GSMA






A needs-based approach to mobile digital skills training: Learnings from India and Ghana

GSMA

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The findings and conclusions expressed in this report are those of the GSMA, and do not necessarily represent the views of the organisations and individuals who were involved in this project.

Contents

1. Introduction

Mobile is the primary channel for people to connect to the internet, especially in low- and middle-income countries (LMICs).[1] While mobile device and smartphone ownership has increased exponentially over the past decade, an estimated three billion people remain unconnected. The majority of these unconnected populations live in areas covered by a mobile broadband network[2] but remain excluded from the essential services and life-enhancing opportunities that mobile internet has to offer. The State of Mobile Internet Connectivity Report 2023 identified a lack of literacy and digital skills as one of the major barriers to mobile internet adoption among mobile users who are aware of the internet but do not use it. It is important to identify and implement measures to develop the digital skills of citizens to ensure that everyone can use mobile internet to meet their needs, with mobile network operators (MNOs) having an important role to play in developing and implementing strategies and interventions to tackle the digital skills barrier effectively.

In 2019, with funding from the Norwegian Agency for Development Cooperation (Norad), the GSMA Connected Society programme launched a project to prototype, test and pilot different approaches to digital skills training in LMICs, in partnership with Reliance Jio Infocomm Limited (Jio) in India and MTN Ghana. Using a needs-based approach, the GSMA collaboratively developed the digital skills training content and materials, with the MNOs providing expertise and guidance based on their understanding of the customers and context. The research project aimed to understand the life needs of the selected demographic groups to identify their motivations for using mobile internet and their learning preferences. A human-centred design approach was then used to develop and iteratively test digital skills training content. These included animation and video modules and a range of training materials, which were piloted by the MNOs. In line with the needs-based approach, the training content was organised into a series of learning pathways[3] that corresponded with the specific customer segment's life needs and relevant use cases for mobile internet, such as *connecting with family*.

This report summarises the key learnings from developing and piloting the digital skills training and its evaluation in both India and Ghana. It builds on an earlier published report which highlighted the qualitative research findings on digital skills needs.[4] This report highlights several key aspects of impactful digital skills training, including the effectiveness of learning content and training delivery channels, and also identifies important contextual and country differences between customer segments in Ghana and India, including how video content is received. The learnings presented in this report will provide MNOs and other stakeholders with key considerations and actionable insights for designing and delivering appropriate digital skills training.

1. More than 3.4 billion people in LMICs now access the internet on a mobile phone, accounting for 85% of broadband connections in 2022. From: International Telecommunications Union (ITU) estimates for 2022.
2. GSMA (2023) The State of Mobile Internet Connectivity 2023.
3. Learning pathways refer to digital skills training 'tracks' comprising of a series of videos that relate to a specific life need that mobile internet can help to meet. Rather than focusing on learning how to use a specific app, learning pathways can help users identify relevant use cases that are of interest to them, such as connecting with family. They can also give users an idea about relevant device functions or apps to achieve the use cases and provide step-by-step instructions on how to use them.
4. GSMA (2021) Understanding people's mobile digital skills needs.

2. The digital skills pilots

India

Table 1
Digital skills training in India

Target audience	**Rural women and their families**
Learning pathways	**Connecting with family** **Learning and discovering for your family**
Delivery channels	**1. Digital self-training through videos shared via in-app and SMS push notifications** **2. In-person training with self-help groups (SHGs)** **3. In-store training via video displays and staff support**
Average length of training video	**Four to five minutes**
Use of language/ subtitles	**English, Tamil and Hindi; no subtitles**
Type of video	**Animation**

