



ECOSYSTEM ACCELERATOR COMPASS
Insights on Start-ups and Mobile in Emerging Markets

ISSUE 5, MAY 2019



The GSMA represents the interests of mobile operators worldwide, uniting more than 750 operators with almost 400 companies in the broader mobile ecosystem, including handset and device makers, software companies, equipment providers and internet companies, as well as organisations in adjacent industry sectors. The GSMA also produces the industry-leading MWC events held annually in Barcelona, Los Angeles and Shanghai, as well as the Mobile 360 Series of regional conferences.

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

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Ecosystem Accelerator

The Ecosystem Accelerator programme focuses on bridging the gap between mobile operators and start-ups, enabling strong partnerships that foster the growth of innovative mobile products and services. These partnerships bring impactful mobile solutions to the people and places that need them most, generating the greatest socio-economic impact. In particular, the programme operates an Innovation Fund which supports African and Asian start-ups with direct funding, technical assistance and connections with mobile operators. The programme is supported by the GSMA, its members, the UK Department for International Development (DFID) and Australia's Department of Foreign Affairs & Trade (DFAT).

Learn more at www.gsma.com/ecosystemaccelerator or contact us at accelerator@gsma.com

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Authors:

Josie Middleton - Knowledge Manager,
Ecosystem Accelerator

Sam Ajadi - Senior Insights Manager,
Ecosystem Accelerator

Maxime Bayen - Insights Director, Ecosystem
Accelerator and M4D Utilities

Contributors:

Bilal Ali Qureshi - Market Engagement Manager,
Ecosystem Accelerator

Peter Ndichu - Senior Market Engagement Manager,
Ecosystem Accelerator



Foreword

As our latest quarterly publication — in its new format — is going to press, the GSMA Ecosystem Accelerator team is returning from the Mobile World Congress (MWC) 2019 in Barcelona. Given the magnitude of this event, we took the opportunity to gather over 25 of the Innovation Fund portfolio start-ups for our annual bootcamp. Combined, these events provided a packed eight-day agenda for the start-ups, split between one-to-one networking meetings with investors or mobile operators, over 30 pitch sessions and speaking opportunities on the stages of MWC and 4YFN, as well as workshops with our team and business meetings with potential partners.

This gathering prompted us to look back and reflect on the journeys of these 35 start-ups. In terms of impact, over 1.8 million beneficiaries have been reached by the various projects funded by the Ecosystem Accelerator programme, while the equivalent of £2.5 million of additional income has been unlocked collectively through direct revenue increases for individuals and local businesses, savings and productivity gains. In terms of investment, two-thirds of the start-ups have raised follow-on funding totalling £35.7 million. 96 per cent of this “crowding-in” is commercial funding, which is both a validation of the start-ups’ business models and a positive indication of their potential to scale.

Some of the start-ups’ success is attributable to partnerships with mobile operators, 18 of which have already been established with support from the programme. Supporting collaborations between mobile operators and start-ups is, more than ever, at the heart of our work, and we are proud to share three examples (section three of this report) of these partnerships in this report. Whether an SMS and USSD API integration (GiftedMom and Orange in Cameroon), a partnership on connectivity and mobile money (Sehat Kahani and Jazz in Pakistan) or a strategic investment (Lynk and Safaricom in Kenya), these collaborations are game changers when it comes to scaling mobile solutions.

Scaling a mobile solution in Africa or Asia Pacific is intrinsically linked to the capacity to reach users and customers. Our “deep dive” in this edition (section one) specifically looks at “low-tech” mobile channels like SMS, USSD, IVR and mobile money. While these are not deep technological solutions, they are mature, easily accessible and truly ubiquitous communication and payment channels in emerging markets. Enabled by mobile operators, low-tech channels can allow start-ups to push educational content over SMS to hundreds of thousands of children (Eneza Education, Africa) or to facilitate financial transactions with verbal instructions for those who are illiterate (Hishab, Bangladesh).

In this context, the work done by mobile operators to support and collaborate with local start-ups is essential, and we are thrilled to see our map of mobile operator and start-up initiatives (section two) becoming increasingly crowded.

We hope you find this new edition interesting and, more importantly, that it is relevant to your work. We encourage you to share your feedback with us.



Maxime Bayen
Insights Director,
Ecosystem Accelerator

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MOBILE TECHNOLOGY FOR THE SDGs

Reaching further with low tech:
How start-ups are leveraging basic mobile channels to unlock socio-economic impact in emerging markets

Basic and feature phone technologies have single-handedly revolutionised how people in emerging markets interact. Nearly five decades after they first appeared, the power and pervasiveness of these technologies remain undeniable. In Africa and Asia Pacific, basic and feature phones continue to make headway despite growing smartphone penetration and shipments. According to the International Data Corporation (IDC), India clocked 181.3 million-unit feature phone shipments in 2018.¹ IDC data also shows that while Africa's mobile phone shipments were down 1.9 per cent year-on-year in 2018, basic and feature phones accounted for 59 per cent of all mobile phone shipments (215.3 million units), compared to 41 per cent for smartphones.² Similarly, GSMA Intelligence revealed that Africa had 524 million basic and feature phones at the end of 2018, slightly tipping the balance as smartphones stood at 523 million.³ These statistics explain Google's 2018 move to invest \$22 million in KaiOS, an operating system designed for basic and feature phones.

Why are basic and feature phones still so relevant and widely used today? First, feature phones are simple,

cheap and functional, making them the technology of choice for many consumers at the bottom of the pyramid. People with higher incomes are much more likely to own smartphones than those with lower incomes.⁴ Second, since electricity is still inaccessible to a sizable population, particularly in rural areas, in several African and Asia Pacific countries, mobile users are more likely to own basic and feature phones since they have long-lasting battery life. For this reason, some smartphone users also own basic and features phones.⁵

Finally, **feature phones enable all mobile users to access what we refer to as "low-tech" offline channels, such as voice, IVR, SMS, USSD and mobile money services.** Despite the growth of social messaging apps, in 2019 there is still no text-based or voice-based channel that has been adopted more than voice and SMS. In Tanzania, almost 25.7 billion local and international SMS messages were sent in the last quarter of 2018, a 63 per cent increase from Q4 2016. USSD also still holds weight in many emerging markets: over 90 per cent of mobile money transactions in Africa in 2018 were completed using USSD.⁶

Start-ups, low tech and the Sustainable Development Goals (SDGs)

Reaching those at the bottom of the pyramid at scale requires easily accessible and cost-effective technologies. Low-tech mobile tools meet this need and beyond. Several mobile innovations reaching scale today in Africa and Asia Pacific that are driving impact on the lives of low-income mobile users are driven by low tech offline solutions. Even in the age of smartphones, low-tech solutions are indispensable for addressing the United Nations Sustainable Development Goals (SDGs). Low-tech mobile tools enable start-ups to reach a larger pool of addressable users and maximise their socio-economic impact. The following are examples of start-ups that have been leveraging low-tech mobile solutions in a wide range of sectors to address some of the SDGs.



1. IDC, 11 February 2019, "India Smartphone Market Exits 2018 with Highest Ever Shipments of 142.3 million, IDC India Reports", <https://www.idc.com/getdoc.jsp?containerId=prAP44856419>
 2. IDC, 12 March 2019, "Africa's Smartphone Market Sees First Growth Since 2015 Despite Downturn in Global Market", <https://www.idc.com/getdoc.jsp?containerId=prCEMA44905119>
 3. GSMA Intelligence: <https://www.gsmainelligence.com/>
 4. Pew Research Center, 9 October 2018, "Internet Connectivity Seen as Having Positive Impact on Life in Sub-Saharan Africa", https://www.pewglobal.org/wp-content/uploads/sites/2/2018/10/Pew-Research-Center_Technology-use-in-Sub-Saharan-Africa_2018-10-09.pdf
 5. Technext.ng, 20 February 2019, "As KaiOS Extends its Products into Nigeria, are Feature Phones Still Popular in Africa?", <https://technext.ng/2019/02/20/as-kaios-extends-its-products-into-nigeria-are-feature-phones-still-popular-in-africa/>
 6. GSMA, 2018, "State of the Industry Report on Mobile Money", <https://www.gsma.com/r/state-of-the-industry-report/>

Start-ups	Summary	SDGs
Hishab (Bangladesh)	A voice-based enterprise resource planning (ERP) mobile solution, backed by a Bengali speech recognition system, that uses verbal instructions to allow illiterate users to perform financial transactions and keep digital records. Users call 16513 on a feature phone or smartphone to activate Hishab's voice-based ERP, which records their entire transaction without requiring an internet connection. Hishab then sends an SMS to parties involved in the transaction to confirm details. Details of Hishab's solution can be found here .	
Ricult (Pakistan)	A mobile-based platform that gives smallholder farmers access to farm inputs on credit, as well as agronomy services and market access. Ricult's platform can be accessed via SMS or through a mobile app.	
GiftedMom* (Cameroon)	An m-health information and monitoring platform for pregnant women and nursing mothers. GiftedMom can be accessed via USSD, SMS , an assistant app and the web. In the second half of 2018, GiftedMom reached over 170,000 active users with its solution. The start-up integrated Orange's SMS, USSD and airtime billings APIs on its platform. GiftedMom is one of the start-ups funded by the GSMA Ecosystem Accelerator programme .	
Eneza Education* (Africa)	A mobile subscription service that offers educational content to students in Kenya, Ghana and Côte d'Ivoire. Students can access lessons and assessments on any mobile phone via SMS or USSD with a daily, weekly or monthly subscription. Eneza Education is one of the start-ups funded by the GSMA Ecosystem Accelerator programme .	
Kasha (Rwanda)	An e-commerce platform that sells health and personal care products, such as contraceptives and tampons. Customers can access Kasha via USSD or a mobile or web app. Customers using USSD can type in a short code to access Kasha's menu and place orders.	
Wonderkid (Kenya)	A complaint management and tracking system that allows customers to report maintenance and upkeep issues. Wonderkid's solution comes with a self-meter reading and payment system allows users to send their meter reading via SMS and receive a preliminary bill with instructions for paying via mobile money using Safaricom's M-Pesa. This solution was funded by the GSMA M4D Utilities Innovation Fund in May 2015. More information can be found in the Mobile for Development Utilities Annual Report .	
Sheba.xyz (Bangladesh)	An on-demand service marketplace that connects verified service providers with their target customers. Users without the Sheba.xyz app can access the services through USSD . In June 2018, Sheba.xyz signed a partnership with Robi Axiata that would allow the start-up to onboard service providers easily through Robi's Walk-In Centres or Robi Sheba Points.	

