



**mAgri Programme**  
Tigo Kilimo Update:  
Data and Insights from the Midline

MARCH 2015







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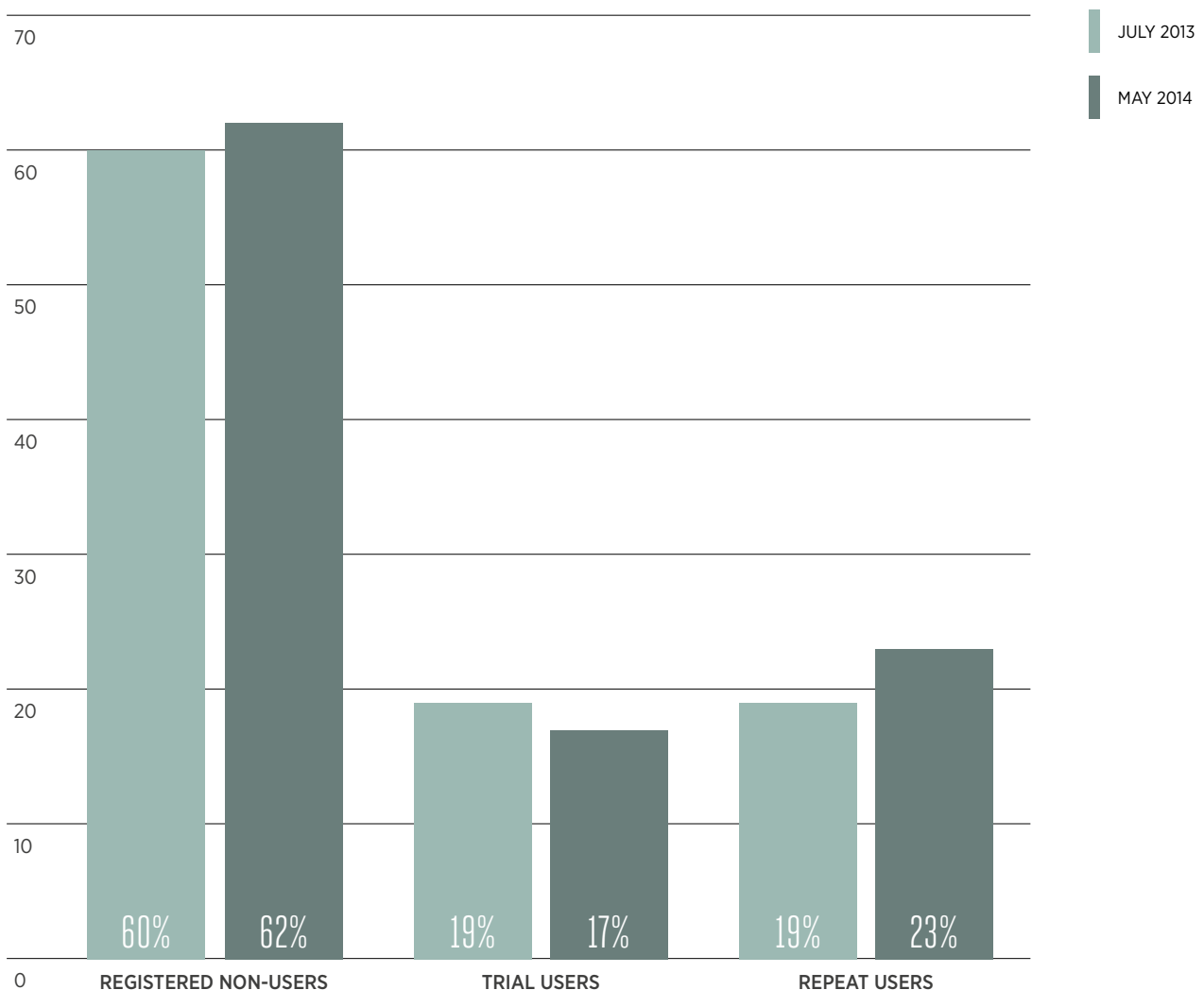
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# Executive Summary

The number of users registered on Tigo Kilimo has increased by nine times since July 2013 to 270,000. Although majority of the customer base is not actively accessing content, the segment of repeat users is growing (Figure 1). This segment are quality Tigo Kilimo customers, and also report the most impact from using the service: Over one-third of repeat users make changes to their farming practice based on Tigo Kilimo content. 45% of users who acted on Tigo Kilimo’s content reported better yields as a result.

FIGURE 1

## COMPARISON OF CUSTOMER JOURNEY SEGMENTATION FROM BASELINE TO MIDLINE



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## Recommendations for increasing customer base quality

- **Service interface needs to address low technical literacy. Marketing strategy must address lack of awareness about the service and its value.** Getting customers past the registration process remains the biggest challenge for Tigo Kilimo: 60% of users do not try or fail to access content after registering for the service.
- **Service adoption would benefit from usability improvements on voice channels.** Improvements to the USSD channel have contributed to a huge increase in traffic on the service. The IVR menu and helpline require the same treatment.
- **Market price information needs to be dynamic and cover local markets.** 40% of repeat Tigo Kilimo users state that getting commodity prices was their reason for joining, but only 2% were able to act on this information.
- **A nationwide campaign that demonstrates the value of the service to new and lapsed users is required.** Use cases for Tigo Kilimo are spelled out by many repeat users of the service, however the value of the service is still not being communicated through marketing. Designing a marketing campaign around stories of people who have seen changes to their productivity and income would build trust and demonstrate the value proposition.
- **Target marketing effort to young and female farmers.** Early adopters of the service are young and women farmers.

## TIGO KILIMO CUSTOMER PROFILES

	REGISTERED NON-USERS	TRIAL USERS	REPEAT USERS
<p><b>PROFILE</b></p> <p><b>GENDER</b>   FEMALE  MALE</p> <p><b>AGE</b>   &lt;25  25-40  &gt;40</p> <p><b>EDUCATION</b>   TERTIARY AND ABOVE   SECONDARY   PRIMARY   NO FORMAL EDUCATION</p> <p>Repeat users are more likely to be under 25, and more likely to be women, than other segments. They are more likely to have no formal education, and less likely to have completed tertiary education than other segments.</p>			
<b>HOW MANY ARE FARMERS?</b>	69%	74%	77%
<b>WHY DID THEY JOIN?</b>	To learn about new farming practices (65%) and business opportunities (27%) – though some were just curious (17%)	Seeking a range of specific information (88%)	
	Across the board promotional SMS was the most reported form of engagement – though people recruited by friends or agents were more likely to use the service		
<b>DO THEY HAVE ACCESS TO ALTERNATIVE INFORMATION SOURCES?</b>	Most cited sources are TV (27%) and friends and relatives (27%)	No (66%) – few reported other sources of information	No (54%) – though Radio (23%), TV (21%) and friends and relatives (19%) scored high
<b>WHAT DO THEY NEED TO MOVE ALONG THE CUSTOMER JOURNEY?</b>	More information on how to use the service – including reminders of the Tigo Kilimo short-code and instructions for accessing content. A clearer registration process is required. A nationwide campaign would also increase awareness and credibility of the service; including young and female characters may encourage more quality users	A more user-friendly interface that enables easy access to content, and a better understanding of the service's value proposition through a targeted marketing campaign	Agronomic advice on important cash crops, market price information that is specific to users' locations, and a helpline that can offer in-depth advice

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# Tigo Kilimo update

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Tigo Kilimo is an agricultural value added service (Agri VAS) provided by mobile operator Tigo Tanzania since December 2012. It delivers information on agronomy, weather and market prices.

When Tigo Kilimo first launched its USSD channel, each SMS message cost 100 TZS (0.06 USD) across all content types. In April 2013, Tigo Kilimo introduced subscription packages that customers could purchase to access unlimited content for one week. These packages were available in four options: three single packages of content – agronomy, weather or market information services (each 249 TZS [0.15 USD] per week) - and a ‘super’ package (299 TZS [0.18 USD] per week) that gave access to all three information types. However, significant uptake of the service was still lacking under this model.

In February 2014, the pricing model changed to allow access to all USSD content free of charge to all Tigo customers with at least 1 TZS airtime balance. At this time the USSD menu was improved to incorporate dynamic menus that display content based on its availability, increasing success rates for content delivery to over 80%. Agronomy information on four additional crops has also been added in recent months: banana, citrus fruits, sweet potato and tomato.

A charged IVR channel (50 TZS [0.03 USD] per access) and helpline (6 TZS [0.004 USD] per second) were introduced in April and May 2014 respectively, however these channels are still nascent and were not widely marketed by Tigo.



