

Informal Youth Employment in the Mobile Industry in Sub-Saharan Africa

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Contents

Glossary of terms 2

Executive summary 3

01 Introduction 5

02 The landscape of informal employment in the mobile industry in Sub-Saharan Africa 8

03 Informal work in retail and distribution and mobile money 14

04 Informal work in non-retail roles 26

05 Voices of youth: the challenges and benefits of informal employment in the mobile industry 35

06 Recommendations 42

Stakeholders consulted 44

Annex 1: Informal employment estimates by GSMA Intelligence 45

Annex 2: Detailed survey methodology 47

Glossary of terms

Mobile network operators

Mobile network operators (MNOs) provide connectivity and communications service for deployed network infrastructure (whether owned or leased).

Formal employment

Employment that is contractual, and, in theory, regulated by the government though actual enforcement may vary.

Informal employment

The operational criteria used by countries to define informal employment include: i) lack of employer's contribution to social security; ii) lack of a written contract; and iii) lack of entitlement to paid or sick leave.[1]

Mixed livelihoods

In 2015, the MasterCard Foundation used the concept of "mixed livelihoods" to describe "a combination of self-employment, work in the informal sector and agriculture-related activities"[2] that youth undertake to earn incomes. In this study, "mixed livelihoods" is used to describe a strategy used by youth, whereby they conduct multiple income-generating activities to build their livelihoods.

Mobile industry

The GSMA's definition of the mobile industry includes the following five segments: MNOs; device manufacturers; infrastructure and network providers; retail and distribution; and content and application (app) development. This research includes youth working directly and informally in any of these five segments of the mobile industry value chain.

Mobile money service

A mobile money service includes transferring money and making and receiving payments using a mobile phone. The service must be available to the unbanked (i.e., people who do not have access to a formal account at a financial institution). The service must offer at least one of the following products: domestic or international transfers; mobile payments, including bill payments, bulk disbursements and merchant payments; or storage of value. The service must offer an interface for initiating agent and/or customer transactions that is available on mobile devices.[3]

Mobile money agent

A person or business contracted to facilitate financial transactions for users. The most important of these are cash-in and cash-out (i.e., loading value into the mobile money system then converting it back out). In many instances, agents also register new customers. Typically, agents will work in other types of businesses in addition to mobile money, such as small-scale trading, microfinance institutions and chain stores.[4]

Youth

Individuals aged 15 to 35, as defined in the African Youth Charter.[5] Based on the conventions of other statistical research, this research includes youth aged 15 to 34 in modelled employment estimates. The survey was restricted to youth aged 18-34.

1 See the International Labour Organisation's definition of informality.
2 MasterCard Foundation. (2015). Mixed Livelihoods: A Reality for Youth in Africa.
3 See GSMA Mobile Money Metrics.
4 GSMA. (2010). Mobile Money Definitions.
5 See: African Youth Charter.

Executive summary

In Sub-Saharan Africa, the supply of labour outweighs demand. Since most youth cannot find formal jobs, they take up informal income-generating opportunities instead.

There are two main reasons for the lack of formal jobs for youth in Sub-Saharan Africa (SSA). The first is a demographic "youth bulge", attributed mainly to high fertility rates, that has made SSA the youngest region in the world.[6] Second, SSA economies have not experienced the structural shift to labour-intensive manufacturing seen in other parts of the world, and this has limited job creation.[7] In addition to these challenges, youth lack the skills employers demand.[8] For these reasons, according to the International Labour Organization, 95 per cent of youth aged 15 to 24 in SSA have taken up informal employment,[9] a vital source of income and critical to building their livelihoods.

The mobile industry provides informal income-generating opportunities for more than 800,000 youth in SSA. This is primarily additional income rather than a full-time job.

The mobile industry employed more than 800,000 youth in informal jobs in 2018, and this number is expected to grow.[10] Between December 2020 and February 2021, GSMA Mobile for Development conducted interviews and surveys with youth in six SSA countries working directly and informally in the mobile industry. The aim of the research was to understand the drivers, benefits and challenges of their work and to assess working conditions.

The key findings were as follows:

- Most youth in SSA engage in informal income-generating activities in the mobile industry as part of a mixed livelihoods strategy. This work supplements their income, which comes from a range of other economic activities.
- More than 70 per cent of informal jobs in the mobile industry are in retail and distribution networks and mobile money agent roles.
- A third of informal retailers and distributors and mobile money agents have built stable, long-term careers in the industry in sustainable enterprises, while two-thirds are working in the industry for short-term income generation.
- Youth working informally in non-retail segments of the industry primarily repair mobile phones and a smaller proportion work as content and application (app) developers or casual construction workers on network infrastructure.
- While women are well represented in retail and distribution and mobile money services, qualitative research indicates they are less well represented higher up the value chain as entrepreneurs where economic gains are also higher.
- The number of women working informally in content and app development and phone repair is notably low, which tend to be well-remunerated jobs. There is also an absence of women employed in infrastructure provision.

6 In 2019, while the average global fertility rate was 2.5 births per woman, in SSA it was 4.6 births per woman. See: United Nations Department of Economic and Social Affairs. (2020). World Fertility and Family Planning 2020.
7 The World Bank. (2014). Youth Employment in Sub-Saharan Africa.
8 GSMA. (2020). Powering Youth Employment through the Mobile Industry in Sub-Saharan Africa by 2025.
9 International Labour Organisation (ILO). (2018). Women and Men in the Informal Economy: a Statistical Picture.
10 GSMA. (2020). Powering Youth Employment through the Mobile Industry in Sub-Saharan Africa by 2025.

Youth surveyed for this research identified the lack of formal job opportunities as a key driver of informal employment in the mobile industry.

Youth who participated in our survey would prefer to have formal jobs, but in a context where jobs are lacking due to labour market constraints, entrepreneurship can offer a viable option for a sustainable livelihood.[11] Fifty-five per cent of youth we surveyed indicated that, given the choice, they would like to have a formal job and continue working in the mobile industry and obtain financing to grow their business. This finding underscores that youth in SSA are taking a mixed livelihoods approach to building their future. Irregular income and lack of financing are the biggest challenges reported by youth, while financial independence, flexibility, upskilling, and the ability to generate additional income were reported as key benefits.

The COVID-19 pandemic exacerbated informal employment challenges in the industry, but these trends were countered in part by sharp growth in employment opportunities in mobile money agent networks.

Seventy-five per cent of youth surveyed reported that the COVID-19 pandemic had negative income impacts on their livelihoods. However, youth also relied on informal roles in the industry to counter COVID-related impacts. In particular, registration for mobile money agent roles increased sharply in the latter half of 2020, with a 40 per cent increase in Western Africa and almost 27 per cent in Southern Africa compared to 2019, creating employment opportunities.

Income-generating opportunities in the mobile industry will continue to support the livelihoods of youth in SSA. Collaboration with key stakeholders can make these informal jobs more productive.

Given the rapid pace of digitalisation in SSA, informal employment in the industry is expected to grow and continue to generate income and support livelihoods for youth for the foreseeable future. Collaboration between key stakeholders, including policymakers, development organisations and educational institutions, can provide targeted solutions to the challenges youth face in informal employment, and help more youth become entrepreneurs and build stable enterprises in the mobile industry value chain.

11 USAID. (2017). The evidence is in: how should youth employment programs in low-income countries be designed?



01

Introduction

Youth employment is an enormous challenge in SSA. Demographically, the region is experiencing a "youth bulge"[12] that has left a rapidly growing workforce without enough formal jobs.[13] The World Bank projects that between 2017 and 2035, Africa's working age population will grow by 450 million people and, based on the current trajectory, there will only be 100 million new jobs.[14] Despite improvements in educational outcomes, the quality of education in the region remains low and there is a wide gap between the skills young people have and those that formal jobs require.[15] Most youth, therefore, transition from school to the informal economy.[16]

In 2020, GSMA Mobile for Development conducted a study of formal youth employment in the mobile industry in SSA and found that in 2018, 800,000 youth in SSA found informal work in the industry, and this is expected to increase to one million by 2025.[17] These jobs can be an essential source of livelihood for youth, but more often they provide a vital source of additional income to their existing business or other economic activity as part of a mixed livelihoods strategy.

Drivers of informal employment in the mobile industry in Sub-Saharan Africa

Informal youth employment in the mobile industry in SSA is driven by both macroeconomic and industry-specific factors.

Macroeconomic drivers include:

The structure of the economy and the labour market. According to the World Bank, countries in SSA do not have the labour-intensive manufacturing sector that has created employment opportunities at scale for youth in low- and middle-income countries (LMICs) in other regions. Youth in SSA tend to be employed primarily in agriculture, which is perceived as low-productivity[18] and rates of rural to urban migration are high.[19] Only a small percentage of youth are able to secure formal, contractual employment. Most youth work informally and, increasingly, in private sector service jobs.

Labour supply. There is an oversupply of underskilled labour in the market due to two reasons. First, the high fertility rates in the region. At 4.6 births per woman, SSA's fertility rate is more than twice as high as anywhere else in the world.[20] Second, the low investment in human capital. While there have been notable improvements in education enrolments and secondary school completion rates, countries in SSA rank low on the Human Capital Index (HCI), a sign of underinvestment in youth that has prevented them from maximising their economic potential and productivity.[21]

12 United Nations Department of Economic and Social Affairs, Population Division. (2019). World Population Prospects 2019: Highlights.
13 Mo Ibrahim Foundation Forum Report. (2019). Africa's Youth: Jobs or Migration.
14 The World Bank. (2017). The Africa Competitiveness Report 2017.
15 ILO. (2020). Global Employment Trends for Youth 2020: Technology and the Future of Jobs.
16 Ibid.
17 GSMA. (2020). Powering Youth Employment Through the Mobile Industry in Sub-Saharan Africa by 2025.
18 World Bank. (2014). Youth Employment in Sub-Saharan Africa.
19 ILO. (2020). Report on Employment in Africa (Re-Africa): Tackling the Youth Employment Challenge.
20 See World Bank Indicators. Fertility rate, total (births per woman)- Sub-Saharan Africa.
21 The World Bank Human Capital Index (HCI) measures how current education, health and skills status will impact the productivity of people. Out of a maximum score of 1, Kenya ranks highest in the index among the countries in scope with a score of 0.55, Ghana scores 0.45, South Africa has a score of 0.43, Côte d'Ivoire and Uganda score 0.38 points and Nigeria 0.36 points.

There are also industry-specific factors driving informal employment in SSA, including:

- Rapid digitalisation and growing demand for digital products that continue to create economic opportunities;
- A perception among youth that jobs in the mobile industry are modern and will be relevant for the foreseeable future;
- Improvements in network infrastructure and the declining cost of handsets that enable more youth to work in mobile money and mobile-related retail; and
- Low barriers to entry to sell retail products, such as airtime and SIM cards, and to waged employment in mobile money services.

While informal jobs have challenges, and these were exacerbated by the COVID-19 pandemic, the mobile industry has consistently increased and improved the informal income-generating opportunities available to youth. With the rapid digitalisation of SSA, the mobile industry is uniquely placed to support youth employment. Close collaboration with key stakeholders in youth employment could be transformative in generating more informal income generating opportunities, enhancing livelihoods and increasing productivity.

Objectives and methodology

This report shines a light on informal economic opportunities created directly in the mobile industry value chain.[22] Our research assessed the drivers, working conditions, challenges and benefits of these economic opportunities from the perspective of youth and other stakeholders, and will enable MNOs, policymakers, development organisations and industry leaders to find targeted solutions to the challenges youth face in building sustainable livelihoods in informal roles in the industry.

Specifically, this report contains:

- Modelled estimates of direct informal employment in the mobile industry in SSA;
- Survey findings from 2,412 youth working informally in the industry and qualitative insights from 90 interviews with youth working informally in the industry and from 80 key informants and stakeholders;
- An assessment of the working conditions, drivers, opportunities, benefits and challenges of these jobs, as well as the impacts of the COVID-19 pandemic; and
- Recommendations for key stakeholders to improve and better support informal income-generating opportunities in collaboration with the industry.

Research findings are based on a range of methods. We surveyed more than 400 youth (aged 18 to 34) working informally in the mobile industry in **six countries in SSA: Côte d'Ivoire, Ghana, Kenya, Nigeria, South Africa and Uganda.** The research was conducted between December 2020 and February 2021 through an online panel survey, phone survey and face-to-face survey using different sampling methods.[23]

In addition, we conducted qualitative interviews with 40 key informants, 90 youth working informally in the industry and 40 industry workers who supply, employ or manage them. This gave us a more granular understanding of the experiences of youth working informally in the mobile industry from a variety of perspectives.

Extensive desk research on informality and employment and findings from past GSMA reports also underpin the research.

22 The mobile industry includes MNOs, device manufacturers, infrastructure and network providers, retail and distribution and content and application (app) development. This research included youth working *directly* and *informally* in any of these segments. The scope of the research does not extend to indirect jobs created by the industry in adjacent sectors, such as those that purchase materials and services from providers in the mobile industry's supply chain, which creates an indirect multiplier effect. The research also does not extend to indirect "gig" employment that mobile devices facilitate on digital platforms, such as ride hailing and food delivery.