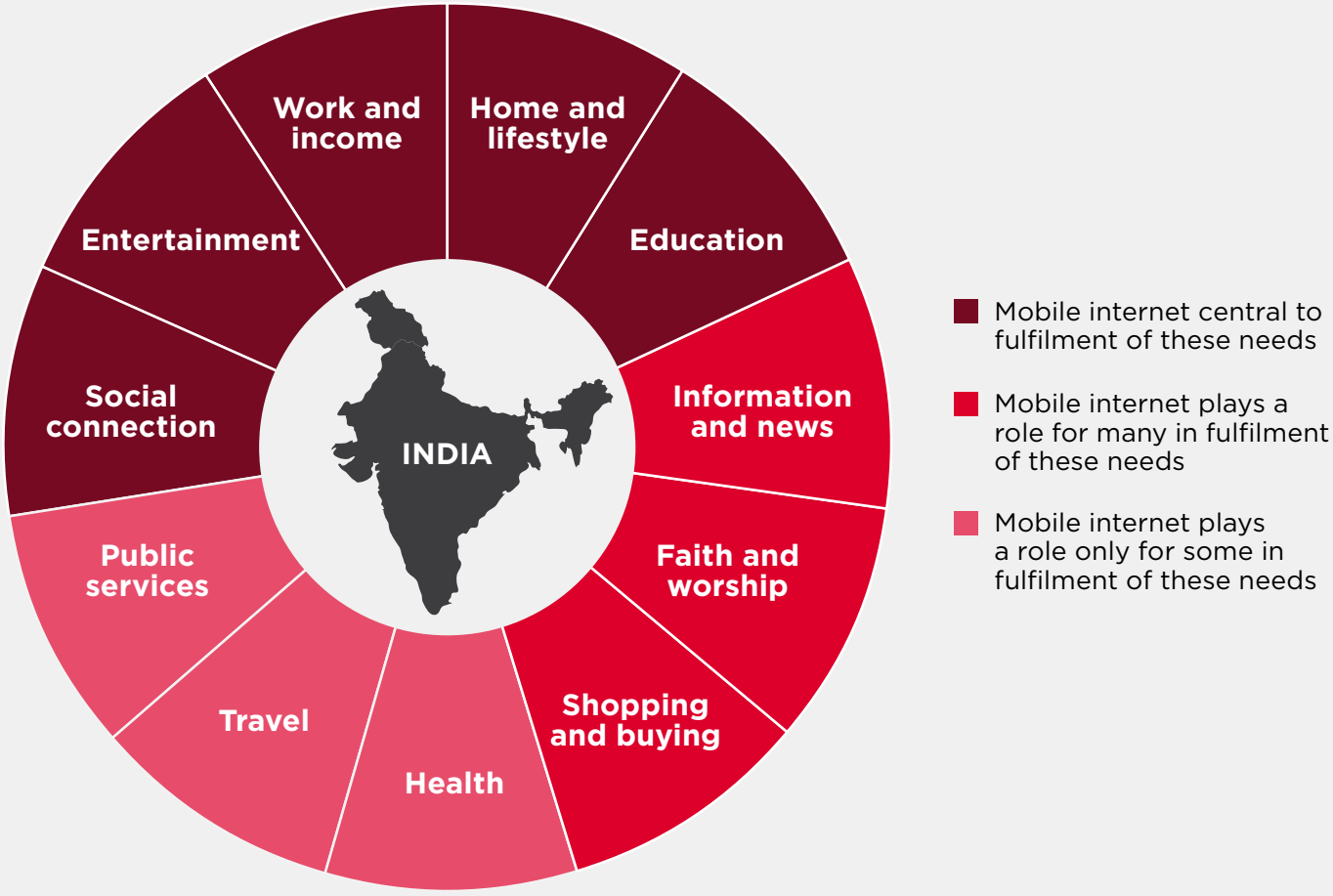
Concept and design

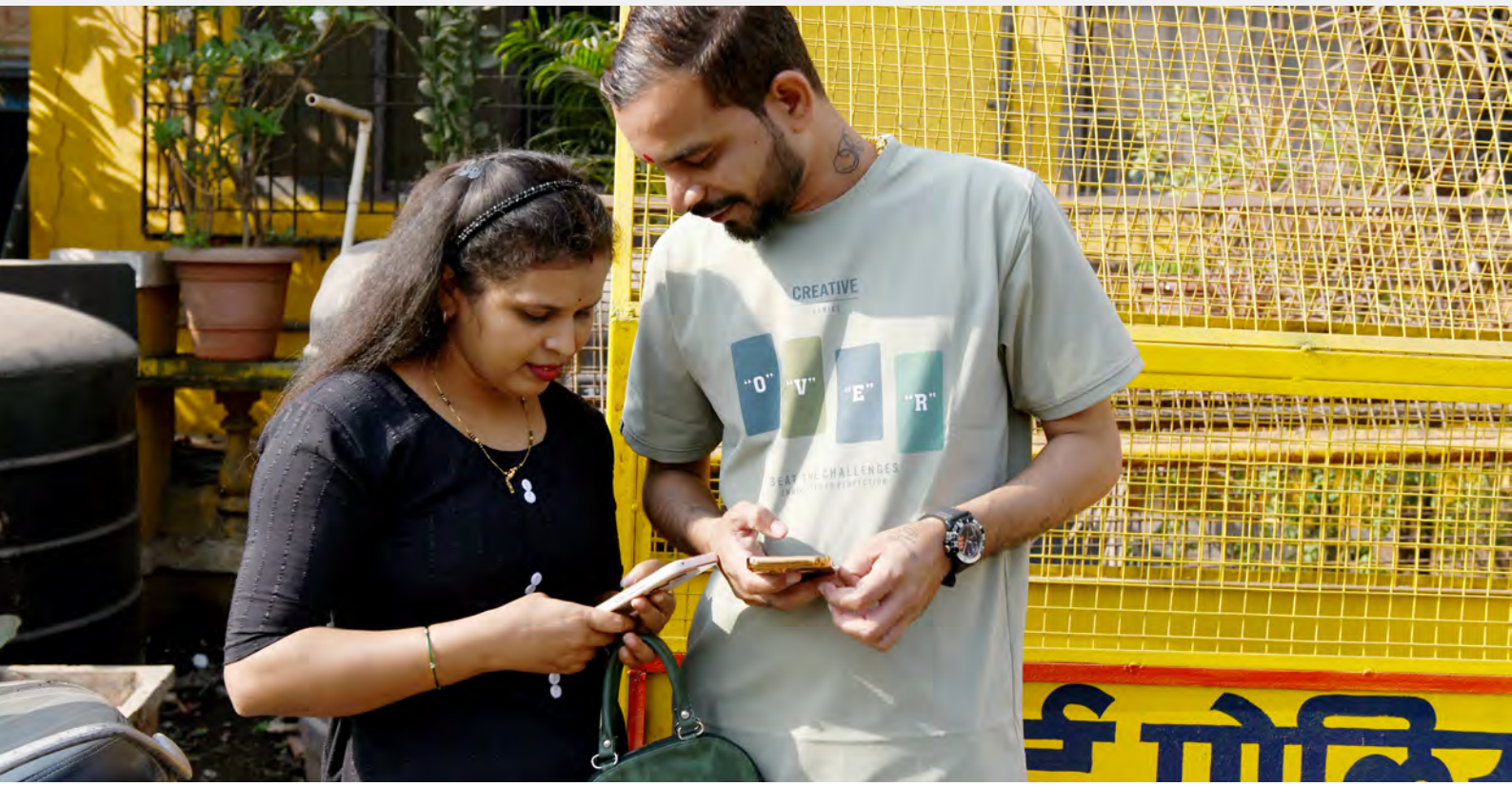
Mobile internet can fulfil people's life needs in different ways and to different extents (Figure 1). Earlier qualitative research[5] found that people's life needs fall into 11 broad categories: work and income, home and lifestyle, education, information and news, faith and worship, shopping and buying, health, travel, public services, social connection and entertainment. Based on these life needs and the target audience, localised mobile digital skills training content was collaboratively developed with Jio. The training content was organised into a series of learning pathways (Figure 2).

The learning pathway of *connecting with family* relates to the social connection need while *learning and discovering for your family* was focused on meeting the life needs of education and home and lifestyle.

5. GSMA (2021) Understanding people's mobile digital skills needs.

Figure 1
Wheel of needs in India





To ensure the learning pathways corresponded with people's learning preferences, each pathway was divided into four short practical video modules. This ensured that learners were not overwhelmed with new information but could learn a new step with each module (Figure 2). The video voiceovers were developed in English, Tamil and Hindi, based on the main languages spoken in the regions selected for piloting.

Figure 2
Learning pathways in India

Training guides were developed to accompany the videos for in-person training. For the in-store channel, posters and store staff guides were added. These resources were produced in English, Hindi and Tamil.

Figure 3
Example of an in-store poster

Each video was four to five minutes long and somewhat slow in pace. This allowed learners to better absorb the content, especially first-time smartphone users and those with low levels of education. Although India has some of the lowest data costs worldwide,[6] mobile device affordability is still a barrier to watching the videos, especially for women and those in rural areas. To respond to this challenge, Jio ensured that video was available on entry level phones, making them available to a wider range of customers in the target segment.

