Harnessing the Power of Mobile Money to Achieve the Sustainable Development Goals



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GSMA Mobile Money

The GSMA represents the interests of mobile operators worldwide, uniting more than 750 operators with over 350 companies in the broader mobile ecosystem, including handset and device makers, software companies, equipment providers and internet companies, as well as organisations in adjacent industry sectors. The GSMA also produces the industry-leading MWC events held annually in Barcelona, Los Angeles and Shanghai, as well as the Mobile 360 Series of regional conferences.

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Introduction

Over the last decade, mobile money has been disrupting traditional financial services and transforming the lives of hundreds of millions of people across developing countries. Today, with over $1.3 billion a day processed by over 866 million registered accounts in 90 countries, mobile money has evolved into a broader payments platform that provides access to life-enhancing services, such as healthcare, education, employment, transportation and social protection.[1]

At a macro level, mobile money fuels economic growth by facilitating savings and investments, creates employment, drives business productivity and entrepreneurship, helps formalise the economy and provides stability during economic downturns. Mobile money is a key driver of socio-economic growth and is becoming a gateway to the digital economy. As national economies become increasingly dependent on digital technology, the power of mobile money to harness digital finance for sustainable development is strengthening.

This report brings together existing evidence to explore the ways in which mobile money is contributing to the digitalisation of finance to achieve the Sustainable Development Goals (SDGs). The insights presented here illustrate the potential of mobile money to help achieve the 2030 targets by driving sustainable and inclusive growth, and providing solutions to some of the world's most intractable development challenges.

1. GSMA. (2019). State of the Industry Report on Mobile Money.

The mobile industry and the Sustainable Development Goals

In 2016, mobile became the first industry to commit to the SDGs. The mobile industry connects more than five billion individuals around the globe, providing access to essential communications and life-enhancing services. This unrivalled reach and impact of mobile is transforming business models across industries and societies.

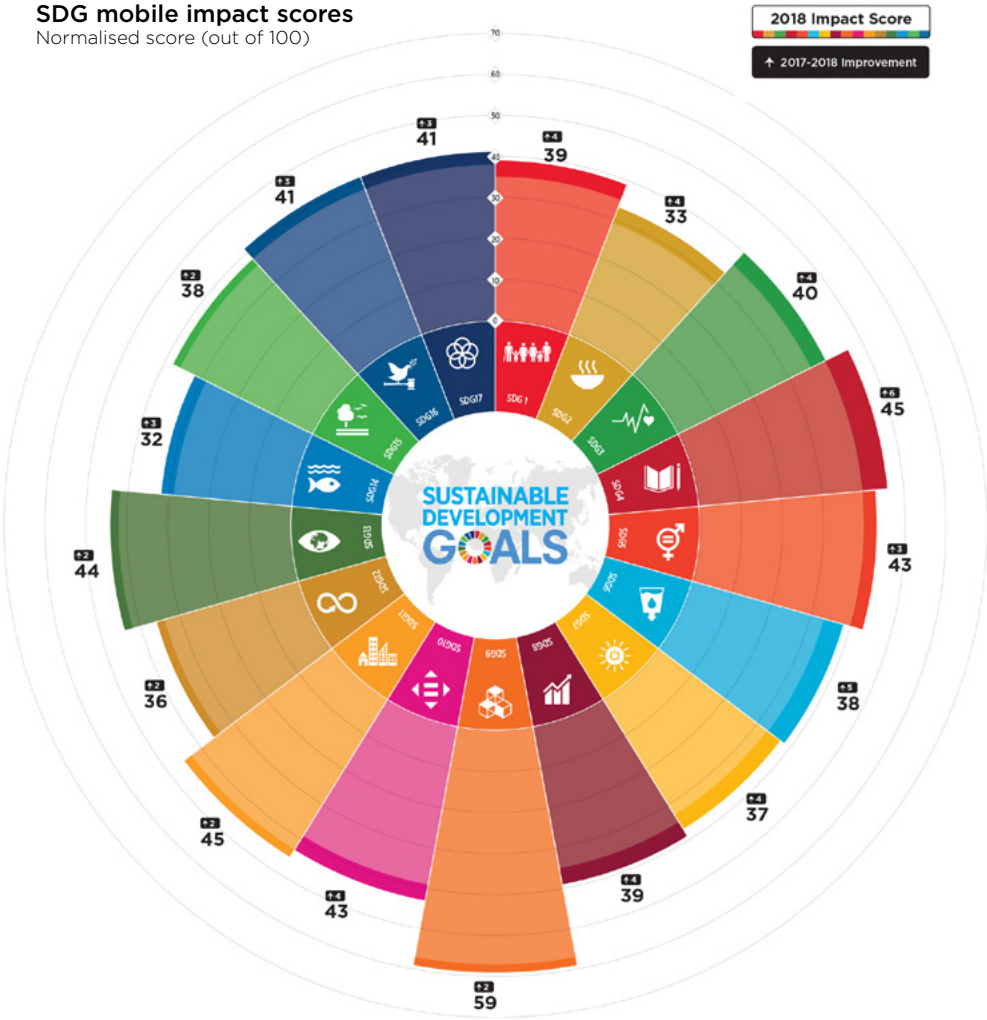
The GSMA has developed a methodology to measure the contribution of the mobile industry across all 17 SDGs. For each goal, an "impact score" is calculated out of 100. A score of 0 means the industry is having no impact at all, while a score of 100 indicates that the industry is doing everything possible to contribute to that SDG. In 2018, the industry's impact increased across all 17 SDGs. Figure 1 shows the 2019 impact scores for each SDG.[2]

2. GSMA. (2019). 2019 Mobile Industry Impact Report: Sustainable Development Goals.

Figure 1

SDG mobile impact scores

Normalised score (out of 100)





Mobile money has been central to the industry's contribution to many of the SDGs. The Global Goals provide a unified and integrated framework to understand how mobile money is contributing to sustainable development. The next section takes a close look at the drivers behind the impact for each of the SDGs.



Note: This report does not cover SDG 14 and 15.

The impact of mobile money on the Sustainable Development Goals





SDG 1 focuses on eradicating poverty, providing equal access to economic resources and building the resilience of the poor.

Mobile money contributes to SDG 1 by helping households lift themselves out of poverty and become more resilient to financial shocks.



Helping households lift themselves out of poverty:

Mobile money providers have facilitated access to mobile money for previously unbanked and underbanked people. Globally, half of unbanked adults come from the poorest 40 percent of households within their economy, making it nearly impossible for them to accumulate savings or establish a financial history to access other financial services.[3] Mobile money can provide economically disadvantaged groups with the financial services they need to break out of a perpetual cycle of poverty, increase household consumption and improve the welfare of their families.

In Kenya, access to mobile money has been found to increase the per capita consumption levels of 194,000 households.[4] In rural Uganda, evidence shows that mobile money can improve the welfare of rural households by smoothing consumption and curbing poverty.[5] Mobile money services can also enhance the welfare of smallholder farm households, which constitute the majority of the rural poor.[6] A study in Uganda found that opportunities to make payments and save via mobile money significantly benefit small businesses in the handicrafts, trade and transport sectors, which were the largest sources of off-farm income for rural households in the sample.[7]

Building resilient households:

Mobile money increases the ability of households to save and withstand unexpected life events that affect income or assets, such as job loss, health problems or environmental and economic shocks. In Burkina Faso, mobile money users were found to be three times more likely than non-users to save for unpredictable events and emergencies.[8] Mobile money also helps individuals receive money from relatives and friends during times of crisis, reducing the likelihood of falling into poverty. By sharing and spreading out financial risk with smaller and more frequent transfers, mobile money gives users more flexibility to manage financial shocks.[9] Cost savings from mobile money-enabled remittances can also substantially increase the

3. Demirgüç-Kunt, A., Klapper, L., Singer, D., Ansar, S. and Hess, J. (2018). The Global Findex Database 2017. World Bank.
4. Suri, T. and Jack, W. (2016). The long-run poverty and gender impacts of mobile money. Science.
5. Munyegera, G. and Matsumoto, T. (2014). Mobile Money, Remittances, and Rural Household Welfare: Panel Evidence from Uganda. World Development.
6. Kikulwe E.M., Fischer, E. and Qaim, M. (2014). Mobile Money, Smallholder Farmers, and Household Welfare in Kenya. PLoS ONE.
7. Sekabira, H. and Qaim, M. (2017). Mobile money, agricultural marketing, and off-farm income in Uganda.
8. Ky, S., Rugemintwari, C. and Sauviat, A. (2018). Does Mobile Money Affect Saving Behaviour? Evidence from a Developing Economy. Journal of African Economies.
9. Aron, J. and Muellbauer, J. (2019). The Economics of Mobile Money: Harnessing the Transformative Power of Technology to Benefit the Global Poor. Oxford Martin School.

income of recipient families compared to other formal channels, which also helps them become more resilient.