Start-ups	Summary	SDGs
Ensibuuko* (Uganda)	A mobile platform that enables savings and credit cooperative society (SACCO) members to withdraw cash, make deposits or repay loans using USSD and mobile money . Ensibuuko is one of the start-ups funded by the GSMA Ecosystem Accelerator programme . A case study on Ensibuuko can be found here .	
Orbuy (India)	An online portal for fresh fruits and vegetables. Orbuy sources fruits and vegetables directly from farmers in and around Jaipur, India. Orbuy allows customers to place orders through voice calls, missed calls , WhatsApp messages and through its website.	
Online Cabs (Sri Lanka)	A mobile-based taxi booking service that allows users to book taxis through either USSD or SMS on a basic phone. To extend its reach, Online Cabs has partnered with Dialog Sri Lanka's Ideamart to integrate its USSD, SMS and location APIs.	
Illuminum Greenhouses (Kenya)	A greenhouse and drip irrigation kits solution that are equipped with SMS -controlled solar-powered sensors. Illuminum Greenhouses' system allows smallholder farmers and farm owners to monitor and regulate conditions remotely via SMS. By controlling water via irrigation schedules, the start-up claims farmers using their greenhouses can reduce water usage by up to 60 per cent.	
Gravity (Kenya)	A platform that uses blockchain technology to allow anyone to create a sovereign, data-based digital ID to access essential services. While Gravity's end-to-end solution uses backend blockchain technology to certify KYC-related information, users do not need to know what blockchain is to use the platform. The service works on any mobile device via USSD menu or smartphone app. Details on Gravity can be found at Blockchain for Development: Emerging Opportunities for Mobile, Identity and Aid .	

* GSMA Ecosystem Accelerator's start-up portfolio

Mobile operators and low tech in emerging markets

Mobile operators play an important role in granting start-ups and third parties access to low-tech mobile channels. As documented in our [USSD for Socio-Economic Impact](#) insights report, mobile operators in emerging markets are increasingly realising the economic potential of providing start-ups and third parties with access to APIs. Increasingly API initiatives are being launched as a result, with some examples highlighted below.

- DIALOG AXIATA (SRI LANKA):** Dialog launched a business unit in 2012 to power its API platform. The result was **Ideamart**. Dialog has since partnered with three other mobile operators in Sri Lanka (Airtel, Etisalat and Hutchinson Telecommunication), enabling developers to seamlessly connect to the mobile operators' APIs via Ideamart's platform. There are currently nearly 2,000 USSD-powered apps on the platform. Ideamart's success compelled the Axiata Group to launch **Apigate**,⁷ an API subsidiary of its own.

7. Apigate is a strategic business unit of the Axiata Group that has expanded beyond its regional footprint to a global business offering scalable solutions.

- MTN (UGANDA):** In November 2018, MTN Uganda launched its mobile money API and granted developers online access through <http://momodeveloper.mtn.com/>. The open API platform enables developers access to MTN Mobile Money's proprietary software platform. Developers can access the platform, create products to improve their customers' payment options and leverage MTN Uganda's 10 million registered mobile money users. MTN Uganda enables payment collections, disbursements, remittances and a widget that users can download to enable mobile money payments on e-commerce websites. The API endpoints can be accessed via USSD, app and web.
- SAFARICOM (KENYA):** The Kenyan mobile operator launched its open API portal **Daraja** in August 2017 for businesses to integrate their services with its mobile money solution, M-PESA. The portal hosts a number of APIs, including business-to-business (B2B) and business-to-consumer (B2C), allowing a fast and simplified onboarding process. Developers can access the APIs by signing up to <https://developer.safaricom.co.ke/>. Through Daraja, businesses can now integrate both Lipa Na M-PESA Buy Goods and PayBill cashless payments in mobile apps, websites, point of sale (POS) terminals and other business solutions.
- ORANGE (AFRICA):** The mobile operator runs the platform **#303# My Store** that enables developers to plug into a standardised USSD API. #303# My Store is active in Côte d'Ivoire, Cameroon and DRC, with around 50 third-party services accessible on the platform. There are approximately 200,000 unique average monthly users on #303# My Store.

For more information on the potential of open mobile operator APIs, see our research report, [APIs: A bridge between mobile operators and start-ups in emerging markets](#) and video, [The Power of Mobile Operator APIs](#).

Looking ahead: Calling emerging markets' start-ups to consider the low tech opportunity and mobile operators to deploy developer-friendly APIs

In emerging markets, mobile operators serve as gatekeepers to the hidden treasures of low tech, and with this power comes a responsibility to unlock innovation to reach users throughout the economic pyramid. While GSMA is seeing growing interest from mobile operators to open their APIs to create opportunities for themselves, for start-ups and other third parties, more can be done.

The business case for low tech in emerging markets and its potential social impact are stronger than ever. The GSMA Ecosystem Accelerator programme calls on mobile operators in emerging markets to consider working with experienced developers to build a digital interface for start-ups and third parties to access developer-friendly APIs. Beyond the open API platforms, mobile operators have a role to play in building a developer community and providing support, such as a developer forum, community chat and live chats.

cosystem
accelerator

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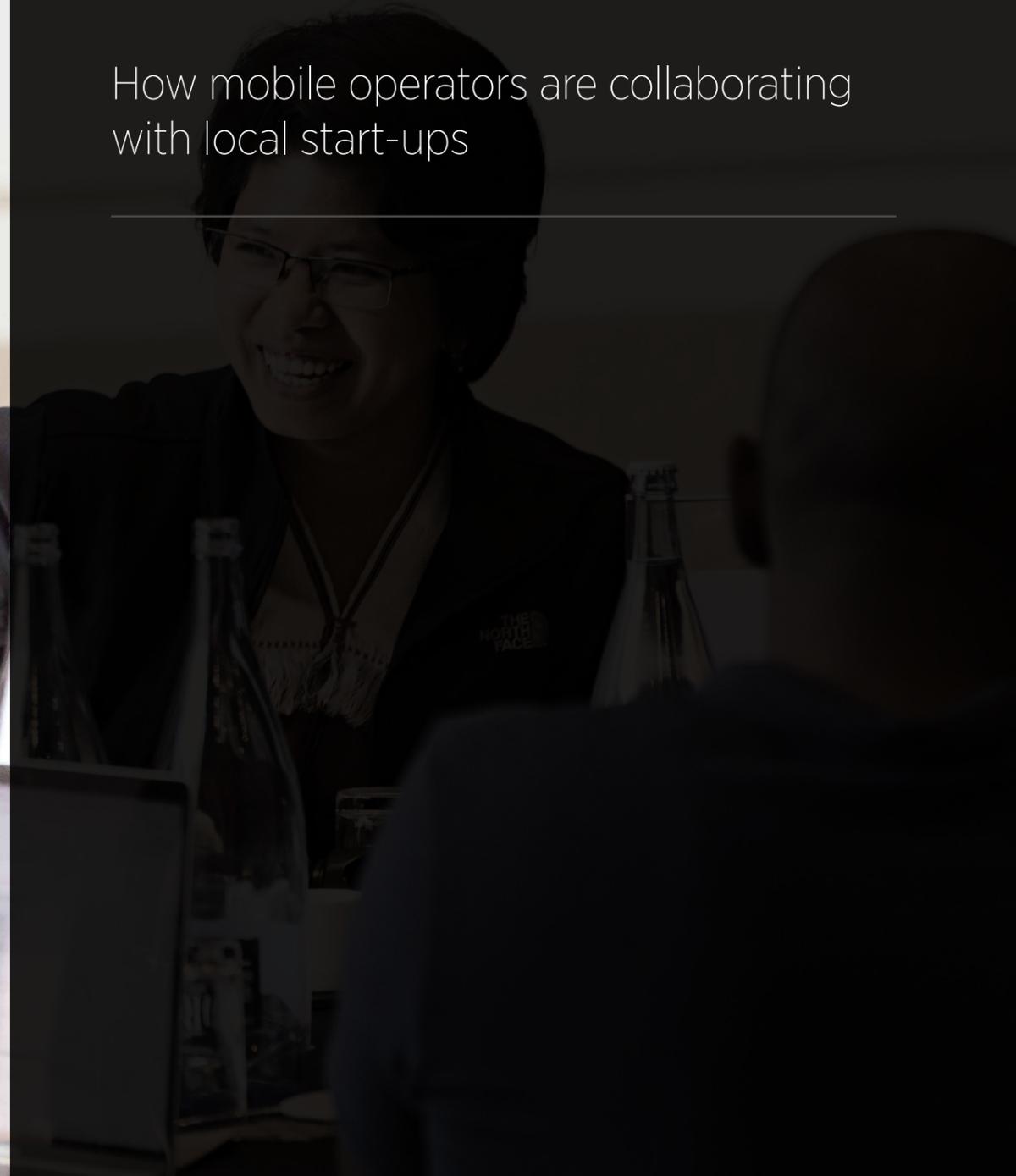
What is your
vertical? In

3

What will

MOBILE OPERATORS IN THE NEWS

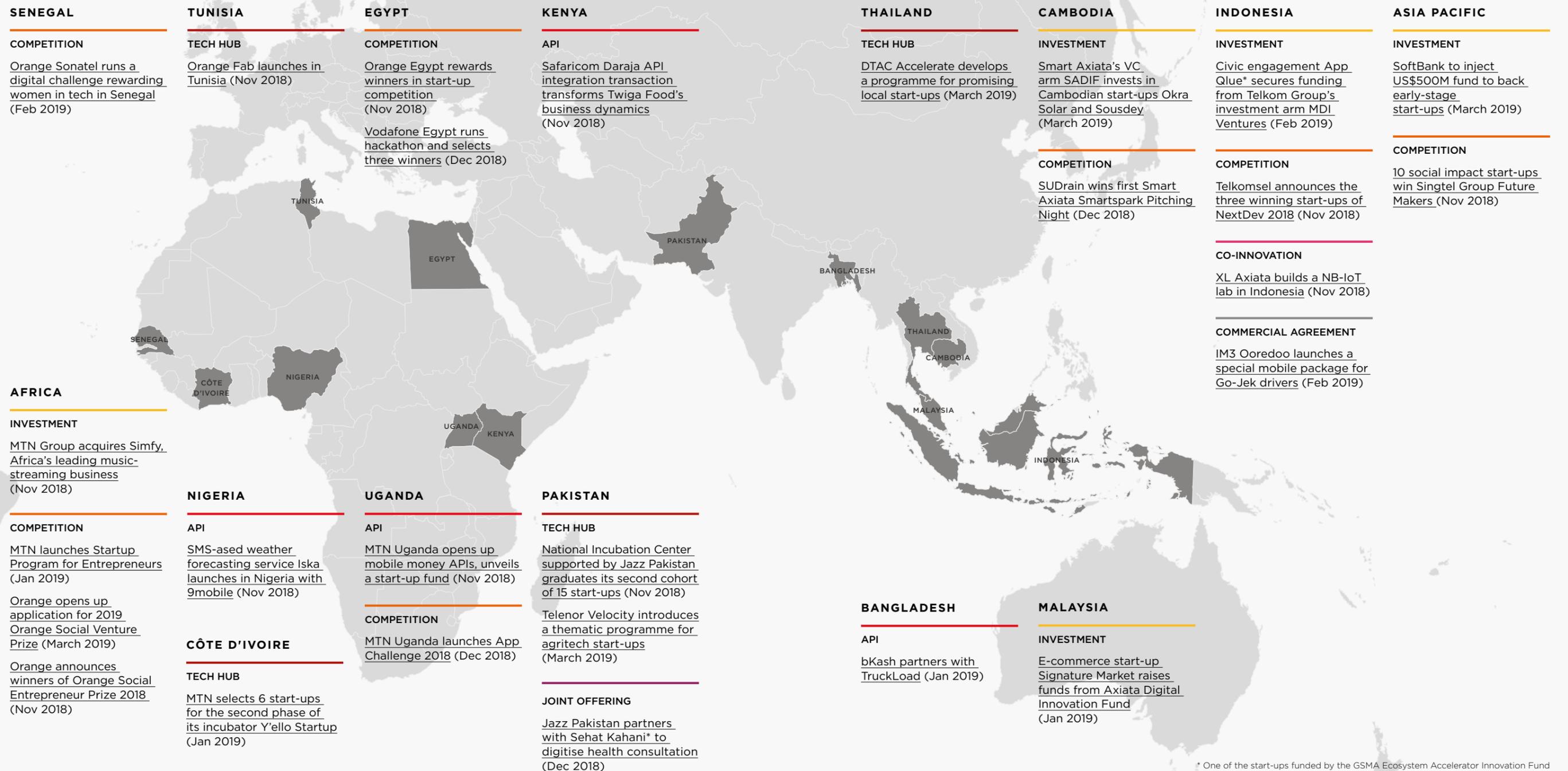
How mobile operators are collaborating
with local start-ups