Different styles of video were prototyped and tested with end users to identify the most compelling approach. End users in India preferred animated instructional videos as they allowed for greater focus on the content without learners feeling distracted by the actors in a live scene. The animated characters were mostly female, which resonated well with women who could relate to the characters and family settings. This helped to address some of the insecurities and fears that women have about using mobile internet.

Subtitles were not used in India. Early testing revealed that using subtitles posed a barrier for users who are less literate or cannot read in the subtitle language, as it increased the perception that mobile internet is only for people with high levels of education.

6. India scored 69.85 for mobile data affordability in the GSMA Mobile Connectivity Index 2022; this is much higher than the regional average for South Asian countries (61.09).

Delivery channels

The training delivery in India was both in-person through women's self-help groups (SHGs) and Jio in-store displays, and digital via SMS push self-training channels.

Figure 4
A live in-person training session for self-help group (SHG) members

Self-help groups

Training was conducted face-to-face by the Reliance Foundation[7] with members of SHGs in different locations. During the session, the trainer showed the videos on a TV monitor or screen, followed by a discussion and hands-on practice for trainees. The SHG members were female (SHGs are women-only groups), mostly 30 years of age or older, with no/low education and literacy levels and limited knowledge of the internet. Most SHG members only had access to shared phones, with less than 30% owning a phone.

Jio Stores

Videos were played on large screens across selected Jio stores in Uttar Pradesh and Tamil Nadu, with chairs set up for customers to sit and watch while they waited to be served. Informational posters were displayed nearby with a QR code for customers to download the videos. Store staff were encouraged to engage customers to raise their awareness of the training videos and answer any questions that customers had. The in-store channel reached customers from a wide range of demographics.

Digital self-training

Customers received push notifications via SMS or in-app, encouraging them to learn about and use mobile internet. These notifications included a link to watch the videos on-demand via YouTube or the JioCinema app. This channel catered mostly to learners with some digital skills and higher literacy levels.

7. Reliance Foundation is a philanthropic organisation that shares strategic synergy with the MNO Jio in various areas, contributing to the holistic growth and development of communities in India. See: https://reliancefoundation.org.

Ghana

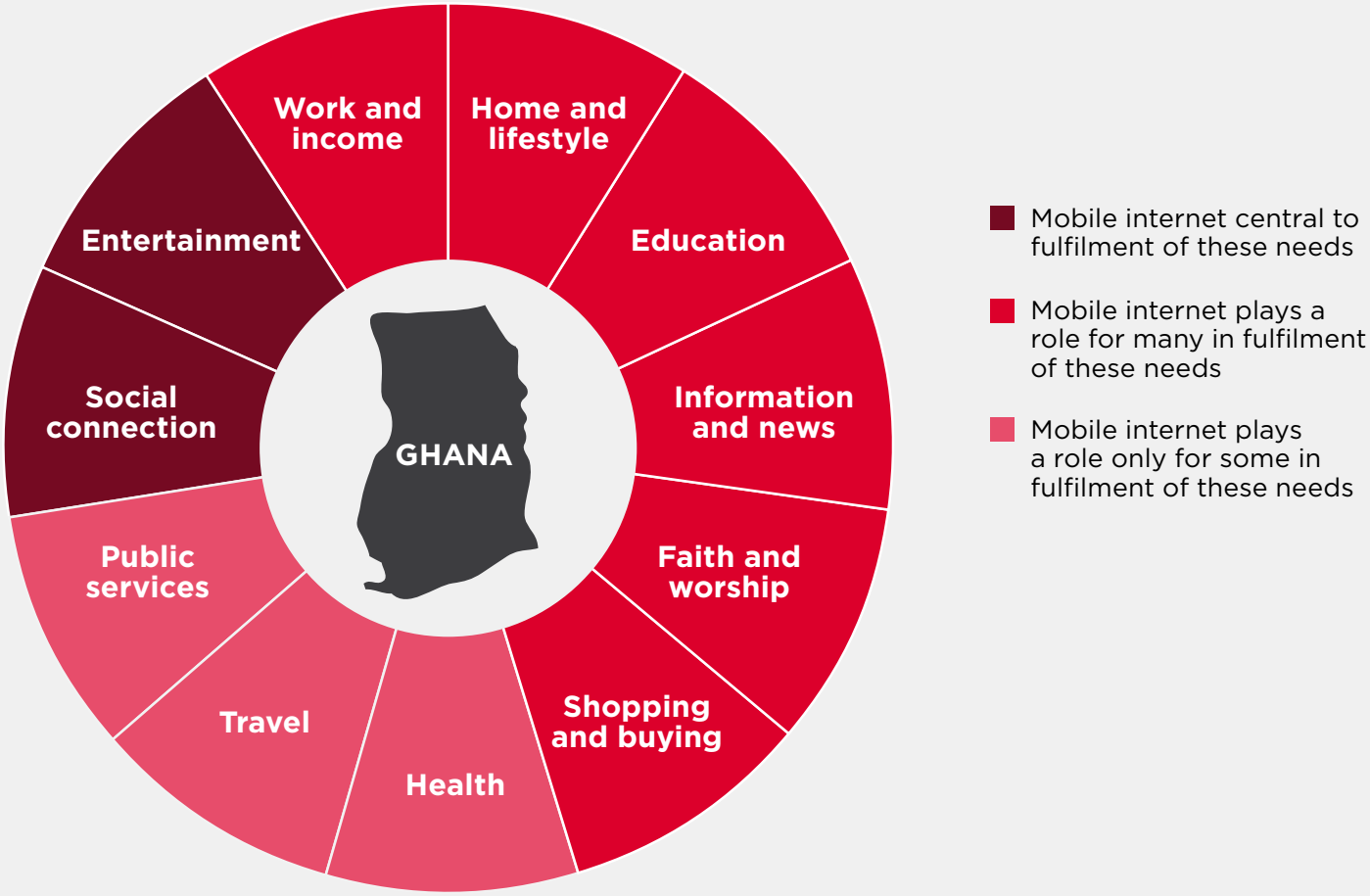
Table 2
Digital skills training in Ghana

Target audience	Urban and peri-urban youth
Learning pathways	Staying connected and entertained Building skills to boost your business
Delivery channels	1. In-person via MTN Ghana agents 2. In-person training at MTN service centres by in-store staff
Average length of training video	Two to three minutes
Use of language/ subtitles	Subtitles only to English language videos
Type of video	Live actors plus some animation