In Kenya, households that did not use mobile money were found to experience a seven per cent drop in the use of goods and services following a negative income shock, while those that used mobile money did not experience a significant drop on average.[10] In Uganda, research has shown that per capita consumption of rural households increased by 72 per cent after the adoption of mobile money because they were able to receive money transfers in higher amounts and more often than rural households that did not adopt mobile money.[11] In Tanzania, it was found that mobile money users could fully mitigate the negative effect of a rainfall shock on their consumption.[12]

Ensuring government transfers reach those who need them most:

Over 100 million adults globally still receive government transfers, wages or pensions in cash.[13] Delivering safety net programmes through mobile money can save recipients both time and expenses. In Niger, delivering a cash transfer programme via mobile money increased household diet diversity between nine and 16 per cent and resulted in children eating an additional third of a meal per day. Spending less time travelling and waiting for their transfer also saved recipients over 20 hours, which is especially valuable during the planting season.[14]

10. Suri, T. and Jack, W. (2015). The Effects of Mobile Money on Household Financial Resilience in Kenya. Innovations for Poverty Action.
11. Munyegera, G. and Matsumoto, T. (2014). Mobile Money, Remittances and Rural Household Welfare: Panel Evidence from Uganda. World Development.
12. Riley, E. (2018). Mobile money and risk sharing against village shocks. Journal of Development Economics.
13. Demirgüç-Kunt, A., Klapper, L., Singer, D., Ansar, S. and Hess, J. (2018). The Global Findex Database 2017. World Bank.
14. Aker, J.C., Boumnijel, R., McClelland, A. and Tierney, N. (2016). Payment Mechanisms and Anti-Poverty Programs: Evidence from a Mobile Money Cash Transfer Experiment in Niger. Economic Development and Cultural Change.





SDG 2 focuses on ending hunger, achieving food security, improving nutrition and promoting sustainable agriculture.

Mobile money contributes to SDG 2 by making agricultural value chains more efficient, helping agricultural producers access financial services and increasing food security.



Improving the efficiency of agricultural value chains:

The digitisation of agricultural value chain payments for crop procurement can reduce the dependency of smallholder farmers on middlemen and improve the efficiency of the distribution system by reducing the time it takes for farmers to receive payments. Digital payments can also reduce the risk of handling cash for both farmers and other stakeholders involved in the payment process (i.e. field clerks). In Uganda, coffee farmers who used mobile money were found to receive five per cent higher prices for their coffee on average than non-users because they could reach buyers in high-value markets rather than selling to local traders immediately after harvest.[15]

Mobile money services can also give agribusinesses greater control over their transactions with smallholder suppliers. In Tanzania, the agricultural exporter Multiflower found that switching to bulk digital payments from individual cash payments saved 300 farmers an estimated $8,000 and 6,000 hours.[16] Creating efficiencies in agricultural value chains through mobile money can have a significant impact on developing country economies such as Ghana, where over 45 per cent of the population is employed in agriculture and the sector accounts for about 19.6 per cent of GDP.[17]

Helping agricultural producers access financial services:

Mobile money services can help agricultural producers increase their productivity by enabling them to purchase equipment, agricultural inputs, upgrade to more productive practices, purchase insurance and make other investments. In Côte d'Ivoire, it has been found that the flow of international remittances via mobile money becomes larger and more frequent during the cocoa harvest season.[18] Mobile money also helps farmers build a digital history of their business transactions, which allows them to demonstrate their creditworthiness to financial institutions and other financial services providers. A study in Kenya revealed that mobile money users purchase significantly more inputs, such as fertiliser, pesticides and hired labour, and sell a larger proportion of their harvest in the market.[19] Higher input use and productivity also increases marketable surplus and

15. Sekabira, H. and Qaim, M. (2017). Mobile money, agricultural marketing, and off-farm income in Uganda. The Journal of the International Association of Agricultural Economists.
16. Seetharam, B. and Johnson, D. (2015). Mobile Money's Impact on Tanzanian Agriculture. IEEE Software.
17. GSMA. (2018). Opportunities in agricultural value chain digitisation: Learnings from Ghana.
18. GSMA. (2018). Mobile money: Competing with informal channels to accelerate the digitisation of remittances.
19. Kikulwe, E.M., Fischer, E. and Qaim, M. (2014). Mobile Money, Smallholder Farmers, and Household Welfare in Kenya. PLoS ONE.

boosts farm profits and household incomes. Mobile money can therefore help to overcome some of the market access constraints that obstruct rural development and significantly transform the agricultural sector, which remains the largest employer in most developing economies.

Increasing household food security:

Access to mobile money services can help increase food security for the undernourished, particularly in poor, rural and remote communities.[20] Mobile money contributes to enhance household food security through the increased liquidity that comes with cheap and easily available financial services. A study in Uganda found that the use of mobile money increased food expenditures per adult by nine percentage points and reduced perceived food insecurity.[21]

In Myanmar, Wave Money is leveraging its mobile money platform to disburse humanitarian aid from the World Food Programme (WFP) to internally displaced persons in the north of the country.[22] Mobile money transactional data is also being used to identify regions with signs of food insecurity. In Uganda, the UN Capital Development Fund and Dalberg Data Insights partnered with MTN to make food security intervention planning more efficient. Using mobile money and airtime usage data, they were able to target the most vulnerable communities in real time and at a high degree of geographic granularity.[23]

20. Aker, J.C., Boumnijel, R., McClelland, A. and Tierney, N. (2016). Payment Mechanisms and Anti-Poverty Programs: Evidence from a Mobile Money Cash Transfer Experiment in Niger. Economic Development and Cultural Change.
21. Murendo, C. and Wollni, M. (2016). Mobile money and household food security in Uganda. Global Food Discussion Papers.
22. Sustainable Development Goals Partnerships Platform: Financial Inclusion Services in Myanmar SDG 1-8-10-17.
23. UNCDF. (2018). Using mobile phone data for food security.


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SDG 3 focuses on ensuring healthy lives and promoting well-being for all.

Mobile money contributes to achieving SDG 3 by facilitating access to funds for health emergencies, enabling access to health insurance and helping health providers and governments make health programmes more efficient.



