Farmers' Club

A mobile agriculture service by Vodafone Ghana

CASE STUDY JULY 2017

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ABBREVIATIONS

Agri VAS	Agricultural value added service
B2B	Business to business
B2C	Business to consumer
BI	Business intelligence – using data generated by service users to make decisions about product/service design
CAPEX	Capital expenditure
CUG	Closed user group - refers to a group of people who are not charged for calls made in that group
GHS	Ghanaian cedi – local currency
OBD	Outbound dialling, also called voice SMS or 'robo-calling'. A pre-recorded message is sent out to users/potential users which they answer the phone to listen to. Can be interactive, requiring users to respond to a question with a button press.
PIW	Product iteration workshop – quarterly workshops which aim to review data collected over the quarter from BI, user feedback from phone surveys and UX–led research and inform the evolution of the service.
SMS	Short messaging service – written messages sent to phones with limited character length
UX	User experience – how the user engages with the product, practically and emotionally
VAS	Value added service

Executive Summary

Farmers' Club aims to improve the lives of farmers and strengthen Vodafone's rural brand image

Vodafone Farmers' Club is an agricultural value-added service (Agri VAS) with a free call bundle launched by Vodafone Ghana and VAS partner Esoko in June 2015. The product rollout was supported by a matched funding agreement between Vodafone Ghana and the GSMA through the mNutrition Initiative funded by UK aid from the UK government (DFID). Under the agreement, the GSMA mAgri Programme provided consultancy throughout the product development cycle. By December 2016, over 200,000 users had registered for Vodafone Farmers' Club.

Farmers' Club was conceived as a product which improves the lives of farmers and increases their pride in the occupation. The package offers farming advice, weather updates, market prices and free calls between Farmers' Club members with a dedicated Farmers' Club SIM. Vodafone was keen to use the service as an opportunity to increase rural penetration through new acquisitions, although the service was eventually offered to existing rural subscribers in December 2016. Initially a charged service (GHS 2 [0.5 USD]/month), Farmers' Club has been free of charge since October 2016 for an extended trial period. The future pricing of the package is being revised as of April 2017.

After registration and automatic profiling (based on location), the service offers three agricultural tips a month on the user's primary crop and one nutritional tip as outbound dialled (OBD) calls in a choice of ten local languages. Twelve two- to three-day weather forecasts and four market price SMS are sent monthly in English. Access to expert advice in 14 local languages is free of charge via the Esoko inbound call centre.

The dedicated Farmers' Club SIM, courtesy of Vodafone Ghana

Key findings

- **Farmers in Ghana lack negotiation power.** Early design research found that knowing the market price doesn't guarantee a good deal, but it can be a powerful tool for negotiations. Farmers are keen to get information but prefer a human connection. 'Experiencing the information' is more valuable and influential than just reading about it.

- **Power users are 1.7 times more likely to report a change in their land management practices than non-users.** Most power users (active repeat service users) reported making changes on their farms (70%). All comparisons to non-users were positive in favour of power users, notably improved nutritional practices (63% of power users compared to 43% of non-users). However, these results are not statistically significant[1] and hence cannot be generalised to all service users. Power users report sharing information from the service with others, spreading the benefits of Farmers' Club.

- **Most Farmers' Club power users are men with larger than average farms.** Farmers' Club users may be less likely to be living below the poverty line than the national average. Women made up 16% of power users. Women were more likely to report changes in their nutritional practices, including using new recipes and changing the variety of food eaten, which they linked to the information they received from the service.

- **Vodafone experienced slow acquisitions through an agent-led model.** Agent-led sales are difficult to get right. The dedicated SIM model conceived for Farmers' Club requires a dedicated sales force. Although the service is aligned with Vodafone's wider acquisition strategy in rural areas, getting the incentives and processes right to ensure users are properly educated and on-boarded is not straightforward.

- **Free access has brought an influx of new users.** Product charges were turned off in October 2016. Power users interviewed in January 2017 were willing to pay at least the original price of GHS 2 (USD 0.5) per month for the service. When the new charging model has been fixed, the message about pricing must be carefully communicated to the user base.

1. At the 90% confidence interval

Country context

Farmers' Club aims to capture market share outside of saturated cities

Vodafone is the second largest of five major operators in Ghana with a relatively small rural presence. Farmers' Club was conceived as a way of acquiring new rural customers. As the majority (70%) of Ghana's rural population relies on agricultural activities as a source of income,[2] and subsistence farming accounts for 16.2% of GDP,[3] Vodafone developed a service focused on agriculture.