Concept and design

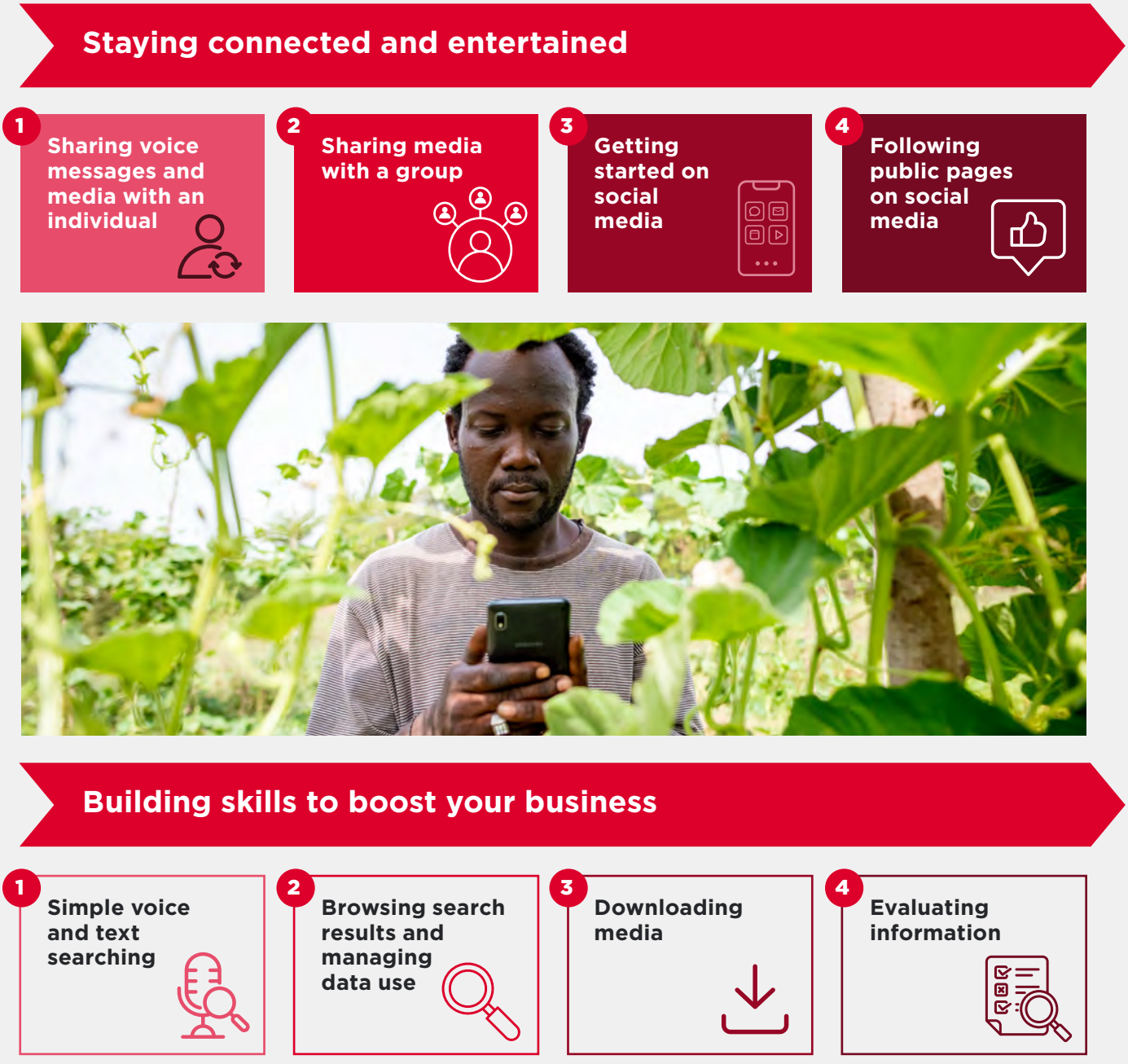
Localised content was developed with MTN Ghana based on the life needs of urban youth in Ghana that could be met via mobile internet. The learning pathways developed in Ghana were *staying connected and entertained* which corresponded to the life needs, entertainment and social connection and *building skills to boost your business* which corresponded to the life needs, work and income.

Figure 5
Wheel of needs in Ghana



Similarly, as in India, video modules were developed, with each pathway consisting of four videos (Figure 6). Video materials were available in English, Twi and Ga. Training guides were developed to support agents to facilitate the training, as well as learner handouts that summarised the key steps and skills from each module. These documents were only developed in English, as Twi and Ga are generally spoken languages.

Figure 6
Learning pathways in Ghana



The average length of a training video was two to three minutes, and they were relatively fast paced. With higher data costs in Ghana, the videos needed to be as short as possible to optimise for data consumption. In addition, the target group of urban youth tended to be relatively literate and familiar with using mobiles. This meant that faster paced videos fitted better with their learning preferences.

In Ghana, early prototyping and testing showed a preference for live actors, as animations were seen as childish or irrelevant. A limited amount of animation was used, but only to demonstrate a process on a smartphone. Subtitles were added to enhance clarity and understanding for learners, however these were only added in English, given the oral nature of Twi and Ga.

Delivery channels

The two main delivery channels for digital skills training in Ghana were in-person via MNO agents and at MTN stores.

MNO agents

Learners received in-person training through MTN Ghana agent outreach across different locations in the Tamale and Kumasi regions. Agents talked to potential learners to identify their life needs, with a focus on livelihoods. They then showed the videos to customers on their own phone.

MTN service centres

Trainings were held at MTN service centres by in-store staff, 65% of whom were women. Having a high percentage of women trainers was important to enhance learning for both men and women, as evidence suggests that women are more comfortable to engage with female agents.[8] In-store staff either showed the videos to customers on-the-spot or transferred the videos to the customer's phone without using mobile internet (e.g. via Bluetooth).

8. Field research by GSMA Connected Women in conjunction with Tigo Rwanda highlights the value of women agents. See: https://www.gsma.com/mobilefordevelopment/video/tigo-rwanda-empowering-women-agents/

3. Key learnings from the digital skills training pilots

The learnings in this section include those from the iterative development process and findings from the evaluation. The learnings are divided into two sections: digital skills training resources and implementation channels for training delivery. The evaluation included both quantitative surveys with 328 learners and qualitative interviews with 83 learners across both countries. Trainers and MNO agents were also interviewed.