# Service uptake and usage

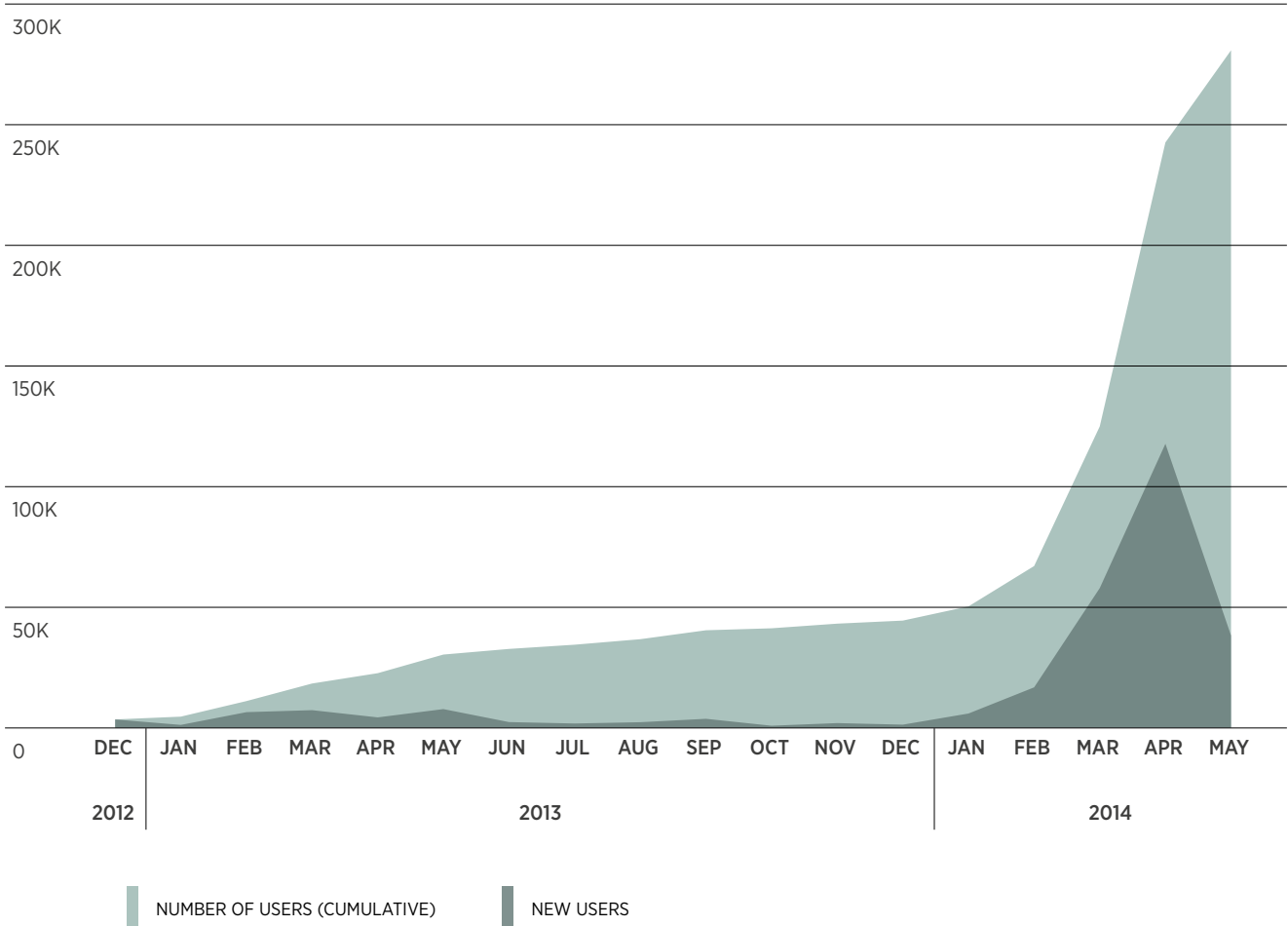
**280k**  
 USERS WERE REGISTERED FOR TIGO KILIMO BY MAY 2014

Tigo Kilimo has been gradually gaining traction since launch in December 2012 (Figure 2). By May 2014, Tigo Kilimo was reaching 4% of its estimated addressable market<sup>1</sup>, an increase from only 1% in July 2013.

The service began rapidly acquiring customers during Q1 2014 when USSD was made available free of charge, a number of service design problems, identified through user testing were addressed, and the improved service was promoted through blast SMS and USSD-attach campaigns.

FIGURE 2

## NEW USERS PER MONTH SINCE SERVICE LAUNCH



SOURCE: TIGO KILIMO USAGE LOGS

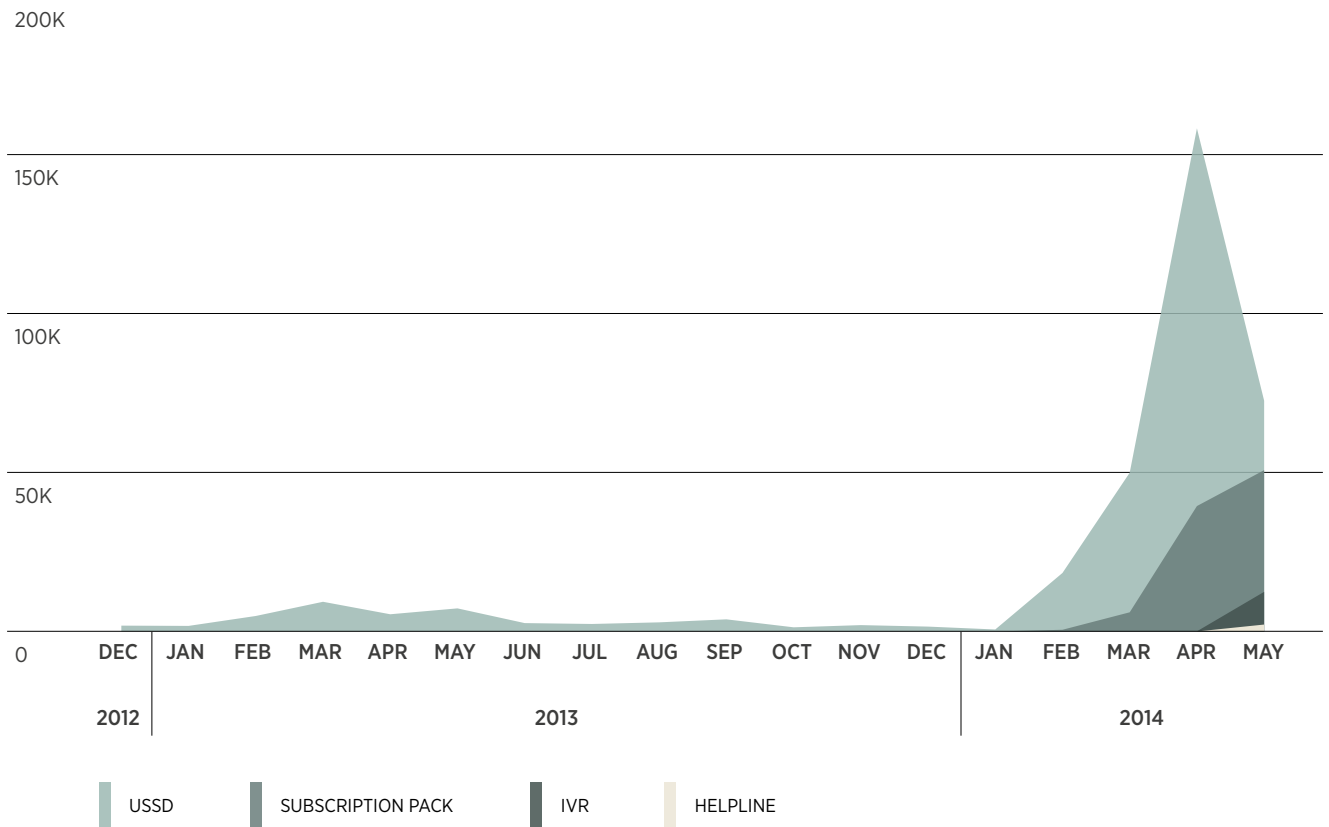
1. Tigo identified an addressable market in Tanzania of 6.6 million users.



USSD channel popularity peaked in April 2014 (Figure 3). Around this time the subscription packages, launched April 2013, became more popular, and their rate of use continued to grow. The IVR channel, launched in April 2014, received around 12,500 calls from 7,500 customers. The helpline, launched in May 2014, received 2,100 calls during that month.