23 Detailed survey methodology can be found in Annex 2.



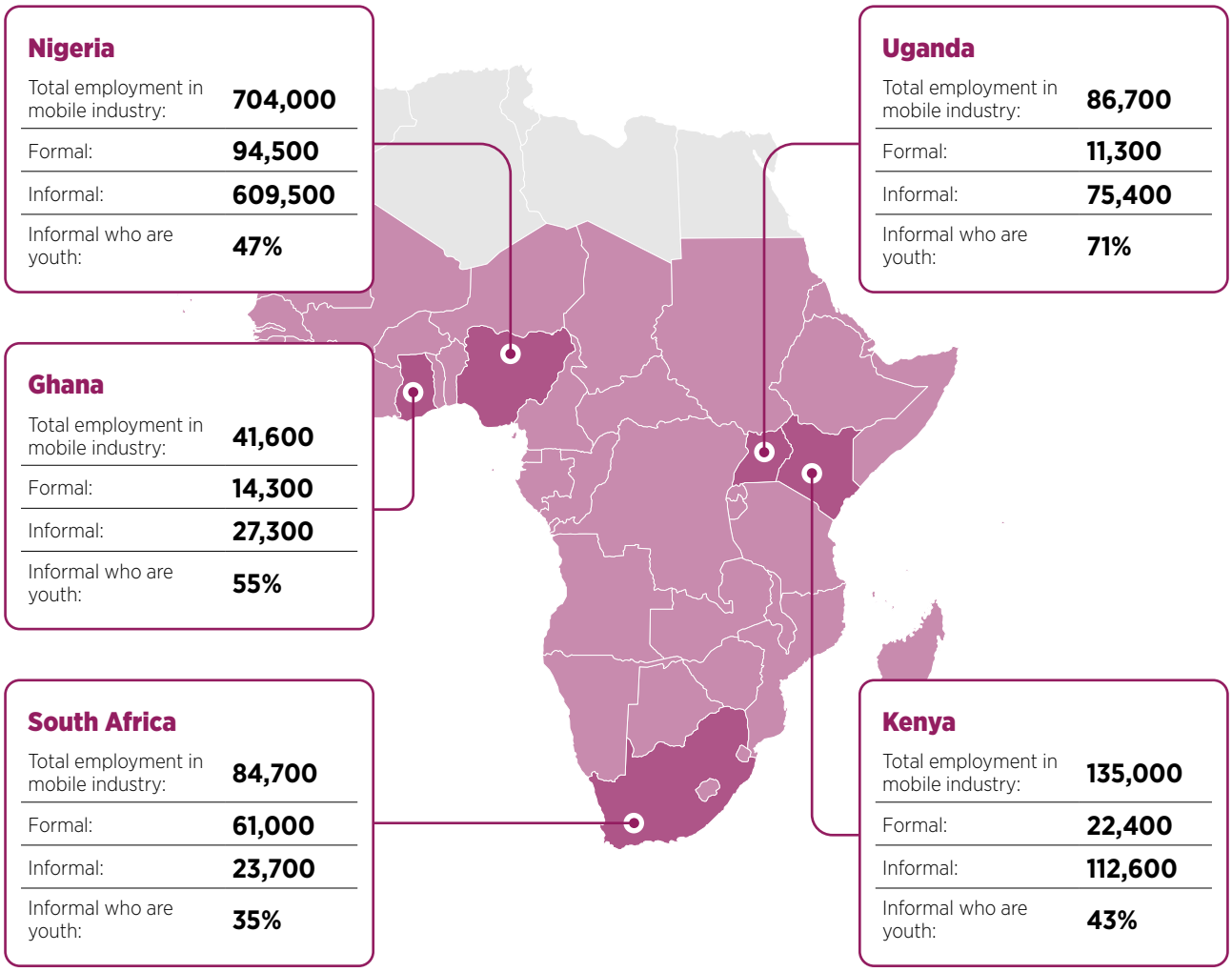
02

The landscape of informal employment in the mobile industry in Sub-Saharan Africa

GSMA Intelligence has modelled estimates of informal employment in the countries covered by our research. These estimates provide a snapshot of the proportion of formal and informal employment in the mobile industry, and the percentage of people employed informally in the industry who are youth aged 15 to 34 (Figure 1).[24] Aggregated across the countries, 81 per cent of employment in the mobile industry is informal and almost half of informally employed workers are youth.

Figure 1

Modelled estimates of informal employment in the mobile industry, by country



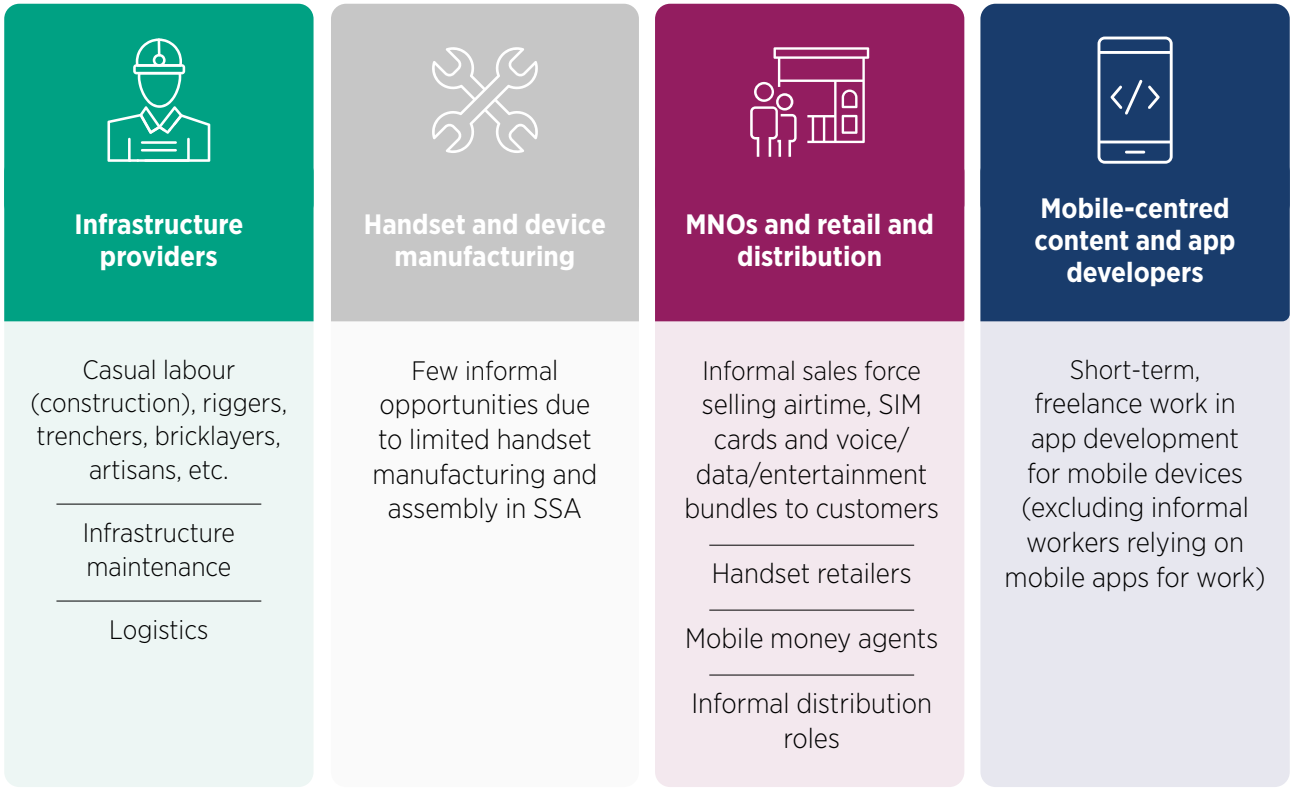
Source: GSMA Intelligence

24 Employment estimates by GSMA Intelligence are based on i) an analysis of formal employment by sector in the mobile economy in each country using the financial reports of MNOs, Strategy Analytics, Thomson Reuters and the IMF; ii) an analysis of the share of formal workers according to firm size by mobile economy sector for each country using national survey data; and iii) an analysis of the share of total informal employment by firm size in each mobile economy sector and country using national survey data. Since national survey data for Côte d'Ivoire was dated and would have yielded unreliable estimates, this calculation was not made for this country. A detailed explanation of the modelling methodology can be found in Annex 1.

Informal income-generating opportunities in the mobile industry value chain were identified through secondary research and key informant interviews (KIIs). Figure 2 details the types of informal employment activities in the value chain.

Figure 2

Informal employment in the mobile industry value chain



Source: GSMA Mobile for Development (based on desk research and KIIs)

Based on the informal activities identified, 2,412 youth were surveyed to gain insights into the working conditions, experiences, drivers, benefits and challenges of these roles. The following are three overarching findings from the survey.

Most youth working informally in the mobile industry value chain employ a mixed livelihoods strategy by engaging in numerous income-generating activities to build their future.

A quarter of survey respondents were students, and 45 per cent reported having additional income-generating activities outside the mobile industry, including formal jobs. We can infer that 30 per cent of surveyed youth are likely to be deriving an income exclusively from their work in the mobile industry.

While 74 per cent of youth surveyed engaged exclusively in informal income-generating activities, 11 per cent had formal jobs and 12 per cent had a registered business and worked in the mobile industry to supplement their income.[25] In Kenya and Uganda, approximately 40 per cent of respondents reported that they also worked in an agricultural activity.

These findings suggest that for a significant number of youth working informally in the mobile industry value chain, their job in the mobile industry is part of a range of income-generating activities. The portrait of Mary, an urban phone retailer in Nigeria, is illustrative of this mixed livelihoods approach (Box 1).

25 The remaining three per cent of respondents did not specify whether they have other income-generating activities.

Box 1

Portrait of Mary, 34, phone retailer, urban, Nigeria

Mary is a 34 year-old mother of two living in Ogbomosho, a city in southwest Nigeria. She has a degree in animal production and health from the University of Ilorin. She owns a shop near the university in her hometown where she conducts several different activities. Her main activity is trading second-hand phones, laptops and home appliances. Occasionally, she works as a trader of agricultural produce.

Mary originally discovered the second-hand phone trade through friends at university and realised it could be a lucrative activity, so she decided to set up her own business.

Mary's shop is open 10 hours a day, six days a week and she has two employees. Although it is an informal business, Mary has developed clear processes. When buyers come to her store, they agree to a negotiated price and then Mary takes the IMEI number and the original receipt for the phone. This allows her to validate that the person selling the phone is the owner. She then writes a purchase agreement and transfers the funds to the seller.

> ***"Any phone or any product that does not have a product receipt, I am not buying."***

Mary had to learn new skills to conduct her work, such as unlocking phones, resetting phones and wiping them clean. She has also learned to check whether phones are in as good a condition as their owners claim.

> ***"One thing I learned is about the Samsung code to test the phone. It allows me to check whether the phone is an original and I can detect if the screen is faulty."***

Mary lost customers during the COVID-19 pandemic, as most of them were students who had returned home. Mary had almost no customers until January 2021 when the university reopened. Mary is satisfied with her income from the store, but she wants to diversify her activities and has recently been interviewed for a formal job.



The average income generated by youth in their primary income-generating activity in the mobile industry closely matches per capita GDP.

The reported average monthly income of youth from their main activity in the mobile industry either exceeds or closely matches GDP per capita, except in Nigeria where incomes are significantly lower (Table 1).

A possible explanation for lower reported incomes in Nigeria may be that SIM sales were suspended in the country at the time of the survey, from December 2020 until April 2021, as regulators ordered that SIM card registrations must be linked to the owner's National Identification Number (NIN). Media reports highlight the significant negative impact this has had on small informal businesses and agents working in SIM card sales and registration.[26] In addition, mobile money is less prevalent in Nigeria than in Cote D'Ivoire, Kenya, Ghana and Uganda, which may also partly explain the income impacts.

Table 1

Average monthly income generated by youth from their main economic activity in the mobile industry, by country

Country	Average monthly income (USD)	Current GDP per capita/month (2020) (USD)[27]
Côte d'Ivoire	$194	$194
Ghana	$233	$194
Kenya	$145	$153
Nigeria	$138	$175
South Africa	$458	$424
Uganda	$104	$68

Source: GSMA Mobile for Development (based on survey results)
Base: Youth aged 18 to 34 working informally in the mobile industry in the six survey countries. Respondents were asked 'How much income have you made from (main activity you conduct in the mobile industry) in an average week in the last three months?' N(Côte d'Ivoire)=135, N(Ghana)=170, N(Kenya)=145, N(Nigeria)=180, N(South Africa)=90, N(Uganda)=117. Excludes respondents who answered, "Do not know" or "Do not wish to answer".

26 Isuaka, M. (5 February 2021). "How Nigeria's ban on SIM card sales has cost many jobs". Premium Times.
27 Current GDP per capita is based on World Bank statistics for 2020. See: World Bank Data.

While these findings are compelling, income data must be interpreted with caution since, a) there was a high level of non-response to the survey question; b) income from informal activities is often irregular and may involve spikes linked to specific transactions, making average weekly incomes difficult to interpret; and c) most youth combine several income-generating activities both within and outside the mobile value chain, making it difficult to attribute income to a specific activity or hours of work.

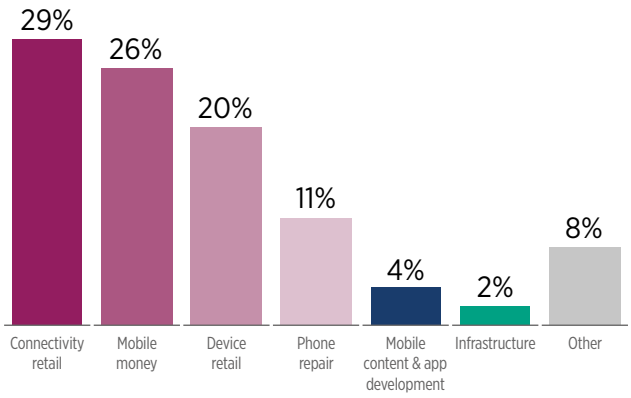
Most youth who work informally in the industry generate income from retail and distribution roles and mobile money services.

Retail and distribution roles and mobile money services are the biggest sources of informal employment in the industry (Figure 3). Seventy-five per cent of survey respondents are involved in connectivity retail (29 per cent),[28] the provision of mobile money services as mobile money agents (26 per cent) and/or the sale of handsets (20 per cent).