This map provides a snapshot of mobile operator and start-up collaborations announced between November 2018 and March 2019. Each initiative has been mapped against a framework developed in our 2017 report, *Building Synergies: How Mobile Operators and Start-ups Can Partner for Impact in Emerging Markets*. This framework has now evolved to include the following categories: investment, competition, API, commercial agreement, tech hub, co-innovation and joint offering. On the next page, we take a closer look at five of these initiatives.

Map 1

Mobile operator and start-up collaborations in emerging markets (November 2018–March 2019)



* One of the start-ups funded by the GSMA Ecosystem Accelerator Innovation Fund

TECH HUB:

Orange launches flagship accelerator programme in Tunisia



In October 2018, Orange Tunisia joined the mobile operator's flagship accelerator network, Orange Fab. [Orange Fab Tunisia](#) launched its first call for applications between 26 October and 15 November 2018 with the aim to [create and build commercial partnerships between start-ups and Orange business units](#).

Eligible start-ups were expected to have at least three years of business activity. Orange Fab Tunisia offers free tailored support to start-ups, including a 12-week acceleration programme with free co-working spaces, access to international networks, and convertible bonds of up to \$16,850, customised workshops, infrastructure support, cloud services and a Demo Day, which includes strategic meetings with investors and key Orange partners. The programme also offers start-ups access to international markets thanks to Orange Group.

Orange Fab is now active in 15 countries, where collaborations with Orange are enabling start-ups to develop their business and activities. Since it launched in 2013, Orange Fab has contributed to the development of nearly 250 start-ups across all 15 markets.

API & INVESTMENT:

MTN Uganda opens up mobile money APIs, unveils a start-up fund



In November 2018, MTN Uganda granted developers and third parties access to its mobile money APIs, creating a smoother customer experience and additional payment options for mobile money users. The move creates a supplementary revenue stream for MTN Uganda and deepens engagement with its 10 million mobile money customers. The development eliminates the process whereby developers had to submit paperwork physically to MTN Uganda before proceeding with a lengthy standard integration.

The new online system provides an option for developers to test MTN Uganda's APIs using a sandbox on the <http://MoMoDeveloper.MTN.com/> before going live. Through the newly opened APIs, MTN Uganda enables payment collections, disbursements, remittances and a widget that users can download to enable mobile money payments on an e-commerce website. The open API endpoints can be accessed through via USSD, app and web.

Concurrently, MTN Uganda launched an SHS 1 billion (US\$270,000) start-up fund to provide a financial boost to start-ups participating in the MTN Innovation Challenge series, giving a boost to Uganda's start-up ecosystem.

JOINT OFFERING:

Jazz Pakistan partners with Sehat Kahani to digitise health consultation



In December 2018, Sehat Kahani partnered with Pakistan's largest mobile operator, Jazz Pakistan (over 56 million subscribers as of December 2018). Sehat Kahani provides a mobile-based telehealth solution that aims to democratise healthcare for people living in urban slums and rural areas of Pakistan. The platform connects users to qualified women doctors through virtual and mobile-enabled consultations. As of December 2018, Sehat Kahani had completed 27,510 virtual consultations and 36,057 patients had visited one of its 23 telemedicine e-Hubs (walk-in clinics).

Under the partnership, Jazz's mobile money service, JazzCash, is integrated with the Sehat Kahani app, allowing patients to pay for various Sehat Kahani services using JazzCash, including consultations with a Sehat Kahani doctor. Jazz also provides Sehat Kahani with subsidised data rates to its e-Hubs across Pakistan.

Sehat Kahani was awarded a grant from the [Ecosystem Accelerator](#) in February 2018. More information on Sehat Kahani can be found in a case study on page 26.

INVESTMENT:

Civic engagement App Qlue secures funding from MDI Ventures



In February 2019, the Indonesia-based start-up [Qlue](#) raised an undisclosed amount of funding from [MDI Ventures](#), the corporate venture capital arm of Telkom Indonesia. Qlue is a mobile service offering two-way communication for city residents and governments. Residents can report and share civic issues in their neighbourhood with city authorities or businesses while also accessing real-time information on traffic and public transportation.

GDP Venture led this latest round of funding with support from MDI Ventures. The funding is to be used to acquire business and technology talent in the artificial intelligence (AI) and Internet of Things (IoT) spheres, which are expected to help Qlue improve its services and deliver smart city solutions.

In November 2018, Qlue received a grant from the [GSMA Ecosystem Accelerator Innovation Fund](#) to expand its civic engagement solution to new cities in Indonesia, which will include training for government staff and support for citizen engagement.

CO-INNOVATION:

XL Axiata builds a NB-IoT lab in Indonesia



In November 2018, Indonesian mobile operator XL Axiata launched an Internet of Things (IoT) laboratory dubbed [X-Camp](#) in Jakarta. The space serves as an incubator for IoT start-ups, as well as a hub for IoT ecosystem players (start-ups, students, developers and others) to convene and collaborate through a testbed facility, product development, business incubation, financing and networking programmes.

X-Camp focuses on NB-IoT⁸ solutions across various industries with a focus on start-up development, from idea generation to business implementation. It provides an end-to-end network and IoT modules for makers to conduct connectivity and capability testing, as well as research and analysis. The laboratory has a collaborative venue which serves as a meeting room and user experience (UX) laboratory. X-Camp is a member of the [GSMA Mobile IoT Open Lab](#).

8. NarrowBand-Internet of Things (NB-IoT) is a standards-based low-power wide area (LPWA) technology developed to enable a wide range of new IoT devices and services. NB-IoT significantly improves the power consumption of user devices, system capacity and spectrum efficiency, especially in deep coverage. The battery life of more than 10 years allows a wide range of use cases. Learn more at: <https://www.gsma.com/iot/narrow-band-internet-of-things-nb-iot/>



START-UPS AND MOBILE INNOVATION

How our Innovation Fund start-ups
are using mobile technology to offer
services with impact

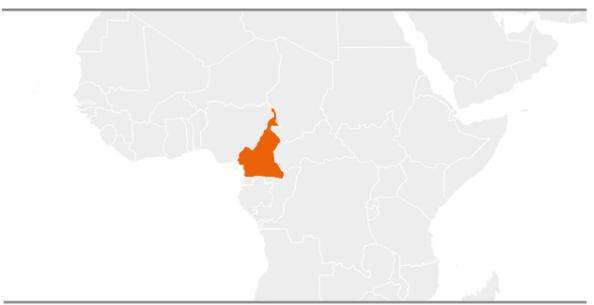
CASE STUDY **GiftedMom**

Using mobile channels to democratise and reinvent access to maternal healthcare in Francophone Africa



FOUNDING YEAR
2015

GEOGRAPHY
Cameroon



FOUNDING TEAM
Alain Nteff | Co-founder and CEO
Agbor Ashu | Co-founder and Product Manager

TWEET PITCH
GiftedMom offers health information tips and monitoring services to pregnant women and nursing mothers via an assistant mobile app, web, USSD and SMS.



WEBSITE
www.giftedmom.org

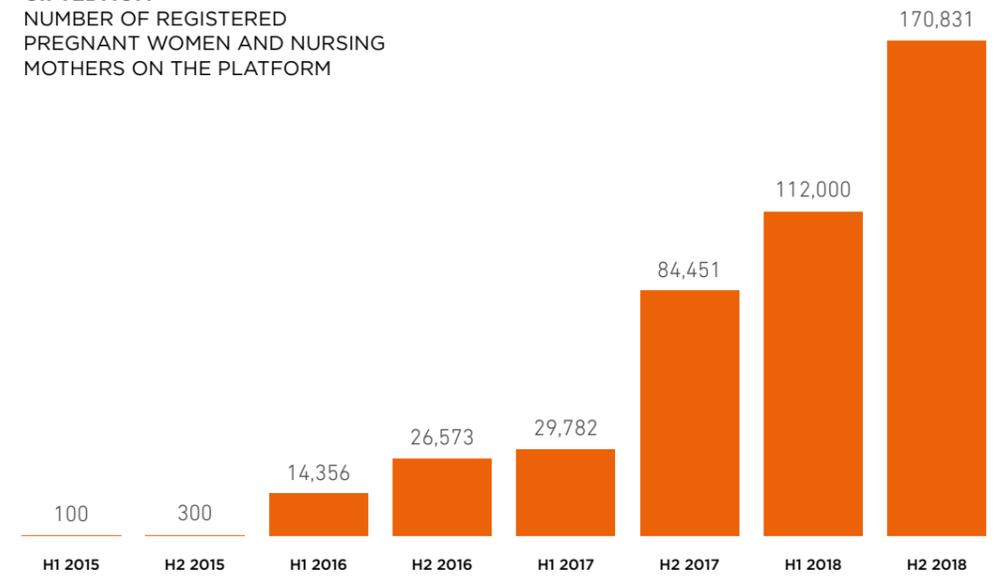
About 800 women worldwide die every day from pregnancy-related causes,⁹ but most of these deaths could be prevented with access to antenatal care and information, vaccinations or timely health advice. Pregnant women and nursing mothers living in developing countries like Cameroon often delay decisions to seek healthcare. Less than 60 per cent of women in Cameroon receive the recommended amount of care during pregnancy,¹⁰ and the country is among the world's top 20 countries with the highest maternal mortality rates.¹¹

GiftedMom was founded in 2015 to change this, offering pregnant women and nursing mothers access to health information and a monitoring service provided by specialists. The service is accessible to end users across multiple platforms, including USSD, SMS, web and a mobile app. One of GiftedMom's key offerings is the "Ask A Doctor" service, which provides a two-way text-based communication service accessible via SMS and an in-app chat. The start-up also works closely with 42 hospitals across eight of Cameroon's ten regions to offer a mobile-based hospital appointment reminder solution.