**FIGURE 3**

**NUMBER OF REQUESTS PER CHANNEL SINCE SERVICE LAUNCH**



SOURCE: TIGO KILIMO USAGE LOGS

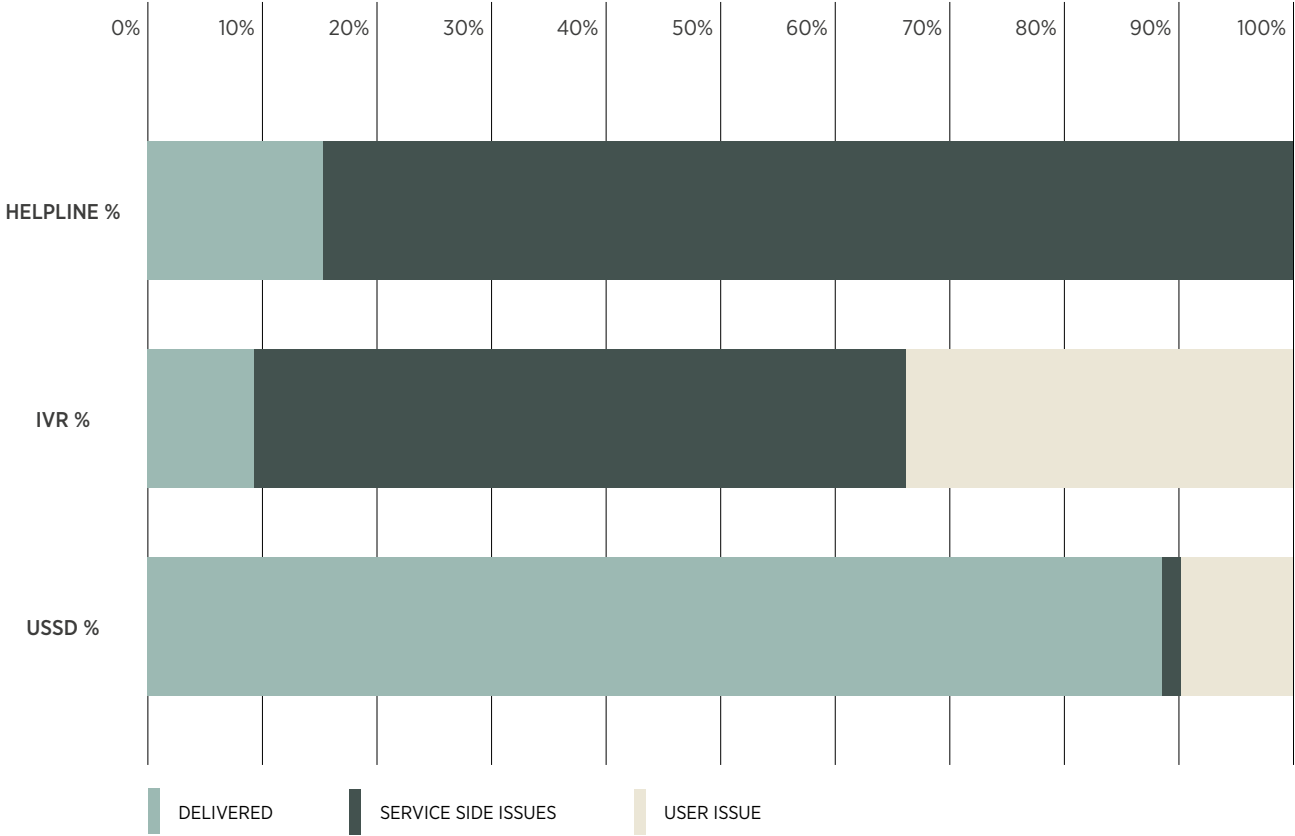
USSD channel improvements included making menus dynamic; they now display only content options for which there is up to date content available. This mitigates the inconsistency in feeds from the content providers. The number of content items successfully delivered through USSD has since increased by 130% - successful SMS delivery rate was over 80% in May 2014 (Figure 4). Most cases of undelivered content are now due to customers having zero airtime balance.

The recently introduced IVR menu is still suffering from issues on the service side: less than 10% of the requested content is delivered, and over half of failed deliveries are due to users choosing content which is not available at the time.

User testing in June 2014 found that illiterate users find the voice-based explanations on agronomy practices especially valuable, but prefer to have a back-up text message with the same information they can refer to and share with others.

FIGURE 4

### DELIVERY RATES FOR USSD, IVR AND HELPLINE CHANNELS



SOURCE: TIGO KILIMO USAGE LOGS

The Tigo Kilimo helpline is struggling to meet the volume of calls. It answered only 15% of calls received since its launch. Of the customers who did reach the helpline: 20% were ‘silent customers’, perhaps facing network issues; 4% had trouble subscribing to Tigo Kilimo; and 5% had trouble unsubscribing from their monthly subscriptions.

# The customer journey



60% of customers are not accessing content after registration: Most customers are stuck at the point of registration - this bottleneck remains the major challenge to adoption since service roll-out.



# Barriers to service adoption



## Unaware potential users

Tigo Kilimo is mainly promoted through SMS and USSD attach. As a mobile operator, Tigo can only target their own customers in this manner, which excludes the majority of the addressable market (77% of mobile subscribers use other providers according to GSMA Intelligence).

### RECOMMENDATIONS

- **A national marketing campaign for Tigo Kilimo service** would secure new acquisitions for the Tigo network.
- **Use Tigo Kilimo as an entry strategy for the rural market:** distribute agriculture-friendly SIMs that are bundled with free agriculture content.<sup>2</sup>



## Aware potential users

Non-users may be aware of Tigo Kilimo, but have been unwilling or unable to try the service. The current registration process could be a barrier for these potential users.

DURING REGISTRATION,  
FARMERS EXPERIENCE AN  
AVERAGE OF

# 4.5 USSD

TIMEOUTS OVER AN AVERAGE  
OF 14 MINUTES.

A combination of issues make registration difficult for rural customers:

- Lack of familiarity with USSD menus: users are slow to begin but learn fast, increasing their speed and progress through the menu each time.
- Long menus: e.g. 5 screens of text displaying 30 regions in Tanzania. Not all knew which region they lived in, though they all could identify their district.
- Some commonly accepted syntax was found to be confusing for rural users: e.g. the 'greater than' and 'less than' signs used on the screen to select age group (e.g. "<25").

## RECOMMENDATIONS

USSD timeouts are an unavoidable technology problem for all services relying on USSD channel for delivery. However action could be taken to make the registration process less time consuming for the user:

- **Ensure that language and terminology is understandable for the target audience.** For example, using simple language (e.g. 'less than' in local language instead of the '<' symbol).
- **Collect location data automatically rather than relying on manual data entry.** Registration for a service would then only need to confirm the location of the user: for example, 'Is your farm in Bagamoyo district?' Such location information could be drawn from two sources: 1) the information stored from SIM card registration form; or 2) from data collected by cell towers. Both options require co-operation between internal MNO departments.
- **Continue to test the registration process** with different farmers on a regular basis to observe issues and track improvements in the registration process.



## Registered non-users

There is little change in the segment of users who have never accessed content (down 2% since July 2013). This step remains the major bottleneck to Tigo Kilimo adoption.

**Some of users do not know the Tigo Kilimo short-code:** 90% of registered non-users surveyed could not recall the service short-code (\*148\*14#) to access content – they were half as likely to remember it compared to trial users. Improving awareness of the Tigo Kilimo short code could dramatically increase use.

**Registered non-users may have tried and failed to access content on Tigo Kilimo.** User testing revealed that users did not understand the nature of USSD timeout and assumed that the service was 'broken'. It took an average of 6.5 minutes and two timeouts to reach weather and market price content for first time users, while accessing agronomy tips took an average of nine minutes to access.

Accessing content through subscription packages simplifies this process - users can select the crop of interest to them and receive regular, seasonally relevant messages about that crop. Around 15,500 customers were using subscription packages for push content in May 2014. Tigo Kilimo could encourage the greater uptake of subscription packages to increase repeat usage rates.

# 60%

OF TIGO KILIMO CUSTOMERS  
HAVE REGISTERED FOR  
THE SERVICE BUT NEVER  
REQUESTED INFORMATION

IVR and helpline channels could be more helpful in providing answers to specific questions without having to navigate through extensive USSD menus, but the value of both channels is undermined by service design issues.

