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Agricultural Value Chain (AVC) Uzbekistan, DAI

Case Study

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ABOUT ECHO MOBILE

Echo Mobile is a Kenyan technology and service provider that helps organizations across Africa succeed by engaging, influencing, and understanding their target audiences. Echo provides organizations with a powerful software-as-a-service platform for communications and information management, as well as strategic consulting and implementation services. www.echomobile.org

ABOUT DIAL

The Digital Impact Alliance (DIAL) aims to realize a more inclusive digital society in emerging markets, in which all women, men and children benefit from life-enhancing, mobile-based digital services. A partnership among USAID, the Bill & Melinda Gates Foundation, the Swedish Government and the United Nations Foundation, DIAL's efforts help accelerate the collective efforts of government, industry and development organizations to realize this vision. http://www.digitalimpactalliance.org

FOREWORD

This case study is one of six produced by DIAL and Echo Mobile in May 2018, by which point 3.6 billion people were using mobile messaging applications—nearly half of humanity.[1] DIAL commissioned Echo Mobile to research how and to what effect international development organizations have used these applications, with findings presented in three publications:

1. This case study and five others like it, which provide focused analyses of organizations that have deployed messaging apps for development;
2. a Project Catalog, which briefly summarizes fourteen development initiatives that have deployed messaging apps for development; and
3. an in-depth white paper, which synthesizes lessons from across the case studies and project catalog. The paper outlines common use cases for messaging apps in development while identifying essential considerations for successful project design and for selecting messaging apps.

These publications are based on over 50 interviews with development practitioners, digital development experts, technology providers, and entrepreneurs. They are free for download and discussion at www.messengers.digitalimpactalliance.org. This website is designed to help both the development practitioners and entrepreneurs who use messaging apps and the technologists who develop them understand the following:

1. how and to what effect messaging apps have been used for development;
2. the circumstances and use cases where messaging apps have been most effective for development across different sectors, regions, and organizations; and
3. how messaging apps can be improved and made more effective for development.

The publications cover a diverse range of initiatives implemented by advocacy groups in Latin America and South Asia, social enterprises in Africa, private development firms in Central Asia, global multilaterals, and more. While the results of each case vary, they make clear that messaging apps have the potential to help development organizations inform, influence, support, and understand their audiences in new and powerful ways.

However, as outlined in the white paper and exemplified in this case study, realizing this potential depends not on the apps themselves, but on adaptive, user-centric project design and dedicated human, financial, and technical resources. In determining whether and how to use messaging apps, organizations must consider their audience, goals, and capacity, and select the channels or app that is most appropriate, rather than what is easiest or cheapest to implement.

1 Nov 23, 2015, Stephanie Newman, "The Messaging Phenomenon Has Hardly Begun", Medium.

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Contents

SUMMARY

Since 2008, the Agricultural Value Chain (AVC) project in Uzbekistan has supported commercial horticulture development by working with producers, processors, traders and exporters to create market linkages and increase technical expertise through information exchange. The project's information services began with printed manuals before evolving to a custom mobile app. The project then began producing videos and publishing them on video sharing platforms such as YouTube, as well as social media forums. In 2017, the project team added a series of targeted forums on Telegram, which in 2016 was Uzbekistan's most popular messaging application.

Telegram, Uzbekistan's most popular messaging application.

Key Feature Definitions

Chat Group: A virtual group of people that allows exchange of text messages and multimedia content. In Telegram, chat group members can invite others to join the group.

Telegram Broadcast Channel: A Telegram feature that allows the channel's creator to send a message to a list of multiple recipients at once. Unlike with WhatsApp lists, recipients cannot reply to the creator nor other list members. Telegram channels also differ in that they can be made public and discoverable through the Telegram application's search feature, and individual subscribers can invite others to join.

Telegram Supergroup: A A specific type of chat group on Telegram consisting of more than 200 and up to 100,000 people. Unlike with a normal Telegram chat group consisting of fewer than 200 people, new members in supergroups instantly have access to the group's entire message history. Groups that exceed 200 people are automatically converted from a normal chat group, though Telegram users can also create their own supergroup manually. Supergroups have a unified history, so deleted messages will always disappear for everyone in the group, not just the sender/deleter. Supergroup admins can make the group's link public so that new members can join without receiving an invitation and pin important messages to the top of the chat dialogue screen, allowing all new and existing members to see them. For all supergroup members, message notifications on the phone app are automatically muted.

Telegram Username: Telegram's username feature allows users to create a name that will mask their phone number, enabling the user to retain their anonymity and protect their phone number from being viewed by other users in a group or channel. This prevents others from contacting the masked user through calls, SMS or other messaging apps. If one user knows the username of another, the username can be searched for and contacted directly.

In mid-2017, AVC created its first Telegram chat group for a small, select set of commercial producers, which was then opened and steadily grew to more than 800 subscribers by 2018, becoming a Telegram supergroup. The group is used to curate dialogue and engagement among major commercial horticulture producers, share the project's video content and other external resources, and publish written technical articles. For many users, the group also evolved into a self-directed marketplace to buy and sell crops and value-added services.

Later in 2017, AVC expanded its Telegram presence and created a public Telegram broadcast channel, through which the project pushed video and other content to a much larger spectrum of horticulture farmers and service providers. The channel attracted nearly 3,000 subscribers in five months. The project also began working with commercial partners to co-create and administer smaller Telegram chat groups

focused on specific crops or services (e.g., export, processing, storage and transport). AVC has inspired and helped some of its channel subscribers and supergroup members to create and administer their own crop-specific groups. All of AVC's administered and affiliated Telegram groups were then monitored for common questions and needs, which were used to inform the project's video productions.

The AVC team credits Telegram with increasing overall project productivity by enabling more efficient, effective, targeted and less costly exchange of information with beneficiaries. Just two staff members are now able to use Telegram's mobile, desktop and web browser applications to manage multiple two-way chat groups and a one-way channel, all of which have grown virally through promotion on AVC's social media forums and Telegram's sharing and search features.

Key Lessons

1. Use an app that beneficiaries already have on their phones and are familiar with.
2. Expand gradually, start with a small group of select beneficiaries, test different messaging approaches and then slowly grew the group and expand to new chat groups and channels.
3. Use existing professional and digital networks to grow the number of participants and engagement levels

BACKGROUND

Goals and Origins

DAI began implementing USAID's Agricultural Value Chain project in Uzbekistan in 2008 to improve commercial horticulture production processing and trade through enhanced market linkages and technical expertise. Horticulture in Uzbekistan had waned after the collapse of the Soviet Union, but market privatization in the early 2000s had reinvigorated demand for technical knowledge and resources within the sector. The AVC project was designed to meet this demand through targeted investment and collaboration with commercial producers, processors, traders, exporters and universities within different fruit, nut and vegetable value chains. The project also sought to invest in educational opportunities for young people, especially university students, looking to enter the horticulture sector.

From the project outset, the production and provision of technical information and guidance was seen as a priority initiative and was initially conducted through the production and distribution of hard copy books and manuals on topics such as crop selection, equipment purchasing, pest management, cultivation and investment planning. However, these proved costly to print and distribute, cumbersome to use, and slow to update, so AVC transitioned to digital channels[1].

Going Digital

By 2012, mobile penetration in Uzbekistan had reached 91 percent,[2] and 78 percent of Uzbeks were expected to be on the internet by 2020, with 93 percent accessing it via smartphones.[3] Therefore, AVC developed an Android mobile app, Meva App, to allow Uzbek horticulture farmers to access information on crops, cultivation, equipment and investment that had previously been published in books and manuals. In 2015, Meva was voted one of the top five apps in Uzbekistan for design and ease of use.[4] But while it improved information distribution, Meva primarily benefited producers and could not facilitate two-way information exchange and marketing, which the project's larger commercial partners repeatedly requested. It also required significant funding to continually create content for the app, which the project had difficulty sustaining.

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1 Hard copy manuals remain available for printing at the request of partner institutions, such as universities and research institutes, but the project itself no longer prints physical manuals for regular distribution.

2 "Uzbekistan Internet Users." Internet Live Stats, http://www.internetlivestats.com/internet-users/uzbekistan/.

3 "The future of the telecom industry in Uzbekistan."Azat Irmanov, Kommersant.uz, http://kommersant.uz/kejs/budushhee-telekom-industrii.

4 "Made in Uzbekistan Applications." Akmal Raimov, Afisha, 30 May 2016 https://www.afisha.uz/techno/2016/05/30/sdelano-v-uzbekistane-prilozheniya/.

Entering a new stage of the project in 2015, AVC began to use social media to enable two-way engagement between different value chain actors. Rather than start a new service, AVC partnered with a local horticulturalist who managed the Bogdorchilik Ilmi (science of horticulture) Facebook group. Working with the group admin, AVC began monitoring the group and providing responses to questions, then creating and sharing instructional videos on **YouTube** and **Mover**,[5] usually relating to horticulture cultivation, which were responsive to particularly common questions. By 2018, the Facebook group had quadrupled to 14,000 members and was receiving more than 7,000 monthly reactions and comments. The group had become increasingly self-sustaining, with members sharing information and media in response to questions before AVC does.

However, the high volume of traffic eventually made it difficult for members to find old content, because Facebook presents the most recent and popular content up front and deletes group content after two years. The AVC team realized that this was especially true for the larger and more commercially oriented producers, commercial traders, storage operators and processors. As the Facebook group grew, the audience became extremely broad. By 2018, 25 percent of the Facebook group's members were from outside Uzbekistan, and the group was generating the most engagement from younger, smaller-scale farmers, newcomers to the sector and students.

"For those working in the busy, fast-paced business context, Facebook just wasn't fast enough for them," said the AVC chief of party. While the group contained a wealth of information and constant engagement, for commercial actors it took too much time to get information through the Facebook app or website. The AVC team also observed that users struggled with the Facebook search feature when looking for older or specific content, and scrolling through the group and sifting through the traffic to find relevant information was difficult and confusing. This appeared to be in part because Facebook did not always present the information in chronological order but rather used an algorithm that also factored in the number of likes and comments a post had received. While Facebook Messenger could allow direct engagement with members, AVC and the group admin do not have the capacity to respond to private queries.

Expanding to Messaging Apps

In 2017, AVC decided to add Telegram as a new medium for multimedia information exchange. AVC believed Telegram's one-way broadcast channel and two-way group chat features would allow for more targeted communications and easier creation and management of smaller chat groups for more efficient peer-to-peer information. The app's use of phone numbers as unique user identifiers would also help AVC identify Uzbek users to help target its content in accordance with the project mandate, while the one-way nature of Telegram channels would ensure that all information was in the Uzbek language. Other apps offered similar features, but as the most popular messaging application in Uzbekistan in 2016, Telegram provided an easier path to adoption.[6]

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5 Mover is an Uzbek video sharing platform that hosts content on Tas-Ix, a free national network that enables mobile users in Uzbekistan to visit locally hosted sites and upload, download and stream videos for free, without incurring mobile data charges.

6 "Telegram became the most popular messengers in Uzbekistan." Telegraf.uz, https://telegraf.uz/en/science-and-technology/telegram-became-the-most-popular-messengers-in-uzbekistan.

IMPLEMENTATION

AVC's Telegram efforts started small, beginning in mid-2017 with a single chat group focused on general content and a select membership of existing professional partners and contacts. Throughout the year, the project expanded the group's membership by continuing to build on its existing network and encouraging a viral approach among members. Then, one at a time, AVC began adding more focused Telegram chat groups and eventually a Telegram channel, while encouraging its members to create their own narrowly focused chat groups.

Using Telegram for engagement with commercial beneficiaries required no new hardware or software, since all of AVC's staff already had mobile phones, computers and Telegram accounts. AVC staff were already using their own Telegram accounts through the Telegram desktop app, Telegram web browser app and the mobile app to communicate internally with one another and as the primary communication channel in their personal lives.

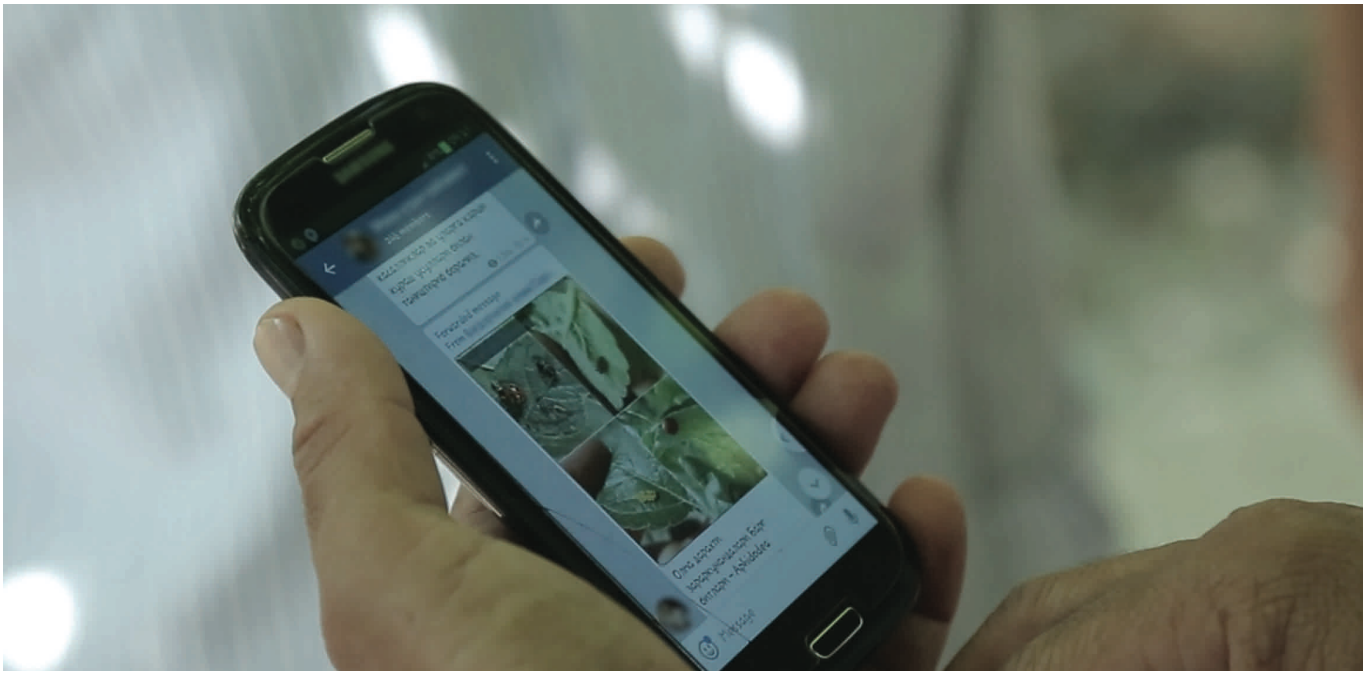
If they had needed to set up a Telegram account for the first time, the app could be downloaded for free to any smartphone and used to create an account, which could then be accessed, along with the account's entire message and media history, via an unlimited number of other phone or desktop devices and through any web browser app. If using Telegram for professional purposes, the app's username feature allows users to mask their phone number, retaining their anonymity and protecting their phone number from being viewed by other users in a group or channel and contacted through calls, SMS or other messaging apps. Alternatively, Telegram supports multiple accounts on a single app, meaning that within the app on a single phone, a user can toggle back and forth between multiple accounts.

The First Chat Group

AVC first used Telegram to start a small chat group for a select group of horticulture producers that was called Bogbon, which means horticulturalists. The AVC team saw the group as an opportunity to test a more targeted messaging approach and manage more focused engagement among commercially oriented beneficiaries on a more accessible and preferred forum to Facebook. For the group members, AVC hoped that the group would serve as:

1. A forum for producers in different regions of Uzbekistan who might not otherwise interact, share and learn about their respective horticulture issues and ideas
2. A source of information for AVC about trends and common needs among horticulturalists, which would inform video production efforts
3. A means for AVC to efficiently distribute its videos and other technical information to its most important beneficiaries.

The project's Production Component Leader used his own existing Telegram account, for which he had created a username, to create this single Telegram chat group. As the creator, he automatically became the group admin and then added three colleagues as co-admins. The AVC admins then selected and invited a small group of 30 major commercial horticulture producers with whom the project had worked closely as partners over the years. Nearly all of the producers already had Telegram accounts, and the AVC admins had their phone numbers on record, which enabled them to find the producers in Telegram and add them to the group. If not found, the AVC team used Telegram's Invite via Link feature, copying an invite URL link generated by the app and sending it out via other channels such as SMS and email.



All of the original invitees joined the group, and as traffic grew over time, AVC decided to invite other select commercial horticulturalists from its network. The team also made the small group public by enabling members to access and forward or share a link with select other industry colleagues to encourage them to join the group. With invites going out both from the AVC admins and the group members, the group soon grew to 200 members, at which point Telegram automatically converted the group to a Telegram supergroup.

Growth to a Supergroup

Telegram supergroups can have up to 100,000 members, and unlike with a normal Telegram chat group, new members instantly have access to the group's entire message history. While AVC's Telegram supergroup was automatically converted from a normal chat group, Telegram users can also create their own supergroup manually. Supergroups have a unified history, so deleted messages will always disappear for everyone in the group, not just the sender/deleter. Supergroup admins can make the group's link public so that new members can join without receiving an invitation and pin important messages to the top of the chat dialogue screen so that all new and existing members can see them. For all supergroup members, message notifications on the phone app are automatically muted.

As a supergroup, AVC's Bogbon Telegram chat group came to include an increasingly large and diverse array of members. And while the content generally remained focused on large-scale commercial production, conversation subjects and AVC's content spanned an array of different crops and horticulture services. Members represented commercial enterprises working in all areas of the horticulture value chain, including cold storage, processing and export, as well as those operating fully vertically integrated horticulture businesses. As the group expanded beyond those with whom the AVC admins had pre-existing professional relationships or partnerships, the AVC admins retained their anonymity, despite often using their personal Telegram accounts, by using the Telegram username feature.

Addition of a Telegram Channel

In July 2017, the AVC team created its first public Telegram channel, naming it Bogdorchilik Ilmi like its Facebook group. Telegram channels are similar to WhatsApp broadcast lists in that they allow the channel's creator to send messages to a group of subscribers at once. Unlike with WhatsApp lists, recipients cannot reply to the channel admin, nor to other members. Telegram channels also differ in that they can be made public and discoverable through the Telegram app's search feature, and individual subscribers can invite others to join the channel.

AVC conceived its Telegram channel as a way to enable the full spectrum of Uzbek horticulture farmers—large commercial operators and smaller farmers—to receive valuable, reliable technical information from the AVC team. For this purpose, the one-way nature of Telegram's channel feature was preferred because it allowed AVC's channel admin to completely control content. Through the channel, AVC could share only carefully curated, relevant media while preventing comments and replies from subscribers that might drown out content for others. The one-way feature also allows AVC to produce only Uzbek language content and thus ensure that it targets beneficiaries. Unlike Facebook groups, Telegram channels preserve content for subscribers to access and search over time.

The AVC Telegram channel was created and administered by the project's Public Outreach coordinator, who took advantage of Telegram's dual account feature to separately create and manage both his personal and professional Telegram communications. Using his Samsung mobile phone with dual SIMs, the Public Outreach Coordinator was able to have both a personal phone number and another used only for professional purposes, both on a single phone. This allowed him to create and manage both a personal and a professional Telegram account on the same phone, accessible through the same Telegram application. Once both accounts were created, the Public Outreach Coordinator could toggle between both, creating and joining new AVC Telegram forums on his professional account from his phone or desktop app without being overloaded with notifications from his professional chat groups or revealing his personal contact information to unknown professional contacts.

Addition of Focused Subgroups

To offer more targeted content and focused dialogue, AVC eventually decided to create more smaller Telegram chat groups, which the team internally refers to as subgroups. To narrow the subgroups' focus, AVC planned for each to be based on either a specific crop or a specific value-added service, such as processing, and to create one at a time. The first subgroup created was the cold storage group in the fall of 2017. To create and lead the subgroup, AVC looked outside of its own project team, choosing to help one of its most engaged commercial cold storage partners to create the group himself from his Telegram account. He then added two AVC staff as co-admins, as well as one other commercial cold storage colleague. The group was designed specifically for their colleagues working in cold storage to share market and technical information, such as preferred temperatures and humidity levels for specific crops, storage spacing, and crop durability in cold storage.

