG, many companies have developed expertise in asset financing for low-income consumers. Previously unbanked users have been able to build a credit history. This combination of factors allows companies to offer a wide range of products and financial services. Many early PAYG solar companies are now repositioning themselves as asset financing platforms. Appliance distributors and agritechs are also using PAYG to provide their products to low-income customers.

Several consumer products are now offered on a PAYG basis. These include smartphones, clean cooking appliances, refrigeration, electric vehicles and productive appliances (Figure 32). These products represent a huge commercial opportunity: the addressable market for off-grid fans, televisions and refrigerators alone is estimated to be worth more than $25 billion by 2030.[71]

[69] World Bank. (2022). Off-Grid Solar Market Trends Report 2022: State of the Sector.
[70] Ibid.
[71] Efficiency for Access. (2019). 2019 State of the Off-Grid Appliance Market Report.

Figure 32: Technology and market maturity of off-grid solar appliance technologies



Source: Source: World Bank[72]

[72] World Bank. (2022). Off-Grid Solar Market Trends Report 2022: State of the Sector.

What the PAYG opportunity means for MMPs

MMPs stand to benefit by collaborating with PAYG providers. The PAYG sector is still growing in many markets, presenting a significant opportunity for both industries to work together. In five African markets, the GSMA found that MMPs' average revenue per user (ARPU) increased 9% after adopting a PAYG SHS.[73] Several mobile money services and PAYG providers already have fruitful partnerships in certain markets,[74] which can be strengthened by launching new PAYG products and services.[75]

Some MMPs also see the potential of becoming PAYG providers themselves. For instance, Orange and Safaricom now sell smartphones on a PAYG basis.[76,77] There is strategic value in other products too: Safaricom acquired PAYG clean cooking provider KopaGas[78] - a GSMA Innovation Fund alumnus.

Empowering women to manage the impacts of climate change

Women in LMICs are disproportionately impacted by climate change. For women to manage these impacts, access to finance is crucial. However, women make up 55% of the world's unbanked population[79] and are particularly disadvantaged when it comes to accessing financing for climate change. In climate-dependent sectors such as agriculture, women make up 43% of the labour force,[80] but face barriers to accessing climate-risk financial services. This limits their ability to purchase agricultural inputs, fertilisers and production-enhancing equipment.

Mobile can enable climate finance for women

Climate finance is a broad term used to describe local, national or transnational capital flows directed towards climate change mitigation and adaptation strategies. Mobile technology can play a key role in ensuring that climate finance reaches those who need it most, particularly women. Mobile money can be used to deliver climate finance, such as loans or insurance, to communities impacted by climate change.[81]

[73] GSMA. (2020). The Value of Pay-as-you-go Solar for Mobile Operators.
[74] The Digital Utilities Partnerships Hub website.
[75] Delaporte, A. (2022). Making internet-enabled phones more affordable in low- and middle-income countries. GSMA.
[76] Gilbert, P. (29 September 2020). "Orange, Google launch $30 smartphone for Africa". Connecting Africa.
[77] Safaricom. (15 December 2021). "Safaricom expands lipa mdogo mdogo product range". Press release.
[78] Sarin, R. (29 January 2020). "Circle Gas has acquired clean cooking PAYG technology and are launching it in Kenya". Mobile for Development Blog. GSMA.
[79] Thompson, J. (22 January 2021). "Tech can reach the world's unbanked women – but only if they tell us how it should work". The Davos Agenda.
[80] FAO. (2022). Women in Agriculture.
[81] [Link to ClimateTech report – publication date March '23]

BOX 7: Case study: Pula Advisors

Pula, an insurtech, offers agricultural index insurance to smallholder farmers in Africa and Asia. Farmers receive a pay-out when most farmers in their agro-ecological zone experience insufficient or excessive rainfall, hail or a pest infestation. When vegetation levels drop below a pre-determined level, pastoralists receive a pay-out to buy fodder for their animals to remain productive. Farmers in Kenya and Zambia receive pay-outs through mobile money, making insurance accessible for women farmers who lack access to alternative sources of finance.