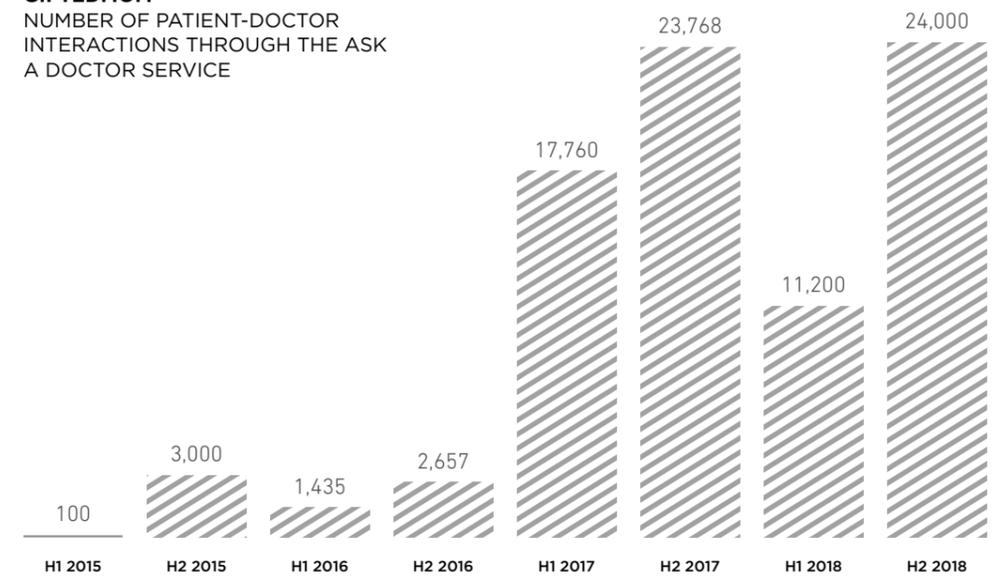
The co-founders of m-health start-up GiftedMom believe that one of the leading causes of maternal death is lack of information. Low-income families simply lack access to basic healthcare, and healthcare channels for the underserved are often inadequate.

As of December 2018, 170,831 users had access to GiftedMom's services (just over 40,000 are active users).¹² The start-up also supported 24,000 patient-doctor interactions in the second half of 2018 alone.

GIFTEDMOM
NUMBER OF REGISTERED PREGNANT WOMEN AND NURSING MOTHERS ON THE PLATFORM



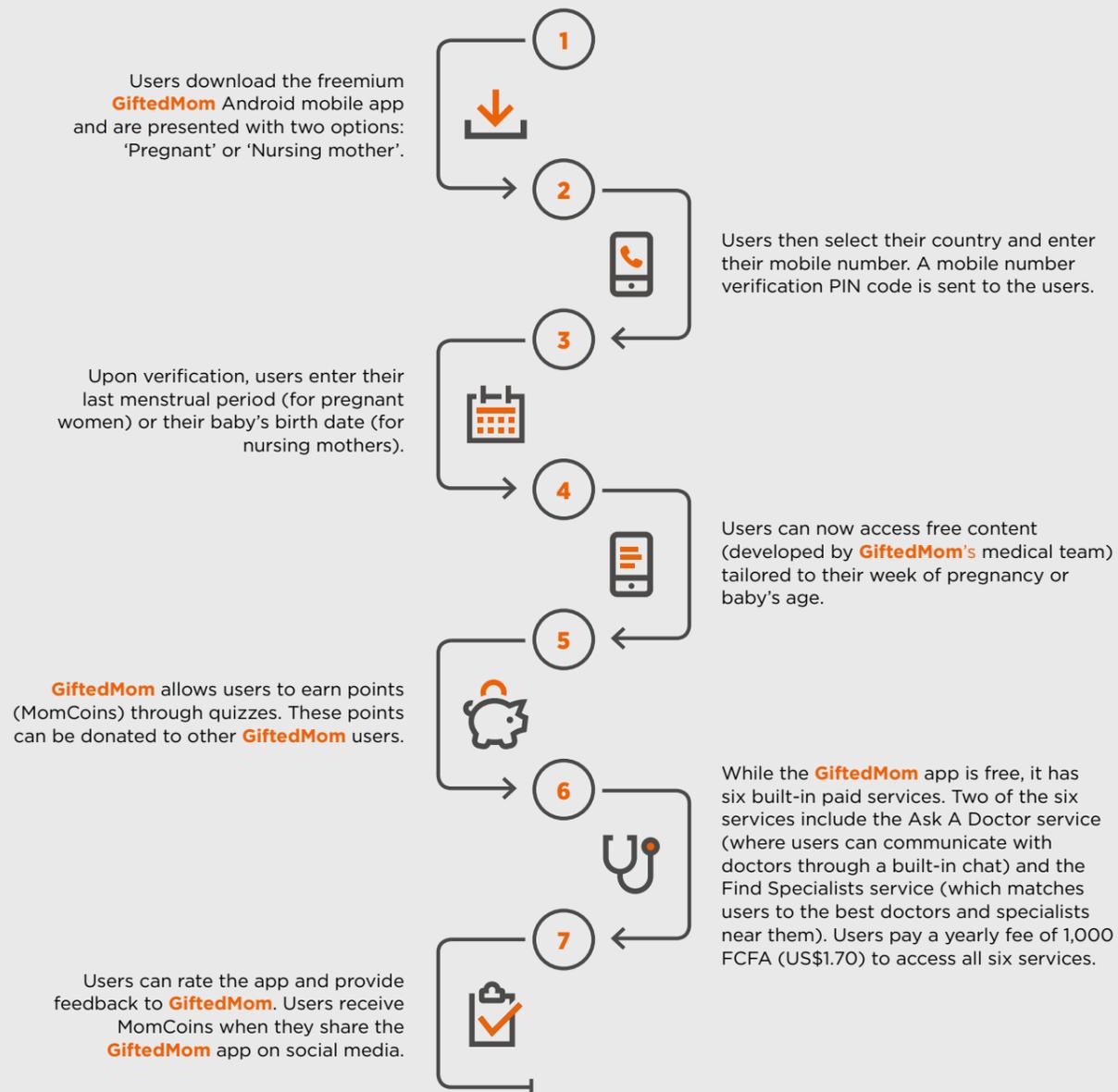
GIFTEDMOM
NUMBER OF PATIENT-DOCTOR INTERACTIONS THROUGH THE ASK A DOCTOR SERVICE



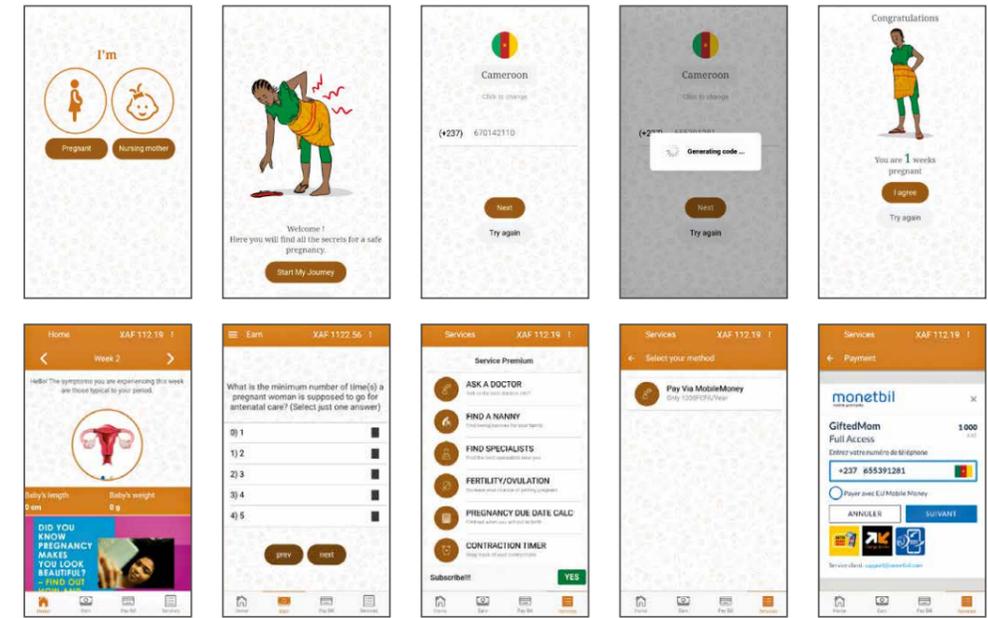
9. United Nations Population Fund (UNFPA), 6 May 2014, "Maternal deaths continue to fall, new data show", <https://www.unfpa.org/news/maternal-deaths-continue-fall-new-data-show>
 10. UNICEF, June 2018, "Antenatal care", <https://data.unicef.org/topic/maternal-health/antenatal-care/>
 11. Global Citizen, 30 October 2018, "Mothers in Cameroon Are Dying at Shocking Rates. The GFF Will Help Change That.", <https://www.globalcitizen.org/en/content/cameroon-maternal-mortality-rates-gff/>
 12. GiftedMom defines "active users" as expectant mothers or mothers who have had a baby in the last 12 months and are paid users receiving information on the platform.

How the service works

GiftedMom offers a freemium mobile app that provides free, tailored maternal healthcare information to pregnant women and nursing mothers. The app comes with some paid add-on services listed below. This is how the mobile app works:



In addition to this service, GiftedMom offers a toll-free SMS solution to users who want to access free maternal healthcare information, but do not have access to the app or internet. These users can get access to the six paid services through GiftedMom's USSD solution. Currently, customers that use USSD can only pay with airtime.



Working with mobile operators

GiftedMom's collaboration with Orange (Cameroon's second-largest mobile operator with seven million mobile connections as of December 2018),¹³ began in early 2016 when the start-up participated in **RFI Challenge App Africa**. The competition sought to support and promote the integration of new technologies in the field of sustainable development in Francophone Africa. Finalists had the opportunity to integrate Orange APIs, which led GiftedMom to integrate with Orange SMS, #303# My Store (USSD APIs) and Billing APIs. This gave GiftedMom the technical capacity to scale its services and reach

its target users in Cameroon. Later in 2016, Orange selected GiftedMom as one of three start-ups to join the accelerator programme, **Orange Fab Cameroon**, deepening the partnership.

Integrating Orange's Billing APIs enabled GiftedMom to charge users a weekly fee without payment frictions. Combined with the USSD version of the service, the billing API solidified GiftedMom's monetisation strategy. The start-up is now pursuing billing integration with Orange Côte d'Ivoire and Orange Senegal.