Figure 3

Main economic activity of youth working informally in the mobile sector, identified as the activity that generates them the most income in the industry

Percentage of total respondents, all countries



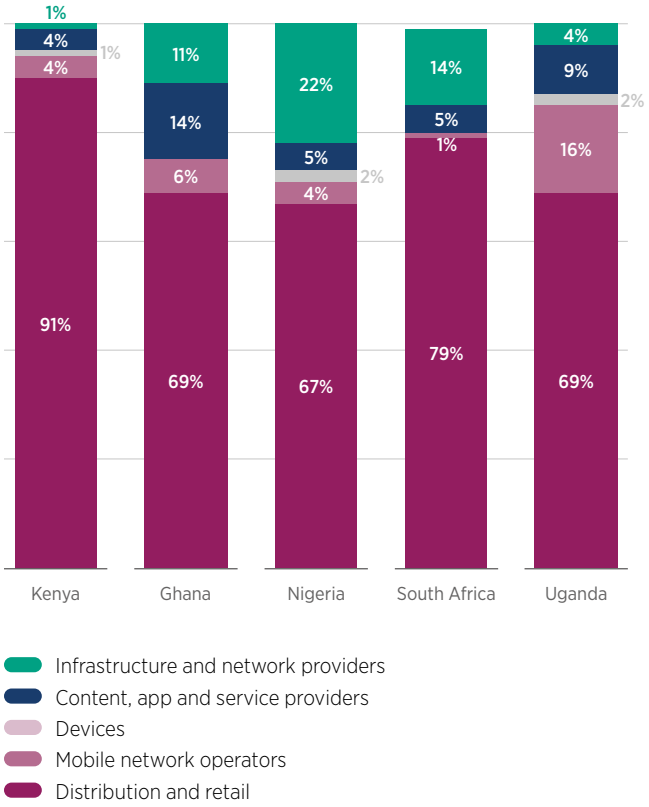
Source: GSMA Mobile for Development (based on survey data)
Base: Youth aged 18 to 34 working informally in the mobile industry in the six survey countries. N=2,412 for all countries surveyed.

Survey findings are aligned with modelled estimates of informal employment, which also identify retail and distribution as the segment that creates the most informal employment opportunities in the industry value chain (Figure 4).

Figure 4

Informal employment in the mobile economy by industry segment in selected countries

Percentage of total informal employment in the industry



Source: GSMA Intelligence (based on modelled estimates)

The following sections present the survey findings and analysis for two main segments of the mobile industry:
a) retail, distribution and mobile money networks (page 14); and
b) non-retail informal workers (page 26).

The drivers, challenges and benefits of informal work in the mobile industry are then examined.

28 Connectivity retail refers to the retail and distribution of airtime, SIM card sales and registration and the sale of voice/data and entertainment bundles.



03

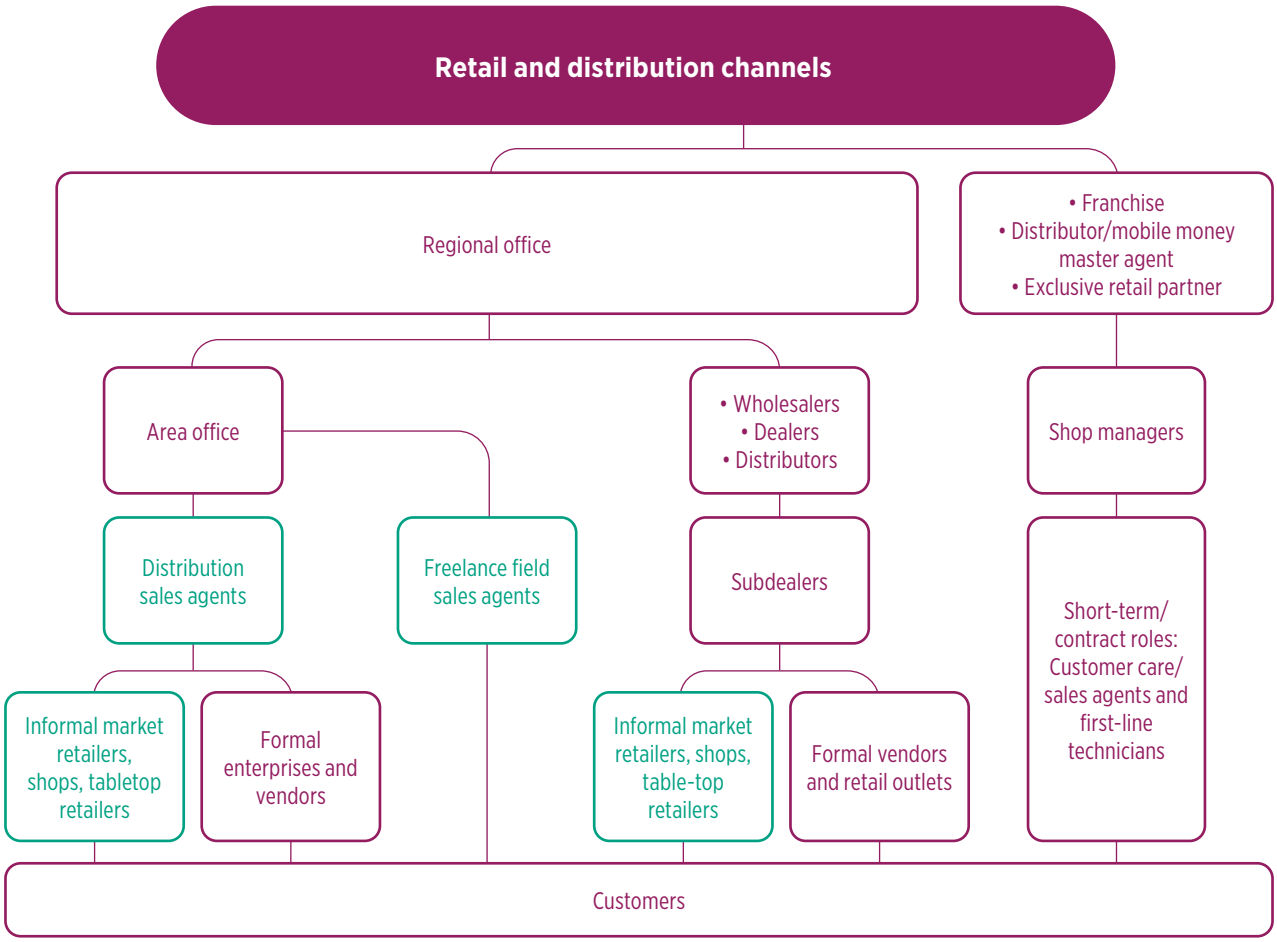
Informal work in retail and distribution and mobile money

In most markets in SSA, an MNO's retail and distribution network consists of direct sales channels that include their own branded shops and franchises and indirect sales channels that include third-party distributors. Distribution models vary significantly between companies and contexts, from being managed directly by MNOs to completely outsourced to third-party distributors, or a hybrid approach (Figure 5) that includes both formal and informal retail and distribution channels.

Figure 5

Informal employment in a hybrid retail and distribution model

Informal elements are indicated by green boxes



Source: GSMA Mobile for Development

The most common informal opportunities for youth in retail and distribution value chains include:

- Registered mobile money agents or waged mobile money agents employed in either formal or informal micro and small enterprises;
- Field agents hired for short-term door-to-door sales in commission-based roles;
- Distribution sales agents (DSAs) responsible for "topping up" digital products at both formal and informal retail points in a given area;[29] and
- Informal retailers of connectivity products.

Although some handset retailers may be supplied by MNOs or third-party distributors in the MNO value chain, most buy and sell their goods independently for a profit and find lucrative opportunities in second-hand phone retail.

29 DSAs may have elements of formal employment, such as a contract and associated protections.

Survey data shows that youth who are informal retailers generally sell multiple mobile-related products. Two-thirds of connectivity retailers offer mobile money services and 40 per cent of handset retailers also work in connectivity retail. Youth sell multiple products to spread out their risk, maximise their income and take advantage of the synergies between products. Some MNOs that initially leveraged their existing connectivity retail distribution networks to offer mobile money services have turned connectivity retailers into mobile money agents. Finally, commissions from sales of connectivity products are generally insufficient but, when combined with commissions from mobile money services, they are more sustainable.

Given that 66 per cent of youth who are connectivity retailers also work as mobile money agents, these are frequently discussed together in the remainder of the report.

Box 2

Expanding opportunities and new solutions for mobile money agents

Mobile money services are rapidly expanding informal employment opportunities for youth, and MNOs are increasingly developing solutions to the biggest challenges facing mobile money agents.

After an initial negative impact of the COVID-19 pandemic (January to March 2020), mobile money agent networks experienced rapid growth in SSA[30] and increased informal income-generating opportunities, including for youth. The number of registered agents rose by more than 40 per cent in Western Africa and almost 27 per cent in Southern Africa from 2019, with more modest increases in Eastern and Central Africa.[31]

MNOs are also partnering with development organisations to create employment opportunities for youth. For example, MTN South Africa has announced a $2 million partnership with the International Finance Corporation (IFC) to hire 10,000 agents (with a focus on youth and women) in 2021 to reach the country's unbanked and underbanked population.[32]

Mobile money agents are a crucial asset for mobile money providers (MMPs) and offer an efficient and scalable way to reach remote populations, bridge the gap in mobile use and advance financial inclusion in low-income areas. Increasingly, MNOs have been investing in models and solutions that improve their agents' operations and profitability, such as:

- Simplified and digitised agent on-boarding, registration and training;[33]
- Reducing mobile money agents' operating costs by offering float management solutions;[34]
- Building partnerships with financial institutions and tech companies to deliver tailored financial products to agents;[35] and
- Digitising the management and operations of agents.[36]

With growing agent networks, innovative solutions are also being developed by start-ups such as Pesakit and Onango to increase agents' revenue streams and stabilise their liquidity flows.[37]

30 GSMA. (2021). State of the Industry Report on Mobile Money 2020.

31 See: GSMA Mobile Money Metrics.

32 Reuters. (2021). MTN South Africa teams up with World Bank's IFC on mobile money.

33 GSMA. (2018). Distribution 2.0: the future of mobile money agent distribution networks.

34 Float is 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. Airtel and MTN Uganda have employed "float runners" or field agents to deliver cash and e-value to agents either directly or through partnerships with third parties. This prevents agents from incurring travel costs and losing income while going to a bank to balance their float. Source: Ibid.

35 Ibid.

36 MTN, for example, has launched an app for mobile money agents that improves transaction processes. This enables agents to serve more customers faster, improve footfall and sell additional services to increase commissions.

37 Pesakit in Kenya allows mobile money agents to sell and earn commissions from a growing range of digital products, as well as obtain microcredit, while Onango in Côte d'Ivoire provides working capital to agents.



Box 3

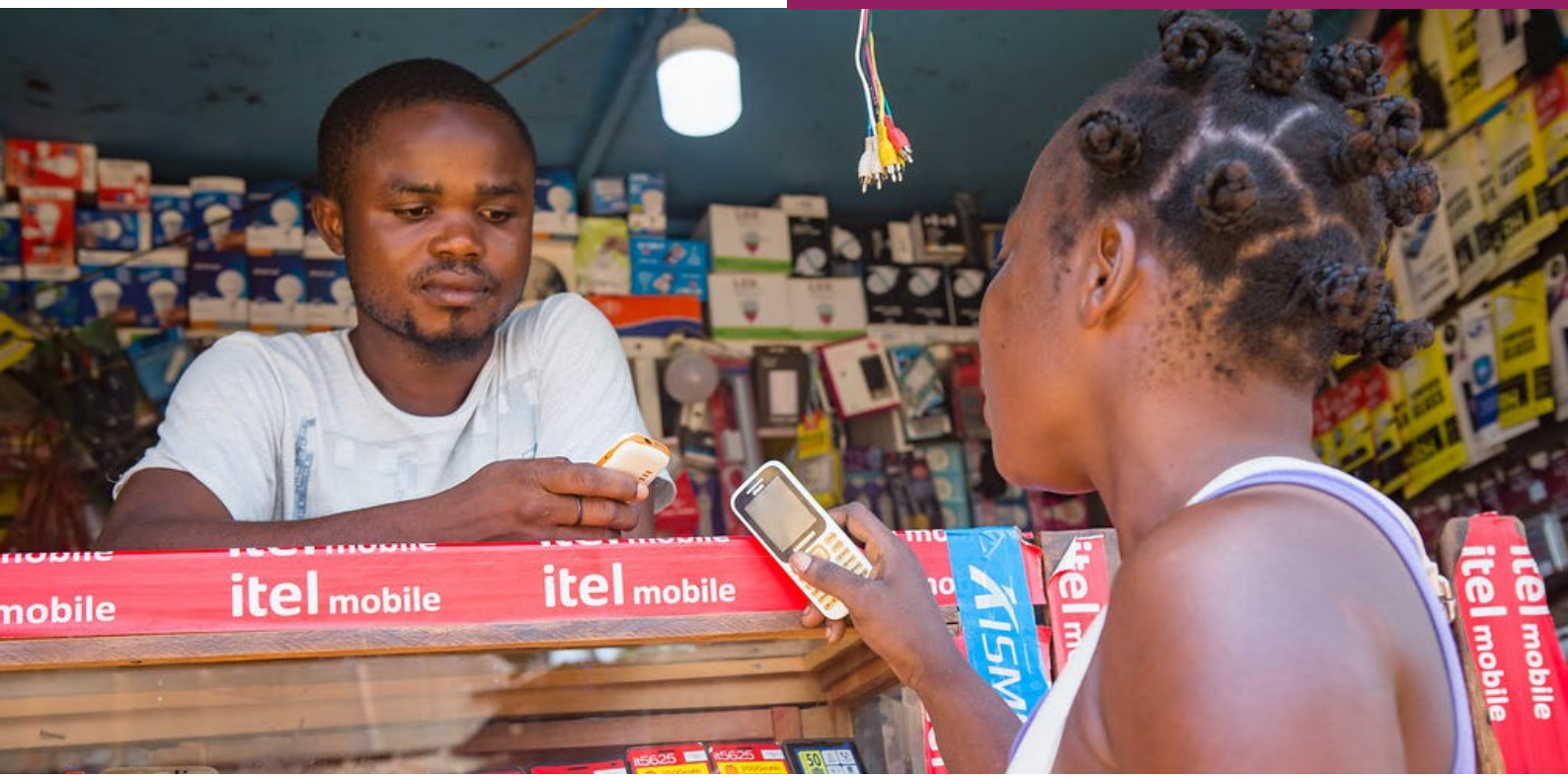
Portraits of youth working as mobile money agents

Nuru, female, 32, mobile money agent, urban, Uganda

Nuru is a single mother living in Kampala and working as a mobile money agent. Nuru is a wheelchair user. She used to be formally employed and only did mobile money as a side hustle on evenings and weekends. She learned the trade from other mobile money agents. Mobile money became Nuru's main economic activity six years ago when she lost her job. Three years ago, Nuru diversified by processing utility bills for people through Payway. She also does embroidery to earn extra cash. Six months ago, Nuru subletted a shop in a shopping centre in a busy location in Kampala. Nuru does not miss her former job in the formal sector as she can make more money as a mobile money agent and has been able to buy land to build a house. She feels she has built strong skills in marketing, customer care, accounting and quick computing.