While Pula's insurance products have seen growing uptake among women farmers in Sub-Saharan Africa,[82] more can be done to overcome the barriers women face. For instance, lack of capital and decision-making power and lower social mobility were identified as the main hurdles to accessing insurance in Kenya, Nigeria and Zambia.[83] This has prompted Pula to launch women-specific insurance products, distribution channels and training courses.

More needs to be done to understand the barriers women face

Despite the potential of mobile money to improve women's access to climate financing, more needs to be done to improve insurance uptake. Women in LMICs are 7% less likely than men to own a mobile phone[84] and 28% less likely than men to own a mobile money account.[85] This can be attributed to factors such as affordability, lack of perceived relevance and low knowledge and skills, among others. To tackle these barriers, further efforts should focus on running women-focused pilots, incentivising targeted product development, and developing an enabling climate financing ecosystem for women.

[82] Raithatha, R. (8 July 2022). "Empowering women one credit at a time with the W+ Standard". Medium.
[83] African Development Bank. (2022). Empowering women smallholder farmers through digital microinsurance.
[84] GSMA. (2022). The Mobile Gender Gap Report 2022.
[85] Awanis, A. and Shanahan, M. (7 November 2022). "Findings from Findex: Mobile money is driving financial inclusion for women, but more work needs to be done". Mobile for Development Blog. GSMA.

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 2022 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 2022 GSMA Consumer Survey of nine 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 Tracker[1]

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 2022 survey. Respondents supplied standardised operational metrics about their services for the months of September 2021, December 2021, March 2022 and June 2022, on a confidential basis. A total of 77 service providers from 52 countries participated in the 2022 survey. The full list of survey participants is included in the Appendices below.

[1] 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 their 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 the five main steps below:

1

Consolidation of industry data

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

2

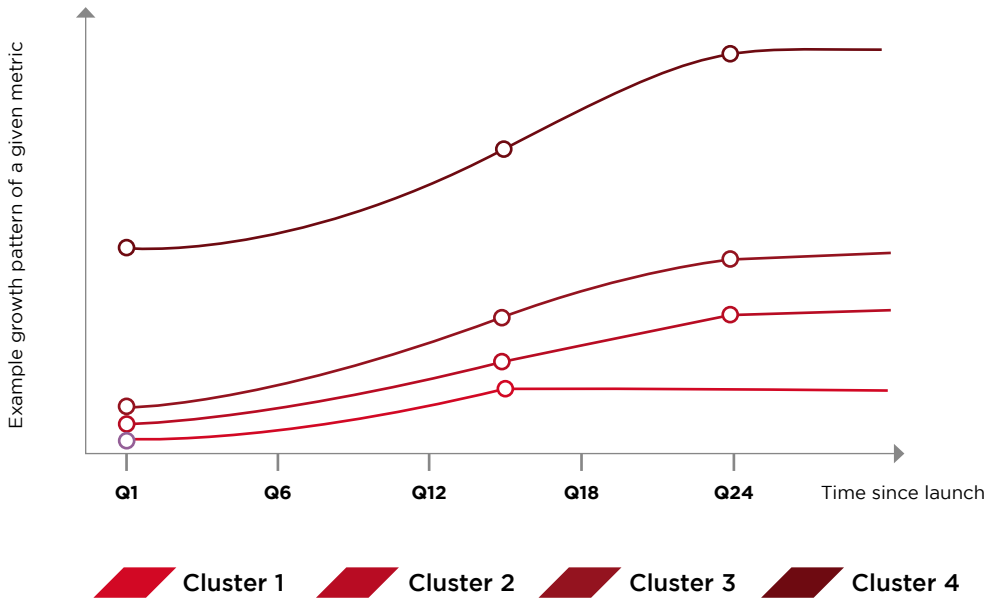
Country clustering

Countries were clustered based on the fundamental conditions of mobile and banking adoption in each country, as well as criteria for mobile money success identified through a joint study with Harvard Business School. 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.