“ GiftedMom was among the three start-ups selected during the Season 1 of Orange Fab Cameroon Accelerator Program. GiftedMom's team was highly receptive and motivated during the program and we found GiftedMom service was an important platform that could reach out to women in our network, providing them with quality information as this is their primary mission. I am proud to see how this start-up is growing and I am totally confident in their capacity to achieve a bigger impact in Africa. ”



Joseph Abena, Innovation Manager, Orange Cameroon

13. GSMA Intelligence: <https://www.gsmainelligence.com/>

Changing lives



GiftedMom's solution grants healthcare access to pregnant women and nursing mothers in underserved areas in Cameroon, reducing mortality rates and neonatal complications. As of December 2018, the start-up has provided critical health information to over 250,000 women, many of whom are nursing mothers earning less than \$3 a day.



GiftedMom's app has really been a great help to me. Having doctors on call and texts is hugely helpful. I can ask questions and get prompt answers to get a better understanding of my health and that of my child. The weekly tips are so amazing. In my view this app is a blessing to our generation.

Yvonne, mother of one child - shown on page 25



Since the introduction of GiftedMom services, we have observed that more and more women are coming back to the hospital for check-ups. We used to receive on average 30 women each month returning for their appointments, now about 50 of them come back for their appointments.

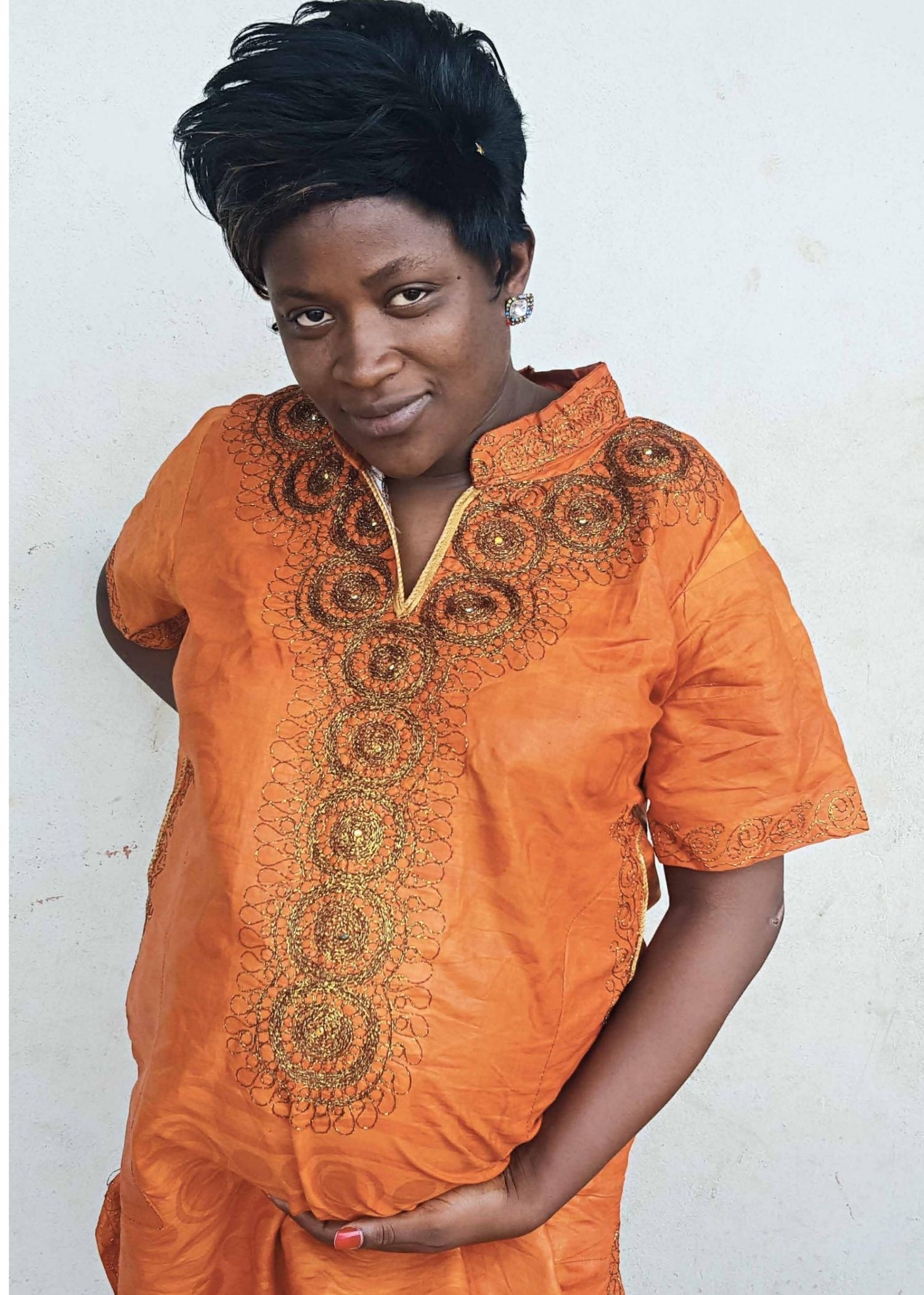
Emmanuella, nurse at Muea Subdivisional hospital



Working with the GSMA Ecosystem Accelerator

GiftedMom received a grant from the [GSMA Ecosystem Accelerator Innovation Fund](#) in November 2018 to develop a personalised, remote maternal healthcare solution via mobile apps that rewards pregnant women and nursing mothers with tokens they can use to pay for healthcare. The GSMA grant will be used to test and develop two mobile apps: a natal app and a nursing app. The grant will also be used to on-board users and roll out the apps.

By the end of the grant in November 2019, GiftedMom plans to have reached an additional 100,000 pregnant women and nursing mothers through its new mobile app. Besides funding, GSMA will continue to support GiftedMom to deepen its relationship with local mobile operators in the Francophone region.



CASE STUDY **Sehat Kahani**

Employing mobile technology to connect women doctors to underserved communities in Pakistan



FOUNDING YEAR
2017

GEOGRAPHY
Pakistan

FOUNDING TEAM
Dr. Sara Saeed Khurram | Co-founder and CEO
Dr. Iffat Zafar | Co-founder and COO

TWEET PITCH
Sehat Kahani provides a mobile-based telehealth solution that aims to democratise healthcare in Pakistan by connecting women doctors with patients in underserved communities.

WEBSITE
<https://sehatkahani.com/>



Pakistan faces a multitude of challenges in its healthcare sector. The country ranks 154th out of 195 countries in terms of quality and accessibility of healthcare, lagging behind its South Asian counterparts, Bangladesh, India and Sri Lanka.¹⁴ Almost 50 per cent of Pakistan's population is deprived of basic healthcare facilities and about one per cent of the country's GDP is spent on healthcare, eight times less than recommended by the World Health Organisation (WHO).¹⁵ This is reflected in the country's child healthcare statistics. According to UNICEF, Pakistan has one of the world's highest infant mortality rate, with 74.9 deaths for every 1,000 children five years and younger.¹⁶ This ratio is 39.4 in India, 32.4 in Bangladesh and just 9.3 in China.

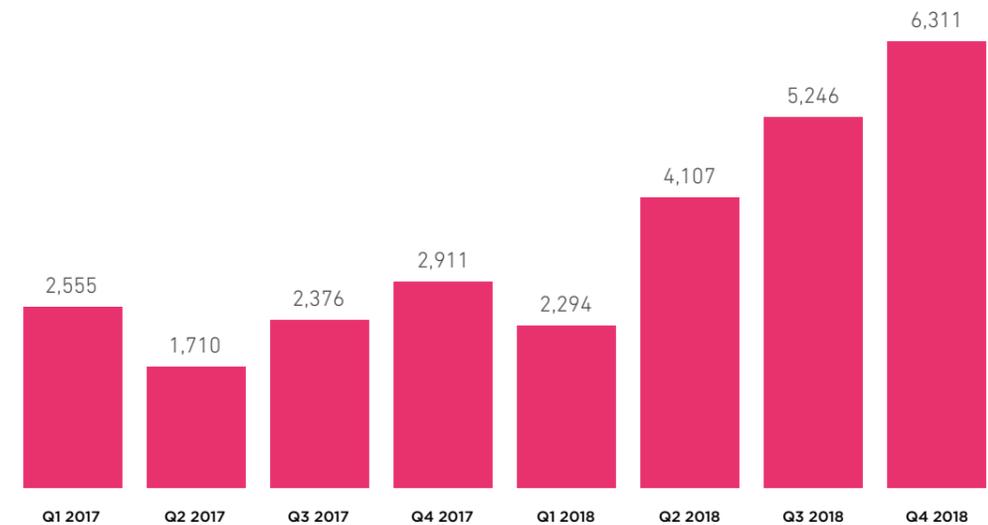
A shortage of practicing female doctors, combined with socio-cultural barriers, in part explain why healthcare is so inaccessible. While Pakistan educates 150,000 doctors every year and 63 per cent of medical students

are women, according to the Pakistan Medical and Dental Council, only 23 per cent of doctors are women.¹⁷

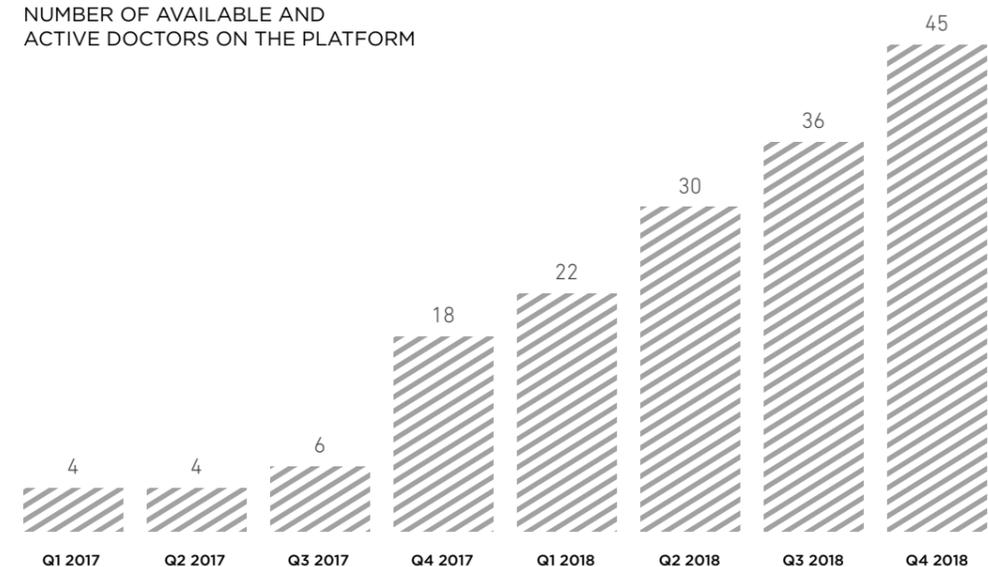
Given these challenges, Sehat Kahani launched a dedicated mobile-enabled healthcare service aimed at underserved communities across Pakistan in 2017. The start-up created a network of e-Hubs (walk-in clinics) that use telemedicine to connect users to qualified women doctors online, while qualified nurses or health workers act as intermediaries in selected communities. Sehat Kahani has also developed a mobile and web-based telemedicine solution that gives users direct access to virtual consultations, as well as general preventive and mental health information. Since its launch in January 2017 to December 2018, Sehat Kahani facilitated 27,510 total patient visits through its e-Hubs. Sehat Kahani currently has 23 telemedicine e-Hubs spread across three of Pakistan's four provinces: Khyber Pakhtunkhwa (KPK), Punjab and Sindh.