Helping individuals and families better manage their health:

Mobile money can lower the financial barriers to receiving health care by increasing access to funds at critical moments and enabling transfers from distant friends and family when funds for urgent care are needed. A study in Kenya found that 35 per cent of low-income households' hospital bills were paid using transfers via M-PESA from family and friends.[24] In Burkina Faso, mobile money has been found to increase the propensity of rural, female, less educated individuals with irregular income to save for health emergencies.[25] Mobile money can also increase access to insurance by facilitating the collection of premiums and claims payments.[26] In Kenya, M-Tiba's mobile health wallet enables health payments, savings and access to credit via mobile money. Since its launch in 2016, it has facilitated 155,000 patient visits to medical facilities and USD two million in medical payouts.[27]

Making health programmes more efficient and transparent:

Mobile money can make salary payments for health workers in hard-to-reach areas and financial incentives for health programmes more transparent and efficient. In Sierra Leone, shifting to digital payments at the height of the Ebola crisis (2014 to 2016) reduced the time it took for health workers to receive their salaries from over a month to around one week, eliminating worker strikes, stabilising the Ebola response workforce and saving countless lives.[28]

Mobile money-enabled incentives can also improve the efficiency of disease detection programmes by mobilising a wider population of screeners and improving the availability of data. In Pakistan, providing incentives via mobile money resulted in a 300 per cent increase in tuberculosis detection over one year and a 90 per cent increase in patients adhering to treatment.[29] In Tanzania, a Text to Treatment programme enables ambassadors in rural communities to use mobile money to arrange transportation for women with fistula to receive treatment. In 2014, over 80 per cent of patients treated for this condition were referred by ambassadors who used M-PESA to cover travel costs.[30]

24. Stuart, G. and Cohen, M. (2011). Cash In, Cash Out Kenya: The Role of M-PESA in the Lives of Low Income People.
25. Ky, S., Rugemintwari, C. and Sauviat, A. (2018). Does Mobile Money Affect Saving Behaviour? Evidence from a Developing Economy. Journal of African Economies.
26. USAID. (2013). Mobile Money for Health; Prashad, P., Saunders, D. and Dalal, A. (2013). Mobile Phones and Microinsurance. Microinsurance Innovation Facility.
27. Ilako, C. (2018). M-Tiba makes Sh205 million in medical payouts in two years. The Star.
28. Bangura, J.A. (2016). Saving Money, Saving Lives: A Case Study on the Benefits of Digitizing Payments to Ebola Response Workers in Sierra Leone. Better Than Cash Alliance.
29. Health Finance and Governance. (2015). Mobile Money for Health Case Study Compendium.
30. USAID. (2013). Mobile Money for Health.



SDG 4 focuses on ensuring inclusive and equitable quality education and promoting lifelong learning opportunities.

Mobile money contributes to achieving SDG 4 by making education expenses more manageable for lower income households and helping schools and national education systems manage their finances more effectively.



Making education expenses more manageable:

Mobile money-enabled payments can help households pay for education costs through savings and loan products, reduce waiting times to make payments and avoid the fees charged for late payments.[31] In Uganda, a flexible education loan using mobile money wallets and a pay-as-you-go (PAYG) business model is helping parents pay school fees. In households using this product, only 15 per cent of students missed a day of school for non-payment compared to 24 per cent of students in households that did not use the product.[32]

Helping schools better manage their finances:

In several countries, mobile money providers are working with primary and secondary schools and universities, either directly or through the Ministry of Education to digitise payments for registration fees, tuition fees, exam fees and teacher salaries.[33] This can result in cost and operational efficiencies, greater transparency and more sustainable business models for providers.[34] One noteworthy effort is a public-private collaboration in Côte d'Ivoire between the Ministry of Education and mobile money providers to digitise school registration fees. In the 2014–15 school year, 94 per cent of secondary school students in the country paid their fees via mobile money and this rose to 99.3 per cent the following school year.[35] This initiative reduced incidents of fraud and lost payments and enabled the Ministry of Education to better manage their annual budgets by collecting fees earlier in the year.[36]

Mobile money can also mean safer, faster and more reliable wages for teachers. In Liberia, digitising teacher salary payments saved teachers 13.5 hours per paycheque on average, and cut the cost of collecting wages by 92 per cent from $25 to $2 per pay-cheque. Teachers surveyed also reported missing 94 per cent less class time (a total of 4,953 hours or 15 hours per teacher) from saved travel time.[37]

31. Mbiti, I.M. (2016). The Need for Accountability in Education in Developing Countries. Journal of Economic Perspectives.
32. Waldron, D. and Braniff, L. (forthcoming). *Results from a Digital Education Loan Pilot in Uganda with Fenix International in UNCDF*. (2018). Igniting SDG Progress Through Digital Financial Inclusion.
33. Braniff, L. (2016). Digital Finance and Innovations in Financing for Education. CGAP.
34. Braniff, L. (2016). Advancing Financial Inclusion to Improve Access to Education. CGAP.
35. GSMA. (2015). Paying school fees with mobile money in Côte d'Ivoire: A public-private partnership to achieve greater efficiency; GSMA. (2016). Mobile money facilitates 1.7 million school fee payments in Côte d'Ivoire.
36. Hasselback, C. (2015). Digitizing Payments One Cabinet at a Time. ICTworks.
37. USAID. (2019). The Role of Digital Financial Services in Accelerating USAID Education Goals.



SDG 5 focuses on achieving gender equality and empowering all women and girls.

Mobile money contributes to achieving SDG 5 by helping women access financial services, including credit to start and grow a business.



Helping women access financial services:

Women or minority groups often face barriers to accessing financial services, an aspect of inequality that contributes to economic hardship. Mobile money can empower women economically by giving them more control over their finances, reducing the risk of their spouse confiscating their money and eliminating the insecurity associated with carrying cash.[38] Mobile money transactions can also reduce the need for mobility, which is particularly important for women facing cultural and social barriers to full integration in the financial system.[39] A study in Niger found that women who received social transfers via mobile money were better able to control their income and redirect household spending to food for their children than those who received social transfers in cash.[40]

For the many women around the world who still lack access to a bank account, mobile money can be a gateway to the global economy.[41] According to the 2017 Global Findex, despite a gender gap in mobile money access and use across low and middle-income countries, mobile money can help to reduce the gender gap in account ownership and advance women's financial inclusion. In Côte d'Ivoire, for example, men are twice as likely as women to have an account with a financial institution, yet women are just as likely as men to only have a mobile money account.[42]

Helping women access credit to start and grow a business:

By granting access to credit, mobile money can help women start and grow a business and reduce their reliance on agricultural activities.[43] A survey of Kenyan women found that of the 37 per cent of women who owned a business, 96 per cent said that M-Pesa helped them scale their venture.[44] Mobile money can also reduce women's dependence on multiple part-time jobs. In Kenya, mobile money has helped an estimated 185,000 women move from farming to business or retail occupations.[45]

38. World Bank, Bill & Melinda Gates Foundation, Better Than Cash Alliance and Women's World Banking. (2015). Digital Financial Solutions to Advance Women's Economic Participation; GSMA Connected Women. (2015). Bridging the gender gap: Mobile access and usage in low-and middle-income countries.
39. OECD. (2019). Bridging the Gender Gap.
40. Aker, J.C., Boumnijel, R., McClelland, A. and Tierney, N. (2016). Payment Mechanisms and Anti-Poverty Programs: Evidence from a Mobile Money Cash Transfer Experiment in Niger. Economic Development and Cultural Change.
41. Better Than Cash Alliance. (2015). Digital Financial Solutions to Advance Women's Economic Participation.
42. Demirgüç-Kunt, A., Klapper, L., Singer, D., Ansar, S. and Hess, J. (2018). The Global Findex Database 2017. World Bank.
43. OECD. (2019). Bridging the Gender Gap.
44. Kombo, L. (2017). Mobile money is growing women's empires in Kenya. Medium.
45. Tavneet, S. and Jack, W. (2016). The long-run poverty and gender impacts of mobile money. Science.



SDG 6 focuses on ensuring water and sanitation are available and managed sustainably.

Mobile money contributes to achieving SDG 6 by facilitating access to affordable and reliable water and sanitation services and increasing the efficiency and reach of water and sanitation connections.