Catherine, female, 21, mobile money agent, rural, Kenya

Catherine is 21 years old. She is studying economics at the University of Nairobi. During the holidays, she returns to her hometown in Muranga County and works as a mobile money agent, employed by a bookstore owner who has an M-Pesa desk in his shop. Working in an M-Pesa outlet part-time is common in her hometown, and it was easy for her to get the position. Her parents support her financially for her studies and living expenses in Nairobi, but she does this job to earn extra income. She intends to get a formal job after university.



Typology of informal retail and distribution workers and mobile money agents: transient versus stable

Our survey findings suggest that youth working in retail and distribution roles, or as mobile money agents, may be segmented into transient retailers (those working in the industry in the short term) and stable retailers (those who have built more diversified, long-term, sustainable businesses). Table 2 shows the differences between transient and stable retailers.

Table 2

Characteristics of transient versus stable retailers

Features	Transient retailers	Stable retailers
Years worked	Less than one	Three years or more
Years planned to work	Less than one	Foreseeable future
Student	35%	None
Average age	25	28
Place of work	Flexible	Established/permanent place of work, such as a shop
Main activity	More likely to be connectivity retail	More likely to be diversified
Hours worked	Average 10 hours	40+

Source: GSMA Mobile for Development (based on survey results)
Base: Youth aged 18 to 34 working informally in retail and distribution and mobile money services in the six survey countries. N=2,412 for all countries surveyed.

Two-thirds of surveyed retailers are transient while a third are stable. Working conditions for transient and stable retailers revealed notable differences on a number of dimensions; employment status, hours of work, location of work and income (see Data Spotlight 1).

Data Spotlight 1

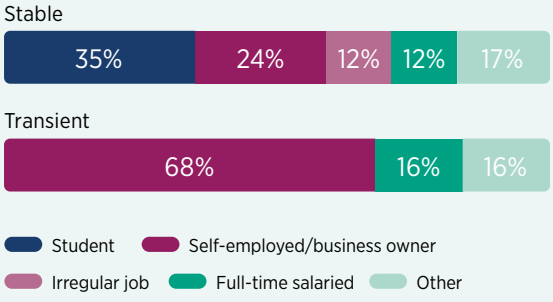
Working conditions in retail and distribution and mobile money roles

More than two-thirds of stable retailers versus a quarter of transient retailers are self-employed. Thirty-five per cent of transient retailers are students (Figure 6).

Figure 6

Employment status of transient and stable retailers

Percentage of youth informal retailers



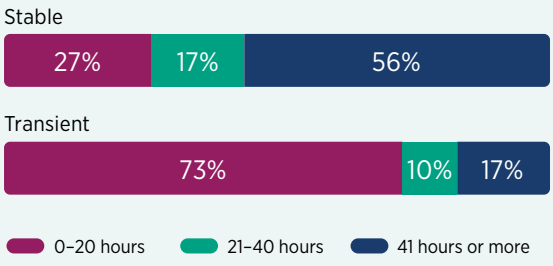
Source: GSMA Mobile for Development (based on survey results)
Base: Youth aged 18 to 34 working informally in the mobile industry value chain in retail and distribution or mobile money services in the six survey countries. N(Transient)=1,151, N(Stable)=582

Stable retailers tend to work full-time in their businesses while transient retailers tend to work part-time hours (Figure 8).

Figure 8

Hours worked by transient and stable retailers

Percentage of youth informal retailers



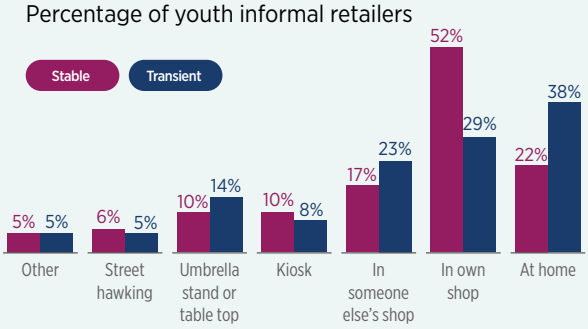
Source: GSMA Mobile for Development (based on survey results)
Base: Youth aged 18 to 34 in informal retail and distribution or mobile money services in the six survey countries. N(Transient)=830; N(Stable)=384. Excludes respondents who answered, "Do not know" or "Do not wish to answer".

Stable retailers are more likely to own their shop while transient retail workers are more likely to work from home or a flexible location (Figure 7).

Figure 7

Location of work for transient and stable retailers

Percentage of youth informal retailers



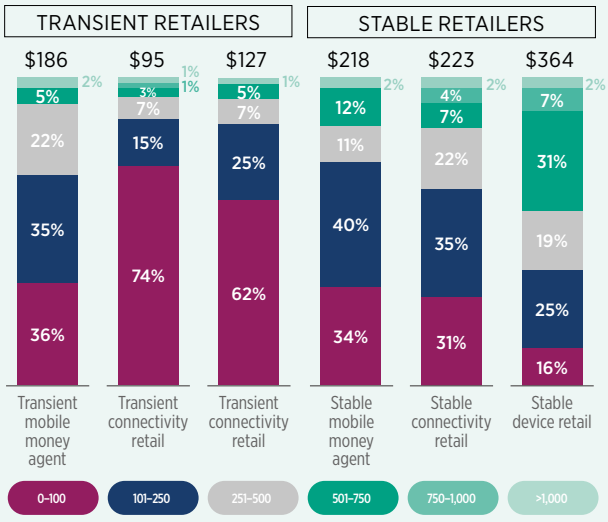
Source: GSMA Mobile for Development (based on survey results)
Base: Youth aged 18 to 34 in informal retail and distribution or mobile money services in the six survey countries. N(Transient)=1,151 N(Stable)=582. Respondents could provide multiple answers.

Stable retailers and stable mobile money agents earn higher incomes than transient retailers based on a comparison of average monthly income by type of activity and across countries (Figure 9).

Figure 9

Average monthly income (USD) of informal retailers, by activity and profile

Percentage of youth informal retailers



Source: GSMA Mobile for Development (based on survey results)
Base: Youth aged 18 to 34 in informal retail and distribution or mobile money services in the six survey countries. N (Transient mobile money)=120; N(Transient connectivity retail)=165; N(Transient device retail)=105; N(Stable mobile money)=104; N(Stable connectivity retail)=64; N(Stable device retail)=76

Data Spotlight 1 suggests that many stable retailers have built sustainable informal enterprises in the industry, working full-time hours in permanent places of work and generating good incomes. The case of transient retailers is more complex and survey findings need to be interpreted with a mixed livelihoods strategy in mind. Within a mixed livelihoods context, youth who are transient retailers can be further segmented into:

- Transient retailers by choice, who value the flexibility and autonomy of informal work in the industry, working part-time hours from flexible locations while they search for formal employment, complete their education or fulfil caring responsibilities; and
- Transient retailers aspiring to be stable retailers, for whom working conditions indicate less diversified sources of income, low earnings, street hawking and underemployment.

Box 4 presents interview excerpts with youth, representing four categories of informal retailers.

Box 4

Portraits of transient and stable retailers

Transient retailer by choice

> *"I have been working for two years as a SIM card re-seller. I enjoy it because it allows me to work part-time, two to three days a week. For me, it is an easy way to earn money in parallel to my studies."* – Male, 21, transient retail worker, rural, Côte d'Ivoire

Transient retailer as part of a diversified income strategy

> *"As a porter at the hospital, I have got a lot to do... as I walk around, I meet people who want to buy airtime...I think people trust me because of my personality and now I help people in the hospital get their phones fixed. You would not give your phone to a random person for a few days to get it fixed. It is a big deal but from last year I had about over 30 phones in my house that had to be fixed. The trust I built with my customers helped me into making this little business grow."* – Male, 19, transient retailer, urban, South Africa

Transient retailer aspiring to be a stable retailer

> *"I sell online or in my mother's shop. I buy phones and devices on eBay and then sell to Nigerian customers. It's growing, but I am not registered yet. When the business gets big, definitely I will hire someone."* – Male, 33, transient retail worker, rural, Nigeria

Stable retailer with a sustainable business and high job satisfaction

> *"I remember when there was no one in the neighbourhood selling phone accessories. I was selling CDs outside a mall, and when people asked me about phone products, I'd send them to the shops inside the mall. By then my income was low and the business was not moving, so I decided to sell phone devices. I like everything in my job. Over the past 10 years, I have recruited four people to help me with this activity."* – Male, 31, stable retailer, rural, South Africa

Youth aspiring to build long-term, sustainable enterprises in the industry face several challenges. These are captured in Figure 10 in a simplified depiction of a common (although not exclusive) trajectory from transient retailer to building a stable business.

Figure 10

The journey from transient to stable work in retail and distribution



1 Initiate	2 Expand	3 Diversify and/or formalise
Engage in transient connectivity retail or mobile money services	**Expand product offering and customer base**	**Establish business operations and continue diversification**
Youth initially engage in connectivity retail or become waged mobile money agents. This allows them to save and/or borrow money from other informal channels as start-up capital.	Youth may choose to expand retailing of both mobile-related and non-mobile products and services. Some sell food or household products. This allows them to increase savings or borrow to invest in their business and find a stable location.	Further diversification within and beyond the mobile industry value chain. Youth may hire employees informally to run the business as they pursue other economic opportunities, and may consider formalising once the business is established.
Challenge: Lack of financing to start the businesses.	**Challenge:** Lack of access to micro-credit to grow the business and lack of access to insurance to protect against fraud, theft and other business losses. Finding a permanent place of work is challenging and and youth may share kiosks or tabletops with other informal workers.	**Challenge:** Generating a sustainable income in commission-based roles in low-traffic areas. Lack of mentors and entrepreneurial skills to grow the business.

Source: GSMA Mobile for Development

Youth face both financial and non-financial challenges to scaling their businesses and making them more sustainable.

Financial challenges

- **Start-up capital:** One of the biggest challenges for youth working informally in the mobile industry is a lack of financing to start their business. While connectivity retail or waged employment in mobile money services are relatively easy to enter, youth require start-up capital to register as mobile money agents or set up a business in handset retail. They also require capital to rent a permanent place of work and pay for local licences. Youth struggle to meet the requirements of traditional banking institutions, such as identity and financial documentation, credit histories and collateral required to apply for bank loans.[38]

  At present, few initiatives offer start-up financing to youth entrepreneurs, and most take loans from informal channels, such as family members, to start their business. This is partly due to the challenges of risk assessment, as well as the need for a thorough market analysis to create relevant products for youth and identify suitable delivery mechanisms.[39] Innovative solutions that minimise risk to both lenders and users are needed. Loans or grants could be delivered efficiently and transparently via mobile money wallets.

- **Working capital:** For registered retailers and mobile money agents, MNOs and their distribution partners are uniquely positioned to support youth-owned businesses since transaction data can be used to provide tailored support.

  Increasingly, MNOs have been creating partnerships with regulated financial institutions to provide working capital in the form of microcredit to agents and retailers. Float management solutions have helped reduce agents' operating costs by 20 to 30 per cent.[40] MTN Uganda, Safaricom Kenya and Airtel Kenya all provide access to microcredit or loan facilities for their registered agents.[41]

- **Microinsurance:** Lack of insurance is one of the major challenges of informal work. MNOs are increasingly offering insurance products to informal workers through partnerships, primarily life, health and accident insurance.[42] Third-party microinsurance products delivered in partnership with MNOs are reducing the vulnerability of informal workers.[43]

  However, a critical need for agents and retailers is business insurance, which would protect them against fraud, theft and other unexpected business-related losses. MNOs could use retailers' transaction data to develop tailored insurance products in partnership with other stakeholders.

38 For an overview of 35 global public and private sector initiatives to provide youth with business financing, see: World Bank Group. (2020). Unlocking finance for youth entrepreneurs: evidence from a global stocktaking.

39 Ibid.

40 GSMA. (2020). State of the Industry Report on Mobile Money 2019.

41 Based in Cape Town, Jumo partners with mobile operators in countries such as Kenya, Tanzania and Zambia, to acquire data on phone usage. They then use this data to calculate a "Jumo score", a measure of creditworthiness that can be used to extend loans to MSMEs.

42 GSMA. (2020). Beyond one billion accounts: how is mobile money helping us become more financially resilient? An innovative development is insurance for agricultural workers, offered by PULA in Kenya and WorldCover in Ghana; the latter works with M-Pesa in Kenya and MTN Mobile Money in Ghana to offers smallholder farmers protection against climate-related risks to crops.

43 For more information on the role that mobile money plays in helping MSMEs to formalise, see GSMA. (2020). Mobile money: driving formalisation and building the resilience of MSMEs.

- **Commission-based earnings:** Because retailers' and agents' incomes depend on commissions generated from transactions, transaction volumes determine incomes. As MNOs expand from core services into adjacencies, they have consistently added products and services that retailers can sell to boost incomes. Once limited to airtime resellers, informal roles have evolved. Today, a connectivity retailer is also likely to be a mobile money agent who provides services other than cash-in and cash-out,[44] such as bill payments, handsets and pay-as-you-go (PAYG) utilities. For example, since 2019, Safaricom agents have sold handsets in addition to activation commissions, airtime, data bundles and mobile money products. MTN Uganda also sells handsets through their agents.