Shortly after the cold storage subgroup was created, a member of AVC's original Telegram supergroup approached the project team to assist him with creating and populating another subgroup focused on grape production and marketing. Another group member then sought AVC's assistance with creating a Telegram channel focused on lemons, and another created a walnut chat group. In each case, the subgroup's creator had been a member of AVC's original supergroup and a subscriber to its channel, the combination of which inspired them to create and independently administer a crop-specific offshoot.

Management

By 2018, the AVC team was administering its original Bogbon supergroup and Bogdorchilik Ilmi channel, co-administering the cold storage subgroup, and providing guidance to commercial horticulturalists who were continually creating their own chat groups and channels with colleagues. Within AVC, the primary admin for the supergroup and channel was the Public Outreach Coordinator, who used his Telegram professional account both from his mobile phone app and his desktop app to administer AVC's forums and monitor and share information across the other independent subgroups and channels. The lemon channel and the grape and walnut subgroups, while inspired and aided by AVC's efforts, are administered independently by horticulturalists. The AVC project team has no administrative access and no control over their content, though AVC videos are often shared within the groups when relevant to the focus crops.

To determine what video content to produce and share within AVC's various Telegram forums, the Public Outreach Coordinator provides qualitative updates and assessments of the Telegram traffic he observes at weekly staff meetings. These updates are used as the basis for discussion and deliberation about what topics to prioritize for video production, with input from the agricultural technical staff. Each meeting results in production decisions, with the production team then going into the field to film with horticulturalists. This process then results in the creation of video content uploaded to Mover and YouTube, the links to which are shared on AVC's various Telegram forums and Facebook page, along with actual video files for members to download for viewing and sharing offline. This video production and planning process relies largely on qualitative analysis of Telegram and Facebook traffic, as AVC has not undertaken any technical integration or custom development with Telegram to monitor traffic or generate quantitative user behavior analytics.

In addition to producing videos, in late 2017 AVC began using Telegram's Telegraph publishing tool, which allows users to compose and share richly formatted posts resembling blog or newspaper articles with photos and other embedded media. Telegraph publications can be shared across Telegram forums via a short link through which recipients can open and view the publication. The links open the publications within Telegram's Instant View feature, which presents content from Telegraph and external publications on a native page within the app so that users avoid linking to other apps or browsers, saving them time and data. The Telegraph and Instant View features then allow the publishers to track and analyze click rates, which the AVC team uses as a qualitative metric to assess interest in their content among their group and channel members.

WHAT WORKED, WHAT DIDN'T AND WHY

Successes

During the AVC project's first year deploying Telegram to facilitate information sharing and learning among commercial horticulture actors in Uzbekistan, the project was extremely successful at growing and sustaining engagement. Between July 2017 and February 2018, nearly 3,200 people subscribed to the Bogdorchilik Ilmi Telegram channel, with roughly 50 joining daily. During the same period, the original generalist chat group grew to a supergroup, from 30 select members to more than 800 commercial producers. Then, in just three months, AVC's first focused subgroup, the cold storage chat group, reached more than 80 members. The lemon channel and the grape and walnut farmer chat groups, which were inspired but not administered by AVC, reached 213, 200 and 500 members, respectively. This success can be attributed to three factors:

1. **Gradual expansion:** Rather than creating multiple, focused chat groups and channels, AVC took a gradual, stepwise and collaborative approach, adding one new Telegram forum at a time. By beginning with a single, closed chat group with a generalist focus and a small group of interested members, then opening it to a wider audience, the project was able to steadily grow a broad following, avoid technical challenges and develop credibility on Telegram with different user groups.
2. **Building on existing networks and communication channels:** At each stage of AVC's Telegram expansion, the project team built its following from existing professional and digital networks. To begin, the original chat group was seeded with a select group of commercial producers with whom the project had worked and was kept closed to others. As the group was opened and additional forums were created, AVC leveraged its Facebook, YouTube and Mover following. The project posted links to its Telegram groups and channel on its Bogdorchilik Facebook group and embedded graphics about the forums in its videos. When a new Telegram subgroup or channel was created, the team posted a link in the original chat group, which had then become a larger supergroup. Offline, AVC's Telegram forums were promoted at farmer trainings. This networked approach reduced the resources allocated to driving adoption and maintained high levels of engagement.
3. **Picking the right app:** The AVC team attributes much of its successful growth to simply choosing the right messaging application for its context. As Telegram is an extremely popular and familiar messaging application in Uzbekistan, the project did not have to encourage beneficiaries to download it. Almost all of its followers were already active users. Moreover, in addition to building on existing networks, AVC was able to rely on Telegram's effective sharing and search features to drive viral growth. AVC's chat groups and channel are open and public, so subscribers are able to share content and invite others to join. The AVC and admins are not required to invite or approve new subscribers to the chat groups or channel.

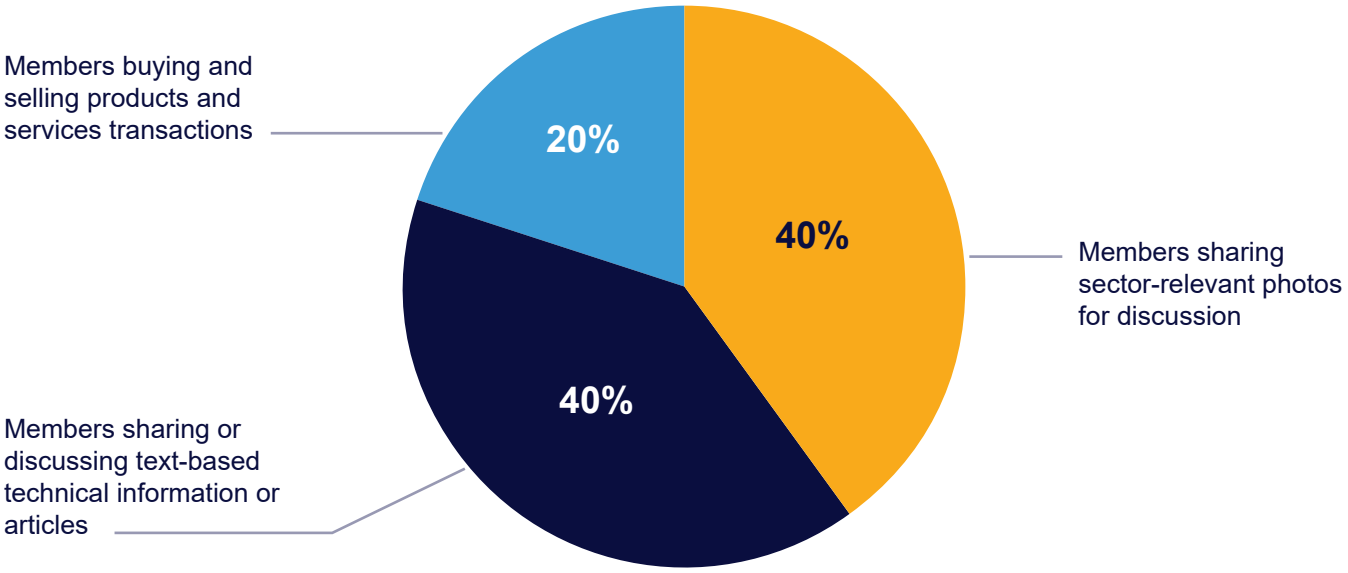
Each message, media or file shared on a Telegram group or channel has a “forward” button next to it. When pressed by a recipient, the button brings up a full list of that recipient’s Telegram contacts and groups to which the content can be shared. When the message, media or file is forwarded to another contact or group, it appears with a link to the source channel or group, which the recipient can follow. If the group or channel is open or a supergroup, then the recipient of the forwarded content can press “join” to join the source group or channel. Telegram users who hear of the different forums through word of mouth can also use Telegram’s search feature or channel list to find and join them.

These features made it easy for horticulturalists to circulate content from AVC’s groups and channel and for others to discover them. As new members discovered the chat group, the app’s unique supergroup features enabled the project to continue managing all of its two-way chat dialogue in one place. This contrasts with WhatsApp, which caps group sizes at 256 people, does not allow new group members to access the entire group history, and does not allow members to engage through a desktop or web app without having a dedicated phone present.

Unforeseen Opportunities

AVC's Telegram forums were intended to enable the exchange of technical information to help commercial actors at all stages of the horticulture value chain improve their business. In reality, by the end of 2017, AVC estimated that exchanges focused on sharing or discussing text-based technical information or articles represented just 40 percent of traffic in its Telegram chat groups. Another 40 percent consisted of members sharing sector-relevant photos for discussion, and the remaining 20 percent involved members buying and selling products and services.

For the latter 20 percent, the groups have become what AVC calls a "self-directed marketplace"—a digital forum where supply meets demand for different crops and value-added services such as processing, storage, transport and marketing. These transactions resulted largely from initial face-to-face meetings between sellers and buyers at AVC's in-person events, who when followed up via Telegram. While unforeseen, this outcome nevertheless contributes to AVC's overall goal, so the project has encouraged a range of marketing behavior in the groups. While the AVC team had anticipated that its Telegram chat groups might eventually be used for commercial purposes, it wanted it to happen organically without any push from the project.



The AVC team did not foresee the requests from other international aid donors and programs to announce outside trainings and services on the AVC Telegram chat groups. The AVC team has always complied with these requests, announcing a variety of training opportunities to the community, whether or not they are related to the AVC project. Equally unforseen was AVC project beneficiaries independently creating new crop-specific Telegram chat groups and channels, which is seen as a positive outcome and an opportunity to ensure the sustainability of AVC's efforts. AVC has ensured that all of its groups are co-administered by reliable local partner beneficiaries.

Lastly, the success of AVC's use of Telegram for programmatic interventions has led the AVC project team to create an internal Telegram chat group for communication and coordination between its 18-person staff. AVC staff use the closed Telegram chat group to report their location and status in the field to aid with security and personnel management, and they regularly share files, videos and informal content. This has enabled the Country Director to have nearly full awareness of where staff are at all times, increasing accountability and resulting in valuable media from the field to share with partners and funders.

Challenges and Limitations

As of the beginning of 2018, AVC had encountered no major technical challenges or frustrations with the Telegram tool. In fact, the project's only cited challenge was internal—convincing its agricultural technical specialists that Telegram would be an effective tool through which to provide and facilitate the exchange of technical information. However, after some brief internal testing with the team's horticulture production and post-production specialists, the full project team was convinced and supportive of creating the first AVC chat group.

In considering the telegram app's limitations and potential new features and upgrades, as of early 2018 the AVC team was hopeful that Telegram would enable users to have individual video calls and group conference calls. At this time, Telegram facilitated only one-on-one voice calls through the app. The AVC team's primary need for group calls was for operational coordination, so that different AVC teams in the field and their colleagues in the main office might periodically connect for conference calls. However, the team also envisioned the possibility of its members conducting group calls, both to discuss shared issues and negotiate the exchange of crops and services.

Impact

In assessing Telegram's impact on AVC's project goals, the project team points to its chat groups as critical for sustaining connectivity among industry actors and its channel as vital for disseminating valuable technical content to broader audiences. Based on user feedback, the project believes that this connectivity facilitates professional bonds between horticulturalists who might not otherwise connect and enables rapid information exchange that can enhance productivity and market efficiency within the horticulture market. AVC also emphasizes the benefits of Telegram to its own internal productivity and effectiveness. According to AVC's Communications and Outreach Specialist, his team is "more efficient, effective and less costly in our provision of services due to the more direct feedback from our intended beneficiaries."

NEXT STEPS

Entering 2018, the future of the project was unclear. While the third stage of funding was set to expire at the end of the year, there was a possibility of it being extended further. Regardless, the AVC team remained focused primarily on gradually creating and growing new targeted Telegram subgroups for different value chain functions, building on the success of the cold storage group to add groups for traders, processors and exporters. To potentially benefit all of AVC's Telegram forums, in late 2017 the team began experimenting with chatbots. Creating a Telegram chatbot was seen as an opportunity to automate frequently asked question responses, streamlining content within the chat groups, and improve the speed and accuracy with which some questions are answered.

Telegram's API allows developers to build custom chatbots, either as part of an existing chat group or as a separate resource with a dedicated user interface for one-on-one chats with users, as with Facebook chatbots. AVC sought to test both approaches and began building its first test chatbots at the end of 2017. According to the team, while the API enabled quick and easy development, as of February 2018 it was not yet clear what the optimal content structure and user interface would be.

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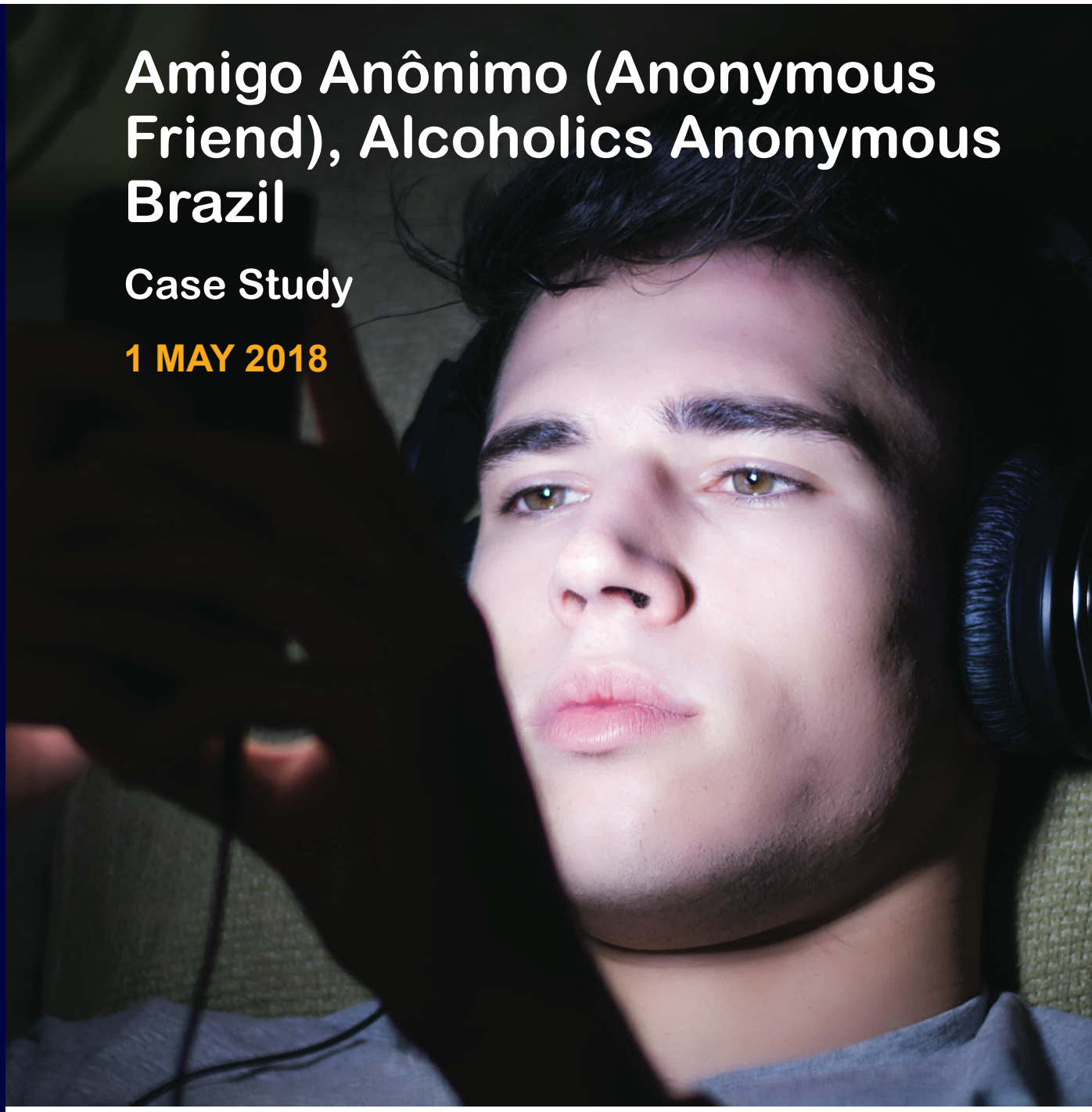
Case Study

1 MAY 2018



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ABOUT ECHO MOBILE

Echo Mobile is a Kenyan technology and service provider that helps organizations across Africa succeed by engaging, influencing, and understanding their target audiences. Echo provides organizations with a powerful software-as-a-service platform for communications and information management, as well as strategic consulting and implementation services. www.echomobile.org

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1 Nov 23, 2015, Stephanie Newman, "The Messaging Phenomenon Has Hardly Begun", Medium.

Amigo Anônimo (Anonymous Friend), Alcoholics Anonymous Brazil

Contents

SUMMARY

Amigo Anônimo is a Facebook Messenger chatbot operated by Alcoholics Anonymous (AA) Brazil. It was launched in 2017 as part of a new AA campaign to address the rising rate of teen drinking and mark the organization's 70th anniversary in Brazil. The campaign was designed to increase AA's brand awareness and directly address issues of alcoholism among teens in order to increase their attendance at AA meetings. The AA chatbot achieved this by providing teens with the opportunity to take the first step toward seeking help through a familiar, nonpublic and impersonal one-on-one medium, without having to attend an AA meeting.

The chatbot quickly generated engagement from more than 100,000 users across Brazil, 60 percent of whom were teens. This engagement appeared to directly increase outreach to AA across other channels, including email and in-person meetings. Amigo Anônimo also generated new engagement from nonalcoholics seeking help for their loved ones, a demographic the organization had not previously served.

AA and its partners chose to use Facebook Messenger largely due to the popularity of Facebook among young Brazilians, Facebook Messenger's integration with the Facebook platform and its open API. While the chatbot was seen as a quick and unprecedented success for an otherwise low-profile organization like AA, its scalability and impact were constrained by the organization's limited offline support services, all of which were confined to a single city and not nationally oriented. The new digital format also raised considerable ethical questions about privacy and the ability to protect user anonymity in keeping with AA's founding traditions. While Facebook took helpful steps to prevent the disclosure of users' individually identifiable information, there remains an open question about the effect of Facebook's data policy on how advertising might be targeted to AA users based on their engagement with the chatbot.

Key Lessons

1. YouTube and Vimeo videos are an effective way to drive teenagers to find chatbots and start conversations. Allowing teens to start the conversation gives them the sense that they are in control and are not being told what to do.
2. Facebook Messenger is a powerful and effective tool to bring more members to an organization, but it is constrained by an organization's offline capacity to support members beyond Messenger conversations.
3. Facebook policies limit the ability to make chatting with an organization totally anonymous for the end user.

BACKGROUND

Goals and Origins

Alcoholics Anonymous is an international nonprofit organization founded in Ohio in 1935. It describes itself as "a fellowship of men and women who share their experience, strength and hope with each other that they may solve their common problem and help others to recover from alcoholism."[1] Calling itself "an informal society," the organization comprises more than 2 million recovered alcoholics who meet in more than 150 countries in local groups ranging from fewer than 10 people to many hundreds. AA Brazil was founded in 1947 in São Paulo.

AA Brazil has been represented on a pro bono basis by the Brazil office of J. Walter Thompson (JWT), an international advertising agency, for several decades. In 2017, JWT helped AA Brazil come up with innovative ways to mark its 70th anniversary, including the development of a new campaign to increase AA's brand awareness among teens to encourage teen attendance at AA meetings in response to rising rates of teen drinking in Brazil.

Digital Transition

Leveraging its digital transformation services, JWT sought to mark the 70th anniversary and conduct the teen drinking campaign online with a drastically new approach for AA, which has historically maintained a low profile and conducted its activities in person and spread its message through printed literature. JWT turned to Facebook, primarily due to its high penetration in the target teen demographic. Facebook and Facebook Messenger are two of the four most downloaded apps in Brazil, and the majority of the platform's users are between 13 and 34 years old.[2]

In addition, the Facebook Messenger API provided an opportunity to experiment with chatbots, which both AA and JWT felt was a technology that aligned well with the organization's commitment to shared experiences and support as tools for recovery. JWT ultimately contracted Chat Club to help develop an AA chatbot for teens struggling with alcohol abuse, and engaged the Facebook Brazil office and the Facebook Creative Shop for support. Facebook agreed to support the campaign with US $10,000 of free advertising credit and significant free demographic and targeting insights based on analysis of user behavior.