Providing access to safe drinking water:

Using mobile money to access water services via a pay-as-you-go (PAYG) model saves customers time and money as it provides a secure channel to pay for water at a fair and set price without the need to travel to a local utility office. In Tanzania, the digitisation of water payments via mobile money tripled water utility payments and reduced water collection waiting times from three hours to 10 minutes.[46] In Niamey, Niger, monthly water bills have gone down by 20 per cent per household since CityTaps introduced smart meters prepaid with mobile money.[47] In Kiamumbi, Kenya, the time required to pay a bill was reduced by 82 per cent when users switched to mobile money payments. This time savings disproportionately benefited women who were found to be the majority of water bill payers.[48]

Mobile money-enabled services can also be used to offset the costs of water connections by helping households pay digitally and over time. For low-income households upfront costs are often equivalent to their monthly income.[49] In Kenya, the Nairobi City Water and Sewerage Company (NCWSC) introduced a programme to help low-income households borrow money to offset the initial costs of getting a water connection and repay the loan through their monthly water bill using mobile money.[50]

Providing access to sanitation services:

Investing in cleaner, but more expensive, sanitation technologies is a challenge for poor households without access to financial services. However, mobile money savings accounts can provide an incentive for people to regularly purchase desludging services.[51] In Madagascar, Loowatt, in partnership with Airtel, is using mobile money to collect payments for the maintenance of over 100 waterless household toilets.[52] Offering a 15 per cent discount for payments with mobile money allowed them to reach more customers, which then reduced operating costs by 15 to 25 per cent.[53]

46. Sippy, P. and Dugange, A. (2018). One token changing the game for sustainable rural water supply in Tanzania. WaterAid.
47. GSMA. (2019). Mobile for Development Utilities Perspective: Our quarterly insights – Issue 1.
48. Hope, R.A., Foster, T., Krolikowski, A. and Cohen, I. (2011). Mobile Water Payment Innovations in Urban Africa. University of Oxford.
49. Ikeda, J. and Arney, H. (2015). Financing Water and Sanitation for the Poor: The Role of Microfinance Institutions in Addressing the Water and Sanitation Gap. Water and Sanitation Program of the World Bank.
50. World Bank. (2015). Leveraging Water Global Practice knowledge and lending: Improving services for the Nairobi water and sewerage utility to reach the urban poor in Kenya. Water and Sanitation Program of the World Bank.
51. Lipscmob, M. and Schechter, L. Subsidies versus mental accounting nudges: Harnessing mobile payment systems to improve sanitation. Journal of Development Economics.
52. GSMA. (2017). Loowatt: Digitising the container-based sanitation value chain in Madagascar.
53. Waldron, D., Frank, C., Sharma, A. and Sotiriou, A. (2019). Testing the Waters: Digital Payments for Water and Sanitation. Working Paper. CGAP and GSMA.

Providing loans through mobile money can also help households that need financial assistance to gain access to sanitation facilities. In Bangladesh, the national government and the World Bank are leveraging mobile money to enable people to repay loans for the installation of hygienic toilets. As of 2017, 16,500 toilets have been installed with a long-term goal to reach 170,000.[54] In areas where desludging is carried out by private entrepreneurs, mobile money payments can speed up services that might otherwise be delayed until payment is received while also helping independent workers access mobile money savings and other services.[55]

Helping to improve and expand water services:

Water utilities often suffer from high rates of nonrevenue-water (NRW). NRW is water that is treated and distributed but not paid for by the consumer due to infrastructure problems like leaky pipes, or commercial issues like incorrect billing, faulty meters or illegal connections to the water network. The failure to collect revenue leaves limited resources to fix problems and leads to unreliable service for customers. The International Water Association estimates annual NRW at 126 billion cubic meters, which translates into $40 billion in annual losses.[56] However, prepaid services via mobile money can reduce the amount of unpaid water, lower operating expenses, secure cash flows and enable providers to expand access to safe water, especially to rural customers.[57]

Digitising payments can also create data trails that allow providers to offer a higher level of service, which in turn can improve customers' willingness to pay. In Ghana, Safe Water Network more than doubled its per-litre payment collection rate after introducing mobile money payments and prepaid smart meters. Between 2016 and 2017, it went from a 30 per cent net loss to a one per cent net surplus.[58] In Tanzania, the Dar es Salaam Water and Sewerage Corporation saw a 38 per cent increase in monthly revenue after enabling water payments via mobile money.[59] Similarly, in Haiti, ecological sanitation provider SOIL reduced collection costs from $1.10 to $0.05 after switching to mobile money payments.[60]

54. World Bank. (2017). Innovations in Finance Series: Blended Finance Experiences with Bangladesh OBA Sanitation Microfinance Program.
55. GSMA. (2019). Mobile for Development Utilities Annual Report: Intelligent Utilities for All.
56. Roland Leimberger and Alan Wyatt (2018), Quantifying global non-revenue water. IWA.
57. Waldron, D. and Sotiriou, A. (2017). Quenching a Thirst: Digital Finance and Sustainable Water Service for All. CGAP; Danilenko, A., van den Berg, C., Macheve, B., Moffitt, L Joe. (2014). The IBNET Water Supply and Sanitation Blue Book 2014: The International Benchmarking Network for Water and Sanitation Utilities Databook. World Bank.
58. Waldron, D., Frank, C., Sharma, A. and Sotiriou, A. (2019). Testing the Waters: Digital Payments for Water and Sanitation. Working Paper. CGAP and GSMA.
59. Waldron, D. and Sotiriou, A. (2017). Quenching a Thirst: Digital Finance and Sustainable Water Service for All. CGAP.
60. Waldron, D., Frank, C., Sharma, A. and Sotiriou, A. (2019). Testing the Waters: Digital Payments for Water and Sanitation. Working Paper. CGAP and GSMA





SDG 7 focuses on ensuring access to affordable, reliable, sustainable and modern energy.

Mobile money contributes to SDG 7 by facilitating access to clean and affordable energy and productive energy-powered assets.

Providing access to clean and affordable energy:

The mobile money- pay-as-you-go (PAYG) model has unlocked a large segment of the off-grid solar market, enabling low-income consumers to access energy services while also indirectly supporting education, income-generating activities and entrepreneurship. Users of PAYG solar services report an increase in the average hours per day children study after sunset, and businesses report longer opening hours due to better lighting and new commercial activities, such as phone-charging businesses.[61] In Malawi, USAID's Solar Home System (SHS) Kick-Starter Program, in partnership with the GSMA's IPN Hub, is providing 150,000 households with access to power and has the potential to bring $22.5 million in investment into the country.[62] Mobile money is also an important enabler of mini-grid business models which are crucial to expand energy access to underserved populations and help kick-start small businesses.[63]

Clean energy services are particularly valuable for displaced populations. In Kibiza Camp in Rwanda, 19 per cent of refugees who have energy in their home use mobile money to pay for it, and many receive remittances via mobile money to pay for a SHS.[64] In the Kakuma Refugee Camp in Kenya, over 1,000 SHSs have been deployed and had a positive impact on many households and small businesses in the camp and host community.[65]

Providing access to productive energy-powered assets and other financial products:

PAYG companies are using customer payment histories to help consumers afford household energy products, such as TVs, radios, cooking stoves and solar water pumps, all of which can increase household and agricultural productivity. In Kenya, SunCulture's solar-powered irrigation pumps enable farmers to pay for agricultural assets in instalments via mobile money. Affordable pumping solutions like these are helping underserved communities to access water and farmers to boost their incomes. Farmers who use SunCulture have reported an average 300 per cent increase in crop yield per year.[66] In Tanzania, KopaGas has

61. GSMA. (2018). Achieving SDGs 6 and 7: The Promise and Impact of Mobile Technology.
62. GSMA. (2019). Accelerating PAYG utilities in five markets through the IPN Hub.
63. GSMA (2019). Mini-grids, macro impact?.
64. GSMA. (2019). The Digital Lives of Refugees.
65. GSMA. (2019). Mobile-enabled energy for humanitarian contexts: The case for pay-as-you-go solar home systems in Kakuma Refugee Camp.
66. GSMA (2019). Mobile for Development Utilities Annual Report: Intelligent Utilities for All.

launched a pay-per-use model that enables customers to pay for liquid petroleum gas (LPG) and cooking appliances over time.[67] By making clean energy sources more affordable, mobile money plays an important role in replacing dirty, non-renewable energy sources, such as kerosene and diesel generators. Having connected over 500,000 households to solar power in five years, M-KOPA estimates it has reduced 380,000 tonnes of CO2 from the burning of kerosene.[68] PAYG companies are also using customer payment histories to offer financial services, such as access to financing for school loans and insurance. In Uganda and Tanzania, SHS providers Fenix and M-KOPA are offering loans for school fees to their best-paying customers.[69]

Helping to improve and expand energy services:

Mobile money facilitates the timely and secure collection of payments for energy services. In Uganda, replacing cash with multiple payment channels, including mobile money, helped national electricity distributor Umeme increase its collection rate from 84 per cent in 2006 to 98 per cent in 2016.[70] In recent years, the positive performance of PAYG companies has attracted significant investment. Between 2012 and 2018, PAYG companies raised just over $961 million to reach new customers.[71] In 2018 alone, investment increased by 20 per cent to reach a record high of $352 million.[72]

67. Clean Cooking Alliance. (2017). "Pay-as-you-go" technology to boost access to cooking fuel.
68. GSMA. (2018). Achieving SDGs 6 and 7: The Promise and Impact of Mobile Technology.
69. Wolfram, C. (2019). Are We Looking for the Benefits of Rural Electrification in the Wrong Places? Energy Institute Blog; See also: https://twitter.com/mkopasolar/status/1034008870581137408?lang=en
70. Umeme Limited. (2017). Umeme Limited Integrated Report 2016.
71. GOGLA. (2019). Off-Grid Solar. A Growth Engine for Jobs.
72. Galan, J., Martinez, J. and Poortman, D. (2019). The Top 5 Investment Trends in the Off-Grid Solar Energy Sector. GOGLA.