  MTN Nigeria has partnered with Lumos, a former GSMA Innovation Fund grantee, to provide PAYG solar panels to customers via their agents. Strategic partnerships with third parties such as these can leverage agent networks to both deliver products and help agents become more profitable.[45] Governments, international development and humanitarian organisations can also partner with MNOs, leveraging agent networks to advance digital and financial inclusion, deliver services to the last mile and increase agents' earnings.

Non-financial challenges

- **Infrastructure challenges:** Poor infrastructure in informal markets, such as lack of electricity, water and sanitation services, affects the working conditions of retailers and agents, and poor digital infrastructure exacts high costs in the form of lost income.

  To overcome these challenges, governments need to put more effort into addressing the working conditions of informal workers and businesses in commercial and open markets, including improved infrastructure and security. In particular, network infrastructure provision in rural areas needs to be incentivised.

- **Lack of mentorship and entrepreneurship skills:** Key informants reported that despite improvements in education levels, youth in SSA are still leaving school without technical and soft skills. These skills are not only important in securing formal jobs, but also in setting up more successful informal businesses. Despite entrepreneurial drive, youth lack the mentorship they need to grow their enterprises. Recognising the challenges of youth employment, MNOs have been actively contributing to the upskilling, training and employment of youth in SSA (Box 5).

44 Cash-in is the process by which a customer credits their mobile money account with cash, usually via an agent who takes the cash and credits the account with the same amount of e-money. Cash-out is the process by which a customer deducts cash from their mobile money account, usually via an agent who gives the customer cash in exchange for a transfer of e-money from the customer's mobile money account.

45 This may be considered an Agents as a Service model whereby agent networks are used by third parties to deliver their products, for example, in the case of e-commerce. See: GSMA and BFA Global. (2021). Profitability 2.0: Ecosystem driven business modelling and the future of mobile money margins.

Box 5

MNO initiatives to generate employment and upskill and empower youth

MTN's ICT and Business Skills Training Initiative, launched in 2018 in Nigeria, seeks to build the capacity of youth aged 18 to 35 in ICT and business skills. This venture was launched in partnership with Oracle, Google, KPMG, IBM and the Digital Bridge Institute, and aims to help youth become more employable or pursue entrepreneurship.

MTN Foundation Nigeria has launched a new initiative to build the skills of MTN Foundation scholars through online training in entrepreneurship. Fifty alumni will be offered small business loans to set up enterprises.

Vodacom's Youth Academy programme based in South Africa works with several partners, including Cisco and Microsoft, to upskill unemployed youth through training in IT technical support and entrepreneurship.

The Wezesha Economic Empowerment Programme was launched by the Safaricom Foundation, which recognised that youth unemployment in Kenya is linked to a lack of job opportunities and a mismatch of skills. While the Foundation's economic empowerment activities are wide reaching, they include providing entry-level jobs to young workers that have graduated from technical and vocational education and training (TVET) centres. Recently, the Foundation has partnered with Cloud Factory to provide 2,200 students with free digital skills training.

MTN Foundation Uganda launched a youth upskilling programme in December 2020 together with Ubunifu Systems. The initiative aims to provide youth with ICT solutions to solve problems in their communities (in education, health, agriculture and empowerment) using digital tools.

Vodacom NXT LVL in South Africa is aimed at youth under 25 who, during the COVID-19 pandemic, were provided with zero-rated e-learning services, such as Vodacom's e-school, and were able to build a digital CV and find local employment opportunities through zero-rated websites.

The Orange Foundation has five digital centres in Côte d'Ivoire that help women, most of whom are youth, find work and achieve financial independence through entrepreneurship and digital literacy.

The industry has also been collaborating with governments and innovative private sector initiatives to promote job creation. For example, South African MNO Cell-C has been offering gig work opportunities through the microwork platform Money4Jam, an initiative supported by the Government of South Africa.[46]

46 Gig work is defined as short-term and freelance work rather than permanent, long-term contractual employment.

Box 6

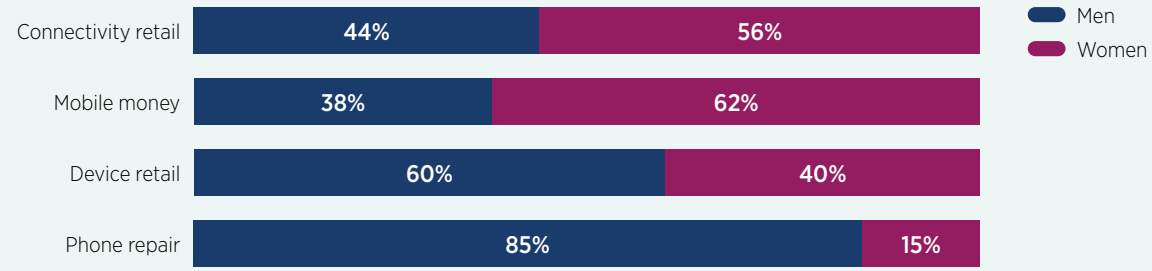
Young women working informally in the mobile industry

In the mobile industry in SSA, young women frequently take up informal economic opportunities in connectivity retail and mobile money services, both of which have low barriers to entry and offer flexibility. Over 60 per cent of survey respondents whose primary activity is mobile money services are women (Figure 11).

Figure 11

Share of female youth working informally in different roles in the mobile industry in SSA

Percentage of the total number of youth employed informally in retail and phone repair in all 6 countries



Source: GSMA Mobile for Development (based on survey results)
Base: Youth (aged 18 to 34) working informally in the mobile industry. N=2,412 for all countries surveyed.

Interview data indicates that women are preferred to men in customer care roles, both in direct retail channels such as MNO shops, as well as informal retail outlets. As mobile money agents, women elicit more trust and have a particular advantage in encouraging other women, who often feel less able than men to learn a new activity on a mobile phone,[47] to understand and use digital and financial services.

Previous studies on women working as informal retailers and mobile money agents also suggest that women enjoy a range of benefits beyond strictly financial ones, such as greater independence, increased confidence from contributing to household income, flexible hours to care for their family and upskilling, including improving their sales, entrepreneurship and accounting skills.[48]

However, women are less likely to own their own shops and work higher up the value chain where incomes tend to be higher. Survey data shows that women are less likely to sell handsets, which is more lucrative than connectivity retail. In addition, only 15 per cent of survey respondents who repair phones are young women (Figure 13). None of the survey respondents who work in mobile content and app development roles or infrastructure provision are female.[49] On average, both phone repair and app development generate high incomes in comparison with connectivity retail and mobile money services.

The lack of women in these roles may be due, in part, to cultural biases that consider phone repair and STEM training to be the domain of men. Overcoming this bias requires advocacy as well as targeted programmes for young women to take up jobs in phone repair and app development, both of which are flexible and relatively lucrative activities with high job satisfaction and the opportunity for on-going learning and upskilling.

47 GSMA. 2021. The Mobile Gender Gap Report 2021.
48 Cherie Blair Foundation. (2012). Women Entrepreneurs in Mobile Retail Channels: Empowering Women, Driving Growth.
49 Findings are based on the survey data.



04

Informal work in non-retail roles

Twenty-five per cent of survey respondents' primary informal economic activity in the mobile industry is in non-retail segments, primarily phone repair, but also content and app development and infrastructure and network provision. Our research indicates that jobs in phone repair and content and app development have high job satisfaction and are in demand. However, poor training opportunities and, for some youth, underemployment, means that the potential of these jobs to build livelihoods has not been met.

Jobs in casual infrastructure construction and network provision tend to be "jobs of last resort". Youth working informally in infrastructure provision tend to be construction workers employed by construction firms that have been sub-contracted to provide network infrastructure for the short term.



Working conditions in informal employment in phone repair

Phone repair is a critical service for the advancement of digital inclusion in SSA. Despite the declining cost of smartphones, handsets that are targeted specifically to the SSA market and asset financing services, the cost of a handset remains the greatest barrier to connectivity and smartphone ownership in SSA.[50] Low-income individuals therefore rely heavily on repaired and second-hand phones.

Eleven per cent of survey respondents work primarily as phone repairers, although approximately a fifth of survey respondents repair phones, making this the largest informal income-generating activity after retail and mobile money services. Of the youth who report that phone repair is their primary informal income-generating activity, only 15 per cent are women.

Survey data on working conditions shows that 83 per cent of youth who are primarily informally employed as phone repairers are self-employed (Figure 12). Fifty-nine per cent have secondary education while 26 per cent have vocational training (Figure 14). A third of youth whose primary income-generating informal activity in the industry is phone repair have been conducting the activity for three to 10 years, which means it is a long-term and stable livelihood for them. Two-thirds of repairers work fewer than 20 hours a week, suggesting either a mixed livelihoods strategy or underemployment (Figure 16). Almost three-quarters of phone repairers work from home or from their own shop (Figure 15).

50 GSMA. (2021). The State of Mobile Connectivity Report 2020.

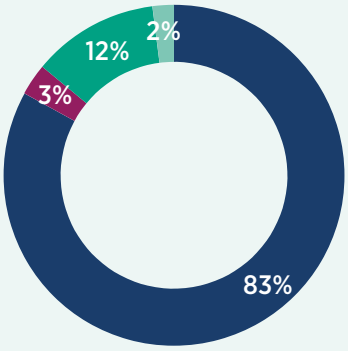
Data Spotlight 2

Features of informal work for youth in phone repair

Figure 12

Employment status

Percentage of respondents who are phone repairers

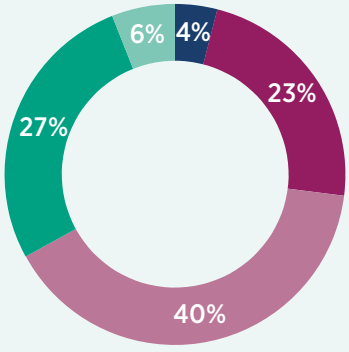


Source: GSMA Mobile for Development (based on survey results). Base= Youth aged 18-34 working informally as phone repairers in selected countries

Figure 13

Number of years worked

Percentage of respondents who are phone repairers

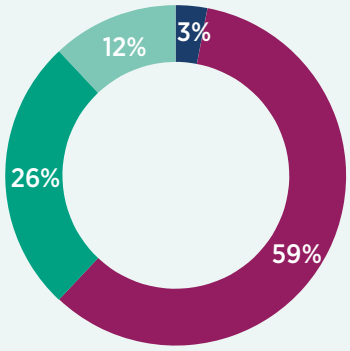


Source: GSMA Mobile for Development (based on survey results). Base= Youth aged 18-34 working informally as phone repairers in selected countries

Figure 14

Highest level of education

Percentage of respondents who are phone repairers

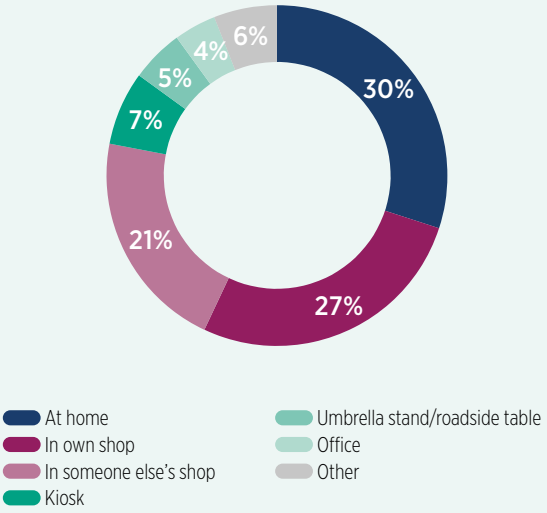


Source: GSMA Mobile for Development (based on survey results). Base= Youth aged 18-34 working informally as phone repairers in selected countries

Figure 15

Location of work

Percentage of respondents who are phone repairers

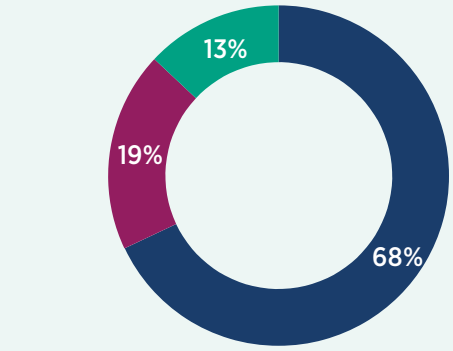


Source: GSMA Mobile for Development (based on survey results) Base= Youth aged 18-34 working informally as phone repairers in selected countries

Figure 16

Average hours worked per week

Percentage of respondents who are phone repairers



Source: GSMA Mobile for Development (based on survey results) Base= Youth aged 18-34 working informally as phone repairers in selected countries

Until more people can access internet-enabled handsets, phone repair will continue to provide income-generating and upskilling opportunities for youth. Interviews with phone repairers revealed the challenges and benefits of working in the repair economy (Box 7).

While governments, training institutes, non-profit organisations and universities are already offering phone repair training and certifications in SSA, many youth are still self-taught. In addition to improving infrastructure and working conditions in open markets, stakeholders can facilitate employment and income generation in phone repair by creating standardised training curricula and certifications, ensuring that training is affordable for disadvantaged youth and piloting micro-credit schemes for youth who are transitioning from school and need help with start-up costs.

Box 7

Insights on the challenges and benefits of phone repair

A key challenge for youth working as phone repairers is a lack of affordable and quality formal training and the high cost of failed repairs.

> ***"I taught myself how to repair phones using YouTube videos. (...) One of the big risks is when a customer brings in an expensive 2m (Ugandan) Shilling phone. The repairer would get maybe 100,000 Shilling fixing it but if something goes wrong or the handset becomes faulty, the repairer must make up for the loss of the phone. This is a major challenge when a repairer is starting or not well-trained."***
> **– Male, 30, phone repairer, urban, Uganda**

Another challenge is securing a place to work and spare parts.