3.1 Designing digital skills training materials and content

This section highlights the learnings on designing digital skills training materials and content to maximise impact and skills acquisition among the target audience. This includes learnings on use cases and examples or references, format, language and visual elements.

Not all use cases are relevant for everyone, but finding broadly relevant use cases for the target audience is possible. The findings from both countries showed that not all mobile internet use cases are relevant to all learner segments, and learners had different preferences. For example, some learners thought searching for news articles was not relevant to them and preferred to use mobile internet to learn new tailoring skills or farming skills that could enhance their livelihood opportunities. Meanwhile, younger learners, especially those in Ghana, wanted to learn more about social media, such as how to use TikTok. However, all the learners interviewed as part of the pilot evaluations were interested in opportunities that could enhance their livelihoods or job opportunities.

Examples and local references can improve the perceived relevance of use cases. Once appropriate digital skills use cases have been identified, adding local examples can make those use cases more relevant and improve understanding. Conversely, using unfamiliar examples can be confusing for learners. For instance, when learning to search for recipes on Google, there was a reference to "veg kebabs" which caused confusion for learners in India. As a result, the videos were updated to reference aloo tikki,[9] which was easily understood in the local context. However, not all learners are interested in using mobile internet to search for recipes. There is significant value in researching each context and then testing content with the end user segment to improve relevance.

Examples can be interpreted too narrowly. To make learning to use the mobile internet relevant, the training content needs to appeal to learners' interests and needs. However, there is a fine balancing act between focusing content on the skill and focusing on the illustrative use cases to put that new skill into practice. For example, if Google search is introduced as a way for hairdressers to learn about new styles, those who run other types of businesses may think the video is not relevant. Or, if they watch the video, they may mistakenly think that Google search can only be used for this purpose and not for other use cases if they are not shown in the videos.

Trainers should emphasize that the same skills can apply to a range of use cases. Misinterpretation of a digital skill as only applicable to the example in the video can be more acute in contexts where trainees are being exposed to mobile internet for the first time, such as for some SHG members in rural India. In these situations, learners may limit use of the skills learned to only the use cases discussed in the videos instead of using them for broader functions. For example, learners may assume that internet-enabled search functions are only useful for finding cooking recipes and nothing else. Therefore, it is important that training materials include guidance for trainers, as well as in the videos, and emphasise that the use case examples are only illustrative and can be leveraged for other use cases.

Video titles need to describe both the digital skill and the use case. Highlighting only the pathway title or specific use case that was covered in a video was not enough for learners or trainers to decide if the video was relevant for them to watch. It did not give them a clear enough idea of what was covered, and users need to be able to see upfront how the skills can be relevant to their life needs before choosing to view the video. Therefore, it is important to give a simple, short description of the video, both verbal and written, referencing the skill covered and a few relevant use cases. Titles such as: "using google assistant to search for information" may appeal to a larger audience than standalone titles such as "using google assistant" or "scheduling hairdressing appointments".

9. Aloo tikki is a popular potato snack across North Indian states.

Better results can be achieved through testing and iterating digital skills training with target users. Testing digital skills training should include not only the content but also other important factors in the design such as different video styles, pace and length. These may be influenced by the target learners' levels of literacy or existing digital skills and socio-economic considerations. Early testing revealed that while users in India needed slower paced videos and preferred animation, in Ghana, users wanted faster paced and shorter videos with live actors. As such, it is important to test and iterate content with end users to identify what appeals to them and is most compelling to learn to use mobile internet in that context.

Learning pathways should not always be linear but should be flexible to allow people to select modules on-demand. Learning pathways typically take learners through a linear process that begins with more basic modules and progresses to more advanced videos sequentially. The pathway model works well in group training sessions where the trainers actively guide learners through the sequence of modules. However, pathways where learners can browse and choose modules to watch on-demand may work better for learners with existing skills, limited time or who just want to select individual modules based on their interests. Thus, the learner experience can be improved by designing flexible pathways of modules that allow learners to watch videos they choose.

Make each video easy to navigate so trainers can jump to relevant sections. Training materials can be created for face-to-face learning that allow for flexibility in the delivery process. For example, if introductory sections are delivered verbally, trainers may want to skip the introduction section of video materials to prevent repetition and jump straight to the main content steps. During the session, learners may need clarification on a certain step so videos should be easy to navigate for trainers, allowing them to jump to the right section or provide the right follow-up support to learners.

Creating modules in a variety of local languages enhances the reach of digital skills training. Many learners, especially those with low literacy and older age groups, may be more comfortable with materials spoken in their own language. Across both countries, learners preferred modules and videos to be translated into local languages. For example, in Ghana, only half the learners interviewed were very comfortable with English language videos, while the other half preferred the videos in their local dialects. Based on this evidence, the videos have since been made available in Twi and Ga. Similarly, to achieve scale for digital skills training in India, further translations would be needed.

3.2 Implementing and delivering digital skills training

This section covers learnings from implementing the training via different channels, including through self-help groups (SHGs), via agents, in-store training and via push notifications.

Learnings on delivering training through in-person channels

In-person or face-to-face training is critical for target audiences who have never used mobile internet or are only using it in a limited way, as well as for those who do not have their own internet-enabled phone or access to support on the use of smartphones. In this pilot, face-to-face training was carried out through SHGs, in-store staff (India) and MNO agents (Ghana).

SHG training sessions

Provide in-person training sessions for first-time mobile internet users. Group sessions provided the opportunity for female family members and friends to learn together and provide social validation. As many SHG members did not own any internet-enabled devices, in-person training is possibly the only way to deliver this content. Even where SHG members did have access to a smartphone, many did not have the digital skills to access online training by themselves. In-person training enabled them to try out new skills, ask questions and get the support they needed to learn alongside their known peers.

Ensure that learners have access to an Internet-enabled handset. All learners need a mobile phone to practice on if the training is going to yield significant positive change. However, among SHG members, low levels of ownership or access to a shared device made the learning process slow and less impactful. During the pilot, on average there was one device between five SHG members to practice on. If group members cannot all practice at the same time, training sessions take a lot longer, and new skills require repetitive practice to reinforce and solidify learning. Recognising low levels of ownership in that context, trainers should be equipped with extra devices for learners to use. A more effective option is to engage with gatekeepers to ensure access to a shared device for learners or ideally to combine training with offers on affordable handsets, such as via a financing scheme for those who do not own a mobile internet-enabled phone.