While a chatbot on social media represented an entirely new medium and tool for AA, the organization did not want to replace its in-person meeting format. Instead, the chatbot was seen as a means to leverage a far-reaching and familiar channel to create a personalized yet private and unthreatening first step for young people to learn about alcohol abuse and seek help. The bot was also designed to broaden AA's services, providing a one-stop resource not only for those abusing alcohol, but for their family, friends and partners as well.

1 https://www.aa.org/assets/en_US/m-24_aafactfile.pdf

2 "In Brazil Social Media Is for the Young." *eMarketer*, 20 February 2015, https://www.emarketer.com/Article/Brazil-Social-Media-Young/1012089.

IMPLEMENTATION

Promotion

To drive adoption of the chatbot, JWT relied exclusively on social media, spreading short YouTube and Vimeo videos across different Facebook channels. The videos dramatically highlight the problem of teen drinking with stories of real alcoholics who found help through AA, then ask viewers if they know someone with a problem. At the end, each video issues a call to action for viewers to share the video and chatbot link and provides a button to push the link directly to a Messenger contact. According to a member of the JWT team, the idea was ”to reach teenagers who don’t take advice and can’t be told what to do. We needed them to find the chatbot.”

User Experience

When users do find the chatbot, they are asked to select one of three choices: (1) I’m in treatment and had a relapse (2) I think I’m an alcoholic, or (3) My family member or friend is an alcoholic. Based on this initial response, the bot leads users through a structured conversation flow, which was designed based on 35 hours of in-person interviews with real alcoholics. No natural language processing is used. The interview questions and responses are based on each subsequent text dialog sent by the chatbot, and include multiple choice questions to guide the conversation and targeted guidance based on responses.

All users are ultimately led to a list of tips. Some are clickable and take the user to other AA resources. Tips encourage users to attend a meeting by enabling them to share their location directly within the bot, which then identifies the AA meeting location nearest to them. Users can then click further for details on the meeting location and hours. In the case of family members or friends seeking help for others, they can share the link directly to the person they are concerned about through Messenger.

WHAT WORKED, WHAT DIDN'T AND WHY

Successes

In Amigo Anônimo's first week of live chats, more than 100,000 people initiated conversations. By the end of 2017, the chatbot had hosted conversations between 546,000 people, 67 percent of whom were teenagers. In the same time period, incoming traffic to AA's email helpline increased from an average of three daily emails to 39, and AA groups reported an average increase in meeting attendance of 25 percent.[3] JWT also found that the chatbot had drastically expanded AA's reach across the country, with 30 percent of users coming from cities that did not have AA groups at the time. As a result, 97 new AA groups were created, which represented the first expansion for AA Brazil in a decade. JWT cites these results as evidence of a high return on investment for AA, but notes that its creative work was done pro bono, as were Chat Club's design and development services and Facebook Creative Shop's support services.

According to JWT, the majority of AA chatbot users are women, which was surprising, as past studies have found that alcohol abuse in Brazil is significantly more prevalent among men.[4] At the end of 2017, JWT had not yet compared this data against the breakdown of users who reported personal struggles with alcohol versus those who were seeking help for others. However, the team hypothesized that the large percentage of female users meant that the majority of users may not actually be alcoholics themselves, but friends or family members seeking guidance on how to help someone else. If this proves to be the case, it indicates that the chatbot format has been most successful at achieving AA's goal of broadening its services beyond those immediately struggling with or recovering from alcoholism.

Challenges and Limitations

Privacy

Early in its creative process, JWT identified user privacy as a critical challenge to the development of an AA chatbot. AA's traditions state: "Our public relations policy is based on attraction rather than promotion; we need always maintain personal anonymity..." AA elaborates: "Traditionally, A.A. members have always taken care to preserve their anonymity at the 'public' level: press, radio, television, and films; today this extends to the Internet and digital technologies."

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3 As a policy, AA does not track attendance. This was reported as an estimate.

4 "Alcohol, Gender and Drinking Problems." *World Health Organization*, http://www.who.int/substance_abuse/publications/alcohol_gender_drinking_problems.pdf.

...the **bot** leads users through a structured conversation flow...

While the Facebook chatbot concept aligned well with the goal of attraction rather than promotion, it did not totally align with AA's need for anonymity. When a Facebook Messenger user chats with another user or with a Facebook page or chatbot, the administrator of that Facebook page or chatbot can see the name of the user, and there is no way to mask the user's identity. The fact that the conversation took place is also known and cannot be hidden from people at Facebook. Unlike with Telegram and WhatsApp, which allow users to create aliases, nicknames or usernames instead of their legal name, Facebook policy states: "The name on your profile should be the name that your friends call you in everyday life. This name should also appear on an ID or document from our ID list."[5] This means that no one using Facebook, and thus Facebook Messenger, can truly be anonymous.

Nevertheless, according to JWT, Facebook was sympathetic to the importance of individual privacy for those visiting the AA Facebook page and using the AA chatbot via Facebook Messenger. While the AA Facebook page and chatbot would remain public for Facebook users to find and visit, Facebook agreed to adjust part of its advertising feature that might make individually identifiable information about visitors public to their Facebook network. According to Facebook's policies, the platform decides which advertisements to show users based on a range of criteria, which includes "Pages you and your friends like."[6] For AA's chatbot, this could mean that when a user visits and likes the AA Facebook page, that user's Facebook friends might later receive advertisements that indicate that the user "likes" AA. This would undermine the user's anonymity.

Chat Club and JWT also used features of Facebook Messenger API to help put users at ease with a perceived sense of anonymity, though not actual anonymity. The API enables developers to choose whether or not to personalize automated chatbot messages to users by pulling information, such as the user's name, from their profile.[7] AA and JWT elected not to personalize messages in order to maintain a feeling of anonymity and make users feel at ease. To avoid the impression that Facebook data was being used for targeting or that certain users were being "accused" of being an alcoholic, all Facebook ads for the service were framed to ask "Do you know someone who needs help?" rather than "Do you need help?"

However, despite both Facebook and AA's efforts to maintain the sense of anonymity and to avoid sharing individually identifiable data about AA chatbot users with their friends, those users are still subject to Facebook's general data policy. This policy states: "We collect information about the people and groups you are connected to and how you interact with them, such as the people you communicate with the most or the groups you like to share with." Most notably, it says: "We use all of the information we have about you to show you relevant ads." This data is only used and shared in aggregate form and not as personally identifiable information. Nevertheless, Facebook reserves the right to allow advertisers to target as a group users who visit, like or otherwise interact with the AA page or Facebook Messenger chatbot.[8]

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5 "What names are allowed on Facebook?" *Facebook*, https://www.facebook.com/help/112146705538576.

6 "About Facebook Ads." *Facebook*, https://www.facebook.com/ads/about.

7 "User Profile API." *Facebook*, https://developers.facebook.com/docs/messenger-platform/identity/user-profile.

8 "Data Policy." *Facebook*, https://www.facebook.com/policy.php.

Integration with Offline Support Services

While the AA chatbot greatly increased AA Brazil's digital presence and reach, its impact and functionality were limited by AA's offline scale and capacity in Brazil. One of the chatbot's core objectives was to refer and efficiently connect users to further offline support services, yet unlike a chatbot, these services do not have nationwide coverage. For all of Brazil, AA has just one phone helpline and organizational infrastructure, which serve only the São Paulo area. AA considered having the chatbot share this number with users, but ultimately decided not to, fearing that by sharing it with the broader national chatbot audience, the line could be overwhelmed by users outside of São Paulo. This limited JWT's call-to-action options for the chatbot, which only offered web links, email contacts and meeting locations.

Ultimately, JWT's vision is to have a chatbot that can connect users to a team of volunteers for text or video chats on Facebook Messenger or for offline meetings. However, in light of the organization's current capacity and setup, it is not in the position to recruit, train and manage a team of human volunteers. Therefore, as of March 2018, the chatbot is limited to directing users to a generic email address or to local meetings, if they exist.

AA chatbot greatly increased AA Brazil's digital presence and reach, its impact and functionality were limited by AA's offline scale and capacity in Brazil.

NEXT STEPS

Entering 2018, Amigo Anônimo was managed by AA's Facebook page administrator, with the broader campaign content still developed and managed by JWT. Together, the two organizations were exploring ways to make the chatbot user experience more personal, both through more natural conversation flows and by enabling direct peer-to-peer dialog.

In the long term, AA and JWT still hoped to enable the chatbot to facilitate connection between new users and real, current AA members, such as recovering alcoholics volunteering to provide online support to those in need or their loved ones. Because of AA Brazil's limited capacity, however, JWT did not expect to implement this concept in Brazil, and was actively seeking opportunities to extend the chatbot concept to AA USA, where more experimentation would be possible. JWT was also hopeful that Facebook might enable features that would allow users to submit voice recordings rather than text and receive automated audio responses within the Facebook Messenger dialog.

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Ebola Community Action Platform (ECAP)

Case Study

1 MAY 2018

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ACKNOWLEDGEMENTS

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Ebola Community Action Platform (ECAP)

Contents

SUMMARY

In response to the Ebola outbreak in 2014, Mercy Corps developed the Ebola Community Action Platform (ECAP), an emergency program to help Liberian communities protect themselves and access care. To ensure that information disseminated by ECAP reflected and responded to a real-time understanding of developments on the ground, the program partnered with more than 79 community organizations, which assembled more than 800 community mobilizers for the program. Mercy Corps provided mobilizers with smartphones and technical training so they could disseminate lifesaving information and collect real-time data at the community level.

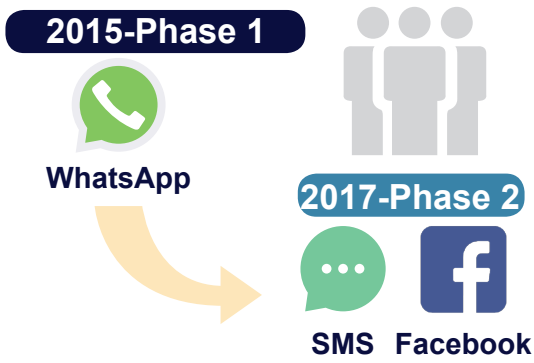
Only 50% of Mobilizers used WhatsApp

Engagement concentration among 25% of young mobilizers

Just prior to the initial training, Mercy Corps decided that the mobilizers should also have WhatsApp on their smartphones, primarily as a means to communicate among themselves about important experiences and effective practices. Mobilizers were expected to travel to remote areas, so WhatsApp chat groups were seen as a powerful way to overcome isolation and separation by facilitating peer-to-peer support, motivation and learning. However, WhatsApp was not available in the Google Play Store in Liberia at the time, and thus was unfamiliar to most Liberians. Combined with a rushed training reflecting the emergency nature of the program, mobilizers had little time to learn how to use the application. This contributed to early and frequent technical difficulties in the field and low overall adoption.

Ultimately, less than half of the mobilizers ever used the app, and engagement was concentrated among the 25 percent of younger mobilizers. Within this segment, WhatsApp was used primarily to share photos rather than effective practices or questions. Some Mercy Corps staff found this content useful for storytelling and peer motivation, but others felt it distracted from the program's original goal. To refocus the WhatsApp traffic on learning, Mercy Corps staff began instigating and curating group WhatsApp conversations with obilizers at night. This intervention was effective and resulted in valuable exchanges, but it required considerable time from the monitoring and evaluation (M&E) staff outside of normal hours. The task was made harder by WhatsApp's chat group size limits, requiring the staff to manage conversations across multiple smaller groups at once.

The community mobilization component of ECAP ceased in 2015, when Ebola was brought under control in Liberia, but Mercy Corps secured funding for a second phase to focus on direct communication with communities through 2017. The shift in focus, combined with the departure of the Digital Outreach Advisor, who had spearheaded the WhatsApp component in Phase 1, led to the discontinuation of WhatsApp during Phase 2 in favor of SMS and Facebook.



Key Lessons

1. WhatsApp was most successfully adopted and utilized by younger field staff with greater tech literacy and curiosity and by the few who were already familiar with the app.
2. Limited training (less than two hours) with field staff who had not used WhatsApp before likely prevented the majority of field staff from adopting the tool in the field.
3. WhatsApp proved useful for sharing informal communications and media, which ultimately benefited Mercy Corps storytelling efforts.
4. WhatsApp was effective but less efficient as a means for encouraging shared learnings among staff. While little productive knowledge sharing occurred organically, Mercy Corps staff administrators were able to intentionally prompt and manage conversations that produced valuable insights among field staff.
5. The use of an internet-based messaging application was an effective way to avoid any direct integrations with local MNOs, a requirement that limited the effectiveness of SMS.
6. Problems with installing and updating the WhatsApp application, and with using the application on dual SIM phones, limited adoption and hindered use in the field, especially for the less technically literate field staff.
7. WhatsApp's chat group size limits (previously 100, currently 256) created an operational burden when communicating with nearly 800 field staff.
8. WhatsApp did not have a published API or documented method for sending bulk outbound messages with multimedia attachments.

BACKGROUND

Goals and Origins

In March 2014, Liberia detected its first case of Ebola, which began to spread across the country along with fear, myth and misinformation. In response, Mercy Corps launched ECAP in October 2014 in partnership with Populations Services International (PSI), with support from the Liberian government, and using funding from USAID's Office of Foreign Disaster Assistance (OFDA).[1] The program aimed to reach 2 million people in nine months with the primary objective of helping communities access accurate, up-to-date information about Ebola in order to protect themselves and access medical treatment.

2 million people in Liberia targeted

1 OFDA is a department within the U.S. Agency for International Development (USAID).

The program took a grassroots approach, sub-granting funds to trusted local community organizations and allowing them to define their own strategies for mobilization and advocacy. ECAP's implementers and funders believed that these local organizations were well placed to reach communities nationwide with effective Ebola prevention messaging. Nevertheless, to implement their local strategies, the organizations required targeted educational tools and content informed by reliable real-time information from across the country. More specifically, Mercy Corps and its local partners required a deep, broad and evolving understanding of community-level knowledge, attitudes and practices (KAP) surrounding Ebola in Liberia. In order to develop and maintain this understanding, the ECAP team sought to establish a nationwide, technology-focused monitoring and learning program.

Going Digital

800 Mobilizers Recruited, Trained and provided with Android Smartphones

To facilitate ECAP's ambitious monitoring and learning initiative, Mercy Corps sought to assemble a nationwide team of community mobilizers tasked with using mobile technology to collect and disseminate real-time information on the ground. Mercy Corps turned to 79 community organizations from across the country to recruit the mobilizers, many of whom had been working as community health workers and nurses before the outbreak put them out of work. More than 800 mobilizers were ultimately recruited and assembled for a central training at which Mercy Corps provided them with Android smartphones.

Once the smartphones were distributed, Mercy Corps' Liberia team trained the mobilizers on navigating the phone's menus and downloading key tools, notably the Open Data Kit (ODK) application. ODK is a free, open-source application capable of deploying robust survey forms for offline data collection and syncing data back to a central server for aggregation and analysis. For ECAP, Mercy Corps built an internal dashboard to aggregate and visualize KAP data collected by the mobilizers via ODK. This included indicators such as the prevalence of stigmas around issues like accepting Ebola survivors into one's home[2] and the uptake of preventative behaviors like handwashing, all of which could then help the partner organizations shift their approaches to changing harmful local behaviors and beliefs.[3]

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2 "Digitizing Social Mobilization: the Liberian Experience.", Reliefweb, 12 May 2015, https://reliefweb.int/report/liberia/digitizing-social-mobilization-liberian-experience.

3 "Promoting Partner Autonomy and Learning to Fight Ebola in Liberia." MercyCorps, April 2016, https://www.mercycorps.org/sites/default/files/ADAPT%20Liberia%20case%20study_0.pdf.

Expanding to Messaging Apps

While ODK collection of KAP was a critical project deliverable stipulated by ECAP's USAID funders, USAID also suggested the use of mobile communications for efficient field coordination. Through an agreement with UNICEF, Mercy Corps used UNICEF's RapidPro automated SMS platform and a Liberian toll-free shortcode phone number to conduct short surveys with youth and mobilizers. Early tests of the SMS system had proven unreliable and ineffective, with the majority of messages failing to go through to recipients or arriving with illegible symbols and characters instead of text. ECAP was unable to resolve this issue and, therefore, during this time of emergency stopped focusing on SMS and instead directed attention to other means of communication.

Mercy Corps' Senior Director of Program Technology encouraged the project's Digital Outreach Advisor to consider how the mobilizers' donated smartphones could be used for more effective central coordination as well as communication among mobilizers. Both immediately saw an opportunity to experiment with using messenger applications.

...use of mobile communications for efficient field coordination

Working on a short timeline and in an emergency situation, the Digital Outreach Advisor did not conduct a formal comparative analysis of different messenger applications. But after quickly considering different options, he settled on WhatsApp because Mercy Corps staff in the Liberia office were already actively using WhatsApp as an effective internal organizing tool. The ECAP program team was already familiar and comfortable with WhatsApp and felt that it had proven effective in low-connectivity Liberian settings. Additionally, the Digital Outreach Advisor liked that WhatsApp queues messages when there is no available mobile data network and then automatically delivers them as soon as a network becomes available.

The WhatsApp user interface would provide the ECAP team and the mobilizers with clear and immediate confirmation when messages they sent were delivered and when they were read, so that unlike with SMS there would be no question as to which messages successfully reached recipients. Even though Mercy Corps did not have access to a formal API, the Digital Outreach Advisor identified a third-party service, BeWhatsApp, to enable bulk messaging to the mobilizers via WhatsApp to back up or replace ECAP's unreliable SMS system.

IMPLEMENTATION

Having decided to give mobilizers access to WhatsApp on their donated smartphones, the Digital Outreach Advisor engaged the M&E team to help ensure that the mobilizers were properly trained to maintain and use the app and encouraged to see its utility. The ECAP team saw the most immediate value to mobilizers in WhatsApp's chat group feature, which was viewed as a means for the mobilizers, who worked mostly on their own and often in far-flung disparate locations, to discuss and share experiences, challenges and accomplishments with one another from the field. The team also hoped that if mobilizers became proficient with WhatsApp, the program would be able to send them useful educational audio and infographic image files that could be shown to people in the communities where they worked.

User Setup and Training

The final decision to use WhatsApp was made shortly before the mobilizers were assembled for technical training, part of a broader public health communication and behavior change training program organized by the M&E team. The technical component was originally intended to focus extensively on data collection via ODK, a core project deliverable. WhatsApp training was allocated less than one hour. Prior to the training, ECAP staff downloaded and installed WhatsApp onto all 800 phones. Whereas the data collection training included a tutorial on how to download and upgrade the ODK app through the Google Play Store, WhatsApp was not available in the Google Play Store in Liberia at the time. Instead, WhatsApp had to be installed by the ECAP team prior to the training via an APK file downloaded from a web link. The process produced frequent unidentified bugs, and WhatsApp could not be installed on more than 15 percent of the phones. Installation problems came up again later in the program, when users tried to upgrade to newer versions of WhatsApp.

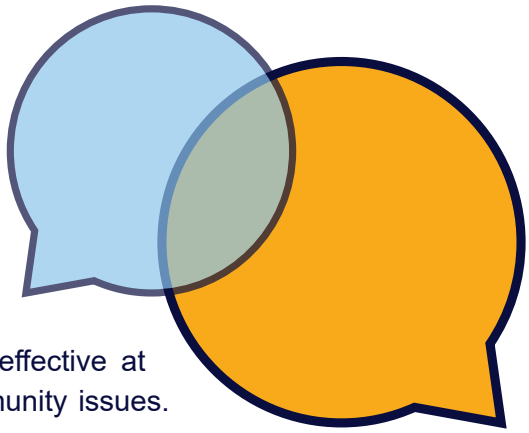
After installing WhatsApp on as many phones as possible, ECAP worked to set up each phone's WhatsApp account and then dedicated one of Mercy Corps' ECAP phones, which were preprovisioned with a WhatsApp account, to create and serve as group admin for several WhatsApp chat groups for mobilizers. At the time, WhatsApp only allowed a maximum of 100 users in any chat group, so Mercy Corps had to create and administer five different groups. The team did not create eight groups on the assumption that not all mobilizers would join, and because 15 percent of phones had failed to install the app.

WhatsApp only allowed a maximum of 100 users in any chat group.
Five different admin groups were created

Once mobilizers were assembled, the trainers used the short timeframe to lead them through WhatsApp's different features, focusing on interacting within a chat group and one-on-one interactions with Mercy Corps. More specifically, the trainers emphasized WhatsApp's multimedia features, noting the value of sharing voice notes and images with one another and with Mercy Corps to demonstrate and discuss approaches and techniques that they had found successful.