> ***"I move around with a toolkit and mostly access new customers through referrals and go to their homes to repair their phone. One of my biggest challenges is getting spare parts but things got better when I met a reliable supplier. Securing a place to work or a shop is another challenge as I am moving around for my business, going to homes, and need a place to work."*** **– Male, 27, phone repairer, urban, South Africa**

However, phone repair is generally well-remunerated and has high job satisfaction.

> ***"I have a BA in IT from an African university and I work at the only authorised Apple dealership in the country. I love my job. I I started in the markets. I learnt repair from YouTube videos. I moved around with a toolkit and mostly got customers through referrals and went to houses to repair phones. I was always interested in fixing things. Even now I love learning to repair new phones. This is why I prefer to work in a shop, because I get new types of phones to repair all the time. Even though my income in the markets was higher."*** **– Male, phone repairer, 30, urban, Uganda**

Box 8

The potential of informal job creation in phone recycling

Four per cent of our survey respondents reported being involved in phone recycling. The capacity and infrastructure to collect and recycle phones and other e-waste is lacking in the region, and key informants report that current recycling practices are extremely basic and harmful for the environment. Most e-waste ends up in landfill.

A key driver for change could be business model innovation. Amsterdam-based company Closing the Loop employs a "one for one" model whereby an end-of-life phone is collected from SSA to be recycled in Europe where facilities exist. The waste reduction is then used to compensate a new phone and with that, make the new device waste-neutral. The tech industry and its customers use this service to align tech use to (company) values and meet their sustainability targets.

Since 2017, Closing the Loop has teamed up with industry experts in Nigeria to broaden its 'waste-compensation' service to include batteries. In addition to commercial and environmental benefits, the project employed informal workers in the e-waste sector for the collection of phones and batteries, creating stable, income-generating and upskilling opportunities. Onboarding of original equipment manufacturers and their customers, next to enabling regulation, could pave the way for significantly more informal income-generating opportunities in this sector for youth.



Credit: Closing the Loop



Working conditions in informal employment in mobile app and content development

Key informants report that mobile app and content developers are in high demand in the region, but finding youth with the right skills is challenging. With the increase in demand for digital content due to COVID-19, more developers are needed in the region to produce local content that is accessible to different demographics.

In our survey, most youth who are involved informally in mobile app and content development are male.[51] Survey results on working conditions (see Data Spotlight 3) show that almost 80 per cent of app developers are self-employed. Approximately half work fewer than 20 hours per week while only 17 per cent work full-time (Figure 18), which may be indicative of a mixed livelihoods strategy for some and underemployment for others. Most app developers work from home and have had access to secondary or higher education (52 and 35 per cent, respectively). In fact, more youth in this segment of the industry have a higher education than any other segment.

51 ILO. (2020). Report on Employment in Africa (Re-Africa): Tackling the Youth Employment Challenge.

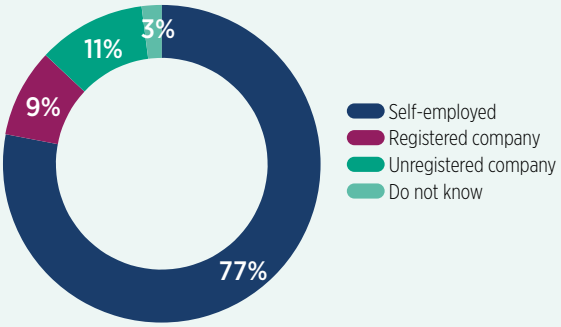
Data Spotlight 3

Features of informal work in mobile app development

Figure 17

Employment status of mobile app developers

Percentage of youth employed informally in app development

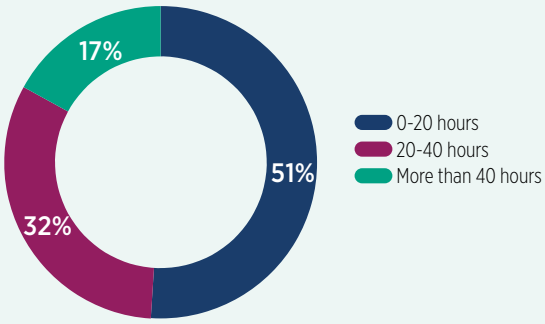


Source: GSMA Mobile for Development (based on survey results).
Base: Youth (aged 18 to 34) working informally in content and app development in the mobile industry in the six survey countries. N=88 for mobile app developers in all countries.

Figure 18

Hours worked by app developers in this activity

Percentage of youth employed informally in app development

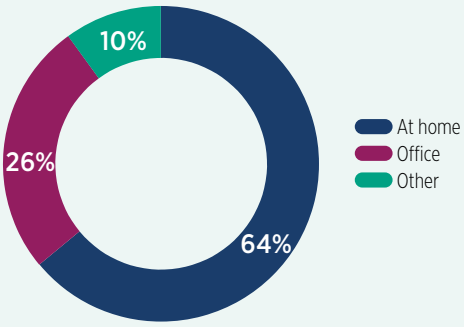


Source: GSMA Mobile for Development (based on survey results)
Base: Youth (aged 18 to 34) working informally in content and app development in the mobile industry in the six survey countries. N=61, excluding those who responded, "Do not know" or "Do not wish to answer".

Figure 19

Location of work for youth primarily involved in mobile app development

Percentage of youth employed informally in app development

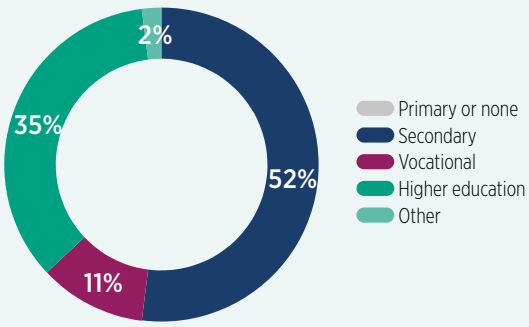


Source: GSMA Mobile for Development (based on survey results)
Base: Youth (aged 18 to 34) working informally in content and app development in the mobile industry in the six survey countries. N=88 for mobile app developers.

Figure 20

Highest level of education among youth working primarily in app development

Percentage of youth employed informally in app development



Source: GSMA Mobile for Development (based on survey results)
Base: Youth (aged 18 to 34) working informally in content and app development in the mobile industry in selected countries. N=88 for mobile app developers.

Employment opportunities in mobile content and app development have enormous potential, but the digital skills gap is a major challenge. Interviews with app developers revealed the key challenges and benefits of working in mobile app development. (Box 9).

As digitalisation in SSA gains momentum, the region is at risk of not reaping the full benefits. Stakeholders need to roll out a more effective, large-scale digital skills training programme that is more closely aligned with the skills that are in demand by employers. More importantly, public education systems need to be strengthened so that youth graduate with the ability to learn complex digital skills.

Box 9

Insights on informal work in content and app development

The key challenge for youth working informally in content and app development is a lack of affordable and quality formal training.

> ***"Proficiency in computer and digital literacy are key skills. Unfortunately, I don't have a computer diploma but my brother was able to provide me with basic training as a start. I was recently selected to take part in a web and mobile app development training."*** **– Male, 27, mobile app developer, urban, Nigeria**

University curricula are outdated, and higher education opportunities are not easily accessible or affordable for most youth.

> ***"The computer science curriculum is shallow and more theoretical than practical. You need to get experience and it is hard to find people who really know how to build software and who can mentor you."*** **– Male, 22, mobile app developer, urban, Uganda**

However, app development tends to generate a good income and has high job satisfaction. There is demand for app developers and opportunities for youth with high digital literacy to build long-term, gig-based careers.

> ***"As a mobile app developer, I'll work with designers, back-end guys. Most often we are all freelance guys. The only guy who is full-time is the project manager. You might happen to work with the same freelance guys on multiple projects with several employers. Everyone is doing several gigs."*** **– Male, 21, mobile app developer, urban, Nigeria**

Working conditions in informal employment in network infrastructure

Informal infrastructure roles in the mobile industry consist of diggers and trenchers for the laying of fibre, casual labour in tower installation and casual labour in logistics, such as warehousing and transportation.

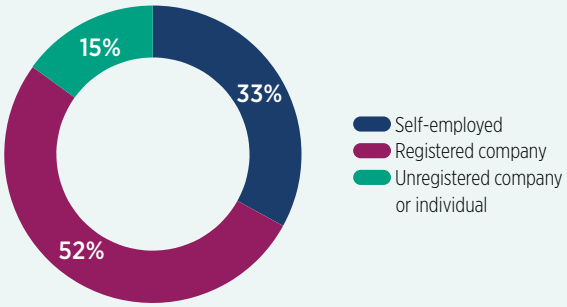
Survey respondents who work informally in infrastructure provision are exclusively men. In contrast to informal work in other segments of the industry where most youth are self-employed, most infrastructure workers report being informally employed by registered companies that tend to be sub-contractors (see Data Spotlight 4).[52] Also, in comparison with educational attainment in other segments of the industry where most youth have completed secondary education, most youth working in infrastructure have not completed high school and have vocational training instead.

Data Spotlight 4

Features of informal work in network infrastructure

Figure 21

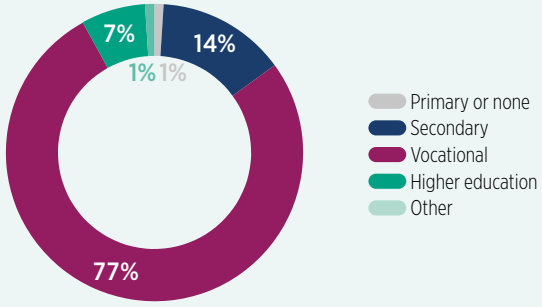
Employment status of infrastructure workers



Source: GSMA Mobile for Development (based on survey results)
Base: Youth (aged 18 to 34) working informally in network infrastructure in the mobile industry in the six survey countries. N=65 for all countries.

Figure 22

Highest level of education among infrastructure workers



Source: GSMA Mobile for Development (based on survey results)
Base: Youth (aged 18 to 34) working informally in network infrastructure in the mobile industry in selected countries. N=65 for all countries.

Key informants suggest that youth who take up construction work in the industry, primarily do so because of a lack of other opportunities. Employment in the construction sector poses a conundrum; on the one hand, the construction sector creates income-generating opportunities at scale for youth who may be low skilled, have low literacy and may be the most disadvantaged in a formal job search. On the other hand, there is little incentive for sub-contractors to improve these jobs or invest in employees due to the project-based, short-term nature of the work, as well as the perception that it is difficult to retain workers who can receive slightly better compensation elsewhere.

The mobile industry plans to invest $52 billion in infrastructure roll-outs between 2019 and 2025 in SSA, which will provide medium-term income-generating opportunities in the sector. The mobile industry has been actively improving the health, safety, environment and security (HSES) and regulatory aspects of infrastructure work, which will make it increasingly difficult for sub-contractors to recruit informal workers. To improve job quality, the industry can continue to vet and train suppliers in their code of conduct and strengthen their oversight of suppliers in network and infrastructure provision to ensure that health and safety standards are being met and remuneration for infrastructure work is fair. MNOs can also support a roll-out of accident microinsurance schemes for youth working in infrastructure and advocate for this in the construction industry more widely.

52 Sixty-five survey respondents were youth working primarily in network and infrastructure provision in the industry. There was a high non-response rate to questions related to working conditions. Survey findings should therefore be interpreted as exploratory.



05

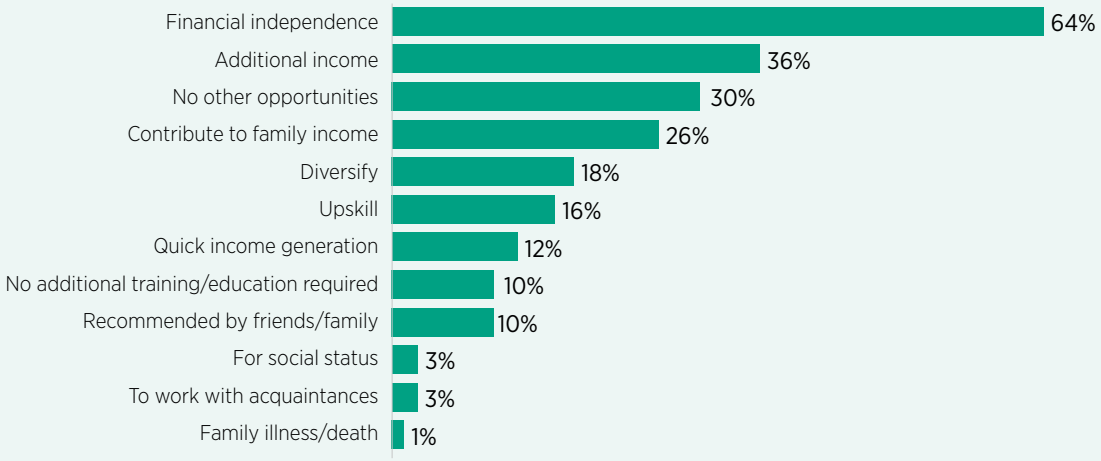
Voices of youth: the challenges and benefits of informal employment in the mobile industry

Youth identify the following as the biggest drivers of informal employment in the mobile industry (Figure 23): financial independence and additional income (64 and 36 per cent respectively), followed by a lack of other opportunities (26 per cent) and income diversification (18 per cent).

Figure 23

Drivers of informal employment in the mobile industry in Sub-Saharan Africa

Percentage of total respondents, all countries



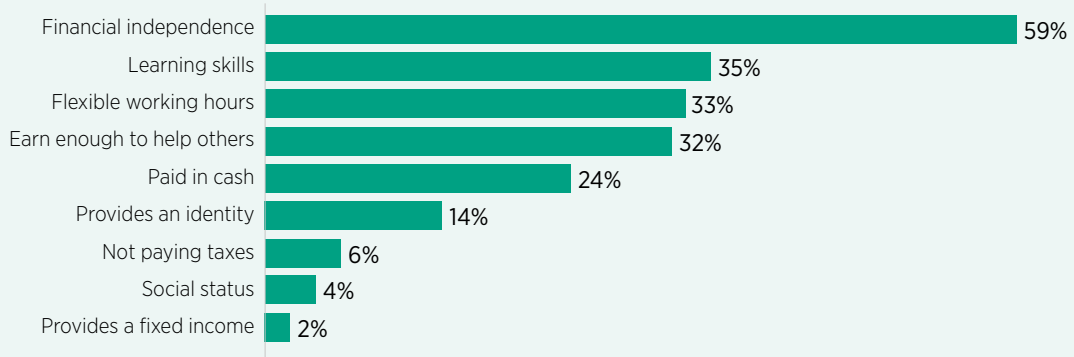
Source: GSMA Mobile for Development (based on survey data)
Base: Youth aged 18 to 34 working informally in the mobile industry in the six survey countries. N=2,412 for all countries surveyed. Respondents could provide multiple answers.