Share videos with learners after the group sessions to assimilate learning. Rewatching videos after the training is an important mechanism to help learners build confidence in their new skills, check their understanding and learn better independently. In this way, learners can also share videos with family members. The videos were available on YouTube and via the JioCinema app. However, sharing the videos via Bluetooth or over Wi-Fi with SHG members to download and keep would enhance offline learning. In addition, learners can be given handouts with screenshots of the steps as a supplement to the videos.

In-store video channel

Create a conducive environment for customers to learn. The in-store environment can provide a cost-effective way to deliver digital skills training to customers who are visiting a store for another purpose and modifications to the environment can improve in-store learning further. For example, as Jio staff observed customers watching the videos, they realised that setting out chairs in front of the TV screen would make it easier and more comfortable for customers to watch a four to five minute video, and potentially stay to watch multiple videos. If stores are noisy, subtitles could be added to these videos.

Display posters or take-home flyers alongside videos. Jio staff noticed customers who were watching the videos were also recording them on their smartphones to share with family members. This prompted the team to develop posters to educate customers on the purpose of the videos and provide a QR code to download them using the free in-store Wi-Fi. Flyers could also be given to customers to take home so they could access the learning material again when necessary. Flyers or posters can be used to prompt and encourage learners to practice what they learned or to ask in-store staff any questions they have.

Ensure staff are trained and ready to assist customers. Learners wanted to download the videos on their own phones, but some were hesitant to ask store staff how to do this. First-time users, for whom the videos would be most

relevant, are likely to require support and guidance on their own devices to overcome technical challenges and build confidence in their digital skills. Store staff should be trained to enhance the digital skills training videos with in-person support for customers who are first-time users.

Training by agents

Equip agents with the right tools to deliver digital skills training. Establishing the right technical infrastructure for agents to function is vital to maximise training effectiveness and learning. For example, training effectiveness is reduced if agents have insufficient data or do not have the videos downloaded on their phones in case of network issues. On many occasions, these issues hindered MNO agents' ability to deliver the training. Furthermore, if agents are using 3G phones, the videos are likely to load too slowly, impacting on the training delivery. Ideally, agents should have the videos downloaded and ready on a 4G smartphone to facilitate good quality training.

Devise and implement incentive structures to deliver effective training. The amount of time spent by agents on any given campaign is influenced by incentives and other competing campaigns, potentially with more attractive incentives. Digital skills training takes time, and the agent's pay should correspond to the amount of time spent on that training. A key learning is to find the balance between trying to efficiently deliver digital skills training and providing the right incentives for agents to deliver quality training. Some MNOs[10] have implemented successful agent schemes by providing substantially higher rewards with a focus on results from delivering quality digital skills training, such as a customer becoming a data user. This may require developing a tailored approach to tracking and analysing the number of customers trained per day, the trained customers' use of mobile data, as well as the agents responsible for training each customer.

Carefully design training of trainers (ToT) sessions. Having proficient trainers is essential for effective face-to-face digital skills training. Training sessions should be practical and experiential, allowing trainers to learn by doing and to learn from each other. It should include role play and feedback to improve, as well as practical examples and tips of what to do in different situations with different customer segments. It is important to include time for questions and peer-to-peer learning. If virtual sessions are used, efforts should be made to make this interactive and maximise on peer sharing and discussion. Ideally, the session should be recorded for those who could not attend or anyone experiencing technical issues. After a ToT session, it is important to provide support to trainers, for example, ensuring they know who to contact for further questions or creating discussion groups on WhatsApp for trainers to share experiences and answer questions.[11]

Use community-based agents so learners can get further support. Many trainees, especially first-time mobile internet users, will likely require follow-on support. These learners may find it easier to access support and build trust with local agents to help them progress along their learning journey. This is particularly important in locations where mobile internet use is low, and new users have few options to seek help or support from their immediate circle of friends or family.

10. Orange Sierra Leone pays agents up to three times their standard pay for quality training delivery. See: Sterngold, C.L. (2023) Insights from Orange Sierra Leone: Approaches for implementing a successful agent-based digital skills training programme.
11. Strategies that have been used by African MNOs to improve the effectiveness of agent schemes include the use of WhatsApp groups to facilitate peer-to-peer learning among agents and exchange of best practices, sharing WhatsApp info with customers to provide follow-on training or support at a distance if they cannot come in-person etc. This helped agents to manage time effectively.

Learnings on delivering training through digital channels (digital self-training)

Digital self-training involves a learner receiving links to training videos via SMS or push notifications on their devices. This channel is better suited to users who have some basic digital skills and have previously used the internet but with limited knowledge of how it could meet their life needs.

Carefully consider the timing of SMS or push notifications. The timing of push notifications is important as they may not necessarily reach the target audience. Across both countries, phones are sometimes shared with family members, which means that occasionally push notifications are swiped away and deleted by the person using the phone at that time. For example, women may be more likely to have access to their husbands' devices in the evenings after work, therefore push notifications scheduled for that time may be more likely to reach women. While there are limitations to how many messages can be sent to customers daily, it may be worth considering the benefits of sending more than one message. It is important to test, track results and iterate on the message composition as well as the times that push notifications are sent to find what works best.

Messages should prompt recipients to share the videos with family members. Carefully crafted and intentionally worded push notifications can encourage primary phone users to open the notification and share the content with other household members who could benefit from the training.

Share video modules in phases to enable higher viewership. If too many videos are shared at once, learners can become overloaded and feel discouraged as they cannot keep up with all the videos. Modules need to be shared in phases, for instance one or two modules at a time, to enable better results.

Make videos that are low file sizes, easy to transfer without data and to watch offline. Data cost and storage space on devices can prevent learners from watching the videos as many times as they need to acquire skills. Identifying easy and low-cost ways for learners to watch, download and share videos with others is important for retention and digital skills development. Transmitting videos to people in areas with limited internet connectivity, such as rural locations, is also challenging. This can be overcome in several ways, including zero rating videos which are accessed via a link, ensuring videos can be downloaded as smaller file sizes (lower quality) or making videos easy to share via Bluetooth.