Even though there was minimal time spent learning how to use WhatsApp, most mobilizers were able to create their personal WhatsApp account on the phone issued by ECAP. While many had never used a smartphone prior to the training and struggled to send messages, the small number of more technically capable mobilizers provided critical supplementary support during and after training, which ECAP staff considered essential to their later usage of the application. Later in the day, outside formal training hours, ECAP program staff organized the mobilizers into the WhatsApp chat groups and sent a personalized welcome message to each group.

Curating the Conversation



In the hopes that the mobilizers would see value in WhatsApp and take advantage of the opportunity to engage with one another from the field via the WhatsApp groups, the Mercy Corps staff planned initially to act only as passive observers in the WhatsApp chat groups. ECAP expected, for instance, that mobilizers would regularly share information about what local drama initiatives or other approaches had been most effective at conveying particular messages in response to common community issues. Yet engagement was significantly lower than expected.

In an effort to demonstrate WhatsApp's utility and spark a greater commitment to shared learnings, ECAP's Communications Manager began intervening in the chat groups in the evenings, outside of her core M&E responsibilities and when mobilizers were not engaged with community members. To instigate and inspire conversation, the Communications Manager would pose questions about what mobilizers had observed and experienced in regards to specific issues such as the transmission of Ebola through bushmeat. As some mobilizers began to respond, the Communications Manager would inject follow-up questions and ask others to share their experiences.

WHAT WORKED, WHAT DIDN'T AND WHY

When reflecting on the successes and challenges experienced by the ECAP program, key personnel differ in their assessments of WhatsApp's effectiveness and impact. The M&E Lead, who was tasked principally with ensuring the regular and large-scale collection of reliable KAP data via ODK, viewed the WhatsApp component as an interesting but low-impact experiment at best and a distracting drain on resources at worst. On the other hand, the Digital Outreach Advisor emphasized that even in a fast-paced emergency setting with little time for training and significant technical issues, WhatsApp proved extremely valuable for a subset of the mobilizers, and the chat groups were a source of valuable content from the field used for storytelling and provided critical lessons for future projects.

Challenges and Limitations

ECAP's two overarching challenges were a lack of resources to dedicate to the WhatsApp component of the project and the lack of familiarity and training on the app among mobilizers. This resulted in significant staff time being spent, with fewer than 50 percent of the mobilizers ever using WhatsApp to engage in an ECAP chat group.

Curated Conversations

While the staff-curated conversations produced results, they were also costly in terms of staff time. Generating productive discussions and learnings required the dedication of significant time outside of normal working hours from Mercy Corps M&E staff who had not initially been expected to engage regularly with the WhatsApp component at all. In an effort to replicate their impact and sustain engagement on WhatsApp, the team attempted to select super mobilizers, those most actively engaged on WhatsApp, to lead conversations. This was tried a few times, with one super mobilizer in each chat group tasked with leading discussion around a particularly timely topic, such as the return of students to school. Yet the super mobilizers proved less reliable and effective at sustaining productive discussion, often allowing conversations to stray into less formal photo sharing and boasting about each mobilizer's respective circumstances.

Technical Issues

Mobilizers and Mercy Corps staff experienced frequent technical issues with WhatsApp, initially related to the APK files used to install the app. To start, the install procedure seemed to lead to frequent bugs, preventing 15 percent of mobilizers from ever having the app and requiring others to have it regularly re-installed or upgraded. Because WhatsApp was not available for download in the Google Play Store at the time, MercyCorps utilized a "sideload method" of installation, sending mobilizers a link to a new APK file that was only accessible when the mobilizers were connected to the Internet. Not having been trained on these processes during the short training window, few mobilizers were able to complete these updates independently. This led to long periods of WhatsApp downtime for many of the mobilizers.

A smaller subset of mobilizers, mostly those who had not used WhatsApp prior to the ECAP project, were often confused by the app's frequent notifications about software updates. Following the prompts, these mobilizers would attempt and fail to download the updates due to low connectivity, which would prompt them to contact their partner office, which would then reach out to Mercy Corps for support. In some cases, this would result in thumb drives or SD cards with updated versions of WhatsApp being sent out to partners and into the field to help mobilizers upgrade their app software. This was not technically necessary for the continued use of the app and could have been prevented by having the mobilizers turn off the auto-update setting on their phones. Still, in some cases the partners and Mercy Corps deemed it necessary in light of the low technical literacy of the mobilizers.

A similar problem emerged intermittently for mobilizers using a dual SIM phone. This was common practice, as some mobile network operators had better coverage in certain areas. However, at the time, when switching from one SIM to another on a single phone, the WhatsApp application would require users to reauthenticate their WhatsApp account through an automated SMS code. While on their second SIM, until they entered the code sent to the first SIM, the mobilizers would be blocked from using their WhatsApp account. For the less technically literate mobilizers, this could cause them to stop using the app or to again reach out to their partner organization or Mercy Corps.

On the Mercy Corps end of the WhatsApp conversations, WhatsApp's group chat limit of 100 people created inefficiency when attempting to curate conversations with the nearly 800 mobilizers.[4] This required the Communications Manager to track and manage five parallel groups and conversations at the same time with similar content. This challenge could not be alleviated through the use of a WhatsApp desktop application, as one had not yet been developed. That meant that staff had to facilitate conversations by typing on the specific phone that was designated for administering the different chat groups.

Familiarity and Training

Because KAP data collection was an essential deliverable stipulated by ECAP's funder, mobilizer training with ODK was well planned out and given ample time. Conversely, the WhatsApp training was a last-minute addition for which trainers were far less prepared, many of them never having used WhatsApp themselves. The same was the case with most mobilizers, as WhatsApp had extremely low penetration in Liberia prior to the Ebola outbreak, especially in more remote and rural areas. The lack of familiarity and training was reflected later in the frequency with which mobilizers reported having accidentally deleted or lost WhatsApp from their phones, requiring partner staff to travel to meet and help them reinstall it.

4 WhatsApp has since increased the limit to 256 users per chat group.

Content

While the Digital Outreach Advisor saw value in mobilizers sharing informal communications as a means to build support networks and maintain morale, the M&E Lead viewed selfies and other informal content as distracting and a negative impact on efforts to generate productive dialogue in the groups. And whatever benefits this content might have had were not enough to outweigh the staff time required for training mobilizers, curating conversations and troubleshooting technical issues.

Successes

Despite the project staff's different assessments of WhatsApp's cost to the project, there was a general consensus about areas where the app provided clear benefits:

Youth Engagement

Each of the 79 partner organizations hired their own community mobilizers, so the profiles differed greatly by organization and region. In many regions, the mobilizers were older, active community members. In others, the mobilizers were eager, young volunteers, able to handle long distance travel in difficult areas. This group, which represented roughly 20 percent of the overall mobilizer population, engaged on WhatsApp frequently, primarily to share stories, photos and even videos from their travels. Both the M&E Lead and the Digital Outreach Advisor credited the younger mobilizers' familiarity with and interest in smartphones and mobile communications, and potentially with WhatsApp, as the key to their successful engagement.

Based on his interactions with the younger mobilizers, the Digital Outreach Advisor believes that the idea of sharing multimedia communications for some had already been part of their daily life before the outbreak. Among all of the mobilizers who engaged via WhatsApp, he concluded that the conversational nature of the chat group forum felt less like work. Instead it allowed those engaged to build camaraderie and connections, distract themselves from their challenging work, and motivate and challenge one another.

Curated Conversations

According to the M&E Lead's assessment of the overall WhatsApp experiment during ECAP, "when it worked well, it worked really well," and it worked primarily during the evenings when the Communications Manager would actively curate conversations. During these sessions, the probing questions from the group were effective at stimulating large, active and productive discussions, and the facilitator asked questions to stimulate meaningful conversation that resulted in useful insights and information for all involved. Over the course of the program, as much as 30 percent of all mobilizers participated actively in these discussions at one point or another.

Increased Independence From Mobile Network Operators (MNOs)

ECAP's early tests with SMS had proved unreliable and ineffective, with the majority of messages failing to go through to recipients or arriving with illegible symbols and characters instead of text. ECAP was unable to resolve this issue with the MNOs and their integration into the RapidPro SMS system. Therefore, ECAP dropped SMS from their communication strategy. By using WhatsApp instead, they no longer had to create direct connections to the MNOs for SMS and instead could just rely on generic data coverage to transmit the WhatsApp messages. This proved to be more effective than troubleshooting with MNO direct connections and system integrations.

Unforeseen Opportunities

Storytelling

Despite the M&E Lead's frustrations with the informal content shared on WhatsApp, the Digital Outreach Advisor found that the mobilizers' images provided valuable storytelling material that could be used for project reporting, fundraising and demonstrations when designing future digital emergency monitoring and learning tools.

NEXT STEPS

The first phase of ECAP ended in July 2015, after Ebola was brought under control in Liberia, but funding was secured to adjust and extend some of the work into a second phase through July 2016 as a means to build resiliency and prepare for future outbreaks. While ECAP 2 would continue to try and use different mobile tools for engagement and communication, the Digital Outreach Advisor who had spearheaded the WhatsApp component during ECAP left the project. The M&E Lead stayed on, but quickly phased out WhatsApp as one of the project's tools in favor of channels to communicate directly with communities as a means to hold the program and its local partners accountable.

Instead of WhatsApp, ECAP secured a toll-free phone line for community members in areas where ECAP and its partners were providing services to call or text questions and complaints. Calls were seen as much more popular than texts given the low rates of literacy among target populations. In addition, the M&E Lead felt that responding to and speaking directly with community members was a core function of the M&E team, unlike their role in curating mobilizer conversations. The M&E team also created a Facebook page and began using Facebook Messenger to try and engage people in affected communities. Having done so, the M&E Lead believes that Facebook Messenger would have been a superior messaging tool for ECAP 1 due to relatively greater penetration and familiarity in Liberia and the impact of Free Basics.

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ABOUT ECHO MOBILE

Echo Mobile is a Kenyan technology and service provider that helps organizations across Africa succeed by engaging, influencing, and understanding their target audiences. Echo provides organizations with a powerful software-as-a-service platform for communications and information management, as well as strategic consulting and implementation services. www.echomobile.org

ABOUT DIAL

The Digital Impact Alliance (DIAL) aims to realize a more inclusive digital society in emerging markets, in which all women, men and children benefit from life-enhancing, mobile-based digital services. A partnership among USAID, the Bill & Melinda Gates Foundation, the Swedish Government and the United Nations Foundation, DIAL's efforts help accelerate the collective efforts of government, industry and development organizations to realize this vision. http://www.digitalimpactalliance.org

FOREWORD

This case study is one of six produced by DIAL and Echo Mobile in May 2018, by which point 3.6 billion people were using mobile messaging applications—nearly half of humanity.[1] DIAL commissioned Echo Mobile to research how and to what effect international development organizations have used these applications, with findings presented in three publications:

1. This case study and five others like it, which provide focused analyses of organizations that have deployed messaging apps for development;
2. a Project Catalog, which briefly summarizes fourteen development initiatives that have deployed messaging apps for development; and
3. an in-depth white paper, which synthesizes lessons from across the case studies and project catalog. The paper outlines common use cases for messaging apps in development while identifying essential considerations for successful project design and for selecting messaging apps.

These publications are based on over 50 interviews with development practitioners, digital development experts, technology providers, and entrepreneurs. They are free for download and discussion at www.messengers.digitalimpactalliance.org. This website is designed to help both the development practitioners and entrepreneurs who use messaging apps and the technologists who develop them understand the following:

1. how and to what effect messaging apps have been used for development;
2. the circumstances and use cases where messaging apps have been most effective for development across different sectors, regions, and organizations; and
3. how messaging apps can be improved and made more effective for development.

The publications cover a diverse range of initiatives implemented by advocacy groups in Latin America and South Asia, social enterprises in Africa, private development firms in Central Asia, global multilaterals, and more. While the results of each case vary, they make clear that messaging apps have the potential to help development organizations inform, influence, support, and understand their audiences in new and powerful ways.

However, as outlined in the white paper and exemplified in this case study, realizing this potential depends not on the apps themselves, but on adaptive, user-centric project design and dedicated human, financial, and technical resources. In determining whether and how to use messaging apps, organizations must consider their audience, goals, and capacity, and select the channels or app that is most appropriate, rather than what is easiest or cheapest to implement.

1 Nov 23, 2015, Stephanie Newman, "The Messaging Phenomenon Has Hardly Begun", Medium.

Food Bot and the AIDA Chatbot Builder

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SUMMARY

The mobile Vulnerability Analysis and Mapping (mVAM) project was designed to both collect data from World Food Programme (WFP) beneficiaries and share critical information with them. Since its inception in 2013, mVAM has developed SMS, interactive voice response (IVR), and computer assisted telephone interviewing (CATI) techniques to allow WFP country teams to provide beneficiaries with access to free information, collect feedback, and monitor food security and nutrition trends. In 2016, mVAM engaged nonprofit technical partner InSTEDD to begin experimenting with chatbots as an additional channel for exchanging information with beneficiaries. The mVAM chatbot concept would undergo multiple iterations but eventually become known as the Food Bot, the underlying structure of which InSTEDD planned to create as an open-source tool that would benefit the entire humanitarian community.

While early experimentation in 2016 began with a prototype built on Telegram, mVAM and InSTEDD quickly shifted to working with Facebook Messenger after a site visit in Kenya found few beneficiaries were familiar with Telegram. In March 2017, mVAM and InSTEDD both sought and received funding from the Cisco Foundation to continue developing the mVAM Food Bot concept in three countries as the basis for a more generic open-source humanitarian chatbot tool. Yet by mid-2017, the two partner organizations had concluded that a single generic Food Bot would be insufficient to meet WFP's diverse needs and decentralized structures. Users in different countries—both beneficiaries and country teams—accessed messaging applications in unique ways and had different information and communication needs.

What mVAM really needed, and what InSTEDD viewed as even more valuable across the humanitarian field, was a web platform on which humanitarian teams could quickly and easily build and deploy their own custom chatbots with little in-house programming or IT skills. Together, mVAM and InSTEDD committed to developing, deploying and ultimately opening a chatbot builder platform designed specifically for the humanitarian sector called AIDA. As the co-designer of AIDA, mVAM would become its first major user, enabling each of its country offices to develop their own chatbot tools in local languages and to align with their local food security needs and initiatives. In late 2017, InSTEDD began developing AIDA, with plans to refine it after mVAM had deployed across multiple countries in 2018, then release the platform as an open-source tool at the end of the year.

Key Lessons

During mVAM and InSTEDD's preliminary user testing in Kenya, Nigeria and Haiti, a number of key lessons emerged regarding the deployment of chatbots for development:

1. Simplify questions and replace jargon with slang and colloquial language to make users feel they are talking to an actual person and not a robot.
2. Make the user experience more intuitive for people with low digital literacy.
3. Ensure that the chatbot understands user misspellings.
4. Develop a chatbot that consumes as little data as possible and works on Facebook Messenger Lite and on all internet-enabled phones.
5. Consider that chatbots may be most useful for the transmission of non-sensitive data.
6. Follow the "security by design" principle to ensure data security and privacy (e.g., through encryption and account permission settings).
7. If a project works across various countries, ensure that each country is able to collect data through a chatbot that is useful in their own local context.

BACKGROUND

Goals and Origins

WFP's Food Security Analysis unit, commonly referred to as the Vulnerability Analysis and Mapping (VAM) team, is responsible for conducting food security assessments and analyses in more than 80 food insecure countries where WFP operates. These include Comprehensive Food Security and Vulnerability Analysis (CFSVA) and baseline food security and household vulnerability surveys. In rapid and slow-onset emergencies such as hurricanes, floods, droughts and conflict situations, VAM also conducts Emergency Food Security Assessments (EFSA).

Going Digital

In 2013, the VAM unit created the mVAM team, designed to provide VAM with alternative tools to collect data remotely. Using short SMS surveys, live phone interviews, online surveys and IVR systems, mVAM tracks food security and vulnerability among beneficiaries. The resulting data is then cleaned, anonymized and analyzed in order to make food security trend data and analysis available for WFP's programmatic decision making as well as to the public. mVAM also seeks to make critical information available to its beneficiaries free of charge. Using IVR and free websites (Facebook Free Basics platform where available), beneficiaries can access information about food prices and WFP services such as food distribution dates and location, as well as provide feedback to WFP, all for free.

Expanding to Messaging Apps

In 2016, the mVAM team decided to experiment with incorporating messaging applications and chatbots as yet another channel for beneficiary engagement and information exchange. mVAM conceived of the Food Bot as an addition to the team's toolbox of mobile communication tools for food security analysis. Across WFP's beneficiary countries, mVAM had observed the growing popularity and accessibility of messaging applications, particularly among young people. Engagement with them via a chatbot would be cheaper for WFP than SMS or phone calls, and while mVAM had historically developed one SMS or voice system for collecting information and another for beneficiaries to access information, chatbots would enable both through a single channel and user interface.

Moreover, a messaging chatbot would allow WFP and its beneficiaries to exchange far richer and more dynamic information than other channels, and mVAM expected that a chatbot would greatly increase WFP's speed and responsiveness. Beneficiaries would be able to send long complex sentences, photos, voice notes and geolocation tags, all of which were impossible with phone calls, SMS and IVR. mVAM also saw an opportunity to better integrate real-time data, so that users could query WFP's food price databases and immediately receive the most updated information. This would be a significant improvement on the IVR and SMS systems, which previously responded with static pricing data updated weekly at most. Lastly, mVAM expected that messaging applications could eventually overtake SMS and voice as the most commonly used mobile communication channels among WFP beneficiaries. Experimentation with chatbots and messaging applications was, therefore, seen as a timely investment in the future.

To pursue its vision for a Food Bot, in early 2016 mVAM engaged InSTEDD, a technology nonprofit and founding partner of mVAM, which had repeatedly deployed mVAM's IVR and SMS platforms across multiple countries. InSTEDD's mission is to design and develop new, unique, open-source technology to meet social-sector needs. Having already begun internally experimenting with chatbot technology, InSTEDD saw the mVAM partnership as an opportunity to develop the initial architecture for a more broadly applicable tool—a chatbot for humanitarian response.

IMPLEMENTATION

Prototyping with Telegram

When mVAM approached InSTEDD about building a Food Bot, InSTEDD suggested that the first prototype be built on the Telegram application, which had an easy-to-use, open API. Prototype development for the Food Bot began in June 2016 by trying to replicate the same services mVAM offered through SMS and IVR. This meant that beneficiaries with Telegram would receive periodic one-to-one messages from the Food Bot, consisting of an invitation to take a survey. If they responded affirmatively, they would receive a survey with several questions about their food security and livelihoods. Users would also be able to use the Food Bot to query a database and automatically find local food price data at any time. Initial testing of these two use cases was conducted with WFP staff in Rome and InSTEDD staff in the United States.

In August 2016, mVAM gathered feedback from users more closely resembling actual WFP beneficiaries, turning locally to Rome's refugee population, which had expanded significantly following conflicts in Africa and the Middle East. The mVAM team held a focus group discussion at a migrant center in Rome to collect user experience feedback on the Food Bot prototype and how it might be useful in the refugees' home countries. Participants were first asked about smartphone ownership and use in their home countries. They reported that smartphone ownership and usage is very common in their communities. The participants were then asked to test the Telegram Food Bot prototype on their phones, first answering a survey and then trying the food price database. They provided a range of feedback, with recommendations to:

1. Simplify questions and replace WFP jargon with slang and colloquial language to make users feel they are talking to an actual person rather than a robot.
2. Make the user experience more intuitive for people with low digital literacy.
3. Ensure that the chatbot understood user misspellings, which were very common.
4. Make the food price information specific to the user's local context so that users could use it to locate the lowest prices.
5. Use a different messaging application, because few people in their countries use Telegram.

Hackathon

In January 2017, to generate new insights and develop some of the necessary upgrades identified by the focus group participants, mVAM turned to Nielsen, a global information and measurement company that has long provided WFP with skilled volunteers and in-kind technology and development input. To help upgrade the mVAM Telegram chatbot, Nielsen organized a 24-hour public hackathon in New York, which attracted developers, students, volunteer hackers and Nielsen staff. The hackathon participants first brainstormed a series of critical upgrades in direct response to the feedback from refugees, then divided into teams to build out the new components in real time.