Farming in Ghana remains a traditional, small-scale enterprise with average farm sizes of less than 3 acres. There is little mechanisation, and farming households tend to grow crops both for subsistence and to earn income.[4]

Cassava is the most cultivated food crop in Ghana, averaging 11.6 million tonnes per year. Roots and tubers (6.6 million tonnes per year) and bananas (3 million tonnes per year) are the next most cultivated crops by volume, with maize the most cultivated staple crop (1.4 million tonnes per year).[5] Ghana is the world's second-largest cocoa producer, after Côte d'Ivoire. Ghanaian cocoa is mainly grown by smallholder farmers, and the government controls the buying and marketing of cocoa.

Ghana has made strides towards livelihood improvements for its people in recent years, halving extreme poverty before 2006 and halving hunger before 2015. Despite this, almost a quarter of people in Ghana still live in poverty, with those in rural areas worst affected: on average, 38% of those in rural areas live in poverty, and up to 50% in the Northern Region. This region, along with the Upper East and Upper West regions, have high rates of child malnutrition, with four in ten children under the age of five chronically malnourished.

2. FAO, 2014: http://data.worldbank.org/indicator/AG.LND.AGRI.ZS?locations=GH
3. FAO, "Impact of international agricultural trade and gender equity: selected country case studies": http://www.fao.org/docrep/009/a0493e/a0493e04.htm#fn10
4. FAO, 2005, AQUASTAT: http://www.fao.org/nr/water/aquastat/countries_regions/GHA/
5. Average across 2000-2014, from the model for GSMA, 2016, "Market size and opportunity in digitising payments in agricultural value chains": http://www.gsma.com/mobilefordevelopment/programme/magri/market-size-and-opportunity-in-digitising-payments-in-agricultural-value-chains. Please contact mAgri@gsma.com for the full methodology.

TABLE 1

Ghana context at a glance

Number of live Agri VAS (2016)[6]	9
Ghana mobile penetration (Q4 2016)[7]	67%
% of population living in rural areas (2015)[8]	46%
% of GDP contributed by agriculture (2004)[8]	22%
% of the labour force employed in agriculture (2010)[8]	42%
% of the female labour force employed in agriculture (2010)[8]	38%
Country population (millions, 2016)[8]	28
Target market (millions, 2016)[9]	1.47


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6. mAgri Deployment Tracker [currently offline]. Please contact mAgri@gsma.com to receive the full list.
7. Total subscribers in Ghana at the end of Q4 2016 as a percentage share of the total market population. GSMA Intelligence.
8. The World Bank DataBank: http://databank.worldbank.org/data/home.aspx
9. The number of agricultural workers in Ghana with mobile phones who are likely to pick up VAS (2016). For the full methodology, see GSMA, 2015, "Market size and market opportunity for agricultural value-added service": http://www.gsma.com/mobilefordevelopment/wp-content/uploads/2015/02/Market-size-and-market-opportunity-for-agricultural-value-added-services-Agri-VAS.pdf

Partnership model

Working with an established vendor gave Vodafone a head start to launch

Vodafone works with VAS partner Esoko, an established mAgri service provider in Ghana. Besides providing VAS services under the Vodafone partnership, Esoko also provides agricultural content and services via mobile channels to agribusinesses and NGOs under a business-to-business (B2B) model on a per subscriber basis, as well as Agri VAS to end customers (B2C). An upgrade to Esoko's call handling capacity in order to ensure high levels of customer service given the expected scale of Farmers' Club is currently underway. Esoko was supported by global content partner GAIN.[10]

To conduct user experience (UX) field research and support the product during the first year of service, Vodafone Ghana contracted The Cobalt Partners, supported by global design partner, frog design.[11] Outsourced UX work has generated valuable insights on product shortcomings and the changes required, however, as a third-party contractor to the lead partner organisation, it was often difficult for The Cobalt Partners to drive product changes.

Farmers' Club is part of Vodafone's mass market offering within the Marketing department but is overseen by the Strategy and Innovation department. Multiple product managers have also been responsible for the service in the two years since inception.

The development and scaling up of the product was supported by a matched funding agreement with the GSMA mAgri programme. The GSMA mAgri programme also provided ongoing support throughout the product development cycle, from implementation to iteration, business intelligence (BI), monitoring and evaluation and content support.