**RECOMMENDATIONS**

- **Send engagement messages to this segment to remind them about the service short-code and what the service offers**
- **Encourage use of subscription packages** by making them easy to find on the USSD menu
- **Introduce dynamic menus on the IVR service** to increase the rate of content delivery
- **Create a more focused proposition for the call centre** e.g. focusing on emergency pest and disease problems, and ensure that capacity is sufficient to match demand
- **Direct users who are not able to access content through USSD to improved voice channels**



## Trial users

This customer segment has decreased from 19% in July 2013. Extensive marketing in April 2014 led to the rapid acquisition of new customers, however 42% of those were not converted into repeat users of the service. Agronomic advice and market price information were the most popular content requested by trial users.

**FIGURE 7**

### CONTENT ACCESSED BY TRIAL USERS SINCE SERVICE LAUNCH



SOURCE: TIGO KILIMO USAGE LOGS



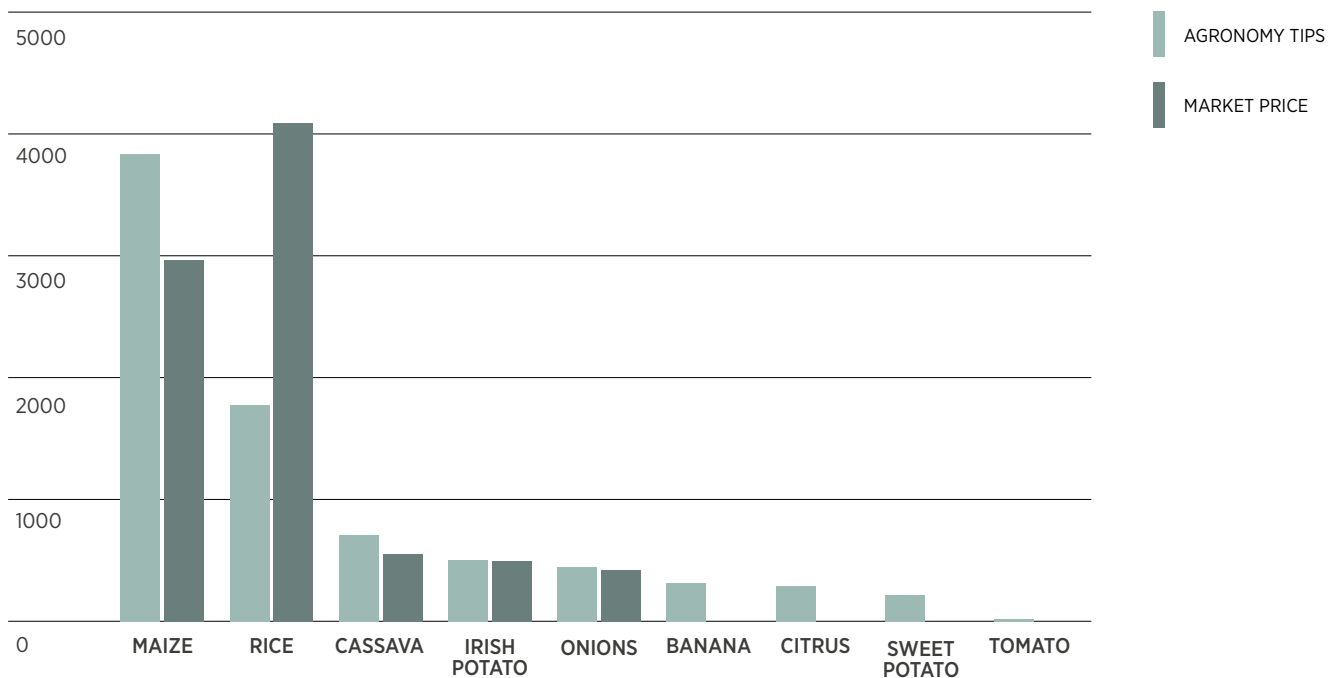
Few trial users are accessing agronomic advice on crops beyond the staple cereals of maize and rice (Figure 8). This pattern could partly reflect seasonal variations: the majority of these content requests came between April and May, which coincides with the growing period for rice and the preparation and planting period for maize.

# 17%

OF TIGO KILIMO CUSTOMERS HAVE ACCESSED CONTENT ONLY ONCE ACROSS ALL AVAILABLE CHANNELS SINCE REGISTERING

FIGURE 8

## INFORMATION ACCESSED BY TRIAL USERS ACROSS CROP TYPES SINCE THE BASELINE (AUGUST 2013 TO MAY 2014)



SOURCE: TIGO KILIMO USAGE LOGS

“ The disadvantage [of Tigo Kilimo] is all the time clicking on the menu.

*Ruaha, Kibaoni, Kilombero district*

**Agronomic advice is the most difficult to find on the service.** User testing found that agronomy was the hardest of all content types to reach on the service requiring an average of 135 keystrokes and nine minutes to reach, 50% longer than other content types. This could deter users from spending time exploring content for other crops.

**Many of the trial users surveyed said that they find the service difficult to use.** Almost one third of trial users surveyed (30%) said that they have not used Tigo Kilimo again because they could not understand how to use the service, while 9% could not find the information that they wanted. Another quarter said that they stopped using the service because they got what they wanted from it, which indicates users might not be aware of the full range of content available to them. These users may return to Tigo Kilimo when they next have an agricultural enquiry. However, many would be hampered in doing so: the majority of trial users could

not remember the short-code to dial Tigo Kilimo when asked in the phone survey (less than 25% of recalled the number correctly). An additional 15% of trial users said that they did not come back to the service because they are too busy to use it, which indicates that their first experience with the service was tiring and time consuming.

Besides service design issues, trial users may not be returning to the service because they find the information provided is not useful or usable. User testing identified a number of benefits and issues around the utility of the service content (Table 1).

TABLE 1

## THE VALUE OF THE SERVICE CONTENT

CONTENT AREA		WHERE DOES THE SERVICE ADD VALUE? WHERE COULD IT ADD MORE?	RECOMMENDATIONS
WEATHER	+	Weather is available on demand at any point. It is easy to miss the broadcast of the radio forecast	Market the use-case of accessing weather at any time; compare with traditional alternatives e.g. looking at the sky
	-	Farmers need a 4-6 week forecast with focus on rain predictions and its consistency	Direct customers to IVR at the end of the SMS weather tip for longer forecasts (assuming a longer forecast is available from the Tanzania Meteorological Agency (TMA))
	-	Customers may assume weather information is localised to their area. If quality of TMA forecast is low/ not localised enough, customers will lose trust and not use the service again. However, TMA is resistant to approve the use of non-government weather sources	Specify in the beginning of weather tip the region & area the forecast is covering. Specify the source at the end of the tip to increase trust.  Use high quality forecast available from alternative providers in combination with agronomy advice (agromet advisory as opposed to traditional weather prediction)
MARKET PRICES	+	Greatest interest expressed by users is around market price information - they could see the immediate benefit of using this functionality. There are no alternatives to this source of information	Advertise Tigo Kilimo by featuring common use-cases for market information. Invest further in market price information component to ensure satisfaction
	-	Not enough markets are available to make it useful for cross-checking prices or negotiating. Weekly updates are not frequent enough, as they average out important fluctuations in daily market price. Perishable cash crops are not sufficiently covered by the service; these might add most value	Introduce more markets, more crops and daily updates by securing a robust market information provider (either by investing in dynamic data collection capacity internally or by partnering with existing market data collection platform providers e.g. Esoko)
	-	Farmers need access to buyers more than market prices	Add buyer-farmer matching service, potentially via helpline. Learn from existing matching services, e.g. Esoko Ghana and M-Farm Kenya





CONTENT AREA		WHERE DOES THE SERVICE ADD VALUE? WHERE COULD IT ADD MORE?	RECOMMENDATIONS
AGRONOMY	+	Pest and disease information is valuable at the time of crisis, when customers need diagnosis of the problem and a solution	Link all agronomy tips with IVR/ helpline number at the end of the text message
	+	Advice on new high-value (horticulture and cash) crops is in demand	Market agronomy content featuring cash and horticulture crops. Add more horticulture and cash crop content
	-	Language and style of content was often perceived as 'too scientific' and sometimes hard to understand	Simplify and stylise the text content, e.g. role play, voice of fellow farmer, voice of extension officer. Format as practical step by step advice
	-	USSD content not seen as actionable enough; one-off tips require follow-up	Link short tips to IVR and helpline for more information if needed

A user's context can influence the usefulness of information provided. For example, if market price information is not available for local markets, then their ability to use that information is limited. Further content localisation increases the value for each end user. Mobile financial services and livestock information were also identified as high value potential additions.

#### RECOMMENDATIONS

- **Conduct periodic user testing to improve the usability of the service**
- **A nationwide campaign, beyond SMS-based promotions, that features real life stories of how other farmers have used the information may inspire others to try the service.** This information should focus around the correct period of the crop calendar to show farmers that Tigo Kilimo understands their needs.