Youth also report the benefits of working informally in the mobile industry: financial independence (59 per cent), upskilling (35 per cent), flexibility (33 per cent) and helping others financially (32 per cent) (Figure 24).

Figure 24

Benefits of working informally in the mobile industry in Sub-Saharan Africa

Percentage of total respondents, all countries



Source: GSMA Mobile for Development (based on survey data)
Base: Youth aged 18 to 34 working informally in the mobile industry in selected countries. N=2,412 for all countries surveyed. Respondents could provide multiple answers.

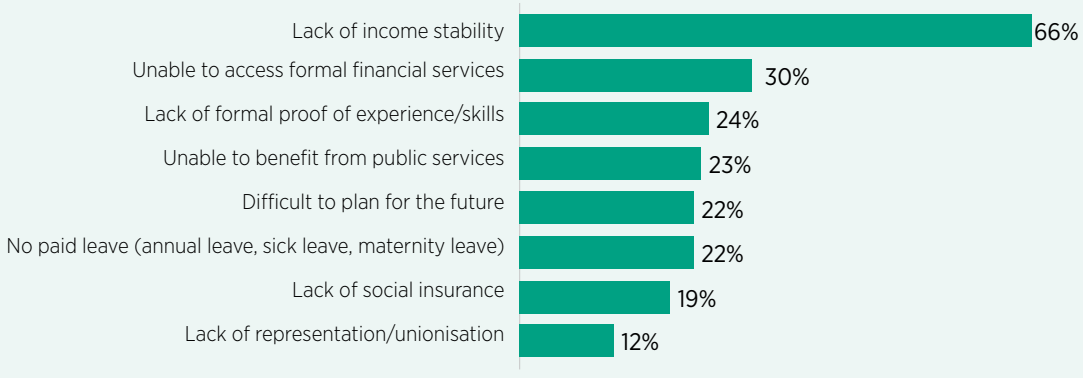


Finally, most youth identify lack of income stability (66 per cent) as a big challenge, followed by the lack of access to financing via formal channels to find financing to grow their business (30 per cent) and the inability to leverage their informal work experience to find other economic opportunities (24 per cent) (Figure 25).

Figure 25

Main challenges faced by informal workers in the mobile industry

Percentage of total respondents, all countries



Source: GSMA Mobile for Development (based on survey data)
Base: Youth aged 18 to 34 working informally in the mobile industry in the six survey countries. N=2,412 for all countries surveyed. Respondents could provide multiple answers.

The COVID-19 pandemic exacerbated these challenges, but the impact on informal workers was uneven and is expected to be short term. Box 10 provides insights into the experiences of youth working informally in the industry during the COVID-19 pandemic.

Box 10

The impact of COVID-19 on youth working informally in the mobile industry in Sub-Saharan Africa

COVID-19 had significant negative impacts on youth working informally in the mobile industry. Youth working in retail reported lower incomes and fewer customers. The impacts on device retailers, phone repairers and infrastructure workers were greater as markets shut down, consumers prioritised essential goods and services and construction was halted or delayed.

Connectivity retailers and mobile money agents experienced more short-lived negative impacts. As digitalisation gained momentum during the pandemic, mobile money became an essential service in markets where mobile money services were already well developed. This was evidenced by the explosive growth in mobile money agent networks in the latter half of 2020, which created income-generating opportunities for vulnerable youth in a time of crisis.[53]

Survey data revealed the following impacts of the COVID-19 pandemic on youth working informally in the industry:



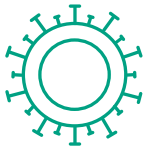
41%

had fewer customers



35%

worked less



18%

took up informal work in the industry and an equal number paused their activity



75%

of youth had their income negatively affected

53 The informal nature of the jobs follows directly from the characteristics of the enterprise.

Box 11

Qualitative insights highlight the uneven impacts on youth in different occupations in the industry

While there were negative income impacts on connectivity retailers, low barriers to entry and the ability to operate digitally meant that some youth took up opportunities in connectivity retail and mobile money to generate an income.

> ***"I was a receptionist. I lost my job because of the COVID-19. I had no income and I decided to open a mobile phone shop. I used the savings that I had to start this mobile phone business."*** – Female, 30, transient connectivity retailer, urban, Kenya

> ***"COVID-19 has affected me a lot. I used to be employed at a company. When the pandemic broke out, with the lockdown and the curfews, the company partly shut down and reduced the number of workers. I started selling airtime in March 2020 to make ends meet."*** – Male, 31, transient connectivity retailer, urban, Uganda

The COVID-19 pandemic also increased demand for content and, therefore, for app developers.

> ***"The truth is, it's the one place that didn't get affected by COVID-19. I had more gigs than ever this year. Nothing slowed down. With the situation, it's as if they were desperate for devs and I was able to get more jobs even with less experience. Lots of junior and mid-level roles were available. It's been a good year for developers."***
> – Male, 21, mobile app developer, urban, Nigeria

Infrastructure projects were delayed, affecting the incomes of some of the most vulnerable youth.

> ***"Telecommunication was one of the success stories during COVID-19 enabling a lot of people to work from home. This may mean that it generated increased needs on Operations & Maintenance but the industry witnessed a sharp drop on the infrastructure side."*** – Executive, Tower Company, Uganda

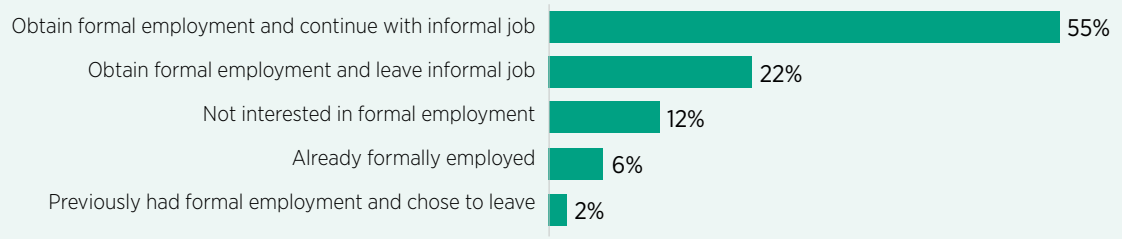
In addition, cash assistance facilitated by MNOs played a central role in the pandemic response. In Kenya, for example, mobile technology and partnerships between the private sector, humanitarian organisations and governments were key to delivering relief to millions of informal workers through mobile money wallets. By October 2020, a multi-sectoral consortium of seven NGOs, the Kenyan Government, the European Union and the Danish and German governments transferred approximately $4 million to informal workers through Safaricom's mobile money transfer service, M-Pesa.[54]

Given the challenges and benefits of informal work in general, and in the industry more specifically, youth have a range of employment aspirations. Most aspire to a formal job while also wanting to continue their current economic activity in the mobile sector (Figure 26).

Figure 26

Employment aspirations of youth working informally in the mobile industry

Percentage of total respondents, all countries



Source: GSMA Mobile for Development (based on survey data)
Base: Youth aged 18 to 34 working informally in the mobile industry in the six survey countries. N=2,412 for all countries surveyed.
The remaining two per cent answered: Do not know/Do not wish to answer.

54 Gitobu, C. (18 March 2021). "The shift to mobile technology for amplified government and humanitarian cash and voucher assistance amid the COVID-19 pandemic in Kenya". GSMA Mobile for Development Blog.

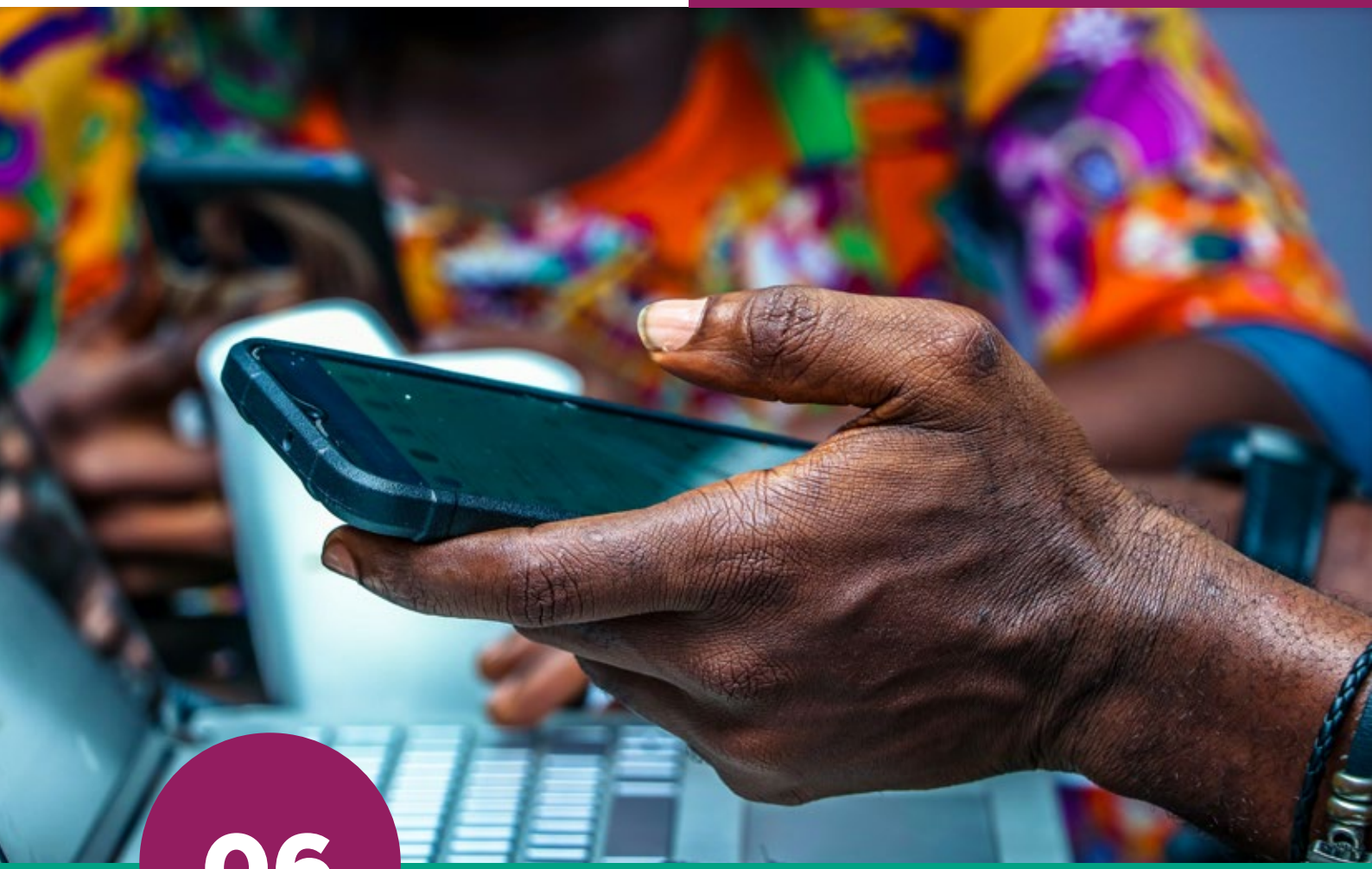


The fact that most youth would like to obtain formal employment, while continuing their informal activities in the mobile industry, reflects an understanding of the need for a mixed livelihoods strategy when income-generating opportunities are uncertain. It also reflects a dissonance between the reality of the labour market and the employment expectations of youth. Key informants suggest there is a gap between the cultural expectations of a steady formal job and the actual availability of formal jobs. In this situation, innovative solutions that help informal workers build more sustainable livelihoods in informal jobs are needed. One such solution is Shujaaz Inc. in Kenya (Box 12).

Box 12

Supporting informal work opportunities and making them sustainable

Shujaaz Inc. is a network of social ventures in Kenya that empower youth through a digital and real-world community. Recognising that less than 10 per cent of youth in Kenya entering the labour market will find a formal job, the Shujaaz Biz initiative is designed to upskill hundreds of thousands of young microentrepreneurs in the informal sector. It is based on the belief that informal entrepreneurship can provide a dignified and decent livelihood if youth are provided the right skills, mentorship and networks. Shujaaz Biz provides youth access to more than 750 peer-to-peer training videos, which allow them to learn directly from other young entrepreneurs how to set up and run successful microbusinesses.



06

Recommendations

Addressing the challenges of youth employment is critical for catalysing economic growth in SSA. This research has revealed that many youth who work in the industry are increasing and diversifying their incomes, establishing sustainable enterprises and building their skills as part of a mixed livelihoods strategy. However, the informal nature of their jobs creates challenges, particularly a lack of financing, lack of social protection and erratic income. Poor infrastructure is a cross-cutting challenge that affects both formal and informal workers, although the impact on informal workers is more significant.

Governments, educational institutions, development organisations and social enterprises need to work in collaboration with the industry to ensure that, while formal job creation remains the long-term goal, self-employment that generates a sustainable income with good working conditions is also supported in the short to medium term. This will enable most youth who enter informal employment in the mobile industry every year and employ a mixed livelihoods strategy to build their livelihoods, find better opportunities and improve their lives. While this requires a multi-pronged strategy key recommendations for various stakeholders to enable this include:

I. Governments and international development organisations can work together to widen social safety nets and deliver cash-based assistance via mobile technology to the most vulnerable informal workers so that disbursements are efficient, transparent and accountable.