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

3 Formulation of guiding principles

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



4 Modelling

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

5 Validation

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

GSMA Mobile Money Prevalence Index methodology[3]

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 component.

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

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.[4] 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 as having an APR of 1.

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.

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

[4] At the time of writing this applies to all mobile money markets globally.

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.

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

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.

$$ADI = \frac{LN\ (Active\ agents\ per\ 100{,}000\ adults)}{LN\ (3000)}$$

The MMPI uses the natural logarithms in order 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 each country have significant shares of registered accounts being 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.

Regarding the Agent Distribution Index [ADI], natural logarithms have been introduced to account for the inherit 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 because of having a higher number of 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 each market.

GSMA Consumer Survey methodology

Consumer insights presented in this report are based on a nationally representative survey conducted in nine LMICs (Bangladesh, Ethiopia, Ghana, India, Indonesia, Kenya, Nigeria, Pakistan and Senegal) that were part of the broader Consumer Survey conducted annually by the GSMA. Fieldwork was conducted between Q3 and Q4 2022. This research aimed to unpack consumer use of mobile money and mobile money-enabled services.

In all countries (except for Ethiopia[5]), 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 was 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.

[5] In Ethiopia no interviewing was conducted in the Tigray region in the north of the country because of security concerns and local conflict. For similar reasons, the following zones were also excluded from the sampling frame in Ethiopia: Metekel-Zone (Benishangul Gumz), Zone 2 Zone (Afar), West Wellega-Zone (Oromia), Guji-Zone (Oromia), Kelem Wellega Zone (Oromia) and Horo Gudru Wellega-Zone (Oromia). Tigray and the above zones account for circa 12% of the population in Ethiopia.

Gender gap calculation methodology

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:

Gender gap in ownership/ use/awareness (%) = (Male owners/users/aware (% of male population) − Female owners/users/aware (% of female population)) / Male owners/users/aware (% of male population)

Glossary

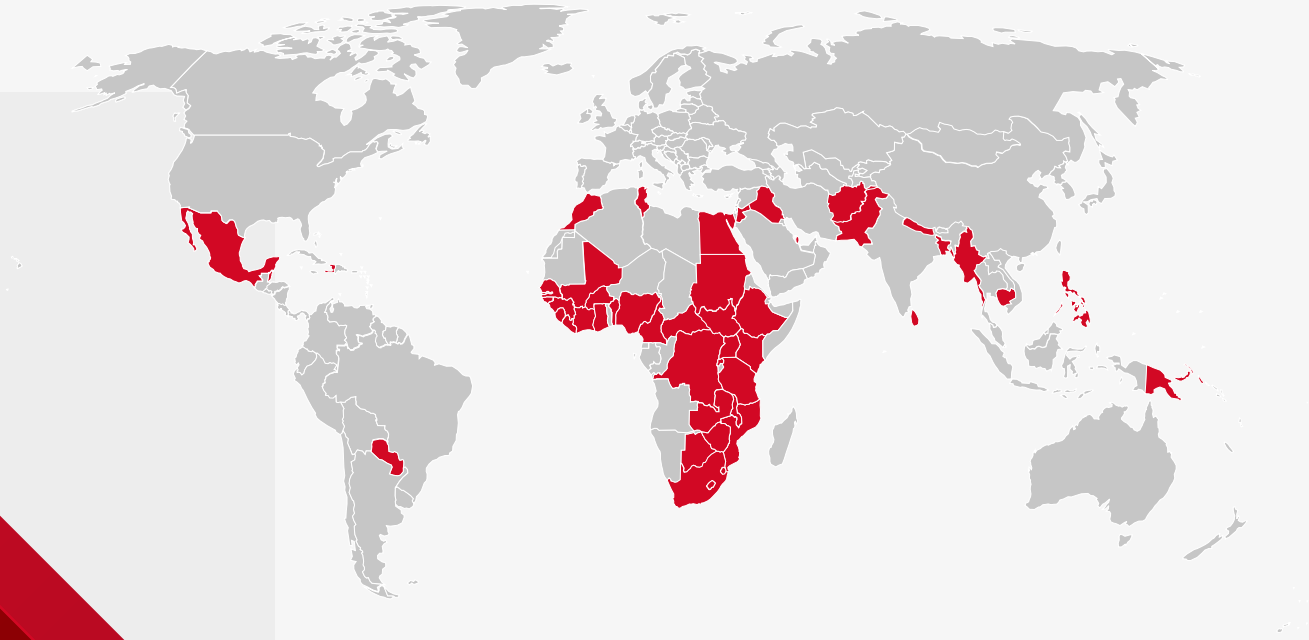
Agent outlet	In the case of mobile money, an agent outlet is a location where one or several provider-issued tills are used to conduct transactions for clients. The most important of these are cash-in and cash-out (i.e. loading value into the mobile money system, and then converting it back out again); in many instances, agents register new customers, too.
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.
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 organisations to beneficiaries.	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
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.
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 which offer collateralised lease-to-own assets, such as solar home systems, are not included. • The credit service should be technically integrated with the mobile money account and rely heavily on mobile technology throughout the customer journey. • Services where the mobile phone is used as just another channel to access a traditional credit product are not included. • The service must be available for customers on any type of mobile device (including smartphone apps).