## Repeat users

Repeat users are those who have accessed content, via either the push or pull services, more than once (range 2 -352). The average repeat user has accessed the service 5.5 times. These users are more likely to be under 25, and more likely to be women, than other segments. They are more likely to have no formal education, and less likely to have completed tertiary education than other segments.

**Repeat users have accessed wide variety of content on Tigo Kilimo since the service launched,** and especially since it was made free in February 2014. At this point weather forecasts became the most frequently used content, with other types of content generating lower but still impressive demand (Figure 9). The greater

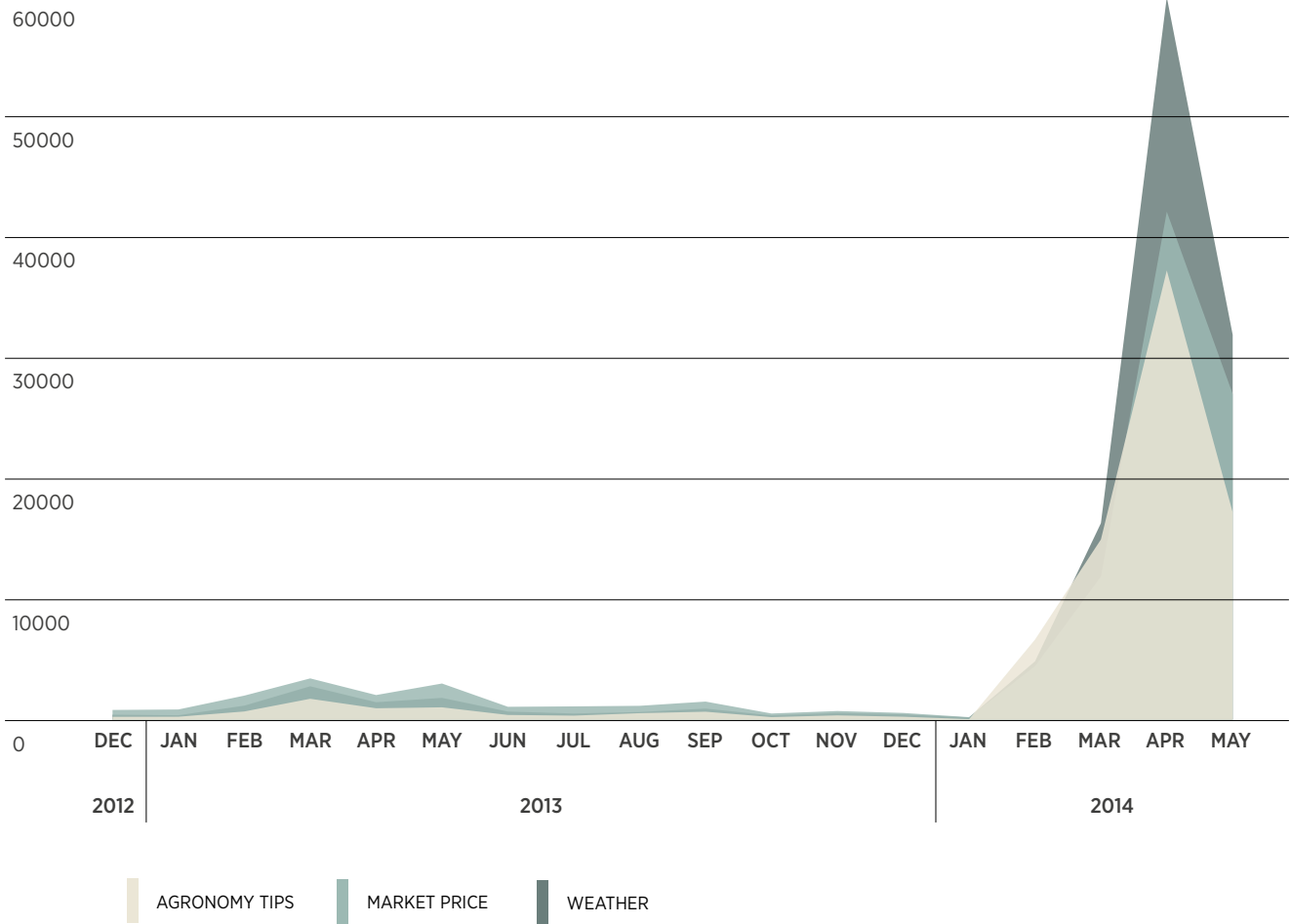
# 23%

OF ALL TIGO KILIMO USERS  
ARE REPEAT USERS



FIGURE 9

**CONTENT ACCESSED BY REPEAT USERS SINCE SERVICE LAUNCH**



SOURCE: TIGO KILIMO USAGE LOGS

demand for weather information in April 2014 could reflect farmers’ seasonal information needs, as many will be planning when to sow maize around this time.

**Tigo Kilimo’s repeat users demand information on crops beyond cereal staples, including cash crops.**

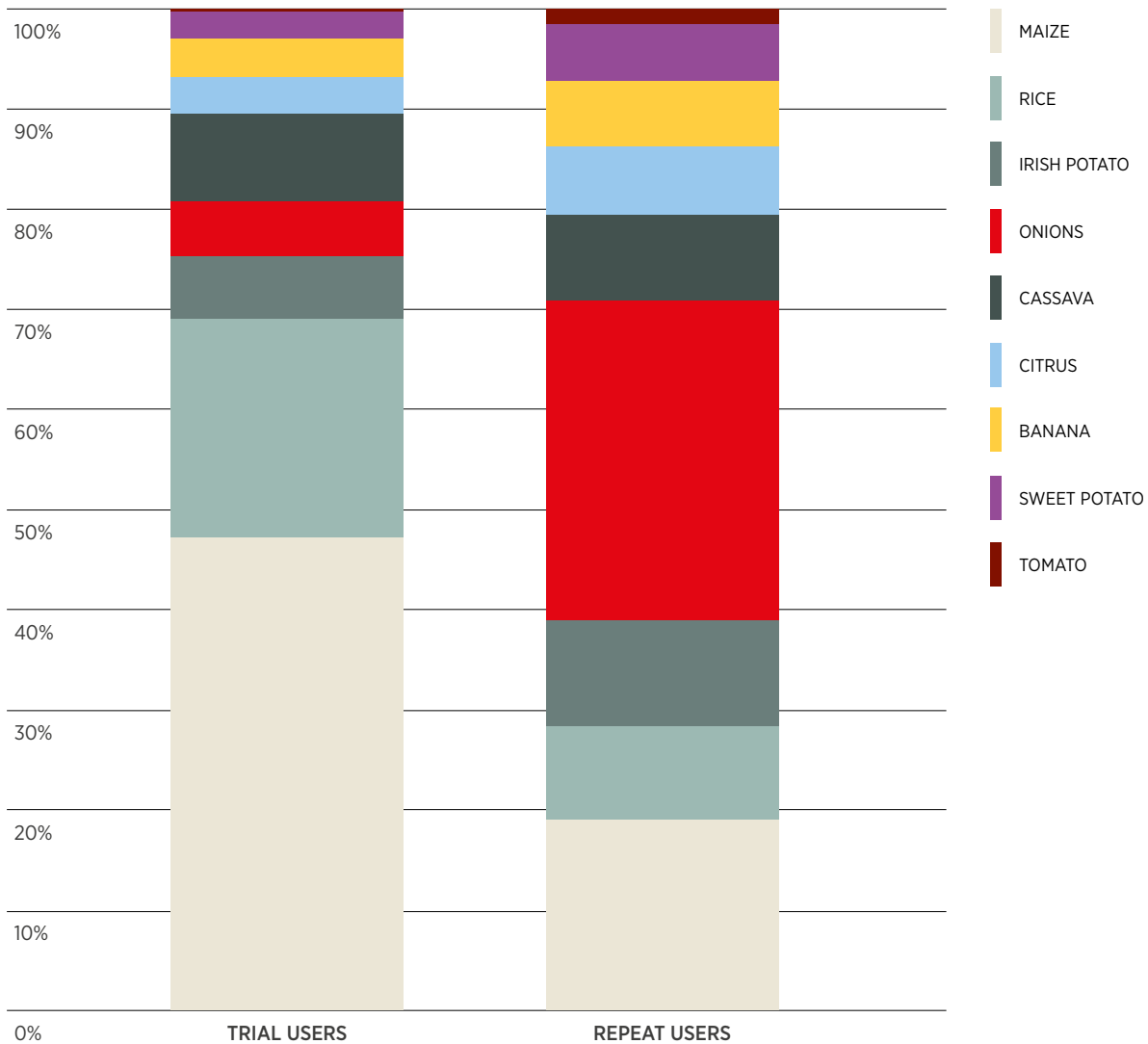
Two-thirds have accessed information about crops other than the staple cereals - onions, Irish potato, citrus fruit and banana (Figure 10). Target users for this content are cash crop farmers – these people are innovators, with money to invest in their farms and a willingness to try new things. There are no traditional practises for many of the cash crops as they are relatively new to the market, meaning the need for information is greater. Onion is a highly valued crop among this demographic as it achieves high value and is less perishable than other cash crops like okra, watermelon or red pepper.