14. The Lancet, 2 June 2018, "Measuring performance on the Healthcare Access and Quality Index for 195 countries and territories and selected subnational locations: a systematic analysis from the Global Burden of Disease Study 2016", Vol. 391, Issue 10136, [https://www.thelancet.com/journals/lancet/article/PIIS0140-6736\(18\)30994-2/fulltext](https://www.thelancet.com/journals/lancet/article/PIIS0140-6736(18)30994-2/fulltext)
15. Cartier Women's Initiative: <https://www.cartierwomensinitiative.com/candidate/sara-saeed>
16. UNICEF, "Country profiles: Pakistan", <https://data.unicef.org/country/pak/>
17. Cartier Women's Initiative: <https://www.cartierwomensinitiative.com/candidate/sara-saeed>

SEHAT KAHANI
TOTAL PATIENT VISITS PER QUARTER

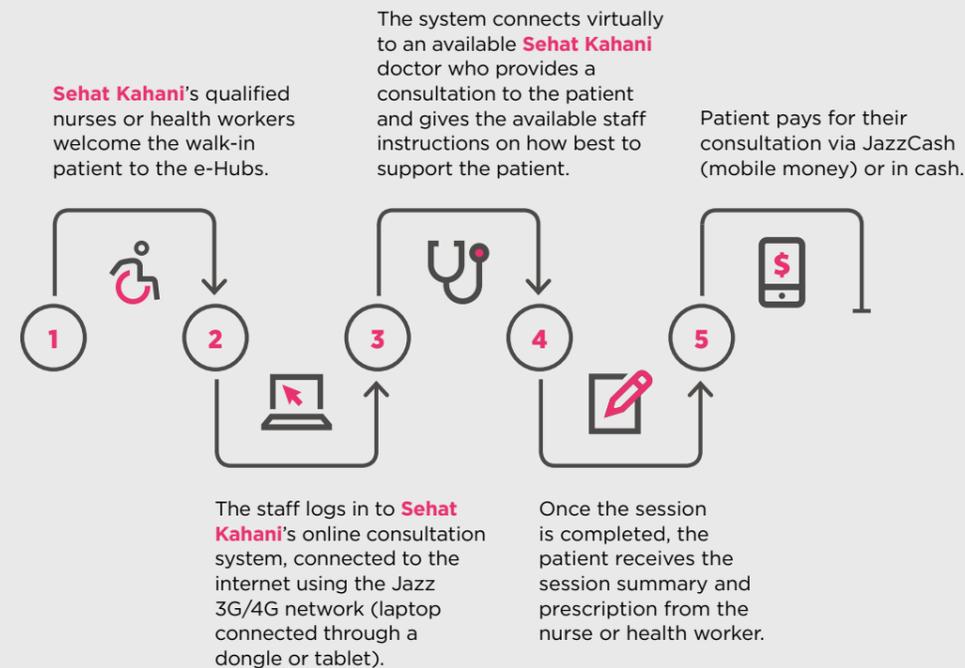


SEHAT KAHANI
NUMBER OF AVAILABLE AND ACTIVE DOCTORS ON THE PLATFORM



How the service works

Sehat Kahani's e-Hubs are physical clinics located in low-income communities, underdeveloped urban areas and rural areas of Pakistan. Its mobile telemedicine solution enables individuals to consult with a Sehat Kahani doctor virtually. This is how the services work:



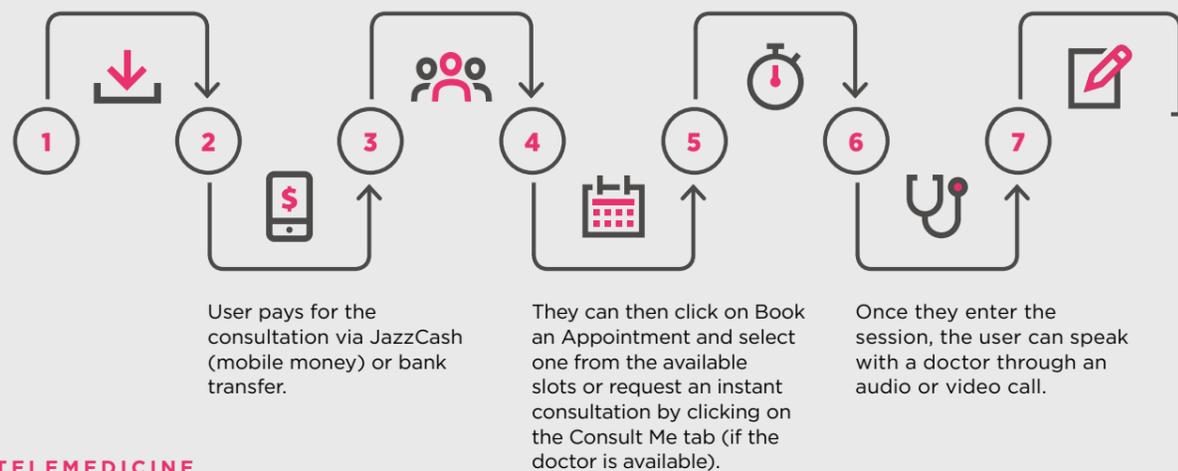
E-HUBS (WALK-IN CLINICS)

The user downloads the **Sehat Kahani** Android or iOS mobile app on their smartphone, register on the app and create a basic profile to which they add their medical and social history for the doctor's reference.

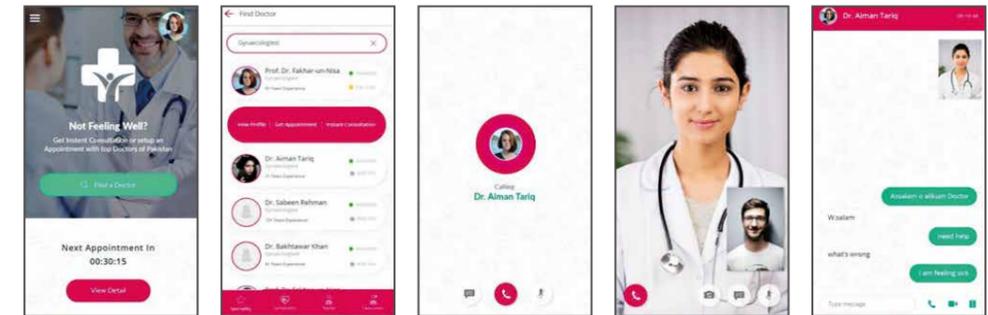
User selects a doctor from the panel after clicking on the New Appointment tab.

At the time of the appointment, the user clicks on the Consult Now option and enters the session.

User receives the session summary and prescription via email after the session is completed.



TELEMEDICINE MOBILE APP



Working with mobile operators

In December 2018, Sehat Kahani began a partnership with Pakistan's largest mobile operator, Jazz Pakistan (over 56 million subscribers as of December 2018).¹⁸ Under the partnership, Jazz's mobile money service JazzCash is integrated with the Sehat Kahani app,

allowing patients to pay for various Sehat Kahani services using JazzCash, including a consultation with a Sehat Kahani doctor. Jazz also provides Sehat Kahani with subsidised data rates for e-Hubs across Pakistan.



As Sehat Kahani's partner, Jazz Pakistan is looking for scalability. We can support Sehat Kahani as a technology partner. We can also support with wearable sensors, telemedicine and telemonitoring. Since Jazz Pakistan already offers health insurance, we can integrate our insurance offerings with Sehat Kahani's medical services to create a whole ecosystem. Hence, the whole concept of digital well-being can be realised for the people of Pakistan through this partnership; the gap is huge and only digital technology is poised to bridge the gap.



Aamer Ejaz, Chief Digital Officer, Jazz Pakistan



¹⁸ GSMA Intelligence: <https://www.gsmainelligence.com/>

Changing lives



More than 70 per cent of healthcare expenditures in Pakistan are paid out of pocket.¹⁹ Millions of women rely on untrained birth attendants and faith healers, contributing to the country's high maternal mortality rate. Eighty-one per cent of Sehat Kahani's patients today are women, and the service, targeted mainly at underserved communities, contributes directly to bringing down the maternal mortality rate.



By enabling women doctors to work remotely, Sehat Kahani is breaking through the cultural barriers that keep women doctors from practicing. Using mobile health and tele-health technologies, Sehat Kahani is already enabling 45 women doctors to conduct home-based practices, bringing them back into the workforce to provide quality care to remote communities. Sehat Kahani's solution is a positive step towards ending gender stereotypes and changing social norms.



My health was continuously deteriorating and even after visiting multiple clinics, no one could find a cure for my condition. That was until a Sehat Kahani support worker came at my house and told me about their clinic. I decided to give it one more try and visited the Sehat Kahani clinic which was only 7 km away from my house. The online specialist figured out my issues and advised the nurse to begin my treatment right away. Today, I am healthy and thankful to the team of Sehat Kahani for saving my life.



Mehnaz, a 26-year-old woman who was diagnosed with RPOC (retained products of conception) by a Sehat Kahani doctor after multiple miscarriages

I took a break from my career because of my toddler and pregnancy. However, when I heard about Sehat Kahani and its vision, I knew this was the right opportunity for me. I have been working with Sehat Kahani since the beginning and it has been an extremely motivating journey for me. Not only have I been able to pursue my career, but have also been able to give time to my family. I have learnt a lot about tele-medicine and really appreciate the work that has been done for the less privileged people of our country.



Dr. Hina, Sehat Kahani doctor



Working with the GSMA Ecosystem Accelerator

In February 2018, Sehat Kahani received a grant from the [GSMA Ecosystem Accelerator Innovation Fund](#) to deploy six e-Hubs in urban slums and rural areas, as well as develop an e-learning module for Sehat Kahani's doctors and nurses. The e-Hub clinics serve as a referral point for patients who need further consultation and treatment.

Sehat Kahani completed its Ecosystem Accelerator project in March 2019. During the grant, the project had an impact on 30,750 active users, including patients, doctors, nurses and community health workers.



¹⁹ Mahmood Khalid and Abdul Sattar, 2016, "Households Study on Out-of-Pocket Health Expenditures in Pakistan", *Forman Journal of Economic Studies*, Vol. 12, pp. 75-88. <https://www.fccollege.edu.pk/wp-content/uploads/2017/03/Paper-5-Households-Study-on-Out-Of-Pocket-Health-Expenditures-in-Pakistan-by-Mahmood-Khalid-and-Abdul-Sattar.pdf>

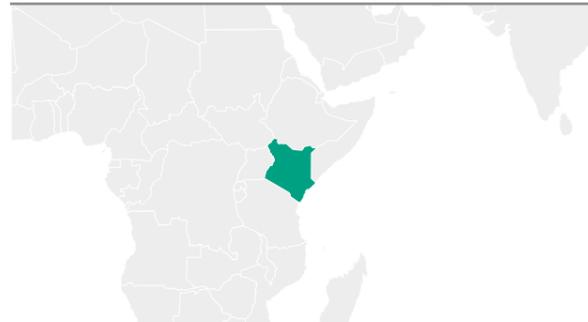
CASE STUDY **Lynk**

Connecting informal workers to job opportunities in Kenya



FOUNDING YEAR
2015

GEOGRAPHY
Kenya



FOUNDING TEAM
Adam Grunewald - Co-founder and CEO
Johanes Degn - Co-founder and CTO
Chris Maclay - Head of Growth

TWEET PITCH
Lynk is a digital platform that connects households and businesses with informal workers (“fundis”), artisans and tradespeople.