FIGURE 1

Farmers' Club contracted partners

10. For the full global support partnership, see "Creating scalable, engaging mobile solutions for agriculture", GSMA (2017): https://www.gsma.com/magri/creating-scalable-mobile-solutions
11. The mNutrition global UX partner, contracted by GSMA to ensure that user needs and experience was prioritised. https://www.frogdesign.com/

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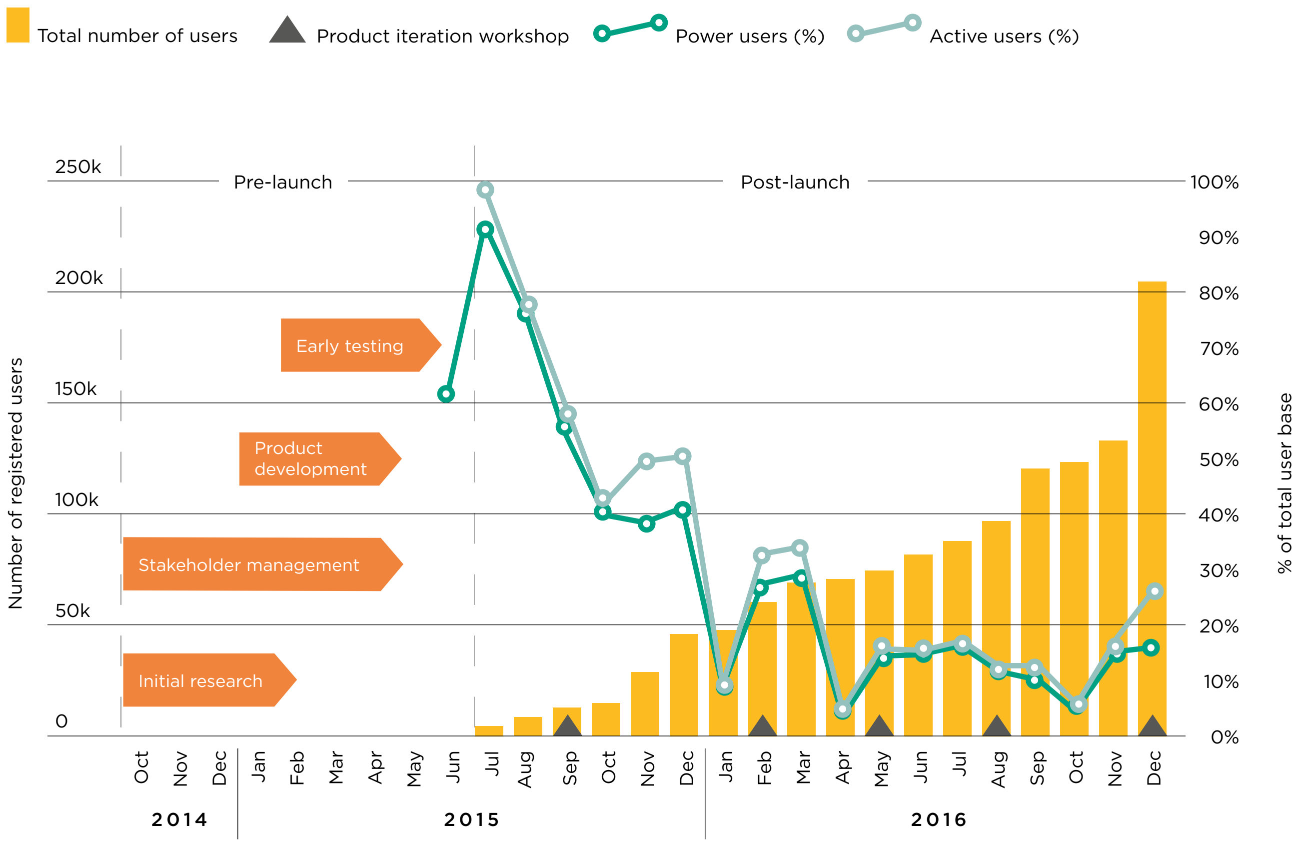
Product timeline

Vodafone experienced slow uptake through an agent-led model

Agent-led sales are difficult to get right. The dedicated SIM model conceived for Farmers' Club requires a dedicated sales force. Perfecting the incentives and processes to ensure users are properly educated and on-boarded is not straightforward. Greater scale has been achieved through inviting existing rural customers to join Farmers' Club.