IMAGE COURTESY OF FROG DESIGN

FIGURE 10

**AGRONOMY ADVICE ACCESSED ON CROPS BY TRIAL AND REPEAT USERS**



SOURCE: TIGO KILIMO USAGE LOGS

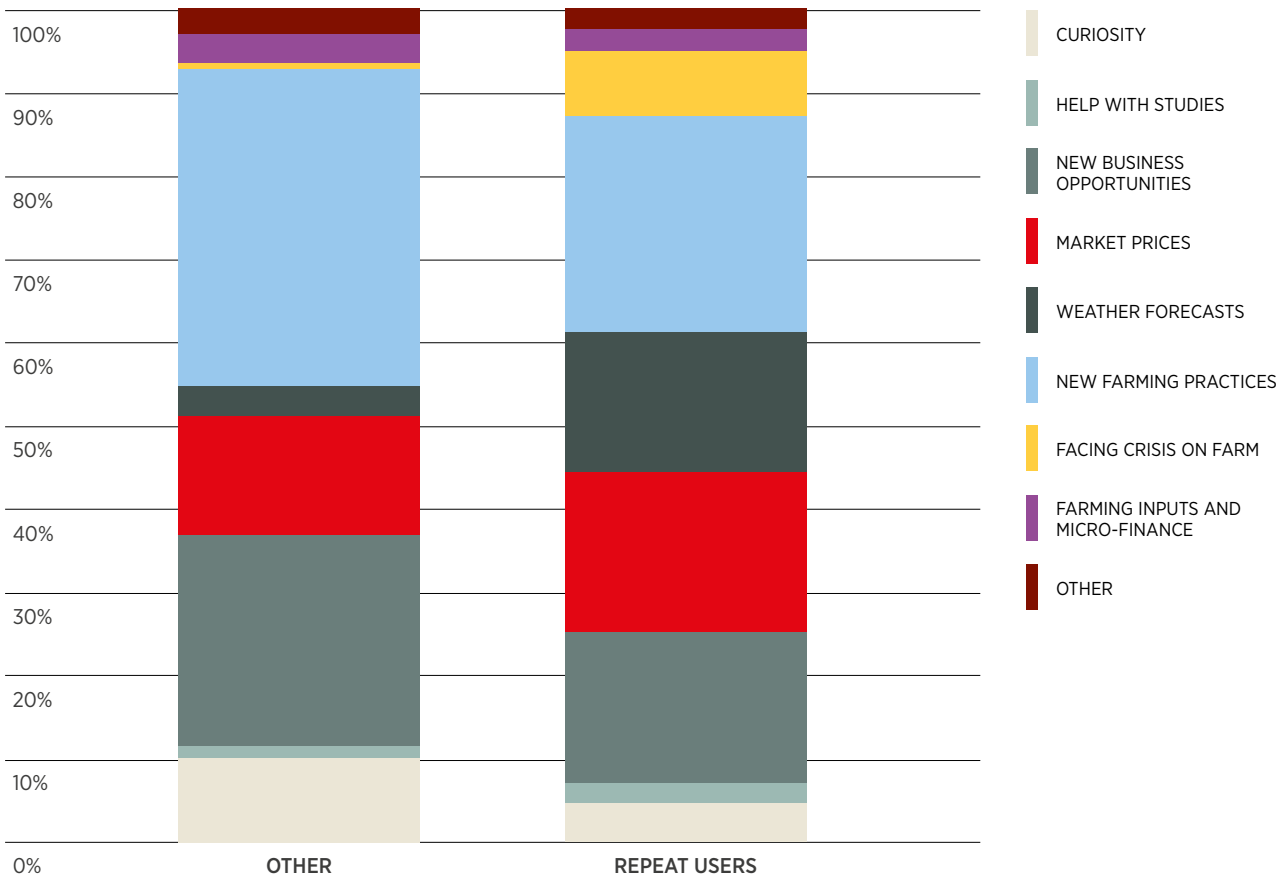
Reaching early adopters who are actively searching for information may cause a trickle-down effect on other local smallholders. However, farming of many cash crops relies on access to reliable irrigation, so these crops may not be accessible to the poorest farmers.

**WHY DID REPEAT USERS JOIN TIGO KILIMO?**

Farmers joining the service are more likely to become repeat users if they have been introduced to it by a friend. Similar to other customer segments, surveyed repeat users were most likely to start using Tigo Kilimo in order to learn about new farming practices. Customers who joined Tigo Kilimo with a purpose (i.e. not just out of curiosity) were more than twice as likely to become repeat users of the service.

FIGURE 11

**STATED REASONS FOR JOINING TIGO KILIMO FOR REPEAT AND OTHER USERS (I.E. REGISTERED NON-USERS AND TRIAL USERS)**



SOURCE: MIDLINE PHONE SURVEY

**W** I used to harvest the maize crops and keep them while waiting for the agricultural extension officer to come and assist me in applying fumigants. But through knowledge I obtained from Tigo Kilimo, now days I am able to apply the fumigants by myself by just following the instructions.

*Aurola, Dumila, Kilosa district*

More than other users, **repeat users are turning to Tigo Kilimo in response to a problem or crisis on their farm and to get information about the weather** (Figure 11). Repeat users are 12 times more likely than any other segment to join Tigo Kilimo to get help in solving a particular crisis on their farm, and eight times more likely to join in search of weather forecasts. Repeat users were also less likely to be seeking new business opportunities through the service than other users.

**Customers who hear about Tigo Kilimo from a friend or fellow farmer are more likely to become repeat users.** Data from phone surveys suggest that customers who first heard about Tigo Kilimo from fellow farmers are three times more likely to become repeat users. Customers who were registered by Tigo agents were also three times more likely to become repeat users: Tigo agents can also create the trust and educate users to create an active, revenue-generating customer base.

**Some repeat users access other sources of information less since they started using Tigo Kilimo.** Some customers interviewed in Morogoro region stated that they now rely on extension agents less than before:

However, on the whole the case study in Morogoro concluded **rather than replacing other information sources, Tigo Kilimo complements them and provides additional information for decision making.**

“ I will find an extension officer if I need practical demonstration of the information I receive from Tigo Kilimo service, because some of the information is sometimes difficult to apply as directed ”