II. Governments and the industry can work together to close access and connectivity gaps so that youth can leverage the full power of digitalisation by having greater opportunities to train via online resources, find jobs, be in touch with their suppliers and customers and transact online.

III. Financial institutions can partner with MNOs to develop and offer start-up loans, micro-credit and micro-insurance through digital channels so that youth who are unlikely to be serviced by traditional banks can establish and grow their businesses.

IV. MNOs and private companies can expand the portfolio of products that agents and retailers can easily acquire and sell.

V. Education and training institutes can actively engage with the mobile industry and with governments to address the skills gap by delivering tailored skills training programmes.

VI. Governments can improve infrastructure in markets and commercial locations so that youth working informally are working in decent conditions.

VII. All stakeholders need to recognise the mixed-livelihoods approach as the dominant approach to building livelihoods in the region and design solutions targeted to facilitate this approach. This entails creating more contractual employment opportunities, improving productivity in agricultural employment and advancing digital and financial inclusion so that youth can benefit from the efficiency, convenience and cost-savings digitalisation brings to informal entrepreneurs.

VIII. Stakeholders need to assess the participation of youth who are women in various stages of the value chain to address gender gaps in their participation at higher levels of the value chain, where income gains are greater. This entails governments understanding and addressing the challenges of women in open markets, development organisations and education institutes encouraging women to take up professions such as phone repair and coding not traditionally associated with them, and the industry providing targeted entrepreneurship training to women in retail and agent roles, as well as advancing their financial inclusion.

Stakeholders consulted

The GSMA and Altai Consulting would like to thank the following experts and stakeholders for sharing their time and insights:

Afterschool Centre for Career Development – Esther Eshiet, Faculty Lead

Airtel Tigo Ghana – Erdem Amudzi, Regional Sales Manager

CAP Youth Empowerment Initiative – Yahpal Sihag, Manager, Capacity Building

Cell C – Juliet Mhango, Chief Human Development and Transformation Officer

Centre for the Fourth Industrial Revolution – Crystal Rugege, Managing Director

Closing the Loop – Reinhardt Smit, Supply Chain Director

CNPS – Judicael Saye, Social Protection Expert

CSquared – Jackie Ochola, Country Manager

ENABEL – William Yeka, Communication Expert

Friedrich Ebert Stiftung Ghana – Ebow Mensah, Programme Coordinator

Friedrich Ebert Stiftung Cote D'Ivoire – Konan Seraphin Kouamé, Policy Adviser

Friedrich Ebert Stiftung Kenya – Brenda Chelagat, Project Coordinator

Financial Sector Deepening Uganda (FSDU) – Rashmi Pillai, CEO

Gadal Foundation – Kelechi Ekeghe, Founder

Groupement des Opérateurs des TIC de Côte d'Ivoire (GOTIC) – Patrick Mbengue, Director

Harambee – Rob Urquhart, Lead MERL Manager

Huawei – Adam Lane, Deputy CEO, Government Affairs, Kenya

Ikamva Youth – Patrick Mashanda, Programme Manager

International Labour Organisation (ILO) – Merten Sievers, Global Coordinator, Value Chain Development and Entrepreneurship

ILO – Stephen Hartrich, Project Coordinator at The Lab

Institute of Development Studies, Sussex – Dr. Becky Faith, Research Fellow and Leader of the Digital and Technology Cluster

Institute of Development Studies, Sussex – Dr. Max. Gallien, IDS Research Fellow

Insite Towers – Jim Burns, CEO

Kolping South Africa – Laurian Kleinhans, Training and Development Officer

Mara Phones – Sylvester Taku, Managing Director

Mercy Corps – Jerioth Mwaura, T4D Adviser

Moov – Laure Besse, Head of HR

Mobile Money Advocacy Group Ghana (MOMAG) – Mrs. Otadil, National President

MTN – Esther Akinnukawe, Chief HR Officer

Orange MEA – Roger Huchard, Head of Indirect Distribution

Raj Narayan (Independent) – Senior Telecom Manager

Safaricom – Paul Kasimu, Chief Human Resources Officer

TD Africa Distributions Ltd.

Thando Abrahams (Independent) – Youth Development Officer

The Youth Café – Maureen Amuhinda and Synthia Ontita, Project Coordinator and Project Management Associate

TVET Authority of Kenya – Dr. Otta Osawa, Director, R&D

Uganda Youth Skills Training Organisation – Bob Maahe, Director

UNEVOC – Professor Emmanuel Osinem, Coordinator

UNIDO – Marlen Bakalli, Industrial Development Officer

UNIWA – Deborah Freeman, General Secretary

University of Edinburgh – Dr. M. Amir Anwar, Lecturer in African Studies and International Development

University of Ghana – Dr. Robert Afutu-Kotey, Lecturer in the School of Distance and Continuing Education

Unaffiliated – Amos Bankole

Unaffiliated – Ayomikun Idowu

Unaffiliated – Olivia Byanyima

Vodafone – Linda Aryee, Head of Recruiting and Talent

Vodafone – Angela Mensah-Poku, Director, Digital and Commercial

World Bank – Christabel Dadzie, Social Protection Specialist

World Bank – Tim Kelly, Lead ICT Policy Specialist

World Bank – Tunde Adekola, Senior Education Specialist

Youth Alive Kenya – Levi Juma, Coordinator for Western and Rift

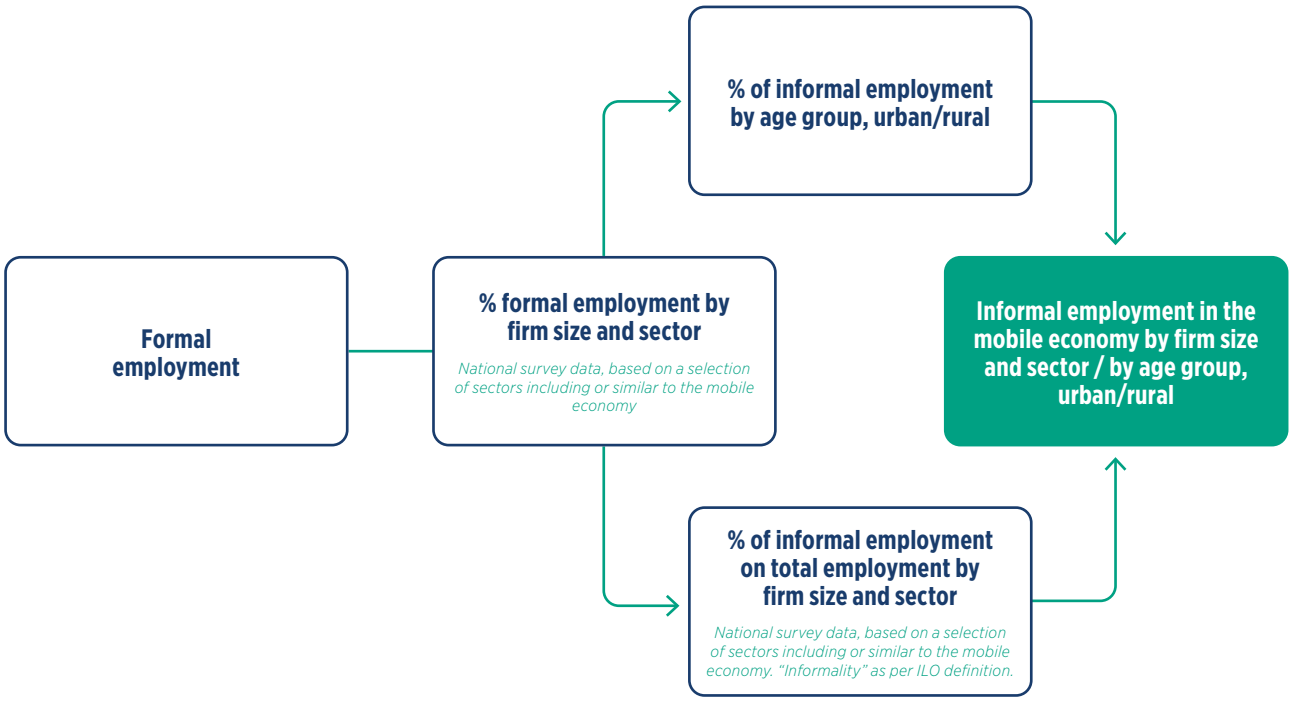
Annex 1
Informal employment estimates by GSMA Intelligence

GSMA Intelligence has developed a model to estimate informal employment in four steps (Figure 25):

1. Estimate of the number of people formally employed in the mobile economy sector in each country;
2. Estimate of the distribution of people formally employed by firm size and mobile economy sector;
3. Estimate of the ratio of informally employed to formally employed by firm size and mobile economy sector; and
4. Estimate of the share of informally employed by rural/urban location and age group.

Figure 27

GSMA Intelligence methodology to estimate informal employment by country



The estimate in Step 1 of the number of formally employed in each mobile economy sector is based on the GSMA Mobile Economy Country Model, which has been updated with financial, macroeconomic and demographic data for the most recent available year. The model provides an estimate of the number of formal employees in each sector of the mobile industry by using reported revenue data by sector and country, and total annual revenues by employee of a sample of listed and not listed companies active in each segment of the mobile industry. Different sources are used to calculate revenues across different mobile value chains to ensure the most detailed assessment of formal employment.

Steps 2 to 4 are based on recent national survey data. According to sample size and sectors surveyed in each country, we identified sectors that include or are similar to mobile economy sectors and used them as proxies for the employment situation in each mobile economy sector.[55] Observations were weighted according to survey weights defined by each national statistical agency. Table 3 presents the corresponding survey used for each country.[56]

Table 3

National surveys used for each country

Country	Survey used	Year of survey
Ghana	Labour Force Survey	2015
Kenya	Continuous household survey program	2019
Nigeria	Living standards survey	2018
South Africa	Quarterly labour force survey	2020
Uganda	National panel survey	2018

First, based on survey data, we estimated the share of formally employed by firm size and mobile economy sector, and allocated the formally employed accordingly. Then, we estimated the ratio of informally employed to formally employed by firm size and sector.[57] We applied this ratio to the formally employed by firm size and sector to arrive at an estimate of the informally employed by firm size and by sector. Finally, we estimated the share of informally employed by age groups.

55 The level of aggregation and matching between sectors available in the survey and mobile economy sectors depend on each national survey.
56 We did not find a recent survey for Cote d'Ivoire.
57 For Uganda, no survey question on firm size was available, so our estimate relies uniquely on the ratio of informally employed to formally employed by sector.

Annex 2
Detailed survey methodology

This study is based on research conducted by our research partners Altai Consulting between 23 December 2020 and 4 February 2021, when 2,412 young informal workers in the mobile sector in the six target countries were surveyed. Of these, 1,686 surveys were completed via a mobile online panel, 99 over the phone and 627 face to face. The target population was individuals aged 18 to 34 years currently working informally in the mobile industry. The methodology was designed to ensure the final results are as representative of the target population as possible.

Sampling methodology

The use of a mobile online panel allowed random outreach to a large number of people living in the targeted countries to ensure national representativeness in the absence of available data related to the target population. Respondents were then selected for interview using a screener to capture only young informal workers in the mobile sector.

Panel interviews were complemented by randomised phone surveys and face-to-face interviews to ensure individuals who did not have internet-enabled phones were included. The sample sizes for each country are shown in Table 4.

Table 4

Number of survey respondents by country

Country	Sample
Côte d'Ivoire	402
Ghana	407
Kenya	398
Nigeria	432
South Africa	369
Uganda	404
TOTAL	**2,412**

The questionnaire was administered in English, French, Hausa, Luganda and Swahili, and consisted of 45 questions on:

- Socio-demographics;
- Activity in the mobile industry;
- Drivers, challenges and benefits of economic activity;
- Working conditions and income; and
- Impacts of COVID-19.

Data collection through online panel

Participation in the online panel was incentivised. This is a standard approach for online panels and forgoing the incentives usually leads to extremely low participation, which was not an option given the focus on a niche segment of the overall population. To mitigate risks linked to the use of incentives, the data collection tools were adapted. In particular, the screener was designed to ensure respondents could not guess which answers would help them qualify for interview.

Phone-based and face-to-face surveys

To complement the panel survey, phone interviews were conducted to reach out to individuals outside the panel. Exponential discriminative snowball sampling was used whereby each research participant recruits several others. Each survey respondent was requested to share the phone numbers of three to five young individuals informally employed in the mobile sector whom they know. Respondents were then randomly selected from the new list, screened to confirm their status as a young informal worker in the mobile industry, and then surveyed. For face-to-face research, two urban and two rural areas were targeted for surveys in each country.

Weighting

One of the challenges in determining the appropriate weighting approach was that the target population (informal workers in the mobile sector) was not known. There is no data available on the size or composition of this subset of the population.

To correct for potential selection biases caused by socio-demographic differences between the panel composition and the composition of the statistical population, i.e., all 18 to 34 year-old individuals living in the six countries of study, four weights were identified for four subgroups: male urban, female urban, male rural and female rural (Table 5).

For each subgroup in each country, the weight was calculated using the following formula:

$$W = \frac{N \text{ (number of members of sub-group in country population}}{n \text{ (number of members of sub-group in panel)}}$$

Table 5

Composition of the population and the panel

		Côte d'Ivoire	Ghana	Kenya	Nigeria	Uganda	South Africa
Population[58]	**Male**	52%	49%	50%	51%	49%	49%
	Female	48%	51%	50%	49%	51%	51%
	Urban	51%	51%	32%	50%	21%	66%
	Rural	49%	49%	68%	50%	79%	34%
Panel	**Male**	86%	79%	51%	75%	73%	43%
	Female	14%	21%	49%	25%	27%	57%
	Urban	50%	55%	78%	70%	84%	74%
	Rural	50%	45%	22%	30%	16%	26%

58 Weighting calculations are based on data from the following censuses: Côte d'Ivoire: 2014 census, Ghana: 2010 census, Kenya: 2019 census, Nigeria: 2006 census, Uganda: 2014 census, South Africa: 2011 census

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