FIGURE 2

Farmers' Club product timeline



Total number of users: count of users who have ever been sent content
Active users: proportion of total users who received content during that month
Power users: proportion of total users active during the month who have received multiple messages since registration
Product iteration workshops: quarterly workshops where service data is reviewed and changes planned

Design firm, frog design, accompanied Vodafone, The Cobalt Partners, and the GSMA into the field for initial market research during Q4 2014. The team spoke to 40 participants (including farmers and agricultural experts), identified archetypes within the ecosystem and mapped their farming and finance cycles and trusted channels of information to understand firsthand the needs of the customers they aimed to serve.[12]

Key insights from the field:

- **Farmers lack negotiation power; knowing the market price doesn't guarantee a deal.** "I settle for the set price because I need the money."
- **Farmers are keen to get information, but prefer a human connection.** 'Experiencing the information' is more valuable and influential than just reading about it.
- **There is an opportunity to promote pride in farming as a major sector for Ghana.** Some are very keen to escape farming, while others plan to expand their businesses (see archetypes section on p. 14).
- **Children are key supports in helping farmers to understand the phone and read messages.** "I can read messages but my children work faster on the phone and understand it."
- **Farmers are loyal to their mobile network operator mainly because porting numbers from one network provider to another is confusing.** Bundles and free minutes are not fully understood. Trust could be built through a service which understands farmers.

Following soft launch, five product iteration workshops (PIWs) were run with GSMA, Vodafone, and partners. PIWs aimed to review data collected over the quarter from BI, user feedback from phone surveys and UX–led research, to inform the evolution of the service. User issues along the customer journey were identified and solutions planned into the roadmap for the following quarter.

FIGURE 3

Key findings from the PIWs

PIW	Date	Selection of key issues identified	Suggested solution	Implemented
1	Sep 2015	Users may not be receiving the content as advertised, as agents are not completing the profiling stage.	Profile outstanding users through the call centre.	Yes
			Create a combined SIM registration and profiling app.	No
2	Feb 2016	Market price SMS are confusing and difficult to interpret.	Redesign messages so that farmers can better understand them (e.g. bag price rather than retail price).	Yes
3	May 2016	Users must have airtime balance on day 31 after payment or the service will not auto-renew.	Extend the window for auto-renewal to pick up users who topped up after their initial 30-day trial.	Yes
4	Aug 2016	Agents are only incentivised to complete SIM registration, but not to complete profiling.	Revised agent management and incentive scheme.	No
5	Dec 2016	Product is not acquiring a sufficient number of users.	Use internal BI to identify existing rural subscribers on Vodafone network and promote the Farmers' Club service within that group.	Yes

12. For more information on the tools used and stories from the field, see the GSMA, 2015, "mAgri Design Toolkit": http://www.gsma.com/mobilefordevelopment/magri-design-toolkit

Commercial sustainability

Vodafone's primary mission was to increase its rural base, and subsequently brand visibility and affinity in these regions, in addition to increasing rural revenue. Agent-led acquisition has been expensive (at least seven times the acquisition costs of the five comparable services in the GSMA portfolio) and slow in comparison to other models. However, direct and indirect revenues from the use of core services on Farmers' Club SIMs have steadily increased thanks to the service's subscription model.

Capital expenditure (CAPEX) was kept low by partnering with an established VAS/content vendor. Running costs per user have steadily fallen as the service has matured, but the overall cost of goods sold increases for Vodafone as the user base grows (because Esoko charges Vodafone per subscriber). As the user base increases, the vendor will face a step change in running costs (e.g. additional call centre capacity for both technical and human resources) to ensure UX is not unduly affected.

Ease of renewal significantly affects adoption levels. After the pilot, there was a sharp drop in activity levels. In an early version of the service, users had to pay monthly service charges to remain active. This manual renewal tested well in the early research as it mirrored 'paying dues' to a traditional farmers' club, but in practice, users either did not realise they had to pay or forgot the process for renewing manually and dropped from the service. An auto-renewal process was created for new users from November 2015, which led to an increase in users paying for the product after their trial period, from 4% of the user base in September 2015 to 20% in May 2016.

Direct and indirect revenues from Farmers' Club SIMs enabled Vodafone to break even quickly. The automatic subscription model has been effective in generating revenue for Farmers' Club, with operational breakeven achieved 15 months after launch.

To combat low user base growth, the service was zero-rated for a six to eight month period from October 2016 to support an acquisition campaign. A small 'at cost' subscription fee is likely to be reintroduced to generate indirect revenues from core services (e.g. voice and data). Zero-rating the service impacted short-term revenue, but enabled greater penetration. Subscriber growth has accelerated during Q4 2016 as alternative routes to market were explored, such as targeting the existing but low-spending rural Vodafone subscriber base. This should improve the value proposition of free calls within the closed user group (CUG) in the future — the more active Farmers' Club SIMs, the more people each user can potentially call for free. By December 2016, Farmers' Club had reached 14% of the identified target market in Ghana.[13] While the reintroduction of a subscription fee will likely see the number of active users fall, it is anticipated that growth of the base can be maintained, assuming the fee is kept as low as possible.