SDG 8 focuses on promoting sustained, inclusive and sustainable economic growth and productive employment and decent work.

Mobile money contributes to SDG 8 by increasing the productivity of micro, small and medium enterprises (MSMEs), creating employment and stimulating economic growth.



Helping MSMEs increase productivity and revenue:

Many businesses rely on mobile money providers for the secure and timely payment of goods and services. MSMEs can use mobile financial services to receive payments from their customers (both in-store and remotely), make payments to their suppliers or employees and make government payments and receive government subsidies. Mobile money can also help MSMEs improve payment collection with faster transactions, reduce outstanding credit times and lower the risks and costs of handling cash, which can lead to significant gains in both efficiency and revenue. Allowing customers to make payments remotely via mobile money also enables MSMEs to expand their pool of customers and sell their goods and services more widely, especially in rural areas.[73]

A plethora of studies have shown that using mobile money services improves the performance of MSMEs in terms of sales growth, market share and profitability.[74] Mobile money services therefore have the potential to solve the problem of access to finance for MSMEs and to increase productivity levels, which, in turn, can boost job creation and economic growth. Research has found that since mobile money was launched in Kenya, total factor productivity (TFP)[75] and real per capita income has grown an estimated 3.3 per cent and 14 per cent respectively, between 2006 and 2013.[76]

Fostering economic growth and financial stability:

Mobile money can improve the macroeconomic stability of the countries in which it is increasingly widespread, with the benefits experienced primarily by rural and low-income households. Mobile money contributes to financial development in several key ways, including lowering transaction costs, distributing capital and risks more evenly across the economy and expanding access to bank deposits.[77] A report by the IMF on macro-financial issues in Tanzania found that mobile money had contributed

73. Simiyu, C.N. and Oloko, M. (2015). *Mobile money transfer and the growth of small and medium sized enterprises in Kenya: A case of Kisumu city, Kenya*. International Journal of Economics, Commerce and Management.
74. Mararo, M.W. and Ngahu, S. (2017). Influence of mobile money services on the growth of SME in Nakuru town, Kenya. Journal of Humanities and Social Science.; Kirui, R.K. and Onyuma, S.O. (2015). Role of mobile money transactions on revenue of microbusiness in Kenya. European Journal of Business and Management. Wanyonyi, P.W. and Bwisa, H.M. (2013). Influence of mobile money transfer services on the performance of micro enterprises in Kitale municipality. International Journal of Academic Research in Business and Social Sciences.
75. Total factor productivity (TFP) is the portion of output not explained by the amount of inputs used in production. It is determined by how efficiently and intensely the inputs are utilised in production.
76. Beck, T. (2015). How mobile money is driving economic growth. World Economic Forum.
77. Adam, C. and Walker, S. (2016). Mobile Money and Monetary Policy in East African Countries.

to economic growth by increasing economic activity that had previously been constrained by a lack of cash.[78]

Mobile money-enabled international remittances are also an important source of investment and economic growth in local economies. International remittances are already more than three times the size of official development assistance (ODA) and are set to overtake foreign direct investment (FDI) as the most significant source of financial flows into low and middle-income countries in 2019.[79] By reducing the cost of sending money, mobile money-enabled international remittances can be invested in the local economy, creating employment and income opportunities for MSMEs. Mobile money services can also provide displaced populations the means to contribute to economic growth in their settlements and to the wider economy of their host country.[80]

Creating jobs:

Mobile money operators generate positive economic impact through employment and investment, both directly and throughout their supply chains.[81] Mobile money also creates the opportunity for individuals to partner with mobile network operators (MNOs) to manage agent outlets, generating an additional source of income. The GSMA estimates that the number of agent outlets has more than doubled over the last five years, reaching 6.6 million in 2018.[82]

Mobile money also enables digital platforms that connect households and businesses with informal workers, artisans and tradespeople. In Kenya, Lynk has created work opportunities for 1,300 informal workers who have worked on over 25,000 jobs. As of March 2019, over $2.5 million has been transferred to Lynk Pros in payment for services delivered through the platform.[83] In Zambia, Musanga Logistics, a mobile platform to send parcels through a network of independent cyclists, riders and drivers, is creating employment opportunities for youth and helping those working in the informal economy become active participants in the formal economy. The average Musanga Logistics truck driver earns $432 per week, significantly higher than the average wage of other drivers and riders in Zambia. The solution has also helped businesses reduce their logistics costs by up to 40 per cent.[84]

78. IMF. (2016). United Republic of Tanzania: Selected Issues—Macrofinancial Issues.
79. KNOMAD and World Bank. (2019). Migration and Remittances: Recent Developments and Outlook.
80. GSMA. (2019). The Digital Lives of Refugees.
81. KPMG. (2017). An economic assessment of mobile money taxation in Tanzania.
82. Note that this is not the number of unique mobile money agent outlets, but rather the sum of the agent outlets providing cash-in and cash-out services for mobile money services available globally. In many markets, individual outlets may serve several mobile money service providers. This practice is more pronounced in mature mobile money markets, particularly where competition among service providers is high. For that reason, the number must be interpreted with care. See: Mobile Money Metrics.
83. GSMA. (2019). Lynk: Connecting informal workers to job opportunities in Kenya.
84. GSMA. (2019). GSMA Ecosystem Accelerator Innovation Fund Start-Up Portfolio.

Strengthening the formal economy:

Mobile money can support more effective monetary policy by transferring currency and assets into the formal financial system.[85] The Central Bank of Kenya has recognised the impact of mobile financial services on economic growth and monetary policy, including a decrease in the amount of money held outside the formal financial system. Shifting these resources from the informal to formal economy has helped make monetary tools more effective and supported efforts to achieve macroeconomic stability.[86] Mobile money services can also be critical for financial intermediation as they convert the resources of unbanked populations into formal credit. In Uganda, higher mobile money balances have been found to be positively and significantly associated with long-term increases in private sector credit.[87] The transaction records produced by mobile money can also help foster a shift to the formal economy by integrating informal sector users in business networks, formal banking and insurance, and linking them to the government through social security, taxes and secure wage payments.[88] For many MSMEs, opening a mobile money account is the first time they have used formal financial services and is a key step in joining the formal economy. As part of the mobile money ecosystem, MSMEs can perform financial transactions with other ecosystem participants, increasing their business opportunities and gaining a presence as an agent of economic growth.[89]

85. GSMA. (2019). The Impact of Mobile Money on Financial Sector Development.
86. Estrada, R. and Scharwatt, C. (2016). Mobile Financial Services and MSMEs: Part 1. AFI.
87. Nampewo, D., Ainomugisha Tinyinondi, G., Kawooya, D. and Ssonko, G. (2016). Determinants of private sector credit in Uganda: the role of mobile money. Financial Innovation.
88. Aron, J. and Muellbauer, J. (2019). The Economics of Mobile Money: Harnessing the Transformative Power of Technology to Benefit the Global Poor?.
89. GSMA. (2016). Mobile Financial Services and MSMEs: What are the benefits of encouraging the use of mobile financial services among MSMEs?.