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.
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.
Government-to-person (G2P) payment	A payment by a government to a person's mobile money account.
International remittance enabled by mobile money	Cross-border fund transfer from one person to another person. This transaction can be a direct mobile money remittance, or can be completed using an intermediary organisation, such as Western Union.
Interoperability	The ability for customers to undertake money transfers between two accounts at different mobile money schemes or to transfer money between accounts at mobile money schemes and accounts at banks.
Insurance enabled by mobile money	Insurance enabled by mobile money uses the mobile phone to provide micro-insurance services. GSMA Mobile Money tracks insurance products enabled by mobile money which meet the following criteria: • 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).

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 mobile financial services.
Mobile money	A service is considered a mobile money service if it meets the following criteria: • A mobile money service includes transferring money and making and receiving payments using the mobile phone. • The service must be available to the unbanked, for example, people who do not have access to a formal account at a financial institution. • The service must offer a network of physical transactional points which can include agents, outside of bank branches and ATMs, that make the service widely accessible to everyone. The agent network must be larger than the service's formal outlets. • Mobile banking or payment services (such as Apple Pay and Google Pay) that offer the mobile phone as just another channel to access a traditional banking product are not included. • Payment services linked to a traditional banking product or credit card, such as Apple Pay Google Pay and Samsung Pay, are not included.
Mobile money account (registered/active)	An e-money account which is primarily accessed using a mobile phone and which is held with the e-money issuer. In some jurisdictions, e-money accounts may resemble conventional bank accounts, but are treated differently under the regulatory framework because they are used for different purposes (for example, as a surrogate for cash or a stored value used to facilitate transactional services). An active mobile money account is a mobile money account which has been used to conduct at least one transaction during a certain period (usually 90 days or 30 days).
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.
Off-net transfer	Transfers which are initiated by registered mobile money users to unregistered users are typically referred to as off-net (off-network) transfers. Some deployments may refer to an off-net transfer as a voucher, coupon or token. In this case, the e-money must be cashed out at an agent of the sender's agent network. Transfers between two accounts of different, but interconnected, mobile money schemes are also sometimes referred to as "off-net transfers".
Over-the-counter (OTC) services	Some mobile money services are being offered primarily over the counter (OTC). In such cases, a mobile money agent performs the transactions on behalf of the customer, who does not need to have a mobile money account to use the service.
Pay as you go (PAYG)	Pay-as-you-go systems refer to services which 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 which is used to accept the payment, for example, a card reader.
Regulator	In the context of mobile money, this typically refers to the regulator which has supervisory authority over financial institutions within a particular country, usually the central bank or other financial authority.