4. Summary of digital skills training outcomes

A post-training evaluation was undertaken to measure the success of the pilots, and to inform plans to scale this approach to digital skills training. Although this post-training evaluation was not an assessment of long-term changes in users' digital skills, it highlighted some important intermediate results and indicators of success (see Annex for the methodology). Indicators of success include the reach of the digital skills training, changes in learners' ability to use mobile internet, increase in actual usage of mobile internet and perceived improvement in digital skills level of learners.

Table 3
Snapshot of impact achieved

	Ghana	India
Reach of digital skills training[12]	200	5,000
% of users who report acquiring new skills from the videos across all channels	66%	81%
% of users who report improvement in ability to use mobile internet	70%	80%
% of users who report increase in internet usage	58%	60%
% of users who report positive impact on their lives	98%	90%

The pilot campaign reached over 5000 people in India, while in Ghana, where the training was delivered via in-person channels only, training was delivered successfully to about 200 people.

We observed differences in outcome for those who received face-to-face training versus via digital channels.[13] For instance, in India, more respondents in the digital channel reported high improvement in their ability to use mobile internet compared to respondents in the face-to-face channel. This is perhaps not surprising, given that the majority (94%) of learners in the digital channel owned a mobile, 94% had some level of digital skills, and 99% had used mobile internet before.

On the other hand, the proportion of learners who reported an increase in their internet usage was higher in face-to-face channels, where many learners were first-time mobile internet users. This highlights the impact that even a slight increase in digital skills can have on increasing users' curiosity and confidence to use mobile internet. The increased internet usage by customers is associated with an increase in use of diverse internet-enabled services post-training, such as Google search services and watching videos on YouTube.

12. Video views is used as a base figure for reach of training via digital channels.
13. Note that both digital and face-to-face channels were operational in India, but there was no digital channel in Ghana.

> **"Before the training, I used to watch some serial or cartoon videos on YouTube on Jio mobile only, as I did not know how to use touch screen. I did not know how to search and send messages. Now I use more internet as compared to before. I did not know how to use Google search before but now I use it."**
>
> **Trainee, F2F training channel, female, 33 years old, Madhya Pradesh, India**

In terms of post-training skills acquired, it is worth noting that more learners in the face-to-face channel, most of whom are first-time mobile internet users, reported learning a skill compared to those in the digital channel. Indeed, across delivery channels, first-time users of mobile internet seem more likely to acquire new skills from the modules, compared to existing mobile internet users. Intentional steps should be taken to ensure digital skills training targets both marginal and non-data subscribers in the future. This highlights the importance of segmenting learners and taking a needs-based approach to designing digital skills training materials. With a quarter of digital channel learners reporting that they did not learn anything new, this further confirms the need to accommodate flexibility in learning pathways for more advanced users.

The evidence highlights the importance of device ownership for effectiveness of digital skills training. In India, across both face-to-face and digital channels, more than 80% of survey respondents reported improvement in their ability to use mobile internet post training, but this impact was more pronounced among those who owned a mobile phone and who therefore could practice regularly at their own pace. Similarly, while most learners (87%) reported having acquired new skills from the videos, it is important to consider the lower reporting rate (77%) for skill application in daily life, which is partly due to lack of phone ownership. The impact of the training on people who do not have access to a phone for regular practice appeared to be lower.

Overall, digital skills training had a positive social impact on learners. Across both countries, these included the ability to use mobile internet to connect better with family and to gain general knowledge about events happening in their local area and society. Not surprisingly, higher levels of positive impact were reported among phone owners, especially those who were between the ages of 18-30.

> **"It was the one on how to search for information from Google and YouTube. I found it to be very good for the growth of my business. I really liked the part of the video that showed how to use my voice to search on Google. That's what intrigued me. I did not know that something like that could be done."**
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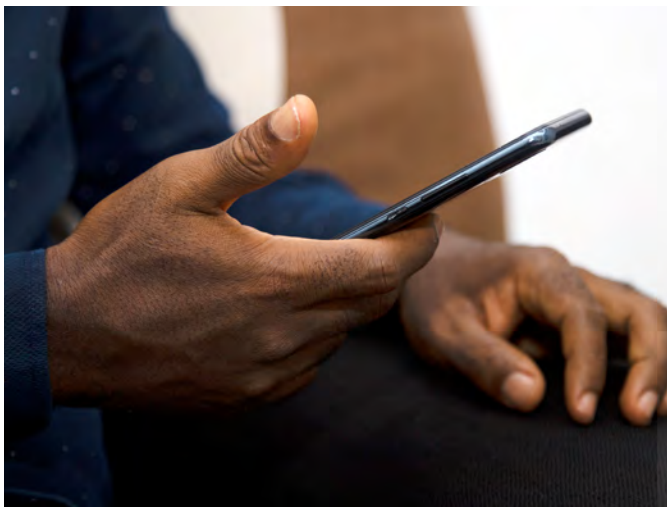
> **Trainee, F2F training channel, male, 23 years old, Lamashegu, Ghana**