13. Target market is defined as the number of agricultural workers in Ghana with mobile phones who are likely to pick up VAS. For the full methodology, see GSMA, 2015, "Market size and market opportunity for agricultural value-added services", http://www.gsma.com/mobilefordevelopment/wp-content/uploads/2015/02/Market-size-and-market-opportunity-for-agri-cultural-value-added-services-Agri-VAS.pdf.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Who uses Farmers' Club?

A range of archetypes are using the service, suggesting broad appeal

Farming archetypes in Ghana were identified through design research, supported by frog design, during Q4 2014. 'Competent optimists' were identified during early research as potential early adopters of the service. Among power users, competent optimists are most likely to link beneficial outcomes to the service, but also refer to other sources of information. However, a broad range of farmer archetypes were identified among service users.

FIGURE 4

Farming archetypes in Ghana

	Tech literacy (1 = very low)	Business sense (5 = very high)	Attitudes and behaviours	Access to information
 Trapped	○○○○●	○○○○●	Reactive to outer circumstances, not empowered to change Worried about feeding the family. Doesn't enjoy farming and doesn't want his children to become farmers.	Main information sources are other community members and shared devices like TV. Feels highly dependent on the discretion of middlemen for prices offered.
 Escapist	○○○●●	○○●●●	Difficulties with farming (e.g. low income, physical problems) have spawned side-businesses. Still identifies as a farmer, but prefers to concentrate on the new business.	Not eager to keep up with farming news, but likely to still attend farming group meetings to keep up with running the farming business.
 Acceptor	○○○●●	○○○●●	Would continue farming in the traditional manner without outside influence. Low risk appetite. Family wellbeing is the most important thing.	Regularly uses traditional media and attends community meetings. Information received from partners, extension officers and media is trusted.
 Competent Optimist	○○●●●	○●●●●	Manages a productive farming business. First to try new methods and share results. Flexible enough to change if opportunities arise. Has defined goals and plans for achieving them.	Actively reaches out to information sources like extension officers, training, companies, traditional media or the internet. Stays up to date with farming developments.

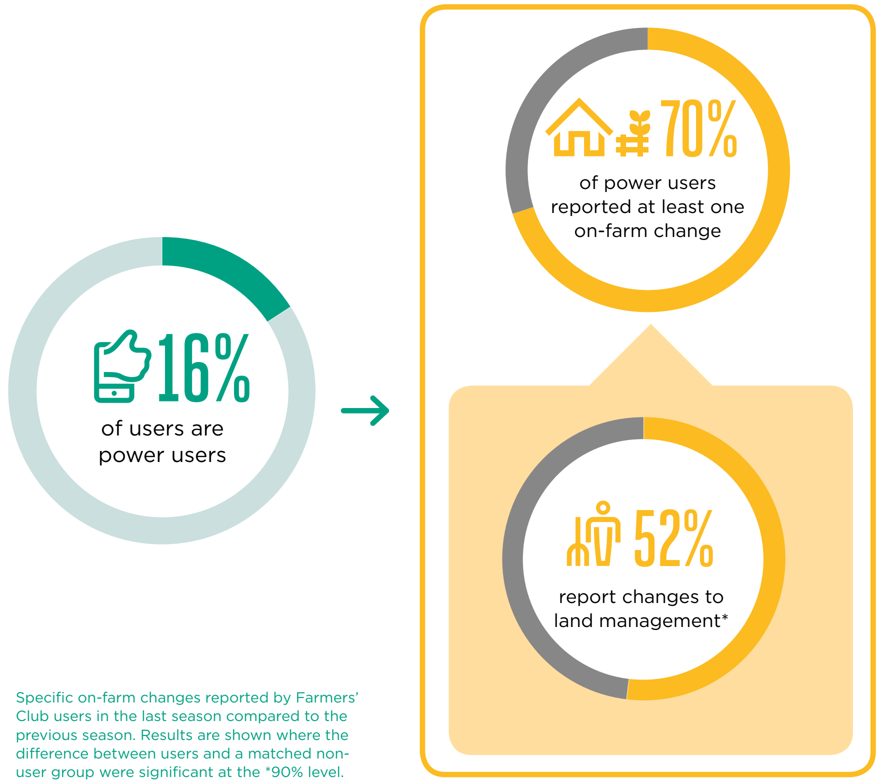
Benefits for users

Phone surveys and field work to understand the benefits of Farmers' Club for end users took place in January and February 2017. This is an interim study performed 19 months after the soft launch of the service, so changes to farming behaviour are tracked (as indicators of possible future benefits) alongside improvements in on-farm production.