SDG 9 focuses on building resilient infrastructure and promoting sustainable and inclusive industrialisation and innovation.

Mobile money contributes to achieving SDG 9 by boosting access to credit for MSMEs, building a stronger payments ecosystem and paving the way to a digital economy.



Bridging the credit gap for MSMEs:

In many developing countries, lack of access to credit services, both for working capital and investments, is hindering the growth of the MSME sector. By digitising the economic activities of MSMEs, which are often cash-based, inconsistent and undocumented, mobile money providers can help bridge this credit gap. In Sub-Saharan Africa, firms that use mobile money have been found to have easier access to finance, both bank loans and overdraft facilities.[90] Mobile money can also improve investment decisions, increase the share of entrepreneurs with access to trade credit and who are willing to use it, as well as increase the amount of trade credit provided.[91]

Building a new payments infrastructure:

The success of mobile money in many developing countries is due to a multitude of innovative approaches that both disrupt and complement traditional brick-and-mortar banking.[92] The widespread uptake of mobile money services has been built on a large distribution network of trained agents that do not depend on conventional banking infrastructure. In over 80 per cent of countries where mobile money is available today, agent outlets outnumber bank branches. In two-thirds of those countries, there are over 10 times as many registered mobile money outlets as bank branches, and in 50 per cent of the countries there are over 10 times as many active agents as bank branches.[93] The ubiquity of mobile money makes it well positioned to become the backbone of payments in the digital economy.

Building a stronger banking sector and digital ecosystem:

By supporting a broad range of digital transactions, the mobile money ecosystem can complement the formal banking sector to meet the needs of underserved customers. Research has found an association between mobile money expansion and growth in the commercial banking sector, indicating that mobile money complements commercial banking services and can enable the sector to diversify and expand.[94] For

90. Gosavi, A. (2018). Can Mobile Money Help Firms Mitigate the Problem of Access to Finance in Eastern sub-Saharan Africa?. Journal of African Business.
91. Beck, T. (2015). How mobile money is driving economic growth. World Economic Forum.
92. World Bank. (2016). World Development Report 2016: Digital Dividends.
93. GSMA. (2019). The pivotal role of mobile money agents in driving financial inclusion.
94. GSMA. (2019). The Impact of Mobile Money on Financial Sector Development.

example, when the largely corporate Commercial Bank of Africa partnered with Safaricom to launch the mobile savings and credit service M-Shwari, it became the largest retail bank in Kenya in terms of customers, signing up 10 million in less than three years. Research also found that having an M-Pesa account increased the probability of individuals being banked.[95]

Mobile money can also help digitise informal savings groups, such as village savings and loan associations or rotating savings and credit associations.[96] In Senegal, a partnership between MaTontine and Orange Money has generated £185,620 in additional income. MaTontine offers a mobile-based automated platform for traditional savings circles (tontines) using SMS, USSD and mobile money.[97]

Paving the way to a digital economy:

Mobile money has become the leading payments platform across many developing countries. Building on strengths such as wide distribution networks, customer reach and trusted brands, mobile money providers are laying the groundwork for the digital economy to flourish. By providing plug-and-play access to a mobile money service through APIs, mobile operators are capitalising on the innovations of local and small businesses. This will spur local entrepreneurship and innovation, expanding the range of products and services available to both customers and businesses.[98] Using a platform approach to support wider participation in the digital economy, mobile money is helping to drive employment and economic growth and enabling previously excluded segments to become more active in the economy.

95. Mbiti, I. and Weil, D. (2011). Mobile Banking: The Impact of M-Pesa in Kenya. National Bureau of Economic Research.
96. See: CARE. (2011). Tanzania: Linking Savings Groups to Mobile Banking; Loupeda, C., Ouédraogo, A. and Gash, M. (2015). Pilot Project Report: Using Mobile Money to Link Savings Groups to Financial Institutions. Freedom from Hunger; Svarer, C. (2014). From savings groups to bank accounts: how do we get to the next level? The Guardian.
97. GSMA. (2019). GSMA Ecosystem Accelerator Innovation Fund Start-Up Portfolio.
98. GSMA (2019). Payments as a Platform: The Future of Mobile Money.


SAMSUNG



SDG 10 focuses on reducing inequalities within and among countries.

Mobile money contributes to SDG 10 by helping migrants and their families send and receive international remittances, providing an efficient delivery mechanism for humanitarian assistance and by helping persons with disabilities access financial services.



Enabling faster, cheaper and safer international remittances:

International remittances are a vital source of financial support for migrants and their families and play a critical role in sustaining the livelihoods of those living in low-income and fragile states. In 2019, international remittances surpassed both foreign direct investment (FDI) and overseas development aid (ODA) as the most significant international financial flows into these countries.[99] The widespread uptake of mobile money makes it ideally placed to formalise remittance flows from migrants back to their home countries. As of 2017, mobile money-enabled remittance services were available across 184 corridors, connecting migrants in 35 remittance-sending countries to their families in 40 remittance-receiving countries.[100]

Mobile money is also instrumental in reducing the costs of these remittances. As of 2018, the average cost of sending $200 by mobile money is just 1.7 per cent of the transaction, and average lower-value remittances of $100 and $50 have also reached the SDG 10.c target of less than three per cent.[101] This cost savings can substantially increase the income of recipient families and stimulate local economies by transforming remittances into a source of investment and creating employment and income-earning opportunities. The impact of mobile money-enabled international remittances on socio-economic growth at a household, community and national level (see Box 1) has been facilitated by an enabling regulatory environment that opens the market to non-traditional providers.

99. KNOMAD and World Bank. (2019). Migration and Remittances: Recent Developments and Outlook. Migration and Development Brief 31.
100. GSMA (2018). Mobile money: Competing with informal channels to accelerate the digitisation of remittances.
101. Ibid.

Box 1.

How do mobile money-enabled remittances contribute to achieving the SDGs?

Mobile money can play a key role in reducing the cost of remittances and supporting the achievement of SDG target 10.c. By enabling faster, cheaper and safer international remittances, mobile money helps to achieve other SDGs as well. For example:



Increasing disposable household income: Mobile money-enabled international remittances are a vital source of income for low-income households in times of hardship and helps families and their communities become more resilient and escape poverty.



Driving investment in agriculture and access to food: In Côte d'Ivoire, flows of mobile money-enabled international remittances increase and become more frequent during the cocoa harvest season.[102] Receiving households also have greater access to food, which improves nutrition, particularly among children and the elderly.[103]



Increasing access to health care: By enabling transfers from distant friends and family in emergency situations, mobile money-enabled international remittances can increase access to better quality health care and allow families to invest in health insurance products.



Enhancing women's financial independence: Female migrant workers comprise half of all remittance senders globally and tend to send money more frequently than men.[104] Mobile money-enabled remittances can help women become more financially independent and empower them to improve their economic well-being.



Providing access to energy services: International remittances can enable access to affordable and clean energy through mobile money pay-as-you (PAYG) services. Many refugees in Kibiza Camp in Rwanda receive remittances via mobile money to pay for their solar home systems.[105]

102. Ibid.
103. IFAD. (2017). Remittances, investments and the Sustainable Development Goals: Recommended actions.
104. Ibid.
105. GSMA. (2019). The Digital Lives of Refugees.



Converting savings into investment: Mobile money enables savings from remittances to become a source of investment. This, in turn, stimulates local economies by facilitating investment and creating employment and income-earning opportunities.



Opening access to the digital economy: The unique attributes of mobile money, such as convenience, security and the ability to access a broad range of digital financial services, can maximise the economic benefits of remittances and give migrants and their families an opportunity to join the digital economy.