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 are: - Mobile investment uses the mobile phone to provide investment facilities (e.g. in government bonds). - Mobile pension uses the mobile phone to provide pension savings facilities. • The customer should be able to store value electronically in the savings account and be able to transfer funds to/from a mobile money account. • The savings or investment product should be integrated technically with the mobile money account and rely heavily on mobile technology throughout the customer journey. • Services where the mobile phone is just another channel to access a traditional savings accounts are not included. • The service must be available for customers on any type of mobile device (including smartphones).
Technology service provider (TSP)	An organisation that provides its customers with technology-based solutions. In the context of mobile money, a TSP is a financial technology (fintech) company which develops, provides and supports the technology systems that are used to deliver mobile money services.
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.

2023 GSMA Global Adoption Survey Participants



Mobile Money Survey Participants 2022

East Asia and Pacific	
Cambodia	AMK MFI, Wing
Myanmar	Wave Money
Papua New Guinea	Nationwide Microbank
Philippines	PayMaya

Latin America and the Caribbean	
Barbados	Zeemoney
Belize	E-Kyash
Haiti	Digicel, Haitipay
Mexico	Transfer
Paraguay	Claro, Personal

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

South Asia	
Afghanistan	mHawala, MTN MoMo
Bangladesh	Grameenphone
Maldives	DhiraaguPay, Ooredoo
Maldives	Ooredoo
Nepal	eSewa
Pakistan	Jazz, Telenor
Sri Lanka	Mobitel

Sub-Saharan Africa	
Benin	MTN
Botswana	Orange
Burkina Faso	Orange, Wizall
Cameroon	MTN, Orange
Central African Republic	Orange
Congo, Democratic Republic of Congo	Africell, Orange, Vodacom
Côte d'Ivoire	MTN, Orange, Wizall
Ethiopia	Ethio Telecom
Gambia	Afrimoney Gambia
Ghana	MTN, Vodafone, Zeepay
Guinea	MTN, Orange
Guinea-Bissau	MTN, Orange
Kenya	Safaricom Ltd
Lesotho	Vodacom
Liberia	Orange
Madagascar	Mvola, Orange
Malawi	TNM Mpamba
Mali	Orange, Wizall
Mozambique	Vodafone
Nigeria	Fortis Mobile Money, MTN MoMo, NowNow
Rwanda	MTN Rwandacell
Senegal	Orange, Wizall
Sierra Leone	Afrimoney, Orange
South Africa	MTN
South Sudan	mGURUSH
Sudan	MTN
Swaziland	MTN
Tanzania	Tigo, Vodacom
Uganda	MTN
Zambia	MTN, Zeepay
Zimbabwe	Ecocash

"Mobile money has experienced tremendous growth over the past two decades, cementing itself as a mainstream financial service. As it continues to grow, demonstrating incredible resilience over the pandemic and beyond, the industry is diversifying rapidly.

It is entering new markets and forging new industry partnerships and offering a range of innovative products and services that are helping millions of people pay their bills, send money abroad, increase their income, manage their savings and access social support.

But there's still work to be done, some 1.4 billion people remain unbanked and disconnected from formal financial services, saying nothing of the 800 million mobile money account users that are not active on a regular basis.

We need to ensure that services remain accessible, affordable and safe for all users to help drive financial inclusion, build economies, and even help to close the gender gap.

By helping to power digital finance for all, mobile money continues to transform our world and our future."

Ashley Olson Onyango
Head of Financial Inclusion and Agritech

GSMA

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

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