Vodafone's call centre surveyed a treatment group of 432 power users (users that had registered for at least six months and listened to at least eight OBD calls) and a comparison group of 154 non-users (people who registered for Farmers' Club less than one month before the survey). The non-user group was selected based on the likelihood they would have similar profiles to the user group, but would not have benefitted from the service during the previous farming season. The 12 respondents interviewed for the qualitative study were selected to provide a broad set of insights into the experiences of power users.

FIGURE 5

Farmers' Club outcomes pathway



Specific on-farm changes reported by Farmers' Club users in the last season compared to the previous season. Results are shown where the difference between users and a matched non-user group were significant at the *90% level.

Power users reported making changes to how they manage their land significantly more than non-users

Power users are 1.7 times more likely than non-users to report a change to their land management practices. All other comparisons were found to be positive in favour of power users, with the a particularly large change in improved nutritional practices (63% of power users reported positive changes compared to 43% of non-users.) However, these results are not statistically significant and hence cannot be generalised to all service users.

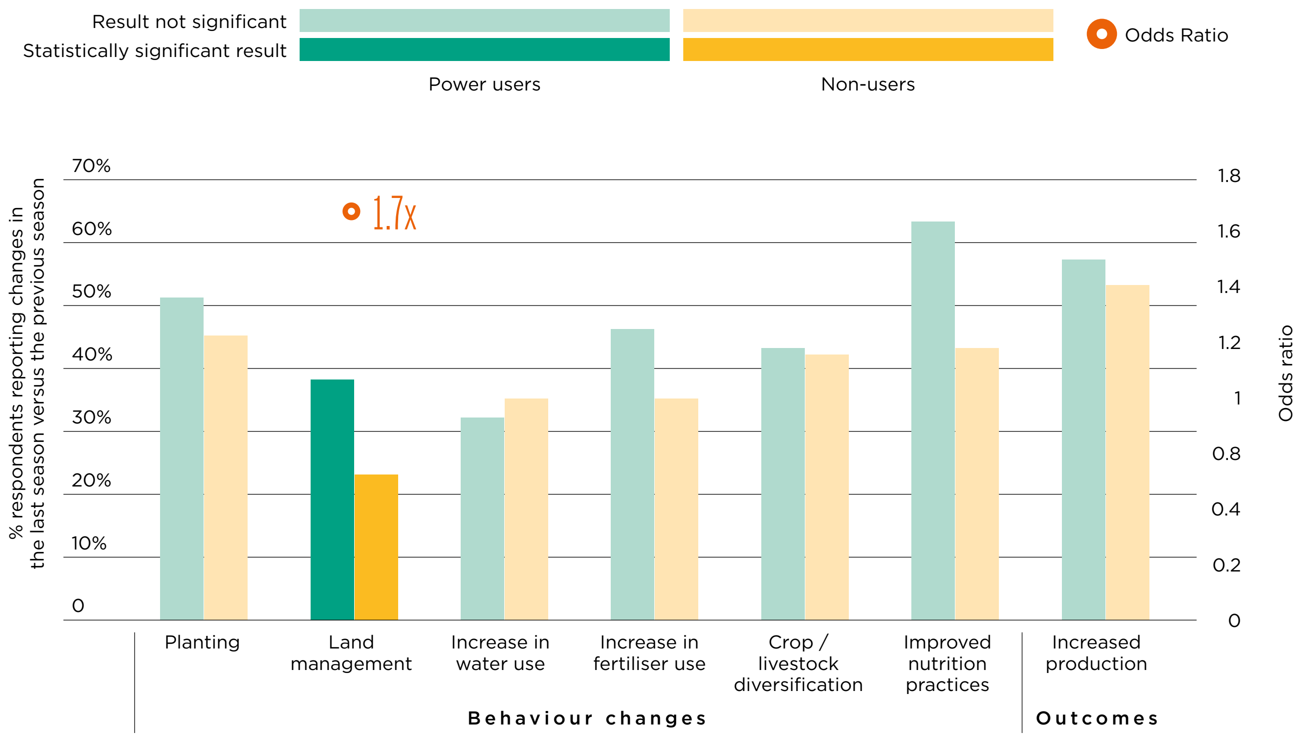
"It is helpful because they update me on the prices of products and the weather, when they tell me it's going to rain, I will not water my crops again. I will wait for the rain to fall and the money I would have used to buy petrol would be used for something else."
Farmers' Club user, Male, 32, Escapist, Mampong district

Most power users made on-farm changes in this season compared to the last. Overall, almost 70% of power users surveyed reported making at least one type of on-farm change this season compared to the previous season.

Power users interviewed during field research mentioned many cases where the service had helped them throughout the farming cycle, including changes to marketing practices because of the market price messages, which were not tested for in the phone survey.