WEBSITE
<https://lynk.co.ke/>



In 2018, the International Labour Organization (ILO) estimated there were two billion informal workers worldwide, equivalent to 61 per cent of all workers globally.²⁰ In Kenya, limited growth in the country’s near-saturated formal employment market has led the informal sector to account for 82 per cent²¹ of the working population.²² According to Kenya’s Ministry of Education, of the one million young people entering the job market from universities and colleges every year, only one in five is likely to get a job in the formal sector.²³

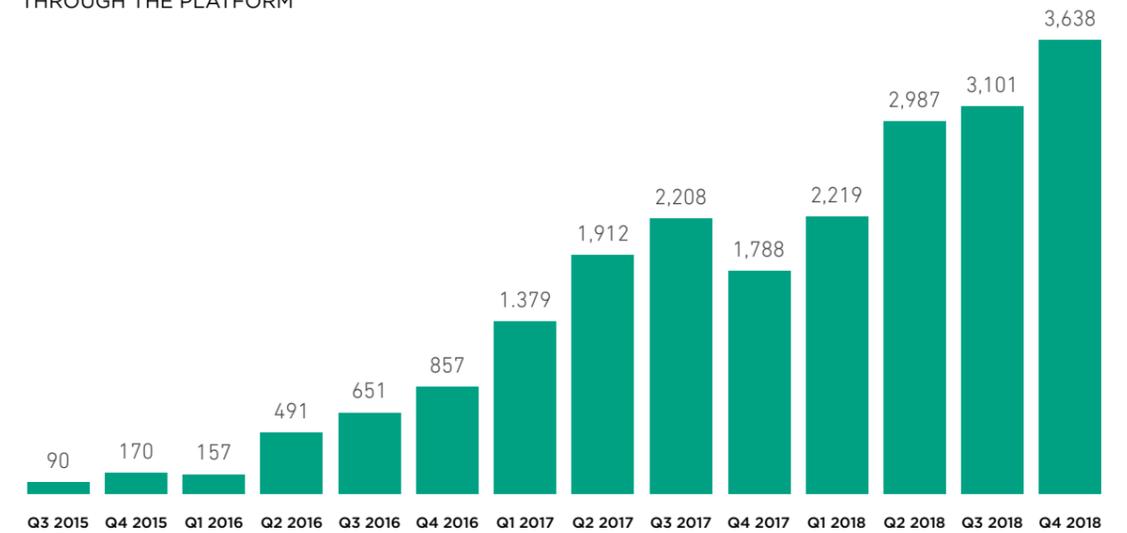
This could mean young people will have to find other ways of earning a living. The informal sector is an option, but there are challenges in the ‘gig economy’.²⁴ Informal workers typically receive low pay in low-skilled jobs they found through ad hoc arrangements, which leads

to irregular work, often unsafe working conditions, low incomes and limited opportunities to build a career.

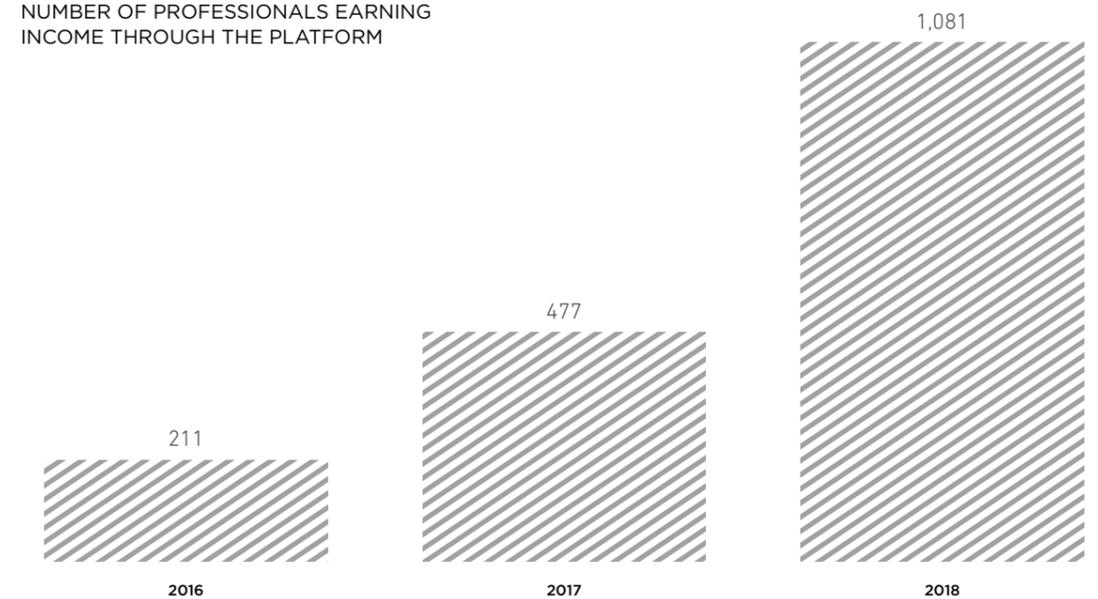
Lynk was launched in 2015 to create fulfilling careers for informal workers (called “fundis” in Kenya) and artisans by connecting them to relevant work opportunities with fair working conditions. Through its website customer-facing app (which runs on both iOS and Android) and Pro App platform (on Android), Lynk matches customers’ (households and businesses) job requests to verified professionals that Lynk calls “Pros”: skilled plumbers, electricians, tailors, carpenters and chefs, among others. As of February 2019, Lynk had enabled over 1,300 informal workers to access over 22,961 jobs, and the platform has transferred more than \$2.5 million to workers in payments.

20. ILO, 30 April 2018, “Women and Men in the Informal Economy: A Statistical Picture. Third edition”, https://www.ilo.org/global/publications/books/WCMS_626831/lang--en/index.htm
21. The World Bank, January 2016, “Informal Enterprises in Kenya”, <http://documents.worldbank.org/curated/en/262361468914023771/pdf/106986-WP-P151793-PUBLIC-Box.pdf>
22. PROPARGO, “Lynk: A Kenyan Start-up Transforming the Informal Sector”, <https://www.proparco.fr/en/lynk-kenyan-start-transforming-informal-sector-0>
23. Daily Nation, 16 July 2018, “Innovation, counties now the areas to seek jobs”, <https://www.nation.co.ke/lifestyle/dn2/Tackling-youth-unemployment/957860-4664298-14fujrl/index.html>
24. Definition of the ‘gig economy’: a labour market characterized by the prevalence of short-term contracts or freelance work as opposed to permanent jobs.

LYNK
NUMBER OF JOBS FULFILLED THROUGH THE PLATFORM

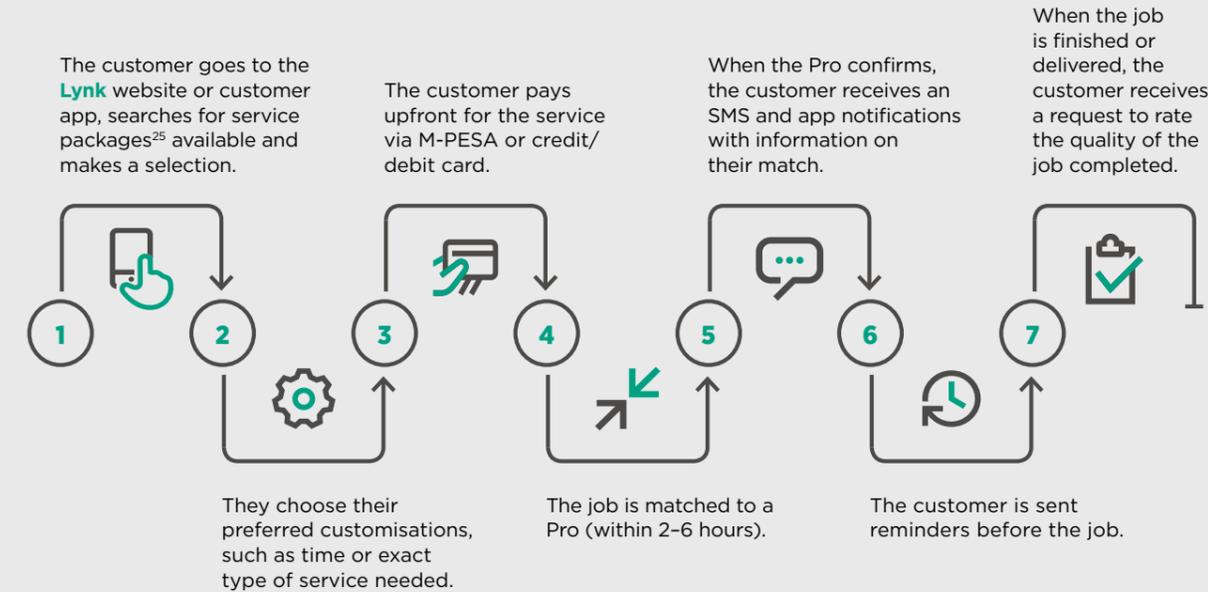


LYNK
NUMBER OF PROFESSIONALS EARNING INCOME THROUGH THE PLATFORM

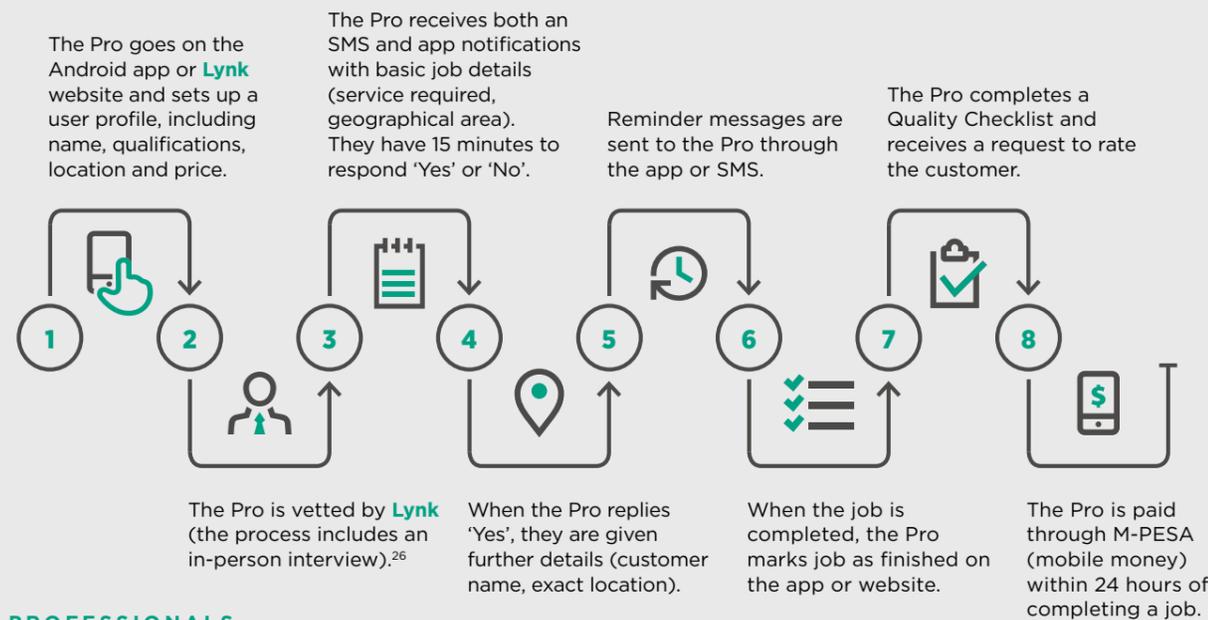


How the service works

The Lynk platform is accessible on one side by customers (households or businesses) seeking a specific service through the website or customer app. On the other side, informal workers or “Pros” can access jobs via the Pro App and website. Lynk is integrated with mobile money (Safaricom M-PE-SA) to provide cashless payments. When customers pay for the service through the Lynk platform, Lynk retains a 10 per cent administration fee. This is how the service works:



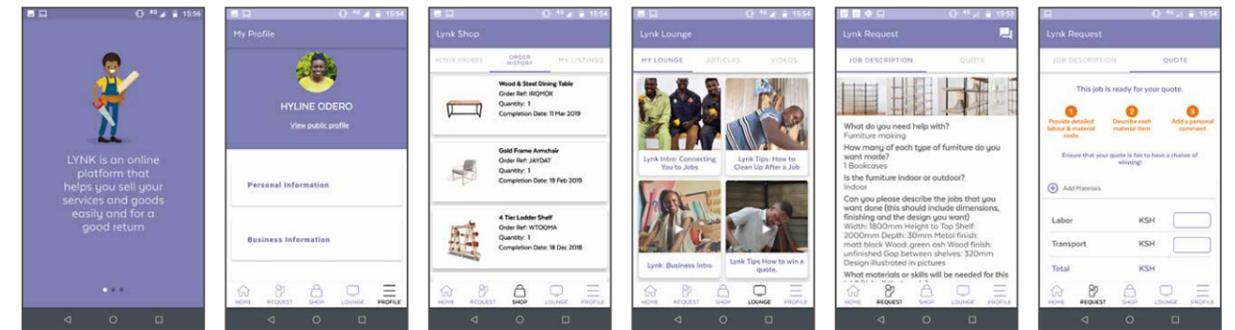
CUSTOMERS



PROFESSIONALS

25. A range of services are provided, from plumbing to beauty treatments to bespoke carpentry.

26. Pros are identified through partnerships with vocational training schools, recommendations (by customers, experienced Lynk Pros) or direct applications. They are vetted by an in-person interview.



Working with mobile operators

In September 2017, Lynk received funding from Safaricom’s corporate venture capital (CVC) arm, Spark Fund,²⁷ as part of its seed round. Lynk meets regularly with other Spark Fund investees and the Safaricom Innovation team to assess opportunities for collaboration. In addition to the funding, Safaricom’s mobile money transfer service, M-PESA, is used to facilitate payment for Lynk’s services. Lynk uses M-PESA to pay Pros while Lynk customers also have the option to pay using M-PESA (they can even pay using M-Pesa 1Tap,²⁸ which allows faster payments).

In February 2019, Lynk kicked off a new collaboration with Safaricom’s e-commerce platform, **Masoko**, to launch a pilot to cross-sell Lynk services. On the Masoko platform, customers can buy beauty services from Lynk Pros, and can add on installation services from Lynk Pros when they buy appliances from Masoko. For instance, customers can arrange for an electrician to fit a wall lamp bought from the Masoko shop.



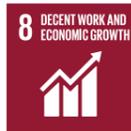
27. Spark Fund is Safaricom’s Venture Capital Investment Fund. <https://www.cio.co.ke/safaricom-spark-fund-invests-sixth-startup/>

28. M-PESA 1Tap is a quick way to pay with M-PESA. Using a card, phone sticker or wristband device connected to an M-PESA account, a user can make Lipa Na M-PESA Buy Goods and Services payments. <https://www.safaricom.co.ke/personal/m-pesa/lipa-na-m-pesa/m-pesa-1tap>

Changing lives



According to the UNDP, nearly 27 per cent of Kenya's total workforce are poor.²⁹ Lynk's platform enables informal workers to find work with better pay and increase their income. As of March 2019, over \$2.5 million has been transferred to Lynk Pros in payment for services delivered through Lynk's platform.



As of March 2019, over 1,300 informal workers have worked on over 25,000 jobs serving over 2,200 customers. The start-up is therefore helping to create more work opportunities for informal workers.



Before I joined Lynk, in a month I could earn 10,000 or 15,000 Kenyan shillings after expenses (sic. US\$100–150), but with Lynk it has doubled. My daily life has improved. I'm not suffering like I used to. I am able to support my family much better. Today I have three employees working with me. Before I didn't have much work, so there were just two of us.



Christopher, 37 years old, Nairobi, a carpenter for over 15 years, 93 jobs completed through Lynk



I do tailoring and designing for a living. I used to have dry seasons. I used to struggle with gaining access to my target customers. This has changed since using Lynk.

Anne Christine, 34 years old, 174 jobs completed through Lynk

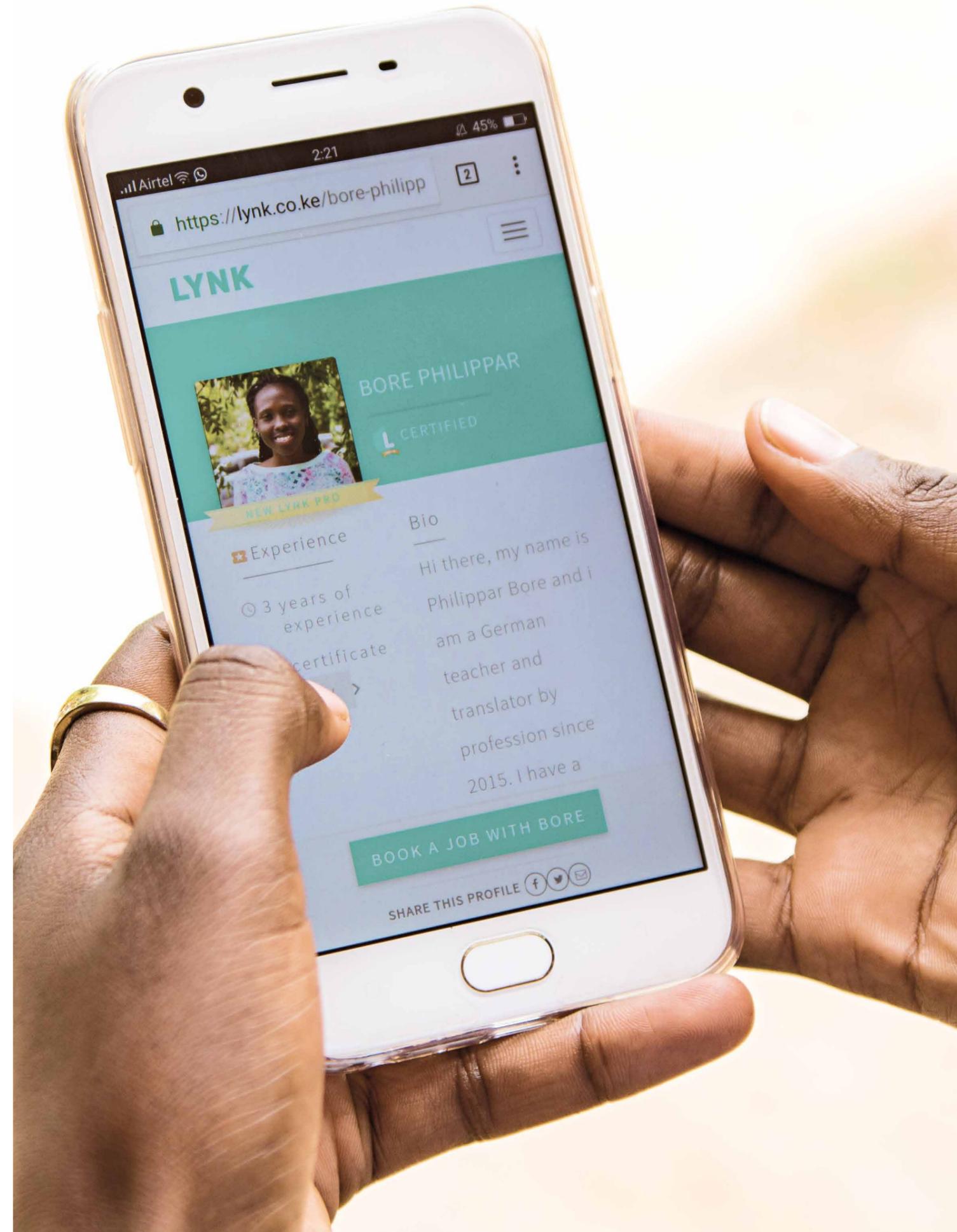


Working with the GSMA Ecosystem Accelerator

Lynk received a grant from the [GSMA Ecosystem Accelerator Innovation Fund](#) in February 2018 to launch the Lynk Android Pro App. The Pro App has increased Lynk's potential to automate and scale up, while providing a better user experience for Lynk Pros (informal workers and artisans). The app makes it easier to keep track of jobs and logistics and enables Lynk to layer in additional services for Pros, such as loans and e-learning content (Lynk plans to integrate video-based or text-based e-learning content in the app).

By the end of the GSMA grant in June 2019, Lynk plans to have connected more than 2,000 informal workers to jobs worth over \$6 million, and be ready to expand into other Sub-Saharan African markets. Beyond the funding, GSMA is also supporting Lynk to strengthen its relationship with mobile operators.

29. To be poor is defined as earning under PPP \$3.10 a day.



Acknowledgements

We would like to thank the mobile operators, external consultants, start-ups and experts who were interviewed and consulted for this report:

- Aamer Ejaz, Chief Digital Officer, Jazz Pakistan (Pakistan)
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- Dr. Iffat Zafar, Co-founder and COO, Sehat Kahani (Pakistan)
- Johannes Degn, Co-founder and CTO, Lynk (Kenya)
- Joseph Abena, Innovation Manager, Orange Cameroon (Cameroon)
- Dr. Sara Saeed Khurram, Co-founder and CEO, Sehat Kahani (Pakistan)



GSMA HEAD OFFICE

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