Reducing the cost of remittances: As of 2018, the cost of sending $200 by mobile money is just 1.7 per cent, far exceeding the three per cent target set by SDG 10.c.[106]



Financing sustainable communities: By increasing disposable household income, mobile money-enabled remittances can contribute to financially sustainable communities and drive investment in housing and related services. In Burkina Faso, many migrant workers use Orange Money to repatriate their funds from Côte d'Ivoire or Mali to make investments, such as buying a house.[107]



Increasing transparency and security: The strong AML/CFT (Anti-Money Laundering and Combating the Financing of Terrorism) safeguards integrated in mobile money services, as promoted by the GSMA's Mobile Money Certification, make international transfers more transparent.[108]



Strengthening domestic resource mobilisation: Mobile money-enabled international remittances can mobilise domestic resources through investment in government bonds or person-to-government (P2G) payments. In Kenya, recipients can use mobile money to buy government bonds through M-Akiba and directly invest remittances in their local economy.

106. GSMA (2018). Mobile money: Competing with informal channels to accelerate the digitisation of remittances.
107. Ibid.
108. Ibid.

Providing an efficient delivery mechanism for humanitarian assistance:

Mobile money can be a powerful method of delivering cash and voucher assistance (CVA). Far-reaching agent networks and tiered Know Your Customer (KYC) requirements can enable customers without an acceptable form of identification to access a limited suite of mobile money services.[109] If deployed effectively and in the appropriate context (i.e. adequate network coverage, liquidity points, etc.), cash transfers via mobile money can also deliver benefits to the humanitarian sector, including accountability, speed and cost-effective delivery of aid, as well as provide aid recipients with dignity and flexibility.[110]

Mobile money can help to reduce financial exclusion and is the most commonly used financial services platform among refugees and host communities in Kiziba Camp, Rwanda, and Bidi Bidi Settlement in Uganda, where 59 per cent and 44 per cent of refugees use the service, respectively. Research has also found that approximately 80 per cent of the population in Bidi Bidi live within one kilometre of a mobile money agent, and 54 per cent of users in Kibiza are within a five minute walk of an agent.[111]

Facilitating access to financial services for persons with disabilities:

The large number of people excluded from access to financial services because of disabilities represent one of the most important frontiers of financial inclusion.[112] As the global population ages, the number of persons with disabilities is expected to double by 2050.[113] While economic participation is not feasible for some, over 80 per cent of persons with disabilities have the capacity to use and benefit from financial services.[114]

By leveraging the ubiquity of mobile phones and the power of technology, mobile money services can support inclusive access to financial services for persons with disabilities and increase their participation in all aspects of life.

Recent research by the GSMA has found that in Kenya and Bangladesh,

109. A tiered KYC approach entails less onerous customer due diligence (CDD) and compensates for the residual risk by restricting account functionality, such as account balances or activities.
110. GSMA. (2017). Humanitarian Payment Digitisation: Focus On Uganda's Bidi Bidi Refugee Settlement.
111. GSMA. (2019). The Digital Lives of Refugees.
112. Center for Financial Inclusion. (2011). A New Financial Access Frontier: People with Disabilities.
113. United Nations Department of Economic and Social Affairs. Ageing and disability.
114. Goldstein, J. (2014). A New Financial Access Frontier: A Framework for Disability Inclusion. Center for Financial Inclusion and USAID.

mobile money is a valuable solution for persons with disabilities because it enables them to receive financial support from relatives and it is safer from theft than cash, which is a bigger risk for persons with disabilities. Mobile money is also an alternative to banks where facilities and services are often difficult to access. In Bangladesh, persons with disabilities are more likely to have a mobile money account than those without a disability (25 per cent versus 14 per cent).[115]



115. GSMA. (2019). Understanding the Mobile Disability Gap.



SDG 11 focuses on making cities and human settlements inclusive, safe, resilient and sustainable.

Mobile money contributes to achieving SDG 11 by facilitating access to affordable housing and transportation services.



Facilitating access to micro-mortgages:

As urbanisation continues, investment in formal housing is failing to keep up with housing needs. Mobile money can improve access to housing finance and make it easier for people living in informal settlements to invest in adequate housing.[116] In Burkina Faso, many migrant workers use Orange Money to repatriate their funds from Côte d'Ivoire or Mali to make investments, such as buying a house.[117]

Enabling more effective transportation:

Mobile money can facilitate access to affordable and safe transport systems. In Rwanda, MTN, in partnership with AC GROUP Ltd, has launched a bus card that can be topped up via mobile money at no extra charge. This electronic card seeks to simplify the ticketing process and enhance customers' travel experience.[118] Mobile money also enables new sharing economy models, such as ride-sharing networks. In Egypt, Raye7 is a culturally sensitive carpooling platform that matches riders and drivers in the same social communities for their daily commute. Raye7 runs a cashless model that allows riders to pay for their rides using mobile money. This service offers convenient and affordable rides and reduces the number of cars on the road. As of February 2018, the start-up had reached 15,857 registered drivers and riders, more than 20 per cent of whom were women.[119]

116. World Bank. (2015). Stocktaking of the Housing Sector in Sub-Saharan Africa: Summary Report.
117. GSMA. (2018). Mobile money: Competing with informal channels to accelerate the digitisation of remittances.
118. Hope Magazine. (2019). MTN in partnership with AC Group Ltd launches bus card top-up payment.
119. GSMA. (2018). Start-Ups and Mobile in Emerging Markets: Insights from the GSMA Ecosystem Accelerator.



SDG 12 focuses on ensuring sustainable consumption and production patterns.

Mobile money contributes to achieving SDG 12 by driving innovation in the food marketplace to reduce food losses along production and supply chains.



Driving innovation in the food marketplace:

The integration of operator-led mobile money services in agri e-commerce platforms can reduce food losses along production and supply chains by enabling farmers to sell their produce through online channels and directly to buyers. By making markets more efficient, agri e-commerce services can reduce the risk of post-harvest losses, help buyers support the local economy and encourage farmers to enhance the quality of their produce to maintain their ranking.

Twiga Foods in Kenya is improving the livelihoods of farmers and vendors at both ends of the value chain and contributing to waste reduction by offering higher quality products at lower prices (up to 10 to 15 per cent cheaper than the traditional wholesale market). The company has impacted the lives of over 15,000 farmers and 6,000 vendors, and unlocked over £650,000 in additional income for farmers. Twiga Foods also reports reducing post-harvest wastage by three to four per cent compared with the market average of 30 to 40 per cent.[120]

Having access to online platforms also means that farmers no longer must choose between accepting low prices offered by middlemen or searching for a last-minute buyer. This is particularly important for reducing the inequality of business opportunities between rural and urban areas, where information asymmetry and price distortion limit the benefits of economic growth for those in remote areas.

120. GSMA. (2019). E-commerce in agriculture: new business models for smallholders' inclusion into the formal economy.



SDG 13 focuses on actions to combat climate change and its impacts.

Mobile money contributes to achieving SDG 13 by helping farmers become climate resilient and by helping communities that have been displaced by climate change.

Helping farmers become climate resilient:

Farmers often lack the information and financial protection they need to deal with unpredictable weather. This challenge is exacerbated by climate change, which is making weather patterns more unpredictable and extreme weather conditions more frequent and harsh. Smallholder farmers often lose standing crops and their productive assets, which can increase the risk of families being unable to sustain themselves and becoming dependent on humanitarian assistance for survival.

In 2017, floods affected approximately 41 million people in South Asia, while nearly 892,000 faced drought-related internal displacements in East Africa.[121] Mobile money-enabled weather indexed insurance services can provide a safety net for farmers following climate-related events or natural disasters. In Kenya, ACRE Africa's Bima Pima offers rainfall index insurance for crop damage or poor harvests caused by drought or excess rainfall.[122] The service pays out for crop damage and poor harvests via mobile money. These products can be linked to agricultural loans so, in the event of unfavourable weather conditions, the insurer compensates the credit institution, which then writes off the loans of affected farmers. An impact study of this product found that the income of insured farmers is 16 per cent higher than those who are not insured, and that without this alternative most farmers would not have been eligible for credit.[123]

Help those displaced by climate change:

Climate change has a disproportionate impact on poor and vulnerable populations and threatens to drive an estimated 100 million people into poverty by 2030.[124] Mobile money-enabled government-to-person (G2P) payments are a quick and efficient way to distribute social payments and have been used to reach vulnerable populations in the aftermath of extreme climate events.