FIGURE 6

Behaviour changes and outcomes



Behaviour changes and outcomes in the matched subset of users (117) versus non-users (144). The difference in land management changes is statistically significant (at the 90% confidence interval). Statistical significance is affected by the sample size and the magnitude of difference between proportions.

"The post-harvest information is what has helped me a lot. I used to store produce without drying, but since I got the information of drying my produce after harvesting, my harvested produce can be stored for longer. It [the service] also gives me market tips about certain commodities."
Farmers' Club user, male, 56, Escapist, Mampong district

"Because of the price alerts I get to know the prevailing market prices and so when they come I can now bargain with them and those who can buy at my price will buy"
Farmers' Club user, male, 32, Escapist, Mampong district

"At first we used to take only banku but now [...] I add beans to it. [...] I didn't know but now that the Vodafone Farmers' Club gave us information on that, I have added it into my menu."
Farmers' Club user, female, 35, Trapped, Suhum district

Power users reported an increase in on-farm production, but not significantly more than non-users

Most power users reported a change in production. When asked about production levels between the most recent rainy season and the previous one, 56% of service users in the phone survey reported an increase in their production, 30% reported a decrease and 12% didn't see any change. This was not significantly different from the non-user group. There were significant differences across regions: more than half of users in the Southern region (53%) report a decrease in production. About a third of fieldwork respondents, all from central regions, reported an increase in production over the last two harvests.

"Honestly speaking, it is better than before, especially with my seedlings. Just last year with the weather update, I know the correct time it will rain. Planting after rains is nice. Those [pieces of] advice have helped me to increase my produce."
Farmers' Club user, male, 30, Competent optimist, Mampong district

The phone survey did not ask about increased profits, however, three out of 12 users interviewed in the field mentioned they were receiving better prices for their produce because they could now negotiate with vendors due to the price updates.

Both power users and non-users cite their mobile phone as their most-used source of agricultural information. The main sources driving agricultural changes are phone services for both power users and non-users (86% and 78%, respectively) followed by extension officers (31% and 47%). Most power users interviewed in the field said they have shared information from the service with others (10 out of 12 respondents). Information is in most cases shared with family members, friends, and fellow farmers in farmer groups. Respondents had shared information with an average of 10 people (min = 5, max = 30).

Most Farmers' Club users are men with relatively large farms

Most Farmers' Club power users are men. 16% of power users were women. Female respondents were more likely to report changes in their nutritional practices, using new recipes and changing the variety of food eaten, which they linked to the information they received from the service. Women were also significantly less likely to report changes to land management practices (40% of men versus 28% of women).

Farmers' Club power users may be less likely to live below the poverty line than the national average. Based on the Progress out of Poverty Index (PPI),[14] an estimated 20.5% of Farmers' Club subscribers are living below the poverty line. Given that the overall poverty rate in Ghana was around 25% (2015), users below the poverty line make up a reasonable proportion of the total sample. Less than half (47%) of power users generate their income solely from farming. The proportion of service users below the poverty line who reported at least one behaviour change or no behaviour change, or a change in production, is the same as those above the poverty line.

Power users are mainly larger farmers. 23% of power users farm up to two acres of land, 26% farm two to five acres and around half (51%) farm more than five acres. Given that 90% of Ghana's farms are smaller than five acres, Farmers' Club would seem to be reaching a disproportionate number of larger farmers.[15]

For many of the fieldwork respondents, farming is what feeds their families and allows them to earn some money for other supplies and send their children to school. For some, farming is seen as a business. For others, the limited money in farming — and apparently low returns on investments — means it is not seen as a business.

"It is from the farming that you feed your wife and children, clothe them and all other family issues. That is what farming means to me."
Farmers' Club user, male, 32, Competent optimist, Tamale district

All of the farmers interviewed in the field owned a mobile phone (15 out of 15), four of whom had smartphones. Only two of the 15 respondents said they share the phone with their spouse; most had sole use of their mobile phones.

14. This the new definition (2005) PPP USD 2.50/day line deflated with Ghana's CPI.
15. Ghana's Ministry of Food and Agriculture, 2012, Agric Facts and Figures: http://www.e-agriculture.gov.gh/index.php/2014-07-22-14-39-46/agric-facts-and-figures-2012

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Spotlight

Market price alerts improve farmers' bargaining power

Farmers in Ghana typically sell to small locally based traders who aggregate sales and then sell on to larger traders. They also sell directly to larger itinerant traders who travel to rural areas, aggregate production, and then return to the urban market to sell.[16] Although farmers may have long-term relationships with certain traders, formal contractual relationships are rare. Instead, sales are made in an informal manner. Bargaining is therefore a central feature of agricultural marketing in Ghana.