While the Food Bot still had a number of technical bugs after the hackathon, it was more sophisticated, leading InSTEDD to incorporate several new components using Chatfuel, a commercial chatbot platform.

The new components included multiple gateways to different messaging applications, including Facebook Messenger; natural language processing capabilities to manage misspellings; and reporting and data visualization features so that mVAM analysts could view survey results. As part of the event, the mVAM team and participants also engaged with Alex Lazarescu of Chatbots Magazine, who recommended focusing on content, such as onboarding messages to clarify what the Food Bot was for and options for users to chat with a human if they became stuck.

Testing with Beneficiaries

In early 2017, the mVAM team visited Haiti, Kenya and Nigeria to test the new Food Bot in the field. mVAM assembled focus groups and conducted in-depth interviews with community leaders, women and youth, finding quickly that even in hard-to-reach communities, community leaders and young people owned smartphones and were connected to the internet. Across all three countries, it was clear that Facebook Messenger and WhatsApp were the most popular messaging tools, especially for young people and community leaders. With this in mind, mVAM had participants test the new Facebook Messenger version of the Food Bot (facilitated through Chatfuel).

While the majority of users described the Facebook version as a convenient, quick and easy way to get in touch with WFP directly, it did not function well on Facebook Messenger Lite or on the web browser version of Facebook Messenger. This was because Chatfuel relied on Facebook Messenger features that were specific to the Facebook Messenger mobile application and, therefore, not available to those accessing the service through other means. This was problematic for the many beneficiary users who relied on Facebook Messenger Lite and logins via their mobile web browser in order save money on data.

Testing with Country Offices

In March 2017, mVAM and InSTEDD received funding from the Cisco Foundation to continue developing the mVAM Food Bot concept in the three test countries. The intent remained for the Food Bot to form the basis for a more generic open-source humanitarian chatbot tool. After making upgrades during the summer, the mVAM team returned to Kenya in September to conduct further research and testing. These second visits were used to engage with WFP's country teams about how a Food Bot could best provide value and help meet local needs.

The team also focused on content development, working with small groups of refugees to better understand how they would interact with the tool, and what type of information they might seek or provide. To do so, mVAM and InSTEDD used a rapid prototyping technique to effectively simulate the experience of interacting with a chatbot. Group participants were asked to visit a Facebook page and start a conversation with the Food Bot, but what appeared to be a bot was actually WFP and InSTEDD staff members manually responding to the messages with predetermined responses. These conversation transcripts were then used to help optimize the Food Bot's content, response handling, conversation flows and tone.

WHAT WORKED, WHAT DIDN'T AND WHY

mVAM's continuous and iterative user engagement, testing and research in the field during its initial Food Bot development revealed a wide range of complex challenges related to the diversity of contexts in which WFP works. These challenges ultimately highlighted that a single, globally available mVAM chatbot was not the correct solution and instead a flexible chatbot builder would be best.

Challenges and Limitations

Phone access: In the 25-year-old Kakuma Refugee Camp in Kenya, where many residents were born and raised, 90 percent of households had access to either a basic mobile phone or smartphone, and internet was available in some locations. Phones were considered by most residents as critical for communicating with friends and family in their home country. Conversely, in the newer nearby refugee settlement of Kalobeyei, which houses new arrivals, less than 20 percent of households had a phone. Charging was difficult and expensive in Kalobeyei, and while many young people claimed to have Facebook accounts, few could access them as they had not yet obtained a Kenyan SIM card and struggled to do so without the proper identification.

Connectivity and affordability: In all contexts, the Food Bot was found to be responsive on 3G networks and even on some slower 2G connections. However, in Kenya and Nigeria, most refugees and internally displaced persons (IDPs)

struggled to pay for mobile internet data due to their limited earning capacity, which made it more difficult to engage in lengthy or consistent conversations via Facebook Messenger. In Haiti, where there is a lot of competition between mobile operators, the cost of mobile data bundles was relatively lower, making it possible for most of the community leaders to consistently access internet on their smartphones.

Messenger access: As a result of the high cost of mobile data, mVAM found that Nigerian IDPs and Kenyan refugees accessed Facebook Messenger in different ways. While some used the regular Facebook application, others used the Facebook Messenger Lite mobile application or the Facebook website on their mobile web browser in order to use less data. This created problems for mVAM's initial Food Bot design, as different access points for Facebook Messenger support different sets of features. For example, for those using their mobile web browser and Facebook Messenger Lite, multiple choice buttons did not appear within the chat dialog box. For a single, generic WFP chatbot to be viable, mVAM would have to use the bare minimum of user interface features.

Language: In Haiti, the Food Bot was made available in French and Creole. In Maiduguri, Nigeria, it was first demoed in English, but the young Nigerian users overwhelmingly requested it be translated to Hausa, the most common local language. In Kakuma, the mVAM team anticipated that most people would require translations in Somali and Dinka, the most common languages among Somali and South Sudanese refugees. However, interviews with young refugees revealed that most of them had been born in the camp and preferred English or Swahili. These language preferences highlighted the need for the Food Bot to communicate in different languages.

Utility for users: The focus groups revealed that young displaced people in Nigeria were most interested in having the chatbot be a new, more efficient way to access information about WFP programs and services as opposed to posters, hotlines, help desks and loudspeakers. In Kenya, on the other hand, young refugees were most interested in a chatbot as a direct line to WFP for providing feedback and complaints. Outside the refugee and IDP context, users in Haiti struggled to get value from the Food Bot, interacting as if it were a human and getting stuck quickly when the chatbot could not understand their conversational inputs. This highlighted to mVAM the importance of clearly conveying from the beginning what a chatbot can and cannot do, possibly through offline sensitization campaigns. In all of the focus groups, the Food Bot's utility was seen as limited to nonsensitive topics, as users and WFP staff agreed it could not be trusted as the right communication channel to ask sensitive questions.

In addition to this diverse array of needs and challenges among beneficiary users, mVAM discovered that each WFP country office also had vastly different needs and expectations for a chatbot, which reflected their different programmatic goals and contexts. In Kenya, the country office wanted a new way for beneficiaries to submit feedback and complaints to WFP about its services. In Nigeria, the team felt a chatbot would be most useful for collecting price information from traders.

Unforeseen Opportunities

In September 2017, following its user research sessions, mVAM and InSTEDD discussed their findings to determine the way forward. The teams mapped all possible functions and applications for a Food Bot, attempting to identify priorities for each country office. They ultimately decided to switch directions. Rather than develop a single chatbot on a commercial platform designed to serve both internal users (country offices) and external users (beneficiaries), they decided to build AIDA, a web platform to allow WFP's different country teams to develop their own chatbots, customized to their local context. Just as with the original Food Bot concept, mVAM would serve as AIDA's co-designer and first core user. The team would help WFP deploy the platform across multiple countries in 2018. InSTEDD would then refine and ultimately release AIDA as an open source tool at the end of the year, in keeping with the funding mandate from Cisco Foundation and InSTEDD's mission.

Based on user testing, mVAM and InSTEDD were convinced that to be effective, AIDA should not require any in-house programming by WFP's country teams, which like most humanitarian country teams rarely had such capacity. This immediately eliminated most commercial chatbot platforms such as Chatfuel, which would have required too much coding for WFP country offices to be able to customize their own chatbots. mVAM also concluded that a commercial platform could not provide the data security required to protect vulnerable beneficiaries, nor were they optimized to provide consistent user experiences across Facebook Messenger Lite, the Facebook Messenger application and the Facebook platform accessed via a web browser.

Thus, with the original Cisco Foundation funding and additional support from the Korea International Cooperation Agency (KOICA), mVAM and InSTEDD set to work in October 2017 to design AIDA, with a first round of development ending in February 2018. As with the original Food Bot concept, AIDA is still intended to enable data collection as well as provide information about WFP programs, food prices, weather, nutrition and disease prevention. AIDA's first iteration will integrate with Facebook Messenger, with the idea of later integrating gateways to other messaging applications.

Each country office team, and eventually any humanitarian team from any organization, will be able to use AIDA to create a local Facebook page on which they directly activate their Facebook Messenger chatbot. On AIDA, teams will then be able to create custom conversation flows, keyword, surveys and scheduled messaging, all in whatever local languages they choose.

Why user testing led mVAM to develop a chatbot builder platform	
Beneficiary Users • Beneficiary users have different information needs and language preferences in different locations. Creating multiple chatbots would allow WFP to better target beneficiaries' needs. • Commercial chatbot platforms could not facilitate consistent UX for those accessing Facebook Messenger through different portals (Messenger App, Messenger Lite and the Facebook platform) in order to save data costs.	**WFP Users** • Different programmatic priorities • Different beneficiary user needs • Little to no programming capacity
Pivot: Build a new web platform where country teams can quickly deploy their own custom chatbots.	

NEXT STEPS

As of March 2018, InSTEDD and WFP had developed a working AIDA prototype for testing in Kenya and Nigeria. Following this preliminary testing, additional features will be added and testing expanded to new countries and contexts. During this second stage of testing, mVAM will test the platform's flexibility to allow country teams in more drastically different contexts to rapidly create and deploy a chatbot.

By late 2018, InSTEDD expects that AIDA will be flexible enough to support the needs of different WFP offices, but mVAM still anticipates an extended period of hands-on support. With this in mind, in 2018 every WFP country office that wishes to use the early version of the platform will be asked to identify one focal point to receive training and sustained support from the mVAM team in Rome. mVAM will produce public user manuals, instructional YouTube videos and live webinars on the use of AIDA, all of which will be made public and open-source alongside the AIDA code base by the end of the year.

During 2018, mVAM planned to evaluate the Facebook Messenger chatbots built on AIDA by measuring engagement, retention and churn rates across different country teams, as well as the number of contacts and the level of satisfaction among users in different countries. In the longer term, InSTEDD planned to expand AIDA to integrate with a variety of messaging applications. Both mVAM and InSTEDD are hopeful that this will include WhatsApp. As of March 2018, WhatsApp did not have a publicly available API to enable integration with other platforms like AIDA, but was actively piloting an enterprise solution with select organizations, including MomConnect, a public health platform in South Africa.

In addition to multiple gateways, mVAM and InSTEDD hope eventually to enable AIDA to deliver more than just automated, structured conversations and incorporate technology using natural language processing. While in 2017 InSTEDD had begun testing wit.ai, a natural language processing product that can support Swahili, many of the other local languages spoken by WFP beneficiaries were not supported by existing artificial intelligence products.

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ABOUT ECHO MOBILE

Echo Mobile is a Kenyan technology and service provider that helps organizations across Africa succeed by engaging, influencing, and understanding their target audiences. Echo provides organizations with a powerful software-as-a-service platform for communications and information management, as well as strategic consulting and implementation services. www.echomobile.org

ABOUT DIAL

The Digital Impact Alliance (DIAL) aims to realize a more inclusive digital society in emerging markets, in which all women, men and children benefit from life-enhancing, mobile-based digital services. A partnership among USAID, the Bill & Melinda Gates Foundation, the Swedish Government and the United Nations Foundation, DIAL's efforts help accelerate the collective efforts of government, industry and development organizations to realize this vision. http://www.digitalimpactalliance.org

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1. This case study and five others like it, which provide focused analyses of organizations that have deployed messaging apps for development;
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These publications are based on over 50 interviews with development practitioners, digital development experts, technology providers, and entrepreneurs. They are free for download and discussion at www.messengers.digitalimpactalliance.org. This website is designed to help both the development practitioners and entrepreneurs who use messaging apps and the technologists who develop them understand the following:

1. how and to what effect messaging apps have been used for development;
2. the circumstances and use cases where messaging apps have been most effective for development across different sectors, regions, and organizations; and
3. how messaging apps can be improved and made more effective for development.

The publications cover a diverse range of initiatives implemented by advocacy groups in Latin America and South Asia, social enterprises in Africa, private development firms in Central Asia, global multilaterals, and more. While the results of each case vary, they make clear that messaging apps have the potential to help development organizations inform, influence, support, and understand their audiences in new and powerful ways.

However, as outlined in the white paper and exemplified in this case study, realizing this potential depends not on the apps themselves, but on adaptive, user-centric project design and dedicated human, financial, and technical resources. In determining whether and how to use messaging apps, organizations must consider their audience, goals, and capacity, and select the channels or app that is most appropriate, rather than what is easiest or cheapest to implement.

1 Nov 23, 2015, Stephanie Newman, "The Messaging Phenomenon Has Hardly Begun", Medium.

MomConnect, Praekelt Foundation

Contents

SUMMARY

Developed in South Africa by the Praekelt Foundation in 2013, MomConnect was designed to provide pregnant women and new mothers with access to critical health information via their mobile phones. Now an official South African Department of Health (DoH) program, MomConnect seeks to improve public health outcomes, services and systems by driving utilization of clinics and generating performance data for public health officials and providers. User registration for MomConnect is conducted exclusively via USSD, and information is provided through USSD, SMS and IVR (interactive voice response). Since 2016, MomConnect services have also been available via messaging applications.

After limited success experimenting with WeChat and Facebook Messenger, Praekelt partnered with WhatsApp in 2017 to pilot API-level integration of their services with WhatsApp servers, enabling MomConnect to communicate at scale with WhatsApp users. At the end of 2017, new MomConnect registrants were given the option of using WhatsApp as their preferred channel for exchanging messages and receiving health information. Entering 2018, only 1 percent of MomConnect users were using WhatsApp for messaging and engagement, but that small user segment represented 50 percent of the program's total messaging traffic across all channels. As of March 2018, the WhatsApp integration that Praekelt used for MomConnect was not yet publicly available.

According to Praekelt, the WhatsApp integration quickly improved the efficiency and effectiveness of communication between MomConnect nurses and users. Compared with SMS, WhatsApp provides a rich conversational experience, including the ability to send informative images and short audio clips that can be replayed and revisited by recipients. WhatsApp has announced plans to eventually charge organizations for integrating with WhatsApp, but as of March 2018, the company had not announced pricing details. While pricing may impact the longer-term viability of WhatsApp for MomConnect, plans and new funding are in place to expand its use and test new content and chatbot applications.

Key Lessons

1. End-to-end encryption of WhatsApp conversations makes it a viable messaging app solution for organizations transacting sensitive information, but also requires substantial in-house hardware and significant technical capacity.
2. WhatsApp provides a rich conversational experience due to the ability to send informative images and short audio clips that can be replayed and revisited by recipients.
3. In the future, if WhatsApp charges organizations for service integration, the cost of conversations via WhatsApp may become prohibitively expensive.

BACKGROUND

Goals and Origins

MomConnect was originally part of the Mobile Alliance for Maternal Action (MAMA), a partnership between USAID, Johnson & Johnson, the UN Foundation and BabyCenter. From 2011 to 2015, MAMA supported programs in Bangladesh, India and Nigeria, all designed to reduce maternal and child deaths by delivering health information to women's mobile phones during pregnancy and one year after giving birth. MAMA engaged Praekelt and the Vodafone Foundation to build the MAMA South Africa program based on the two organizations' successful co-creation of an SMS-based HIV/AIDS awareness and behavior change program.

Praekelt and Vodafone first piloted their MAMA South Africa platform in 2013. Initially, women could register via USSD to receive free, automated SMS tips and reminders to guide them through their pregnancies and the first year of their child's life. They could also access a help desk , where they could ask questions via SMS and receive guidance from trained nurses. In the first pilot year, more than 400,000 women registered for the two services. In 2014, when the DoH sought to launch its own national mobile maternal health service, it engaged MAMA and negotiated to transition the Praekelt-built platform to public funding and rebrand it as MomConnect.

Public Transition and Digital Expansion

Under DoH, MomConnect was integrated within the broader public health system and aligned with efforts to increase utilization of public clinics and improve the quality of their services. By 2018, MomConnect was connected to 95 percent of health clinics across South Africa. Patients coming into the clinics who are not already registered with the service are now encouraged and helped to sign up. Users also receive scheduled notifications promoting specific clinical services based on the stage of their pregnancy and after receiving those services are prompted to provide feedback and rate the quality of care received. Info Guides have also been added and made available via USSD and IVR as a means to help users research the answers to common questions. Unlike the SMS notifications, the Info Guides are not based on the stage of the user's pregnancy or motherhood. Instead, users browse various topic menus and choose to have certain content sent to them via SMS.

Expanding to Messaging Apps

In 2016, after two years of sustained growth to more than 1 million users, Praekelt began to experiment with providing MomConnect services via messaging applications in addition to its popular SMS, USSD and IVR channels. Messaging apps presented an opportunity to expand impact by reducing MomConnect's messaging costs and improving help desk efficiency with faster responses and richer, more powerful multimedia content. Praekelt experimented with integrating WeChat first, based on their experience using the WeChat API for other projects and its flexibility in allowing users to build custom UIs that function as mini-apps. However, WeChat was not widely used in South Africa at the time, and marketing for the app was being conducted exclusively through a premium television provider that had a minority stake in Tencent, WeChat's parent company. As a result, most of those using the app fell outside MomConnect's low-income target demographic.

Integrating with Facebook Messenger presented additional challenges. MomConnect users register with a phone number via USSD, but most Facebook Messenger accounts don't have associated phone numbers. This makes it difficult for MomConnect to automatically look up and connect Facebook Messenger accounts to its users' MomConnect accounts. Usage of Facebook outside of urban areas in South Africa was also still low in 2016.

Moreover, Praekelt felt that Facebook's data privacy policies were insufficient to protect the type of sensitive data that was being exchanged via MomConnect. Specifically, the developers feared that the policies made it possible for Facebook to mine its messaging content for advertising purposes. As an extreme example, they felt that this would theoretically enable Facebook to push advertising to users based on whether or not they had asked about the implications of breastfeeding while HIV positive. Finally, South African law requires all unencrypted, personally identifiable data to be hosted in the country by the organization that collected it, which would be impossible in the case of MomConnect data exchanged through Facebook Messenger.

Having faced these limitations with Facebook Messenger and WeChat, in 2017 Praekelt turned to WhatsApp, which offered the widespread use and privacy protections that MomConnect required. WhatsApp accounts are identified by phone numbers, making it easy to link them to MomConnect accounts. And while WhatsApp lacked a public API for integration, Praekelt was invited to participate in a private program to pilot WhatsApp's unreleased server-to-server integration.[1] As of September 2017, all new MomConnect registrations were given the option of using WhatsApp as their preferred medium for receiving information and engaging the help desk.

1 "Building for People and Now Businesses", WhatsApp Blog, 5 September 2015, https://blog.whatsapp.com/10000633/Building-for-People-and-Now-Businesses.

IMPLEMENTATION

User Outreach and Registration

MomConnect's adoption strategy reflects the DoH's desire to draw expectant and new mothers into local clinics. The program is advertised publicly across a variety of traditional and digital media, with calls to action for women to pre-register by dialing a USSD code from their phone. Women can also be pre-registered by a community health worker (CHW) who dials a different USSD code that is not publicly advertised and enters the phone number of the new user into the USSD menu. In both cases, Praekelt elected to limit registration through USSD only, because it remains nearly universal across the country. WhatsApp, while widespread, is less commonly used in rural areas and by CHWs. These initial USSD pre-registration processes sign women up for a small set of messages about the MomConnect service, as well as information about pregnancy and motherhood. Messages about the service encourage pre-registered users to go to their local clinic for care and get registered for the full MomConnect service.

Women cannot self-register for the full service without visiting a clinic. When a pregnant woman enters a clinic for the first time, whether pre-registered or not, nurses and other clinic representatives complete the full registration process by dialing another non-publicized USSD code. Much like the pre-registration process through CHWs, the USSD menu prompts the nurse or clinic representative to enter the new user's phone number, but it also requests a unique code to identify the registering clinic. This links the user's account to a specific clinic or health care provider.

The link between users and their clinics allows the DoH to solicit and receive feedback and complaints from users and aggregate performance data by clinic, district and province. One day after a woman is fully registered by a clinic, she receives an SMS or WhatsApp message requesting feedback about the service she received. This recurs at various points in each user's journey with the MomConnect system. Over time, user ratings contribute to a Net Promoter Score and offer real-time insight on clinical performance for decision-makers, which are made accessible via integrated control interfaces and dashboards on the backend of the MomConnect system.

The full registration process asks nurses and clinic representatives to enter the new user's national ID number, her gestation period and personal health risks, all for electronic medical record-keeping. This information is also used by the MomConnect system to personalize and automate messaging schedules and content sent to each user via SMS, and now WhatsApp, based on the specific stage of their pregnancy. Stage-based messages include guidance on nutrition, hygiene, childcare and immunizations and are offered in all of South Africa's 11 official languages.