In 2014, under the Help for Homes Initiative, the Government of Fiji partnered with Vodafone MPaisa to disburse assistance to over 32,000 households affected by Tropical Cyclone Winston.[125] In the Philippines, Mercy Corps and BanKO implemented

121. World Meteorological Organization. (2018). WMO Statement on the State of the Global Climate in 2017.
122. Acre Africa. BIMA PIMA.
123. Pirzer, C. (2018). Innovative Insurance Models Incentivise Risk-Reducing Behaviour. Inclusive Business Action Network.
124. Barbier, E. and Hochard, J. (2018). The impacts of climate change on the poor in disadvantaged regions. Review of Environmental Economics and Policy.
125. AFI. (2019). Inclusive Green Finance: A Survey of the Policy Landscape.

a mobile money programme to distribute financial aid following Typhoon Haiyan in 2013.[126] This programme also helped to reduce the sense of insecurity recipients felt, especially women who reported feeling safer not carrying cash and being able to choose locations to cash out.[127] One notable aspect of the programme was that Philippine's Financial Regulator relaxed the country's Know Your Customer (KYC)[128] requirements to enable access to mobile G2P payments. UNDP also partnered with the Land Bank of the Philippines and Smart Communications to provide mobile money transfers to those helping to clear rubble and municipal waste from roads, public buildings, schools and hospitals, through UNDP's cash-for-work scheme.[129]

Reducing emissions and facilitating access to clean energy:

Mobile money can make clean energy accessible and affordable with new and innovative models, such as pay-as-you-go (PAYG) solar home systems. Helping households replace dirty, non-renewable energy sources (such as kerosene, diesel, charcoal and wood) with solar as the main source of energy can mitigate the detrimental effects on the safety and respiratory health of families and on the environment. In Tanzania, KopaGas is improving access to clean cooking fuel though a pay-per-use model that enables customers to use mobile money to pay for liquid petroleum gas (LPG).[130] M-KOPA, one of the pioneers of PAYG solar home systems, has connected over 500,000 households to solar power and estimates it has reduced 380,000 tonnes of CO2 from the burning of kerosene.[131]

126. Harihareswara, N., Lamm, J. and Meissner, L. (2015). Disaster Response in the Digital Age: Investing in Digital Finance to Accelerate Humanitarian Assistance. USAID.
127. GSMA. (2014). Disaster Response: Mobile Money for the Displaced.
128. A relaxed KYC approach entails less onerous customer due diligence (CDD) and compensates for the residual risk by restricting account functionality, such as account balances or activities.
129. GSMA. (2014). Disaster Response: Mobile Money for the Displaced.
130. Clean Cooking Alliance. (2017). "Pay-as-you-go" technology to boost access to cooking fuel.
131. GSMA. (2018). Achieving SDGs 6 and 7: The Promise and Impact of Mobile Technology.





SDG 16 focuses on promoting peaceful and inclusive societies, providing access to justice and building effective, accountable and inclusive institutions.

Mobile money contributes to achieving SDG 16 by making payments more transparent and reducing corruption and illicit financial flows.



Making payments more transparent and reducing corruption:

Every deposit, withdrawal, transfer or payment made through mobile money creates a recorded financial history. Transparent transaction records protect customers' rights and can foster trust in business and the growth of efficient payments networks.[132] The digitisation of government benefit payments via mobile money has also been found to reduce the risk of fraud and theft, and improve the social outcomes of these payments by better targeting of recipients. In 2010, when the Afghan National Police began using M-PESA to pay salaries instead of cash, they discovered that 10 per cent of salaries were being paid to fictitious police officers, while some officers were not receiving their salaries in full.[133] In some cases, salaries increased by over a third after the transition to mobile money-enabled payments, which reduced the risk of defections.[134]

Reducing illicit financial flows:

Recorded transactions made by users with appropriate ID (as per Know Your Customer requirements) make mobile money transfers, including international remittances, more traceable than cash.[135] The data trails generated by mobile money-enabled transactions can facilitate oversight and supervision by local and international authorities.[136] Mobile money also offers high levels of security by relying on strong AML/CFT (Anti-Money Laundering and Combating the Financing of Terrorism) safeguards.[137]

132. Aron, J. and Muellbauer, J. (2019). The Economics of Mobile Money: Harnessing the Transformative Power of Technology to Benefit the Global Poor. Oxford Martin School.
133. CNN Business. (2019). How mobile payments are changing the world.
134. TechCrunch (2010). M-Paisa: Ending Afghan Corruption, one Text at a Time.
135. Aron, J. and Muellbauer, J. (2019). The Economics of Mobile Money: Harnessing the Transformative Power of Technology to Benefit the Global Poor. Oxford Martin School.
136. GSMA. (2018). Mobile Money Policy and Regulatory Handbook.
137. The GSMA Mobile Money Certification, launched in April 2018, defines and promotes excellence in the provision of safe, transparent and resilient mobile money services. Incorporating Anti-Money Laundering (AML) and Combating the Financing of Terrorism (CFT) best practice, this scheme is ideally positioned to ensure senders and recipients can be accurately identified, permitting a risk-based approach to mobile money transactions, including international remittances.



SDG 17 focuses on strengthening the ways in which targets are implemented, including mobilising domestic resources and revitalising the Global Partnership for Sustainable Development.

Mobile money contributes to achieving SDG 17 by helping to improve the capacity of governments to collect revenue and by enabling commercially sustainable and socially impactful partnerships.



Increasing revenue collection for governments:

Person-to-government (P2G) payments are the transfer of funds from an individual to a government agency to pay for a public good (i.e. school fees), settle an outstanding amount (i.e. a traffic fine), or file tax returns. Mobile money can be used by government authorities to reach a wider population and reduce the administrative burden and costs of handling cash. In Senegal, the Customs School noted a 50 per cent increase in registrations after digitising registration payments for its entrance exam. This was likely due to new candidates from non-urban areas who could avoid transportation costs by using a digital platform.

Digitising public revenue collection can also increase resources for governments and create more transparent and auditable records of public funds. In Burkina Faso, the Ministry of Higher Education reported that digitising university registration and fees led to a cost savings of five per cent of their total annual budget. In Niger, using mobile money for a government transfer programme decreased administration costs by 20 per cent in just one year.[138] After migrating its services to Kenya's e-Government platform, eCitizen, the Kenyan National Transportation Safety Authority (NTSA) doubled its revenue collection between July 2015 and October 2016, from an average of $1.1 million to $2 million per month.[139]

Mobile money-enabled international remittances can also help to mobilise domestic resources through investment in government bonds. In Kenya, for example, recipients can use mobile money to buy government bonds through M-Akiba.[140]

Enabling partnerships for cross-cutting impact:

Mobile money has become a key driver of inclusive growth in developing countries by enabling a range of partnerships to deliver sustainable products and services that have large-scale socio-economic impact in the areas of energy, water, sanitation, agriculture, climate, identity, disability and humanitarian response, among others. The examples in this report have shown that the current impact of mobile money on the SDGs could not have been achieved without multi-stakeholder partnerships between the public and private sector, and collaboration between different industries and sectors.

138. Aker, J., Boumnijel, R., McClelland, A. and Tierney, N. (2012). Zap it to Me: The Impacts of a Mobile Cash Transfer Program. Tufts University.
139. GSMA. (2019). Person-to-Government (P2G) payments strategy: Lessons from Orange P2G payments in Africa.
140. GSMA (2018). Mobile money: Competing with informal channels to accelerate the digitisation of remittances.

Conclusion

For over a decade, mobile money has been driving financial and digital inclusion in many developing countries. Today, mobile money is set to become the backbone of payments in the digital economy, facilitating platform solutions and driving innovation and economic growth.[141] As the examples in this report have shown, mobile money is positioned to be one of the leading forces of digital finance to achieve the SDGs.[142] Mobile money has the power to tackle some of the world's most intractable problems while also unlocking new paths to sustainable development. To harness this power, partnerships and cross-sector collaboration are required. The mobile money industry is ready to reach new heights and remains committed to collaborate with other stakeholders to ensure the SDGs are achieved by 2030.



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