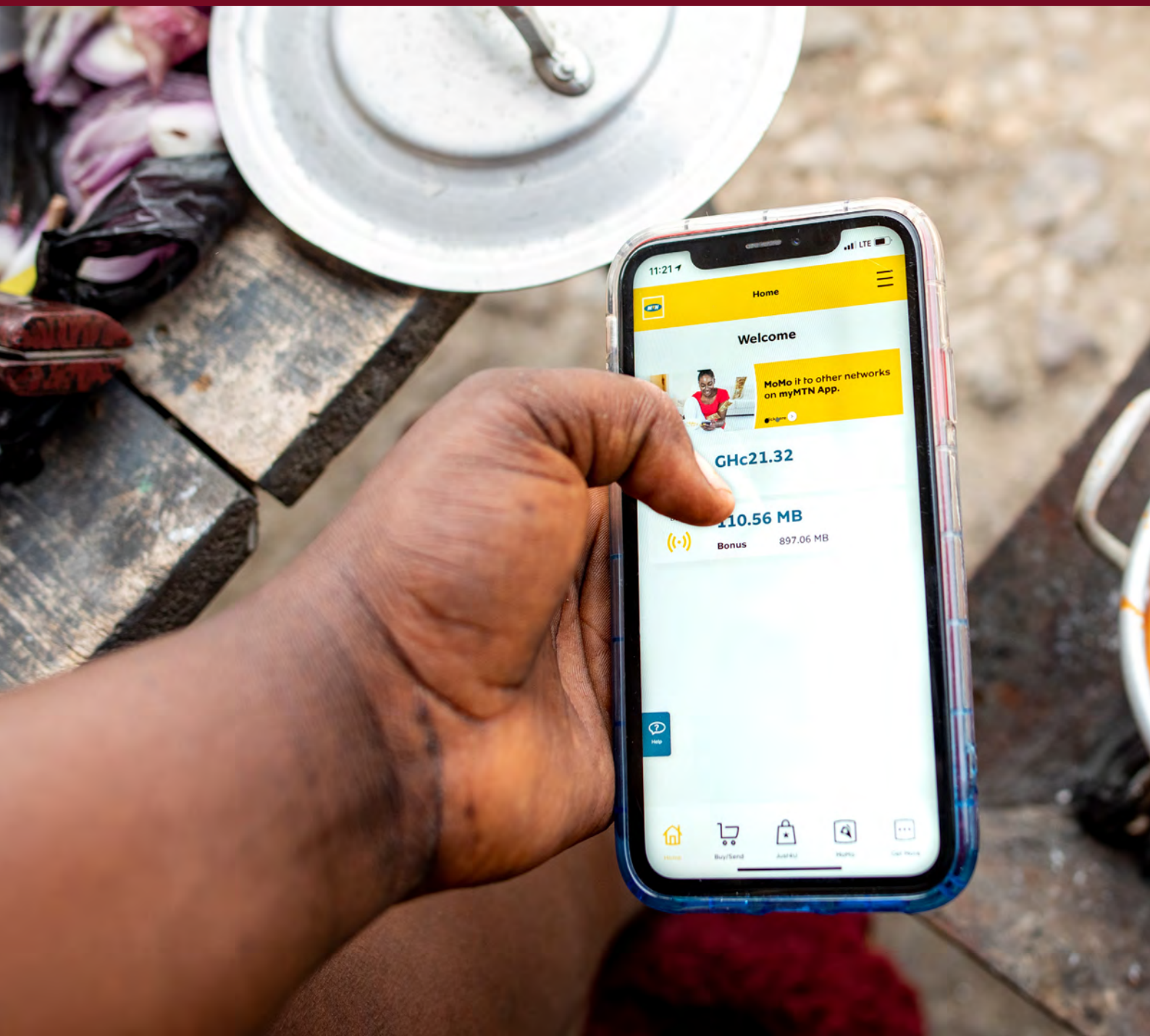


5. Recommendations

The recommendations presented in this section are designed to support different stakeholders to implement effective digital skills training and policies to bring more underserved people online.

- Segment users and take a needs-based approach to driving mobile internet adoption. By identifying the life needs of the target segment and the use cases they may find compelling, appropriate and relevant digital skills training content can be developed.
- Create learning pathways of bite-size modules that learners can watch flexibly according to their existing digital skills capabilities, preferences, aspirations and life needs. In addition, consider adjusting the training topic complexity according to the digital skills level of learners and create layered content appropriate for each segment.
- Use human-centred design approaches to design, test and iterate digital skills training content with the target group to maximise its effectiveness and create content that is relevant and accurately meets local users' needs and interests.
- Ensure materials and delivery channels are contextualised with local examples, easy to understand terminology and translated into appropriate local languages.
- Recognise that learning takes time and factor in ways to ensure that learners can consolidate their learning post training by sharing videos for home viewing and handouts for learners to follow the steps when offline.
- Provide in-person training or support for those who have never used mobile internet to help them get online for the first time. Thereafter, consider using digital training to consolidate their learning and provide access to additional training materials.
- Encourage learners to practice what they are learning and to share the content with others.
- Monitor and evaluate the impact of the training to understand training effectiveness and to inform improvements in training content and delivery.
- Consider the factors that impact on the ability of learners to use the training (e.g. lack of ownership or access to a mobile phone, affordability of data, etc.) and identify approaches to address these barriers, including engaging with gatekeepers on the benefits of mobile internet access and device financing schemes.
- Ensure trainers have the necessary skills and resources, such as adequate devices and sufficient data bundles for them to share the videos, and consider incentives for trainers to deliver high quality training.
- Consider how best to communicate the digital skills training available over digital channels and promote its uptake, including testing messaging and timing of push notifications, offering data incentives or options to watch videos without downloading.
- Ensure that digital skills training considers the needs of women and addresses some of the barriers they face (e.g. consider the timing, location and gender of the trainers, ensure use cases and examples resonate, etc.).

Annex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Bonus
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Help
Buy/Send

Methodology

The lessons were compiled based on a review of documents from pilots in both Ghana and India. The two sets of resources for this report were project documents relating to the design sprints and learnings, and pilot evaluation findings documents shared or presented to the MNO partners. The second category of data included a mixed-methods research approach in both countries to assess the effectiveness and impact of the digital skills training.

The evaluation was based on qualitative in-depth interviews (83) and quantitative surveys (328) with representative samples of respondents in India and Ghana. The mobile operator partners (Jio India and MTN Ghana) were key in identifying customers who have received and accessed training and watched at least one video. Training effectiveness and impact was assessed on-the spot and one to two weeks post-training.

Table 4
Summary of data collection sample in India and Ghana

	India	Ghana
Total quantitative surveys (remote)	197	131
Total qualitative in-depth interviews (remote)	52	31
Total focus group discussion (in-person)	4	N/A
Total trainer interviews (in-person)	4	8

The evaluation team followed a sampling and data collection approach to achieve the evaluation objectives. In India, data collection for face-to-face channels was carried out in-person and remotely. In-person engagement involved observation (to assess training delivery, process, etc.) and focus group discussions with trainees (to assess training reaction, feedback on content, etc.). The remote engagement involved qualitative and quantitative surveys on a random sample selected from a list of trainee attendants provided by the MNO. For the digital self-training channel, data collection was carried out one to two weeks post-training and involved qualitative and quantitative surveys with the trainees who had recall of the videos to assess training impact (usage and adoption of digital services, change in daily lives, etc.).

In Ghana, during the evaluation we were unable to identify a sufficient number of trainees for interview due a range of challenges. Therefore, we recruited respondents using methods that mirrored the three different modes of dissemination originally planned. The results were used to measure the effectiveness of different training approaches. The data collection mode was in-person and remote. These approaches were: Approach 1A (remote link sharing), Approach 1B (in-person link sharing) and Approach 2 (on-the-spot channel plus link sharing). Enumerators conducted qualitative and quantitative surveys with learners one week after sharing the videos to assess training impact.

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