Help Desk

While MomConnect's stage-based messages (delivered via WhatsApp or SMS, depending on user preference) are automated and based on user information, and Info Guides host general static information, the MomConnect help desk is operated by trained nurses who respond in real time to individual user questions and feedback. Registered users can submit messages to the help desk at any time via SMS, voice calls and WhatsApp. Incoming text-based messages are received by MomConnect's central system, which is built on UNICEF's CasePro communications platform.

Whether via SMS or WhatsApp, incoming messages are presented in the same web interface, where the nurses monitoring the system tag each message and most often select a pre-prepared response. This tagging and response selection process then feeds into real-time national and clinic-level analytics on the type, timing, location and frequency of different queries, which then feed into the DoH interface. This process is in some cases assisted, though never fully automated, by natural language understanding (NLU). In some cases, the system will use NLU to tag incoming queries, but this tag "screen pops" to a human operator, who ensures the tagging is accurate and selects the best response. Praekelt calls this the "chat-NLU assist," as the algorithm aids human response and the human response choice further strengthens the algorithm.

WhatsApp Integration

While the WhatsApp API was not yet public as of March 2018, and Praekelt was under a nondisclosure agreement in regards to many of its specifics, the organization notes that the integration is substantially more technically complicated than that of Facebook Messenger and Telegram. Based on discussions with Praekelt, this may be because WhatsApp requires that all data be protected by end-to-end encryption, which means it can only be unencrypted on hardware running WhatsApp-provided software hosted in house.

Managing the infrastructure required to integrate with WhatsApp servers and maintain its requirements for end-to-end encryption is more complex than connecting to an API and requires significant technical capacity (specifically, the skills to set up and orchestrate a number of containerized services provided by WhatsApp). Praekelt was in a unique position to meet these requirements and complete the integration. Because of the highly sensitive and public-sector nature of the data exchanged on MomConnect, Praekelt was already running its own data center for MomConnect on site and in South Africa, which has Africa's strongest hosting infrastructure and where legislation requires that all personally identifiable data sits with the host. Moreover, MomConnect was also already a national scale system that had been designed to withstand unreliable infrastructure.

WHAT WORKED, WHAT DIDN'T AND WHY

Successes

Entering 2018, MomConnect was serving 1.8 million active users across all of its channels and services. The WhatsApp integration had been operational for just four months and had only been made available to new registrants, not users who had registered prior to September. Even with these restrictions, as of October 2017, roughly 180,000 MomConnect users had selected WhatsApp as their preferred communication channel. This group, amounting to 1.12 percent of total users, was driving 50 percent of messaging traffic across all channels.

Discussing preliminary results of the WhatsApp integration in October 2017, Praekelt's founder, Gustav Praekelt, said: "WhatsApp has killed all others in terms of efficacy." He also noted that the DoH and WhatsApp integration had provided the possibility of eventually communicating with all antenatal and maternal health patients across South Africa.

Challenges and Limitations

Technical Requirements

Praekelt warns that orchestrating and running the infrastructure necessary for integrating with WhatsApp requires familiarity with underlying technologies that are costly and likely beyond the capacity of most organizations in the social sector. Even for organizations that maintain in-house engineering capacity for application or website development, integration with WhatsApp would be extremely challenging. Regardless of personnel, integration also requires expensive and complex hardware on site and capable hosting infrastructure within the country where the organization is building its WhatsApp integration.

Cost of WhatsApp Integration

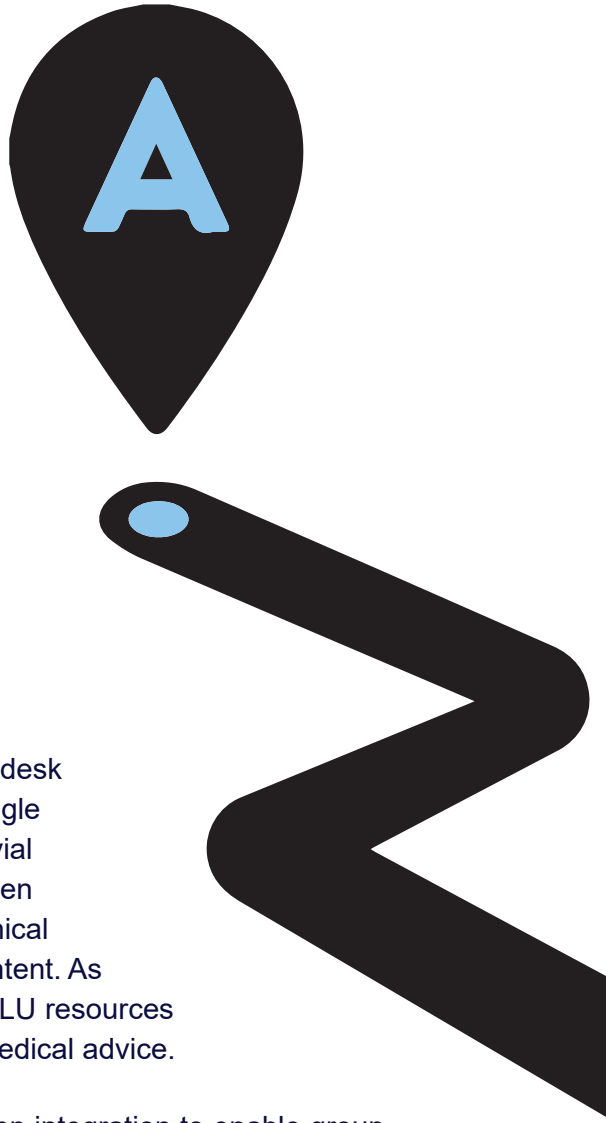
As of March 2018, WhatsApp had not announced specific plans for publicly releasing an enterprise solution to allow other organizations to integrate with WhatsApp. The company had also not yet released details on how such a solution would be monetized, but made clear that businesses would be charged in the future.[2] Without firm pricing, Praekelt was unsure of its longer-term viability as a MomConnect communications channel. While Praekelt was confident that WhatsApp will not charge individual users to send messages, WhatsApp may charge the receiving organization for integration and possibly per message fees. Furthermore users will still often need to purchase a mobile data package to connect to the internet, which can be prohibitively expensive for low-income users.

2 "WhatsApp announces free Business app, will charge big enterprises," Tech Crunch, 5 September 2017, https://techcrunch.com/2017/09/05/whatsapp-business-app/

Since activating its WhatsApp integration, MomConnect has observed that as of March 2018, 60 percent of its new users have WhatsApp accounts, but only 20 percent of them had selected WhatsApp as their preferred channel for help desk communication and staged messaging. The majority had chosen SMS. To determine why so many users had chosen what seems like an inferior technology for communication, MomConnect followed up with all new users who chose SMS over Whatsapp and found that 90 percent had done so because of the data costs required for using WhatsApp. Many noted that they did not always have mobile data on their phones because they could not always afford it, while SMS exchanges with MomConnect are free and thus always available.

SMS exchanges with MomConnect are free for users because they are “zero-rated” by the mobile networks in South Africa, something that cannot be done with WhatsApp because of the application’s end-to-end encryption. Zero-rating allows certain organizations like Praekelt and DoH to pay for incoming messages so that the senders don’t have to, allowing others to send SMS messages to them for free. For unencrypted messaging applications, the same is theoretically possible, as networks can allow the organizational sender or recipient of a message to be billed for the data costs of the other party. However, this flagging of messages for a different billing attribute requires the networks to know exactly who the sender and recipient of the messages are. With WhatsApp, end-to-end encryption prevents networks from having this level of insight, and thus from providing zero-rating. Mobile networks can either make WhatsApp data zero-rated (free) for all users or for no users, but it cannot do so only for some users, as with SMS.

NEXT STEPS



While the initial WhatsApp integration pilot quickly improved MomConnect's efficiency and effectiveness, entering 2018 Praekelt notes that longer-term viability will depend on WhatsApp's final commercial pricing structure, which has not yet been released. Nevertheless, Praekelt has plans and new funding in place to test multimedia and other behavior change content and techniques via WhatsApp. Praekelt believes that in the long term, MomConnect will form the basis of a national electronic medical records (EMR) system, providing continuous feedback for both patients and health providers. As a first step, the Bill & Melinda Gates Foundation and others provided funding in late 2017 to test the MomConnect model with other health issues using extensive A/B testing of content, techniques, channels and incentives. This will include enabling audio and imagery submissions to the help desk via WhatsApp and comparative analysis of help desk traffic and user behaviors based on whether the messages are managed by a human or a bot.

Praekelt has approached any transition to a fully automated help desk with extreme caution. Users often submit multiple queries in a single message to the help desk, especially through WhatsApp, mixing trivial issues with complex clinical ones and in multiple vernaculars. Even chatbots designed to respond to simple queries and escalate clinical questions to human nurses would have to reliably parse this user content. As of 2018, Praekelt believed that the existing public and commercial NLU resources were a long way off from alleviating the risks of providing incorrect medical advice.

As of early 2018, the prospect of leveraging MomConnect's WhatsApp integration to enable group chats is more promising. Praekelt sees the likely first step as attempting to connect groups of women who are at the same stage of their pregnancies and using the same clinic, building on observations and anecdotes that this was already happening organically outside of MomConnect. However, as with chatbots, this shift brings considerable ethical concerns. Specifically, Praekelt has had to consider the impact of users disclosing sensitive health information (such as HIV status) about themselves or others that could lead to personal harm and/or legal consequences for MomConnect.

In the immediate term, Praekelt is working to expand the MomConnect model to service caregivers with Nurse Connect, which as of early 2018 was already supporting 20,000 nurses across South Africa. Rather than medical advice, Nurse Connect provides training messages and psychosocial support via a help desk. Praekelt believes Facebook Messenger may hold more promise for this use case, as nurses are already effectively registered with the DoH and may be easier to first engage with Facebook Messenger and then convert to other channels

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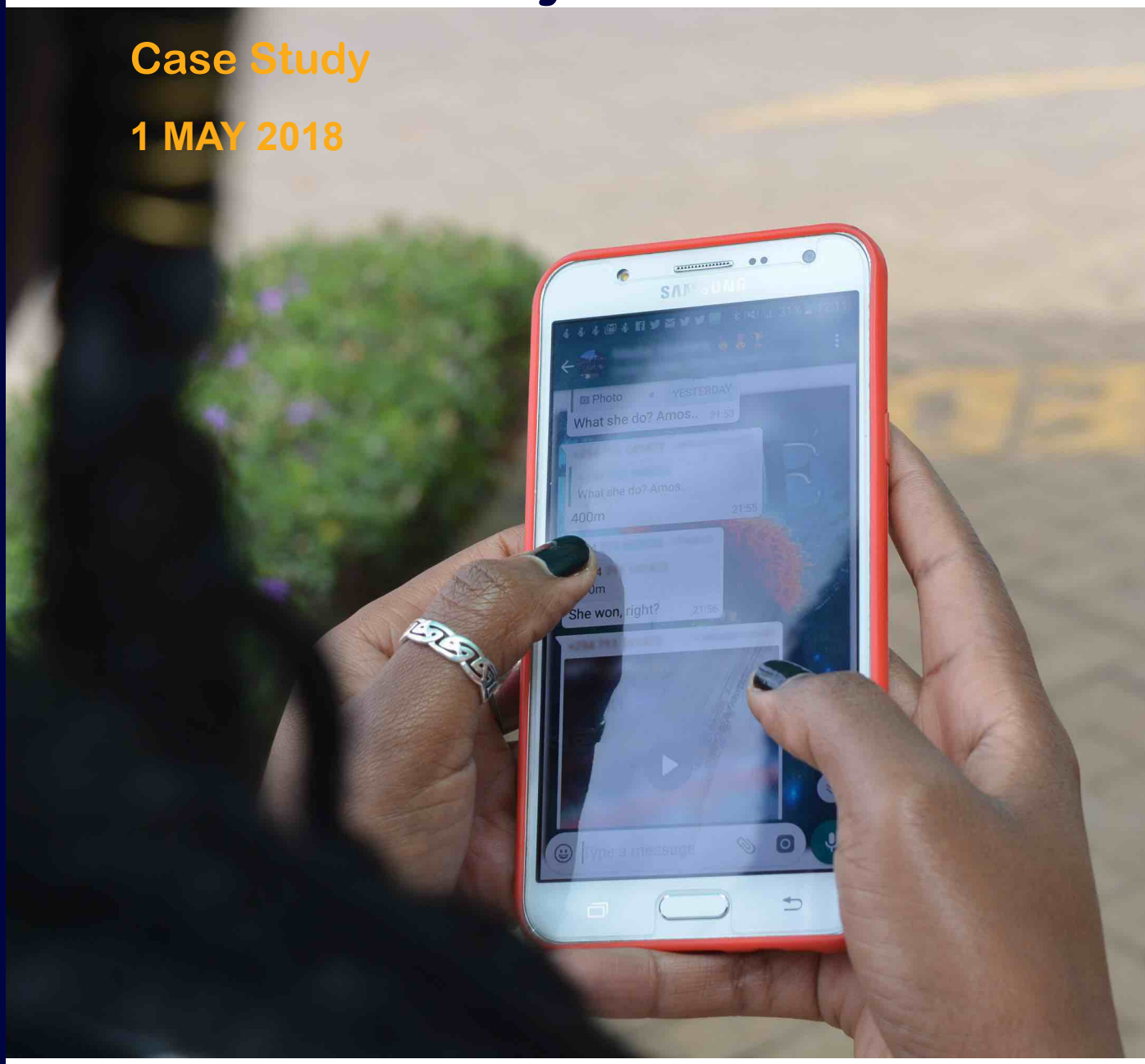
Digital Impact Alliance

Well Told Story

Case Study

1 MAY 2018



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Well Told Story

Contents

SUMMARY

Well Told Story (WTS) is a Nairobi based research and media company that produces Shujaaz, a youth media initiative that combines a comic book with radio and YouTube programs and on-the-ground events. Shujaaz revolves around young, authentic fictional characters and real-life role models who surface sensitive issues to help youth improve their lives. Fans then engage with the characters and issues through toll-free SMS, WhatsApp and social media, including character Facebook pages and Facebook Messenger accounts, all of which are used to generate research insights and drive collective behavior change through discussions. Since 2010, Shujaaz has generated hundreds of thousands of monthly engagements, which can be attributed to the following key successes:

1. Relevant content: To stay appealing and relevant to young people, Shujaaz constantly produces new targeted content in local languages and slang that is based on rigorous research. By first focusing on understanding and producing content, WTS is able to generate and sustain engagement on messaging apps and social media.
2. Dedicated team: WTS maintains a Shujaaz Social Media Team dedicated to starting, promoting and moderating online conversations among Shujaaz fans in conjunction with programming and campaigns, while also actively responding to fans' questions and referring them to online and offline resources. The WTS Knowledge and Learning Team then monitors and analyzes fan behavior and conversations to generate insights for future programming and on behalf of development and commercial partners.
3. Diversity of communication channels: By connecting fans with fictional characters and each other in person and through messaging apps, social media and SMS, Shujaaz enables nearly all of its fans to engage, regardless of access to the internet.
4. Complementary applications: Shujaaz uses multiple apps and platforms in complementary ways that reflect their particular design and how they are used by Kenyan youth:
   - Facebook pages can have unlimited followers and are used to recruit fans for smaller events and group chats.
   - Pages integration with Facebook Messenger allows interested fans to respond to those opportunities and to engage Shujaaz characters about their private experiences with sensitive issues raised on the page, which WTS can then share anonymously on its pages for collective discussion and resolution.
   - Kenyan youth tend not to use Facebook Messenger for group chats, preferring WhatsApp, which Shujaaz has used to gather like-minded fans for focused discussions. Shujaaz fans also create their own WhatsApp chat groups and add Shujaaz characters. Facebook Messenger prevents this, because the characters' accounts are linked to Facebook pages, not personal profiles.

WTS has also encountered challenges and opportunities, especially with WhatsApp:

1. When WTS first used WhatsApp, some fans began using it to send nude photos and other inappropriate content to the fictional Shujaaz characters. This created ethical challenges for WTS, but was ultimately resolved by other fans, who began applying social pressure and effectively policing content within Shujaaz chat groups.
2. WTS cannot access WhatsApp messaging content or data, making it difficult to analyze, which has resulted in a preference for SMS and Facebook. The team hopes WhatsApp for Business will provide access to new APIs or analytics features.
3. Over time, the number of WhatsApp chat groups began to exceed WTS' capacity to manage them. Yet fans began to create and lead their own WhatsApp chat groups. WTS refocused on using Facebook and Facebook Messenger.

BACKGROUND

Goals and Origins

Well Told Story's mission is to leverage the power of storytelling to create shared social and economic value for young Africans and the commercial and philanthropic organizations that serve them. The concept emerged from Kenya's 2007 election violence, which significantly impacted many dispossessed young people. Since its founding, WTS' largest and most successful initiative has been Shujaaz, a two-time Emmy Award-winning youth communications initiative. Shujaaz was created in Kenya and began with a free monthly comic book distributed nationally. As the comic's distribution grew, the platform expanded rapidly to nationally syndicated radio programs, movies, social media, YouTube shows and live events, all intended to provide young people with access to ideas, information, opportunities and inspiration to improve their lives.

Across its many channels, Shujaaz relies on fictional characters and real-life role models to surface sensitive issues among fans as part of focused research, education and communication campaigns, supported by organizations like the Bill & Melinda Gates Foundation, Google, Coca-Cola, and Marie Stopes. Campaign topics include promoting sexual and reproductive health, enhancing perceptions of agriculture, stopping tobacco use, and understanding youth engagement with governance. To build trust among youth audiences and generate conversations around these issues, Shujaaz characters are extremely authentic. This was achieved in part by producing all content in Sheng, a uniquely Kenyan, constantly evolving, contemporary youth slang that combines English, Swahili. and tribal languages. Shujaaz was the first youth media platform to exclusively produce in Sheng.

As Shujaaz's popularity with Kenyan youth expanded rapidly, in 2013 WTS integrated a research function into its business, blending a variety of quantitative and qualitative research methodologies to generate nuanced insights from its large following. Those insights have contributed to the creation of subsequent Shujaaz partner campaigns. Drawing on this extensive media production and research experience, WTS now offers strategic communications consulting services to commercial, philanthropic and development organizations across 13 African countries. In 2015, the company expanded its production business to Tanzania with a new set of Tanzanian characters and content in Tanzanian Swahili. By the end of the year, more than 2.3 million Shujaaz comics were in circulation in Tanzania, and Shujaaz had a growing national radio audience.

Going Digital

Since its conception, WTS has sought to buck traditional one-way media and ensure that fans can engage in conversation, both with Shujaaz characters and each other. WTS's founder and CEO came up with this idea during his travels across Kenya in 2010, when he was testing an early version of the comic book. He would repeatedly observe youth in one part of the country struggling with a specific social or professional problem and then encounter another group across the country that had found an innovative solution to the same challenge. In response, WTS sought to complement its comic book, radio and television channels with a public space to curate conversations among fans from across Kenya.

Social media was identified as the ideal medium to create this space, so Shujaaz developed substantial Twitter, Instagram and Facebook followings. Facebook was the first and remains the core social media platform for Shujazz. According to WTS' Head of Knowledge and Learning, there was "no other tool that could be used for [the] same purpose with the same effectiveness" as Facebook. This was in part due to Facebook's established popularity among Kenyan youth, which was unmatched by the other online platforms. Facebook also made it easy for WTS to freely create public Facebook pages on behalf of its branded Shujaaz, which allowed an unlimited number of followers to find and engage each other continuously and publically.

Shujaaz's first Facebook page in 2010 was created for the platform's lead character, DJ Boyie (DJ B), a 19-year-old Sheng-speaking pirate radio DJ. DJ B headlines Shujaaz's comics and radio programs, where he narrates his adventures with other characters and real-life role models and their experiences with different issues, and then encourages fans to engage and share their own stories with him on Facebook. The WTS Social Media Team eventually added more Facebook pages for other Shujaaz characters, and by 2018 managed seven Facebook pages, each targeting different youth demographics. A female character named Malkia, for example, receives most of her engagement from young girls ages 15-19. The four-person team manages and monitors the pages, posting and commenting in character in order to stimulate and guide conversations in keeping with different campaigns and research objectives.