*Amosi, Mang'ula, Kilombero district*

**HOW HAVE REPEAT USERS APPLIED INFORMATION FROM TIGO KILIMO?**

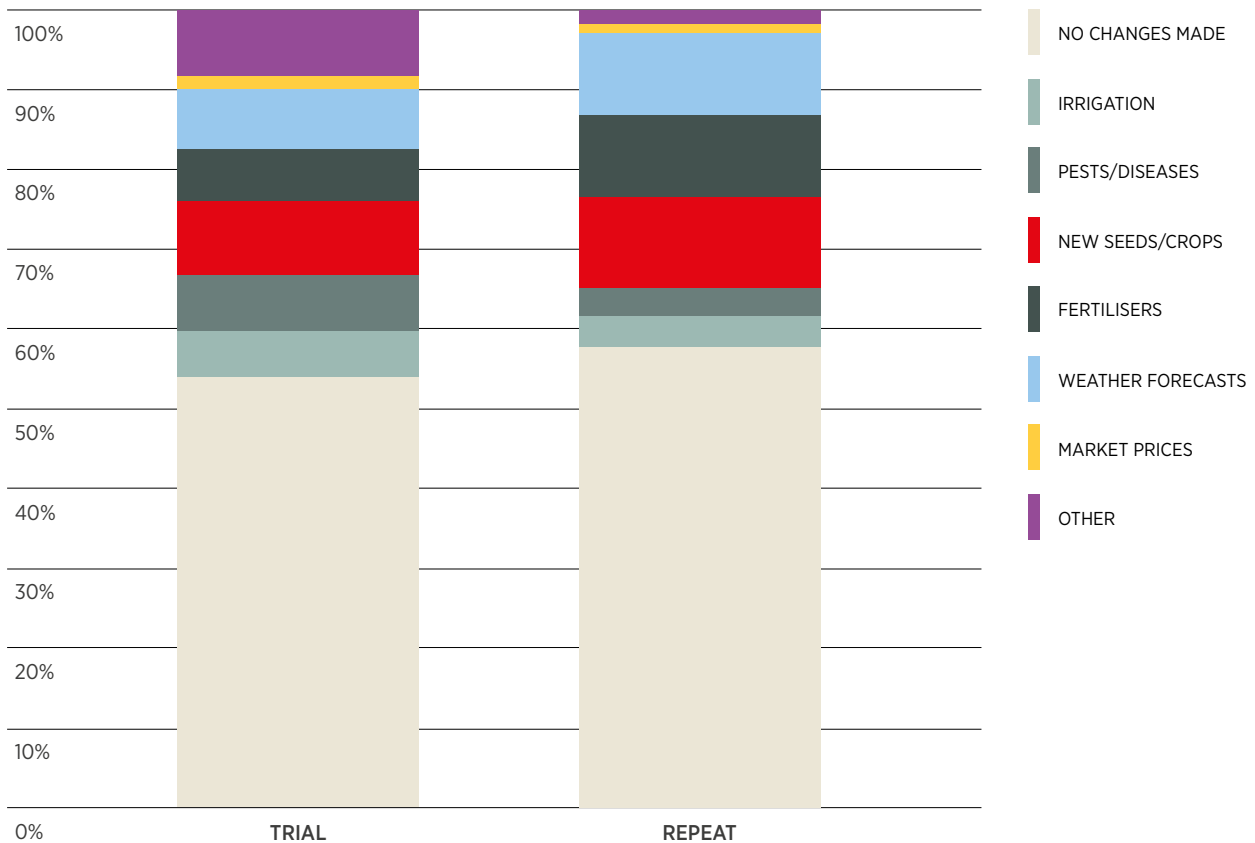
Over one-third of all customers surveyed report using Tigo Kilimo to make changes to how they manage their farm (see Figure 12).

**38%**

OF ALL TRIAL AND REPEAT USERS REPORTED MAKING AT LEAST ONE CHANGE IN THEIR FARMING/MARKETING PRACTICES BASED ON TIGO KILIMO

FIGURE 12

**REPORTED BEHAVIOUR CHANGE BASED ON TIGO KILIMO INFORMATION FOR TRIAL AND REPEAT USERS**



SOURCE: MIDLINE PHONE SURVEY

# 45%

OF USERS IN THE PHONE SURVEY REPORTED SEEING BETTER YIELDS AFTER FOLLOWING ADVICE GAINED FROM TIGO KILIMO.

The most commonly reported changes made by farmers related to the use of new crops or seeds, fertiliser use, and using weather forecasts to change the timing of farming practices.

“ I used Tigo Kilimo to obtain information concerning the weather – to know the time when it would rain. Through the information I got, I prepared the field for sowing at an appropriate time, and after it rained I sowed the maize crop seeds.

*Aseri, Kibaoni,  
Kilombero district* ”

“ I have learned many things that are not found in our surroundings like how to plant potatoes. For me, this idea was not in my mind, I didn't even know where to get seeds, how to prepare farm, how to plant, so on my side this is new information.

*Dota, Magengeni,  
Kilosa district* ”

Customers interviewed in Morogoro also reported making changes related to sowing, weed management and harvesting.

“ I use Tigo Kilimo to be well informed about how to harvest. For instance, I decided to slash all maize stalks before picking, the method become very helpful for me this year compared to last year where by most of maize remained in the field. But this year after slashing, and collecting all the maize stalks together, nearly all maize products were successfully collected.

*Msabaha, Magengeni,  
Kilosa district* ”

**The majority of customers who report acting on Tigo Kilimo information also reported seeing some benefits from the changes that they made** (88% of trial and repeat users). The most commonly reported benefit was improved crop yields.

“ There are big changes, for example, before the use of Tigo Kilimo, the whole acre held between 45-50 measured lines... [now the whole acre holds] 70 measured lines. So, if you envisage you can see the difference.

*Abdullah, Magengeni,  
Kilosa district* ”

“ Previously I used to get 4 to 5 sacks from a one acre field. After taking into practice interval measurements advised by Tigo Kilimo, I have improved to 7 or 8 sacks.

*Emmanuel, Dumila,  
Kilosa district* ”



This was followed by greater knowledge about farming (37%) and greater ability to plan farming activities through anticipating the weather (23%).

“ Last period, I planted without understanding and I obtained little [maize] yields, after getting professional planting advice through Tigo Kilimo, I planted professionally and I obtained high yields, That’s why I decided to use Tigo Kilimo.

Musa, Magengeni,  
Kilosa district

“ The change that I have seen is related to the weather... last year before using Tigo Kilimo my paddy got drenched because of rainfall, for this year it has not got wet, because of using weather forecasting services from Tigo Kilimo.

Sisemi, Mang’ula,  
Kilombero district

**Tigo Kilimo customers are less likely to report making any changes in how they market their produce or successfully selling their produce for higher prices with the help of Tigo Kilimo information, compared to some other benefits.** Less than 2% of survey respondents reported making any changes to how they sell their produce based on Tigo Kilimo’s market price information. Some customers interviewed in Morogoro reported issues in pulling the market prices they wanted from Tigo Kilimo: some stated that they were sent prices for markets that they did not request; and others noted that the price information was of limited use for them because their local markets were not available.

“ You can receive information on Dar es Salaam market but you cannot transport to Dar. It should explain even nearby markets like Morogoro.

Suleyman, Damila village,  
Kilosa district

“ You can ask for Morogoro market but you can be given the market for Shinyanga

Hija, Mangengi village,  
Kilosa district

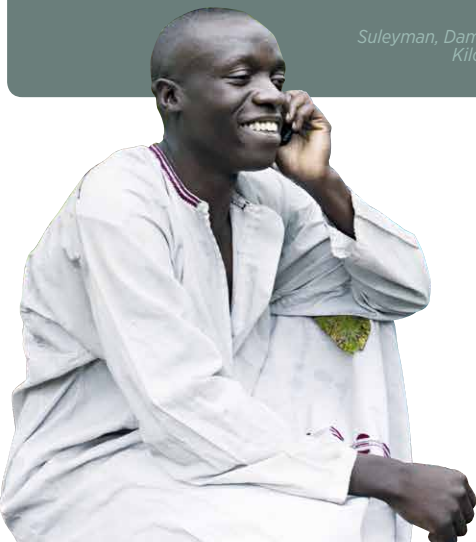
Only a few of the customers interviewed reported finding the market prices valuable to help them make decisions about how and where to sell their produce. Customers are more able to utilise price information when they have the resources to reach alternative markets to take advantage of more favourable prices, or when bargaining with buyers in local markets.

“ Through Tigo Kilimo, I can check the price of the crops in every market and I can make decisions about where to sell my crops. I might decide to sell in Dar es Salaam market or any other markets that I would choose to take my crops to.

Suleyman, Damila village,  
Kilosa district

“ It is easier now to be informed about the present price. This helps you when local buyers come to purchase for the lowest price. You reject because you therefore know the current market situation. At least you can bargain with them because you have information and you know the current price for such crops.