Shujaaz's Facebook following grew every year after 2010, with DJ B's Facebook page reaching more than 567,000 followers in 2017. Yet even as the 2015 release of Facebook Lite has enabled more Kenyans to access Facebook at lower costs, and Kenyan smartphone prices have continued to fall, internet access has remained limited for the majority of Shujaaz fans. Not wanting to leave fans in rural areas and urban slums out of the conversation, in 2012 WTS began using Echo Mobile to engage with fans via a toll-free SMS shortcode. WTS puts the shortcode prominently at the end of each comic book story, encouraging fans to send SMS messages to the code in order to engage DJ B, who also promotes the code regularly on his radio programs and posts the code to his Facebook and other social media platforms.

Fans who find the code through Shujaaz media can then send free open-ended messages to the shortcode to engage DJ B in conversation with questions or concerns about core issues. When anyone sends an SMS to the WTS shortcode, their number and all subsequent messages are captured and stored on the Echo platform to create an increasingly robust and intelligent profile for them. The Shujaaz team monitors incoming, open-ended messages through the Echo platform's live inbox feed, and at predetermined times each day uses the platform to manually send responses, as one might on Twitter.

At other times, Shujaaz uses its different media channels to promote a keyword related to an ongoing campaign topic. Fans who send an SMS message with the keyword to a shortcode get a structured conversational survey, and their responses are stored in their profiles and in downloadable data sets. The data collected for each fan later enables WTS to send more surveys and notifications to fans within select demographic or interest groups, based on their prior survey responses. Both the shortcode and Facebook are now promoted across all of Shujaaz media. Entering 2018, toll-free SMS remained Shujaaz's most frequently used channel, with nearly 600,000 fans sending more than 90,000 monthly SMS messages in Tanzania and Kenya.

This continuous, large-scale fan engagement is seen as essential to the WTS mission. According to WTS' Head of Knowledge and Learning, "collective discussions lead to collective beliefs, which lead to collective behavior changes." It has also enabled WTS to constantly generate new data by monitoring fan behavior and proactively reaching out to its SMS contact and Facebook friend databases to conduct online or SMS-based polls, arrange in-person focus groups, and apply other qualitative and quantitative research methods. From this continuous data stream, the WTS Knowledge and Learning Team generates insights that inform future behavior change strategies and programming while providing direct value for partners.

Expanding to Messaging Apps

Facebook Messenger

The Shujaaz social media strategy has always been to encourage group discussion, but from the outset, the team encountered Facebook followers who did not wish to share their personal experiences about sensitive topics in a public space where their name was visible. WTS began using Facebook Messenger as a means to communicate with these fans one-on-one, much like the SMS shortcode. Followers of DJ B's Facebook page would sometimes contact the character privately through Facebook Messenger and describe their personal challenges.

As Shujaaz's Facebook following grew, Facebook Messenger was also adopted as a means to privately reach out to particularly active fans, either to request their participation in an online public discussion or their attendance at a Shujaaz in-person event. As research initiatives expanded with Shujaaz's growing Facebook following, the Facebook pages also became valuable for issuing public calls for fans from particular communities or demographics to participate in focus groups and surveys. Fans who were qualified for and interested in a particular study were asked to contact WTS via Facebook Messenger for further details.

WTS did not and has never attempted to manage smaller group chats within Facebook, preferring to designate Facebook as a platform for large, public group dialog and Facebook Messenger as an outlet for private outreach. This was not a formal decision, but was based on how young Kenyans, including the Shujaaz staff, were accustomed to using Facebook. According to the Shujaaz team, most fans and staff used the Facebook application, which did not enable access to Facebook Messenger. They did not use the Facebook messaging applications, making it a far-less appealing space for group discussions and one that was much less familiar to most young Kenyans. None of the Shujaaz staff ever considered facilitating group chats via Facebook Messenger, and many did not know that the application even enabled group chats.

WhatsApp

After several years, as both the Facebook Messenger and WhatsApp applications skyrocketed in popularity, WTS began to explore the possibility of engaging fans in smaller group discussions. WhatsApp quickly emerged as Kenya's most popular application and thus the most efficient way to connect with certain segments of the youth population. Additionally, WTS found that it was the app most commonly used for group chats. In 2015, WTS created its first WhatsApp chat group, ostensibly administered by DJ B, as a way to observe if and how Shujaaz fans engaged with DJ B and each other differently in a smaller group chat setting and to test different research techniques within these smaller groups.

While the first chat group was generic in its focus, it was extremely successful at attracting fans, sustaining engagement and testing small group research approaches. Later in the year, Shujaaz began creating thematic WhatsApp chat groups for specific segments of Shujaaz fans. These small groups also proved valuable for research, which led WTS in 2016 to create seperate WhatsApp chat groups to conduct structured focus group discussions. At the same time, the Shujaaz team began a new initiative to convene its audience at small, in-person events focusing on different inspirational themes. Over time, as the number and size of events increased, so did the number of WhatsApp chat groups, with many more started and managed by fans themselves, with DJ B added as a member.

IMPLEMENTATION

All Shujaaz communications on Facebook Messenger and WhatsApp are managed by the Shujaaz Social Media Team. The Social Media Team Leader develops strategy in collaboration with the Knowledge and Learning Team and manages three additional social media staff who create, monitor and engage in the different forums. The Social Media Team carefully manages and controls access to all the Shujaaz social media and messaging accounts in order to ensure the consistency of DJ B and other characters' voices. One staff member has the sole responsibility for the DJ B WhatsApp account and all the chat groups that DJ B administers or is a member of, while other team members have responsibility for different characters' Facebook pages and related Facebook Messenger conversations.

Broadly, the Social Media Team's mandate is to innovate and experiment with different approaches to stimulating and sustaining high levels of fan engagement, which contributes to research and campaign goals. The team meets weekly to strategize and plan for engaging target fan segments on active campaign issues across different social media and messenger forums. This includes planning specific Facebook page posts and WhatsApp chat group topics, designing new WhatsApp focus groups, and using Facebook pages and Messenger to generate interest in upcoming events.

The Social Media Team's coordinates closely with the Knowledge and Learning Team, which provides input on content design and helps define quantitative targets for Facebook page likes, comments and posts, as well as for SMS campaign engagement. These large-scale, one-to-many communication initiatives are the first priority for Shujaaz monitoring, evaluation and learning efforts because of WTS' focus on broad, normative change. This is partly the reason that neither team systematically tracks engagement on WhatsApp chat groups or one-to-one fan chats on Facebook Messenger, but they do collaborate to define qualitative goals and success targets for their messenger efforts.

One-on-One Fan Support and Recruitment

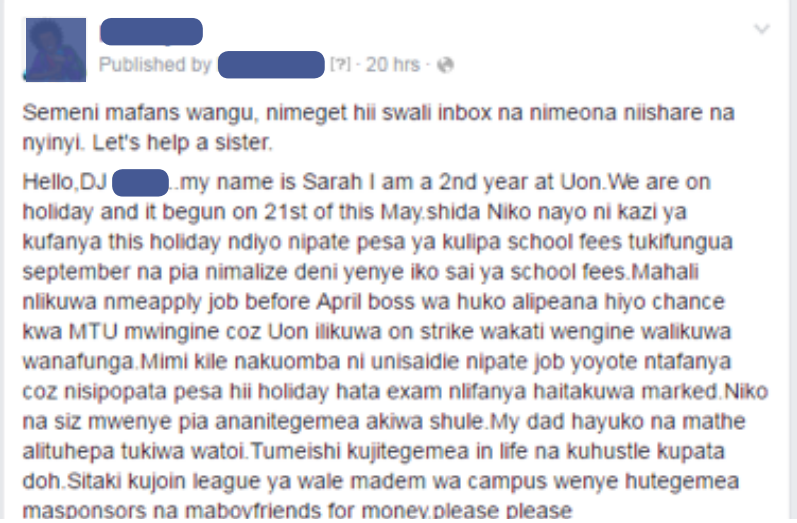
The Social Media Team's most frequent fan engagements via Facebook Messenger are reactive to incoming direct messages from followers of one of the Shujaaz character's Facebook pages. These messages arrive in the pages' inbox, where the Social Media Team, as administrators of the page, can respond from DJ B. The nature of incoming messages vary, but most often contain a request for assistance with a particular challenge facing the fan and which the fan is too shy or embarrassed to post publicly. A team member will respond directly to the fan via Facebook Messenger in the voice of the page's character. Responses are designed to provide direct support. When fans disclose an immediate crisis or sensitive problem, such as a mental health issue, the team is trained to link them directly to preferred counseling and support partners.

Sometimes, the team member managing the Facebook Messenger conversation will ask the fan permission to post an anonymized description of the situation on the character's Facebook page in order to generate public discussion and support. The fan can then observe and benefit from group dialogue about the case without disclosing their identity. Other fans can provide assistance, while also becoming aware of the challenges facing their fellow fans, challenges that they themselves might also be struggling with. WTS believes that the public discussion of a familiar story may spark others to seek help, either publicly or privately, while building awareness and providing a human side to the issue.

Facebook Messenger Support Case

In 2017, the Shujaaz Social Media Team was monitoring the DJ B Facebook page when a fan sent a direct message to DJ B via Facebook Messenger. The message came from a young woman who had lost her job and had been desperately looking for work with little success. She had been accepted at a university, but the school had been severely damaged by student riots and her admission had been put on hold. The young woman was a single mother and growing desperate for work, confessing to DJ B that she was considering prostitution as a means to support herself and her child. She had come to him as a last hope, she explained, begging for help so she could remain a respectful and proud mother and good role model.

Responding as DJ B, the Shujaaz team member told the woman that he wanted to help and thought that the other fans would too. He asked if he could post her story to his Facebook page, without mentioning her name. The fan consented, and the post was made, detailing the woman's story and asking fellow fans to provide support and suggestions.

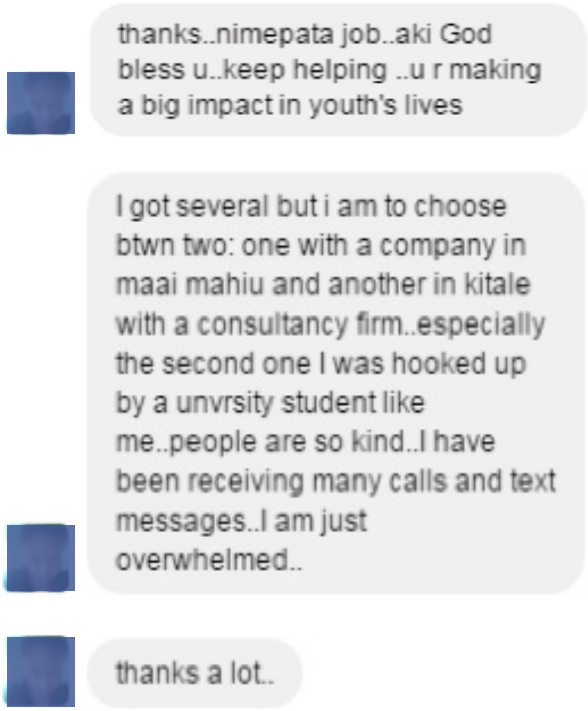

Published by [?] · 20 hrs ·

Semeni mafans wangu, nimeget hii swali inbox na nimeona niishare na nyinyi. Let's help a sister.

Hello,DJ .my name is Sarah I am a 2nd year at Uon.We are on holiday and it begun on 21st of this May.shida Niko nayo ni kazi ya kufanya this holiday ndiyo nipate pesa ya kulipa school fees tukifungua september na pia nimalize deni yenye iko sai ya school fees.Mahali nlikuwa nmeapply job before April boss wa huko alipeana hiyo chance kwa MTU mwingine coz Uon ilikuwa on strike wakati wengine walikuwa wanafunga.Mimi kile nakuomba ni unisaidie nipate job yoyote ntafanya coz nisipopata pesa hii holiday hata exam nlifanya haitakuwa marked.Niko na siz mwenye pia ananitegemea akiwa shule.My dad hayuko na mathe alituhepa tukiwa watoi.Tumeishi kujitegemea in life na kuhustle kupata doh.Sitaki kujoin league ya wale madem wa campus wenye hutegemea masponsors na mabovfriends for money please please

Within hours, other fans were commenting with messages of sympathy, support, advice and job opportunities that they were aware of or offering. Eventually, the young woman responded to the public Facebook thread and acknowledged her identity before following up with other fans directly via Facebook Messenger.

Through follow-up with other fans on Facebook, she was eventually offered multiple job opportunities, which she wrote about to DJ B via Facebook Messenger thanking him.



In addition to responding to fan inquiries, in 2016 the WTS Social Media Team began using Facebook Messenger to proactively reach out to fans who engage actively on the Facebook page. This individual outreach was intended to drive behavior change organically by inspiring fans to take a leadership role and initiate Facebook page conversations, without the public intervention of fictional characters. The team would engage only when requested. The team refers to this approach as "putting fans front and center," with the characters stepping back and merely supporting the dialogue rather than leading it.

DJ B's WhatsApp Chat Group

In 2015, a member of the Shujaaz Social Media Team proposed starting a WhatsApp chat group on behalf of DJ B, open to all Shujaaz fans and addressing all topics. To do so, the team procured a dedicated mobile phone and SIM card, which effectively became DJ B's phone. Since that time, this one phone, phone number and WhatsApp account have been solely managed by a single team member, who administers the DJ B WhatsApp chat group and all subsequent Shujaaz chat groups via the WhatsApp desktop app. If other Shujaaz staff are interested in using the WhatsApp chat groups for any purpose or creating new groups, the dedicated team member must be consulted and implement the engagement directly.

Because of the team's existing use of Facebook Messenger as a one-to-one tool and because of its integration with Shujaaz's broader Facebook following, the decision was made early on to use WhatsApp almost exclusively for group chats. The manager of the DJ B WhatsApp account thus put a block on all incoming calls and SMS messages to the DJ B phone and has ignored all incoming WhatsApp calls and most direct messages from fans, focusing all engagement on chat groups. This reflected how young Kenyans were using the two messaging apps in 2015. Most Shujaaz fans and staff did not use Facebook Messenger for group chats and many were not even aware that it was possible.

Even if they had wanted to create Facebook Messenger chat groups on behalf of DJ B, it would not have been possible. Administrators of Facebook pages such as DJ B's can only initiate Facebook Messenger chats by responding directly to a follower's comment on the Facebook page or to a direct message sent to the page's dedicated inbox. In both cases, additional followers cannot be added to the chat, preventing group chats. While individual Facebook users can create Facebook Messenger chat groups, only other individual profiles can be added to the group, and not pages such as DJ B's.

The team did use Facebook pages and Facebook Messenger to funnel fans to DJ B's WhatsApp chat groups. They posted DJ B's WhatsApp account number on his Facebook page and noted that he had started a WhatsApp chat group. Some fans quickly began sending WhatsApp messages to the DJ B WhatsApp account, requesting to be added to the group, while others reached out on Facebook Messenger to share their phone numbers and request joining the group. At the time, WhatsApp chat groups were restricted to a maximum of 100 users, a limit that the DJ B chat group quickly hit just before the limit was increased to 256 in 2016. The group's membership eventually grew to hit that limit as well, where it has remained as fans come and go from the group. While DJ B's WhatsApp chat group maintained a general focus, with fans able to raise new topics for discussion and pose questions, the team regularly initiated discussions and shared targeted media related to a specific campaign or research topic.

Realizing it had a captive and engaged group of fans in a smaller group setting, the team also saw an opportunity to experiment with new research techniques. The first was related to an ongoing anti-tobacco campaign funded by the Bill & Melinda Gates Foundation, intended to understand youth perceptions of

smoking and then stop them before they started. The challenge was that research indicated that warning young people about the dangers of smoking had the opposite effect, instead influencing them to rebel and try it. To measure perceptions, WTS took an indirect approach, posing casual questions within the WhatsApp group, such as, “What’s the worst thing an ex has ever done?” and listing a range of offenses, such as cheating and smoking. Or DJ B would ask fans their opinions about different celebrities and role models, some of whom were known smokers, and observed to see if fans referenced smoking in relation to their admiration.

While these techniques could also have been tested on DJ B’s Facebook page, the scale of his Facebook following, in the hundreds of thousands by 2015, would have made it more challenging to track fan engagement. This challenge would have been exacerbated by the Facebook page user interface, with allows for multiple posts at once, each of which generate their own thread of comments underneath the post. WhatsApp chat groups, on the other hand, have a simple conversational format in which all messages appear chronologically, enabling more manageable and focused discussions.

Thematic WhatsApp Chat Groups

With DJ B’s original general chat group reaching the size limit and following the success of the WhatsApp research experiments, the Social Media Team decided in late 2015 to have DJ B create more WhatsApp chat groups with focused themes for specific audiences. Early thematic chat groups included a group for fans in agriculture and a group about “hustling,” where fans tested and marketed their businesses and entrepreneurial ideas.

To generate engagement in the WhatsApp chat groups, the team used the same outreach approach as with the first chat group—promoting them on Shujaaz Facebook pages and then adding fans based on direct messages received via WhatsApp and Facebook Messenger. If a fan requested being added to a group via Facebook Messenger, the WTS team member managing the conversation would then ask for the fan’s phone number, add the fan as a contact in the DJ B WhatsApp account and add the fan to the relevant chat group. The thematic WhatsApp chat groups filled up quickly and have sustained engagement ever since, setting the format for WTS’ expanded use of WhatsApp chat groups as a medium to connect fans with similar interests and experiences.

Event Planning and Follow-Up

In 2016, WTS expanded its use of WhatsApp chat groups by creating Shujaaz Konnect, a series of in-person events held around Kenya. The event series was intended to directly and personally engage Shujaaz fans and provide networking opportunities outside of the digital space through music, games, live speakers and discussions. Shujaaz Konnect emerged from a trial event called Hike for Love, held on Valentine’s Day 2016 and advertised via Shujaaz Facebook pages. About 80 fans gathered at Karura Forest in Nairobi for a hike and discussions about love and relationships. During the event, WTS staff promoted DJ B’s WhatsApp number and asked attendees for their phone numbers to ensure that the group could continue its discussions via WhatsApp. The Social Media Team then created a WhatsApp chat group, ostensibly administered by DJ B, and added event participants. Fans without smartphones were encouraged to chat with DJ B via the toll-free SMS shortcode.

The event and the subsequent WhatsApp engagement were successful enough to inspire further in-person connections, both between the Hike for Love participants and new groups of Shujaaz fans. Coordinating through the new event-based WhatsApp group, participants independently organized a volunteer trip to a children's home outside of Nairobi without any participation from WTS. When pictures from the Hike for Love event were posted to Shujaaz Facebook pages, large numbers of other fans from outside of Nairobi expressed their interest, and Shujaaz Konnect was born. Since mid-2016, WTS has held events across Kenya almost monthly, with up to 300 fans attending. Each event provides fan touchpoints with different Shujaaz campaigns. One of the most important was the governance campaign in the lead up to the 2017 Kenyan elections.

During and after each Shujaaz Konnect event, the Social Media Team created an event-specific WhatsApp chat group. The team found that fans then regularly started their own WhatsApp chat groups and added DJ B's number as a member. These WhatsApp chat groups are similar to WTS' own thematic groups, focusing on specific issues and goals. Rather than seek to control this fan initiative, the team decided to encourage what it calls "audience co-ownership" of its events and the resulting WhatsApp chat groups.

Digital Focus Groups

By 2017, the Shujaaz Social Media Team had established WhatsApp as a reliable tool for small fan chat groups focused on shared themes and experiences. Building on this success and that of early WhatsApp research experiments, the Knowledge and Learning Team began experimenting with focus group discussions conducted through WhatsApp. Since 2010, the Knowledge and Learning Team had used Shujaaz Facebook pages to recruit fans for in-person focus group discussions conducted around the country as part of different research campaigns on behalf of partners and clients. Having observed fan behavior in WhatsApp groups, the team saw an opportunity to reduce its costs and for the first time conduct virtual focus group discussions with mixed groups of fans from different regions.

Not wanting to disrupt the conversation flow of the thematic WhatsApp chat groups by intervening with research protocol and questions, the Knowledge and Learning Team sought instead to create its own WhatsApp chat groups designed specifically for focus group discussions. The team used the same approach for recruiting participants: posting calls for participants on DJ B's Facebook page and asking interested fans to contact him via Facebook Messenger or WhatsApp. Those deemed eligible to participate would then be added to a dedicated WhatsApp chat group administered by the DJ B WhatsApp account.

In order to adhere to research criteria, WTS follows a strict protocol for running focus group discussions on WhatsApp, ensuring that two members of the Knowledge and Learning Team are always added as co-administrators of each WhatsApp focus group. The researchers then ask a series of predetermined questions, while DJ B intervenes to encourage the participants to respond. At the end of a WhatsApp focus group discussion, the team takes screenshots of the entire conversation in order to record and analyze the content. The team has also sought out ways to download the conversation text, but without a WhatsApp API, they have not had success.

WHAT WORKED, WHAT DIDN'T AND WHY

Successes

By 2018, the Shujaaz platform had gained a major international following across its various digital and analog media channels. WTS reported that the platform had reached 2 million young people in Tanzania and more than 4 million in Kenya, including roughly 40 percent of all Kenyans ages 15-24.[1] On social media, the platform had more than 600,000 followers across its different Facebook pages, and in 2017 had inspired more than 106,000 comments and 653,400 reactions on DJ B's page alone. While WTS does not measure fan conversations on Facebook Messenger, the Social Media Team reports that engagement averages around 300 individual Facebook Messenger chats daily and spikes after major events or during campaigns being pushed on the Facebook pages.

WhatsApp engagement has remained similarly continuous, though also difficult to measure and dependent on WTS campaigns and research initiatives. Some event-based WhatsApp chat groups have died down as fans undertake their own groups with DJ B participating passively in about 12 of them. In 2018, the Social Media Team was actively administering roughly 20 of its own WhatsApp chat groups, including the original DJ B chat group and a range of thematic, events-based, and focus group chat groups. Within each of these 32 groups, membership ranges from 100 to 250 fans, and from 10 to 500 messages daily.

Shujaaz's success using messaging applications to engage its fans and achieve its campaign and research goals can be attributed both to specific features of the apps themselves and to Shujaaz's unique approach.

Dedicated Content and Personnel

Shujaaz is first and foremost a media initiative, dedicated to the production of timely, relevant and trusted content. This content, whether the Shujaaz comic book or DJ B's radio, television and YouTube programs, provides entertainment as well as educational, social and psychological value to Shujaaz's young fan base, which continues to grow as a result. The high quality of Shujaaz's content is due to the considerable resources that the company dedicates to research and production, which ensures it is responsive to real-time events and social issues and is presented in a way that is accessible and relatable. This continuous stream of high-quality, popular content is critical to generating fan engagement. Once fans do connect with Shujaaz, WTS has been extremely successful at sustaining their engagement, in large part because of its dedicated Social Media Team.

The Social Media Team's mandate is to sustain one-on-one and group conversations among fans in conjunction with ongoing programming and campaigns. In addition to strategically posting textual conversation prompts and sharing media for discussion on Facebook pages and WhatsApp chat groups, the team looks for its most actively engaged fans and privately contacts them to promote fan-driven dialog. Moreover, the team is committed to quickly responding to direct fan outreach. The team's responses are carefully considered in light of the context of the fan's outreach and the issue raised, and can lead to referrals to outside services. This commitment to responsiveness ensures that Shujaaz characters remain relatable and trusted so that fans feel connected to them.

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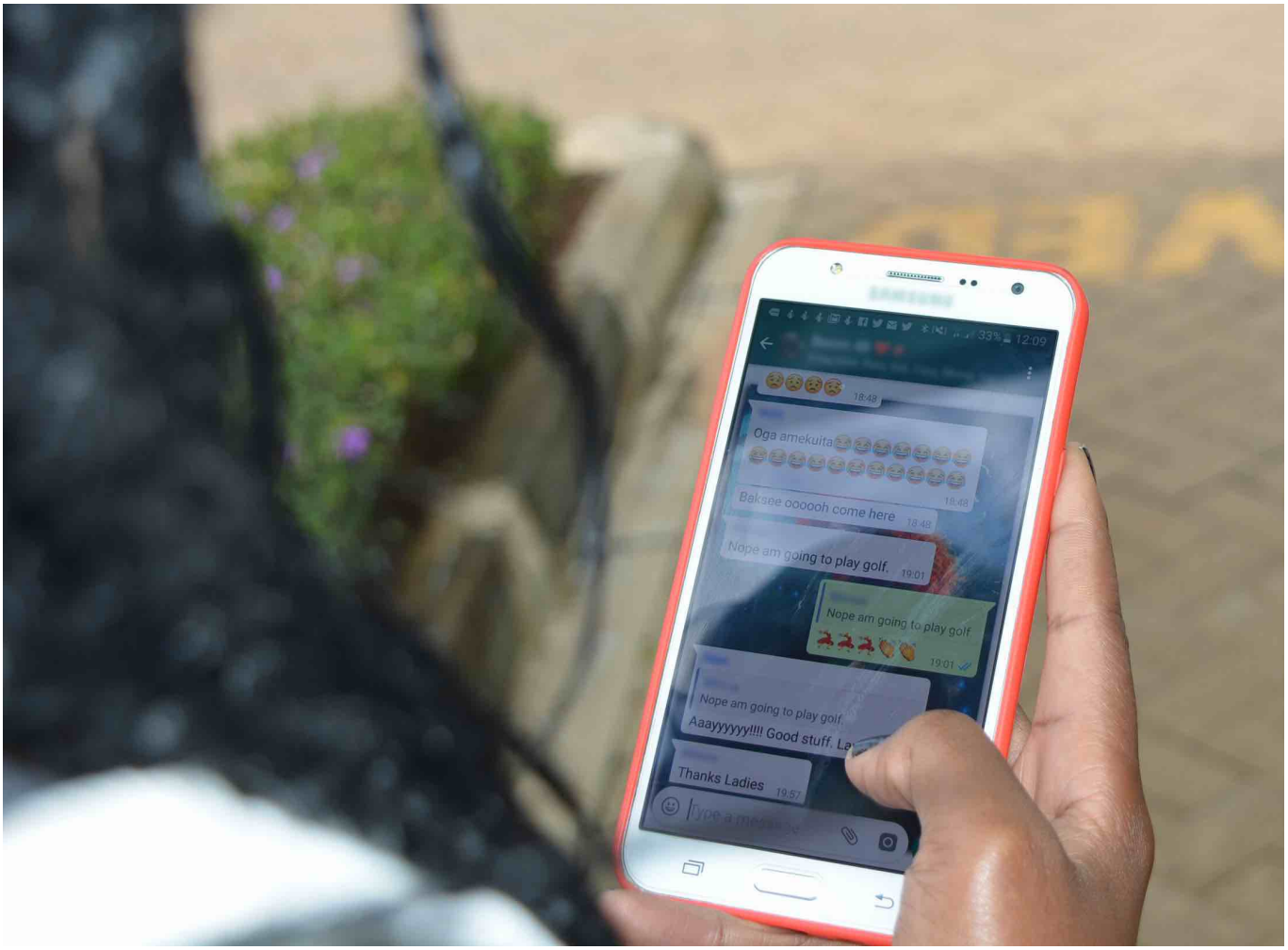
1 "A Creative Story That Turned Into Thriving Business." *East Africa Top 100, 27 Sept. 2016,* http://eastafricatop100.com/a-creative-story-that-turned-into-thriving-business/.

Facebook-Facebook Messenger Integration

The Shujaaz team sees two-way engagement as essential for driving, monitoring, evaluating and improving behavior change goals. Social media, notably Facebook pages, has been an essential component of this approach, allowing Shujaaz to build, engage and influence its fan base all in one place.Shujaaz Facebook pages also provide a means for direct fan engagement via Facebook Messenger, which comes as an integrated feature on all Facebook pages that can be enabled or disabled by page administrators. By enabling Facebook Messenger on its Facebook pages, the Shujaaz Social Media Team opened an additional channel for fans to message Shujaaz characters directly. In addition to engaging with large groups of other fans by commenting on and "liking" content on these pages, fans accessing the pages via Facebook's web and mobile user interfaces need only click on the "Message" button to engage in a one-on-one conversation with the character.

Fans using the Facebook Messenger mobile app can also search for Shujaaz characters by name and engage with them one-on-one, even without visiting the characters' Facebook page. This integration between Facebook Messenger and Facebook's social media platform has thus provided Shujaaz with unique flexibility in determining how to engage large segments of its fan base, without separately creating and managing accounts on different messenger and social media platforms and then working to drive adoption of both.



Multi-App Approach

WTS has used Facebook Messenger and WhatsApp to engage Shujaaz fans in distinctly different, yet complementary ways in order to meet different but related needs. This multi-messenger approach has capitalized on the distinctly different features and limitations of each messaging application:

Facebook	WhatsApp
• Facebook pages and conversations can reach enormous scale, allowing more than 600,000 Shujaaz fans to follow the Shujaaz character Facebook pages. WTS uses these pages to drive large-scale, public conversations and push large-scale, normative change. • Facebook and Facebook Messenger are more broadly accessible to Shujaaz fans, as they do not technically require the fan to have a smartphone and SIM card. Fans can log into their own accounts through friends' phones or via desktop computers at internet cafes. • Facebook Messenger's integration with pages allows WTS to engage individual followers in private, one-on-one conversations without changing platforms. These can be initiated by WTS in response to comments on DJ B's page or to direct messages sent to his inbox. Direct messaging on Facebook Messenger is used to complement WTS' larger behavior change efforts with personal guidance and anonymity. The one-on-one format also allows WTS to learn more about individual fans' backgrounds and funnel them to WhatsApp for smaller group conversations.	• WhatsApp is most valuable to WTS as a middle ground between one-on-one and large-scale public conversations. WhatsApp chat groups have a size limit of 256 members, forcing the WTS group admins to carefully define each chat group and its participants. This smaller group format aligns with the desire for narrowly focused conversations and targeted messaging, both for behavior change and research goals. Facebook Messenger does not allow Facebook pages such as DJ B's, to create group chats. • WhatsApp allows fans to easily create their own chat groups and for the WTS team to merely observe. While Facebook Messenger allows individual users to create group chats, accounts connected with a Facebook page cannot be added to them. This prevents Shujaaz fans from creating their own Facebook Messenger chat groups and adding DJ B, as they have been able to do on WhatsApp using DJ B's phone number from other groups. • Unlike Facebook pages and Messenger accounts, WhatsApp chat groups cannot be searched for by WhatsApp users nor accessed without being intentionally added by the WhatsApp chat group administrator. This enables WTS to keep its groups separate and distinct in order to hold focused conversations with carefully vetted and select groups. • For WhatsApp focus groups, the WTS team is able to add co-administrators from the Knowledge and Learning Team. Facebook Messenger chat groups are only allowed one admin.

This multi-app approach also benefits Shujaaz fans, who sometimes feel more comfortable in one-on-one conversations. Others enjoy group conversations, but find Facebook pages overwhelming and may prefer to engage only with fans who share similar issues, interests or experiences. For these fans, WhatsApp group chats meet their needs and enable them to remain engaged in the Shujaaz platform without forcing them to post a discussion topic on a Facebook page, only to have it become buried by a flurry of other more popular topics.

2 https://faq.whatsapp.com/en/android/23776567/?category=5245251

Unforeseen Opportunities

WTS' use of messaging applications has expanded and evolved alongside the growth of Shujaaz's fan base and the technology. WhatsApp was not initially considered as a communication channel, and the Knowledge and Learning Team did not originally consider conducting focus groups through WhatsApp. The Social Media Team did not initially view Facebook Messenger as a means to recruit different groups of fans for engagement in chat groups on other apps. The most recent unforeseen opportunity emerged from WTS' Shujaaz Konnect initiative, when fans began creating their own WhatsApp chat groups. Not only did this encourage "audience co-ownership," it helped address capacity constraints, since the Social Media Team was beginning to struggle to effectively administer dozens of different chat groups.

Challenges and Limitations

WTS has combined multiple messaging applications to leverage their respective strengths and overcome the limitations of each to achieve Shujaaz goals. Nevertheless, WTS teams continue to encounter challenges.

Inappropriate Content on WhatsApp

When the Social Media Team created the first WhatsApp chat group, some fan engagement created challenging ethical considerations for WTS. Both via direct messages and within the chat group, some fans sent romantic overtures to DJ B that included nude or sexual photos. Some used the group to try and hook up with other fans, while others engaged in heated arguments rarely seen on the DJ B Facebook page. This content, especially the nude photos, created a conundrum for WTS, which was striving to "be amongst the youth, rather than apart from them," according the company's Managing Director.

The company' success was based largely on the authenticity of its characters, which had presumably been developed so effectively that some fans had become romantically infatuated with them. At the same time, this need for authenticity made it unrealistic for DJ B to "wag his finger" at his peers in response to content that, were he a real person, he might be happy to receive. To break character and police this content would be to undermine his authenticity and impact, which made it highly risky for WTS to intervene and scold or stop fans.

Ultimately, the problem created by some fans was resolved by others. At some point, one of the fans reached out directly to DJ B, expressing her love of Shujaaz and dismay with the content and tone of the WhatsApp group. Seizing on the opportunity to rally like-minded fans, the Social media Team asked her if they could share her message with the WhatsApp chat group, without mentioning her by name. The fan consented, and when her concerns were aired to the group, a sizeable majority of other fans in the WhatsApp chat group came out in vocal support, scolding their peers for the inappropriate content to the point that it eventually stopped. The Shujaaz team was able to regain control of DJ B's WhatsApp chat group and focus the conversation back on issues related to its campaigns and programs.

Fan Motivation and Engagement with WhatsApp Focus Groups

The Knowledge and Learning Team's shift to digital focus groups has saved valuable time and resources. However, using WhatsApp chat groups as focus groups has presented some challenges. The Knowledge and Learning Team has struggled to sustain engagement with the more structured and research-oriented format, and despite carefully vetting participants, the team often discovers that the primary motivation for fans to join the focus groups is the opportunity to connect with DJ B. When recruiting for WhatsApp focus group participation via Facebook, fans regularly ask about DJ B's involvement and more easily agree to participate if the character is involved.

WhatsApp focus groups are carefully designed and must be led by the Knowledge and Learning Team. This differs dramatically from the other relatively open and unstructured Shujaaz chat groups, where characters are free to engage in whatever way makes sense to the Social Media Team. Without this freedom to engage with DJ B, focus group participation often fades when DJ B stops engaging. Therefore, the Social Media Team acting as DJ B is regularly required to encourage participants to answer questions accurately and thoughtfully.

When participants do engage, the Knowledge and Learning Team faces the challenge of having to keep the conversations on topic. In-person focus group discussions have a dedicated and clear moderator who is established as the group leader and thus prompts and manages conversations. Maintaining this authority and leadership in the digital format has proven more challenging, as there are fewer social barriers preventing participants from interjecting, interrupting and proposing new topics to steer the conversation away from the research topic. The WhatsApp focus groups also take significantly more time than if they were in person, as many fans come in and out of the conversation over several days, and usually only participate at night. Lastly, the Knowledge and Learning Team does not have the benefit of being able to read facial expressions, body language and other nonverbal cues.

WhatsApp Analytics

Because WhatsApp did not have an open API or analytics features as of early 2018, the Shujaaz teams struggled to track and analyze fan behavior within its WhatsApp chat groups. As a result, other than with the WhatsApp focus groups, which are specifically designed for research, the Shujaaz teams do not attempt to systematically track and analyze engagement or impact on WhatsApp. The WhatsApp chat groups are seen instead as a means for qualitative analysis and sharing of individual fan stories.

The Knowledge and Learning Team still endeavours to draw quantitative insights and conclusions from WhatsApp chat groups created for focus group discussions. However, this process is extremely inefficient without an analytics feature or a means to download the conversation text to other software where it can be sorted and analyzed by date. Unlike with in-person focus group discussions, the WhatsApp focus group conversations can span multiple days, with intermittent periods of silence and engagement. For effective quantitative analysis, they would require cleaning by the date and time the text was sent.

Were analysis possible in WhatsApp as it is in Facebook, or if downloading WhatsApp messages and metadata were possible as it is with the Echo Mobile SMS platform, the Knowledge and Learning Team would certainly scale its use of WhatsApp for research purposes. Instead, since 2014 the majority of

quantitative analysis has been conducted on Shujaaz SMS and Facebook data. Working with Cambridge University-affiliated Africa's Voices Foundation, WTS has combined machine learning and human analysis to generate critical insights and conclusions out of hundreds of thousands of SMS and Facebook interactions, which have provided direct value to WTS commercial and development partners and clients. The ability to generate these sorts of insights and value from SMS and Facebook engagements, and the challenges of doing so with WhatsApp, have led WTS to continue channeling more resources away from the latter.

Internet Access

Every year since WTS was founded, smartphone prices in Kenya and Tanzania have dropped while Facebook Lite and Free Basics have reduced the cost of data required to access the platform and Facebook Messenger. Nevertheless, in 2018 access to social media platforms and messaging applications remained limited in rural areas and urban slums. Thus, despite the scale and power of Shujaaz's Facebook pages, Facebook Messenger accounts and WhatsApp chat groups, most Shujaaz fans in these areas still lacked access to these media. As a result, toll-free SMS remained Shujaaz's most frequently used channel, with nearly 500,000 fans sending more than 90,000 monthly SMS messages in Kenya alone, and another 60,000 monthly SMS messages in Tanzania. Until the Shujaaz audience has 100 percent internet access, internet messaging applications will have to remain as complementary tools so as not to exclude these large audience segments without internet access.

Moreover, there is a considerable gender imbalance among Shujaaz's digital followers, which may result from broader inequities in internet access. Based on internal analysis by the Knowledge and Learning Team, WTS found in 2017 that 38 percent of Kenyan fans interacting via SMS and just 22 percent of fans on DJ B's Facebook page were female. WhatsApp gender statistics are not known due to the team's inability deploy and analyze structured surveys on WhatsApp. The team believes the imbalance likely reflects Kenyan cultural tendencies for parents to supervise young girls more closely than boys and the fact that DJ B is male.

Impact

The WTS Knowledge and Learning Team regularly seeks to evaluate the impact of different campaigns across different Shujaaz media, both as a means to compare and optimize its different approaches and in response to client and partner requests. While some impact evaluations and results remain internal, the company also works with Africa's Voices to produce broader learnings about youth trends and findings about effective approaches to behavior change.

Regression modeling from WTS' 2017 annual panel survey, done in collaboration with Tulane University, found that fans who had been exposed to Shujaaz digital content were associated with an 11.2 percentage point increase in condom use; a 16.0 percentage point increase in discussions about family planning; and a Ksh 1,747 (USD 17) increase in monthly income when compared to fans who only accessed Shujaaz analog content such as radio, comic books and events. WTS believes that this is due in part to the conversation, engagement, idea-sharing and peer-support facilitated across digital channels, which reinforce the exchange of ideas and increase their impact.

NEXT STEPS

Entering 2018, despite its success with WhatsApp, the Shujaaz Social Media Team was increasingly focusing its efforts on larger-scale, one-to-many communications to drive broad, normative change, namely the Shujaaz SMS shortcode, Facebook pages and Shujaaz Konnect events. This shift reflects a determination that the scale that these formats provide and the research value provided by Facebook's analytics outweigh the costs of any fans who lose interest in Shujaaz because of its lessened WhatsApp presence.

Yet while DJ B may become a less central figure in Shujaaz WhatsApp chat groups, the ease with which fans can add him to their own self-moderated groups means that WhatsApp will remain an important channel for fans to organize and increasingly lead dialog around campaign issues and for the Shujaaz team to maintain visibility within those conversations. The Knowledge and Learning Team also planned to continue experimenting with WhatsApp for research purposes. Both teams were hopeful to soon have access to the WhatsApp enterprise solution API or the Whatsapp Business App, and perhaps find new ways to efficiently scale and innovate with the messaging application in ways that would benefit both Shujaaz's engagement and research goals.

Enabling more balanced gender access to Shujaaz remained a priority for WTS in 2018, as the company continued working to target female fans with new female characters and focused events. To advance this effort, the Knowledge and Learning Team was focused on generating data on gender dynamics and demographics among fans across different Shujaaz media.

In the immediate term, Praekelt is working to expand the MomConnect model to service caregivers with Nurse Connect, which as of early 2018 was already supporting 20,000 nurses across South Africa. Rather than medical advice, Nurse Connect provides training messages and psychosocial support via a help desk. Praekelt believes Facebook Messenger may hold more promise for this use case, as nurses are already effectively registered with the DoH and may be easier to first engage with Facebook Messenger and then convert to other channels

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