Haruni, Magengeni,  
Kilosa district

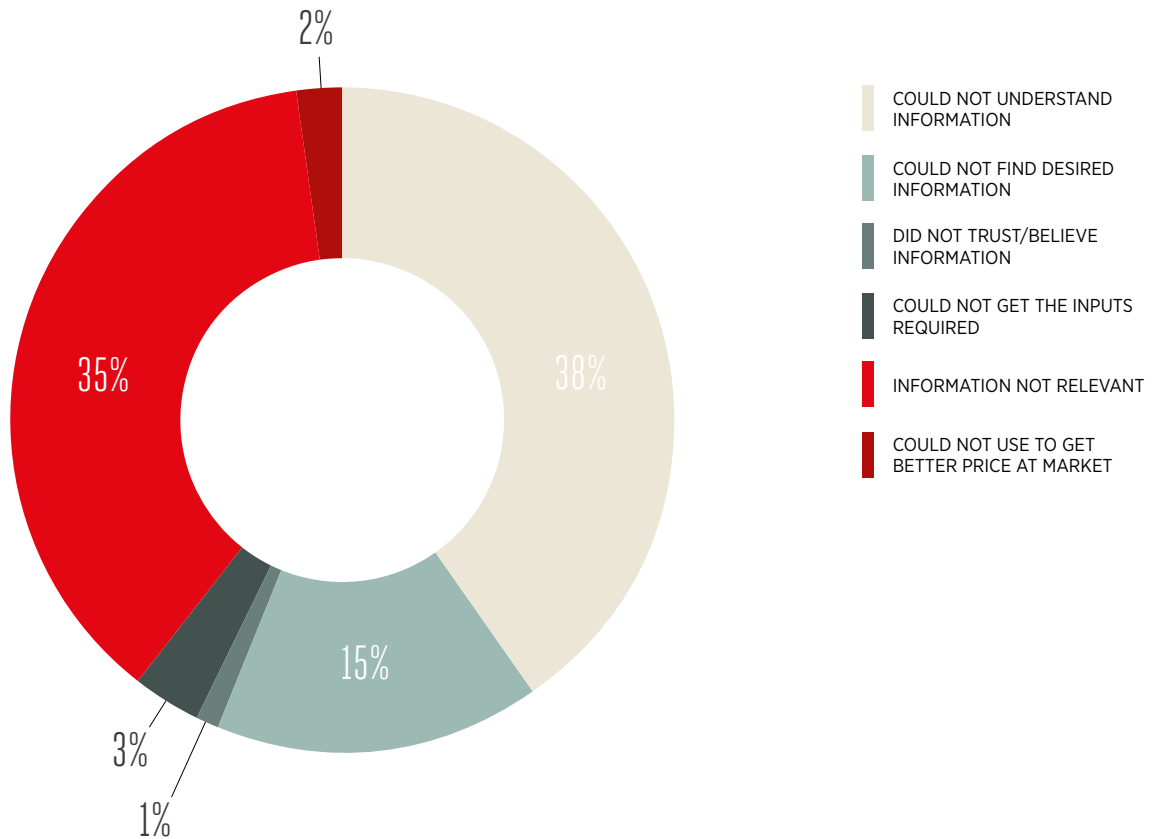


**WHAT FACTORS ENABLE AND INHIBIT BEHAVIOUR CHANGE?**

62% of trial and repeat users have not used Tigo Kilimo information to make any changes to how they manage their farm or sell their produce at market (see Figure 13).

**FIGURE 13**

**REPORTED REASONS FOR NOT ACTING ON INFORMATION FROM TIGO KILIMO**



SOURCE: MIDLINE PHONE SURVEY

**Difficulty understanding the information provided by Tigo Kilimo was the most commonly reported barrier to acting on it (38%).** Education or literacy level is an important barrier to acting on information gained through a USSD service: customers who had completed formal education to primary level or above had significantly less difficulty understanding the advice than those who had no education at all (33%). Some of the customers interviewed spoke about the need for help from extension agents which a phone-based service may not be able to provide.

|| Tigo Kilimo will direct you... but to do it practically becomes difficult. For instance, you can be told to plant in meters or stem by stem, feet by feet etc, but if you do not have ability of measuring you must find an extension officer so that he or she can direct you on the techniques of measurement. Therefore, extension officers are [needed] for more practical training and they are still important.

*Musa, Mang'ula, Kilombero district* ||

**Repeat users trust Tigo Kilimo to help them make farming decisions.** Only 1% of surveyed customers said they did not trust Tigo Kilimo, although farmers interviewed stated that some non-users are suspicious of the service. However, most trust the service after using the information, seeing the results, and cross-checking it with other sources in their area.

“ I decided to use Tigo Kilimo service on the weather section and they told me that there was a high probability of rain and... the same night it rained [heavily] until morning and my paddy grew. From that day and onwards, I trusted the information provided by them. From there, I was convinced to use Tigo Kilimo services.

*Sisemi, Mang'ula,  
Kilombero district* //

“ We have started to trust it since their instructions on planting procedures are not different from those of other agricultural expertise.

*Musa, Magengeni,  
Kilosa district* //

Women may face particular barriers in acting on advice from Tigo Kilimo due to decision-making roles in their household. Some customers (usually male) stated that men are primarily responsible for making decisions in relation to managing the farm, while others (including men) said that they make decisions together.

“ In most of the families the man is head of the household and he represents a family, when a woman introduces an idea, the man opposes it most of the time.

*Hija, Dumila,  
Kilosa district* //

“ I think women have also the same responsibilities of supervising the farm, it only depends on one's family conduct... It is impossible to make decision on your own because of your gender difference; you have to remember that both her and you participate equally in farming... It is better to make decisions together.

*Abdul, Magengeni,  
Kilosa district* //

“ My wife is also the head of family, she has the responsibility to get information about farming... We always make decisions about the farm together. After getting the information, then, we discuss what to do.

*Ephraim, Kimamba,  
Kilosa district* //



Women joining the service are more likely to become repeat users than men. However, women are less likely than men to join the service in the first place, reflecting lower levels of phone ownership and access for women in Tanzania.<sup>3</sup> There is clearly demand for agricultural information among women, but some may face particular challenges in getting information over a mobile, and putting this information into practice. Interestingly, women surveyed are almost twice as likely to report trading as their main source of income; in Tanzania, women are often involved in trading various outputs from the farm including eggs, milk and poultry, and crops including legumes and oil seed crops. The service could broaden its appeal to women by covering these topics.

3. Deen-Swarraj, Gillwald & Morrell (2013) *Lifting the Gender Veil on ICT Indicators in Africa*. Research ICT Africa & University of Cape Town. [http://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=2363776](http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2363776) (accessed: 20 October 2014)

## RECOMMENDATIONS

- **Add more content on cash crops** and market the service by featuring those.
- **Improve the frequency and coverage of market price information for different markets.** This information type turned out to be acted upon very rarely, although there is an appetite for this information. Most used information included information on new crops and inputs as well as weather forecasting.
- **Face to face marketing** is required to educate users about the value of the service and how to use it. **Representation at farming events and well trained and incentivised agent network** increases brand strength and helps to acquire repeat customers.
- **Use reported examples of behaviour change in marketing materials.**
- **Convert the most loyal users into ambassadors of Tigo Kilimo:** create incentive scheme for those who recommend and demonstrate the service to their community.
- **Once women access the service, they are more likely to become repeat customers. Encourage more women to register for the service** e.g. through advertisements featuring strong female characters.
- **Test marketing and service content which adopt a more informal, 'young' style and voice** with male and female users.

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# Next steps

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An impact evaluation of Tigo Kilimo will be conducted between November 2014 and March 2015. This will aim to bolster the evidence presented in this report on the impacts of service usage for Tigo Kilimo users. This will involve a large-scale phone survey, administered through an independent call centre, to collect data from long-term active service users on key indicators of service impact – including the adoption of improved farming methods, and subsequent benefits (improved productivity, improved incomes, and reduced production losses) – and comparing this with a user group who have not been exposed to Tigo Kilimo’s information. This will be combined with carefully designed focus groups and interviews to collect evidence on the causal relationship between Tigo Kilimo usage and the outcomes observed, and understand the various factors that have played a role in influencing this causal chain.







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The GSMA represents the interests of mobile operators worldwide, uniting nearly 800 operators with more than 250 companies in the broader mobile ecosystem, including handset and device makers, software companies, equipment providers and Internet companies, as well as organisations in adjacent industry sectors. The GSMA also produces industry-leading events such as Mobile World Congress, Mobile World Congress Shanghai and the Mobile 360 Series conferences.

For more information, please visit the GSMA corporate website at [www.gsma.com](http://www.gsma.com). Follow the GSMA on Twitter: @GSMA.



## Mobile for Development

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Mobile for Development brings together our mobile operator members, the wider mobile industry and the development community to drive commercial mobile services for underserved people in emerging markets. We identify opportunities for social, economic impact and stimulate the development of scalable, life-enhancing mobile services.



## mAgri

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mAgri catalyses scalable, commercial mobile services that improve the productivity and incomes of smallholder farmers and benefit the agriculture sector in emerging markets. The GSMA mAgri Programme is in a unique position to bring together mobile operators, the agricultural organisations and the development community to foster sustainable and scalable mobile services that improve the livelihoods of smallholder farmers. This report is part of the mFarmer Initiative, launched by the GSMA mAgri Programme in 2011 in partnership with USAID and the Bill & Melinda Gates Foundation.

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Author: Tegan Palmer

Published March 2015

Research methodology and report writing were designed and supported by Firetail and the ALIne initiative.

This report is based on data from the Tigo Kilimo midline study based on data collected during April - May 2014.

Contact us for the research methodology and aggregated data sources: [magri@gsma.com](mailto:magri@gsma.com)



BILL & MELINDA  
GATES foundation





For further information please contact  
[magri@gsma.com](mailto:magri@gsma.com)  
GSMA London Office  
Floor 2,  
The Walbrook Building,  
25 Walbrook,  
London EC4N 8AF  
T +44 (0) 20 7356 0600