The remoteness of some communities and their poor communications with marketplaces means that farmers lack knowledge of market prices, particularly for urban markets. Without access to the latest market prices, they are often in a poor position to negotiate, limiting their ability to decide where and when to sell. Although providing market prices does not necessarily allow farmers to get that price at the farm gate, improved access market price information can help increase producer prices by correcting the information imbalance between farmers and traders, giving farmers a better negotiating position.[17]

Farmers' Club subscribers from the Ashanti and Brong Ahafo regions reported using price alerts in their bargaining with buyers and to assess the profitability of selling their crop in another market. By knowing what their crop is worth at the urban market, farmers can assess whether the price they are being offered is fair. Other respondents said that market price alerts help them decide when it is best to sell and whether it is worth investing in transport costs.

"Now that I know the price from the central market, I am in a better position to bargain on the price, and it should revolve around the given price provided by Vodafone Farmers' Club. Because I know a certain price from a certain market, it helps me bargain well."
Obed, Farmers' Club user, Mampong district

"When I get the price alert on Friday and it says that it is 100 cedi and then the following day on Saturday or even on Sunday when the buyer offers 90 cedi, I will not sell my products until I hear what the next market price is, and only then will I decide what price to accept."
Zakaria, Farmers' Club user, Mampong district

16. Hildebrandt, Nyarko, Romagnoli and Soldani, 2014, "Information is power? Impact of an SMS-based Market Information System on Farmers in Ghana".
17. Courtois and Subervie, 2013, "Farmer Bargaining Power and Market Information Services", prepared for the Economic Development in Africa Conference, St Catherine's College, Oxford.

The customer journey

Finding a balance between efficient on-boarding and personalising the service has been a challenge, as has consistent content delivery and communication about pricing.

"[...] some of the people cannot read the messages so when they receive they are not able to know what important information is in them. So they should send some of the messages as voice mail [e.g. weather]."

Male, Competent optimist, 56,
Techiman North district

	Marketing, sales, and distribution	On-boarding	Navigation and content	Payment
Product description	**Since inception, agents have sold dedicated Farmers' Club SIMs in rural areas. They were to be supported by an ambassador, the local touchpoint for service knowledge and promotion, who would gather the target audience for SIM sales. Recent acquisitions have been existing rural Vodafone users who have moved to the Farmers' Club plan.**	**Existing Vodafone users ported to Farmers' Club have been automatically profiled, based on their location and popular crops in that area, after a one-touch registration process. This was stripped down from a long profiling process to allow more users to be on-boarded in line with demand. Users can change their profiled crop through the call centre by dialling 550.**	**The service advertises 12 one-day weather forecast SMS (accurate to 9km of your location) and four market price SMS (covering one of 44 markets in Ghana) per month in English. Users receive three agricultural and one nutrition-based OBD on a relevant crop per month, from 46 crop and fish categories, in 10 local languages. Farmers' Club users can dial 550 for free access to Esoko's expert call centre.**	**As of October 2016, the comprehensive offering is free for all users. This is intended as a 6 to 8 month consolidation period so that user can benefit from the content and the closed user group, allowing free calls between Farmers' Club SIMs. Before this point, users paid GHS 2 [USD 0.44] as monthly 'dues' to be a member of the Farmers' Club.**
Customer journey[18]	**14%** of target market **registered**	**91%** of registered users have **accessed content**	**61%** of users accessing content returned to **repeat access content**	**68%** of registered users paid for the service[20]

Key findings

Marketing, sales, and distribution

- **The ambassador model was well tested but lacked long-term incentives.** Local respected farmers, existing agents with ties to agriculture and extension officers were tested as potential ambassadors for the service. They were given a Farmers' Club branded bike as an incentive, however, this was not sufficient in the long run and the scheme lost momentum.
- **Agent-led sales are difficult to get right.** The dedicated SIM model requires a sales force. Getting the incentives and processes right to properly target, educate, and on-board users is complex.
- **Many stakeholders are involved in product marketing.** UX-led research tested service tag lines that resonated with farmers, however these did not fit with in-house branding. Taking a member of the branding team into the field could have mitigated this issue.
- **New marketing opportunities, like the Farmers' Club Academy, were not followed up.** UX research suggested that children were key to unlocking the mobile phone as an information tool for rural users, so meetings aimed to help potential users and their children to learn about using mobile technology ('Academies') were proposed. However, the speed of acquisition was deemed too low for the costs involved.

On-boarding

- **Agent profiling was not scalable.** Field agents were asked to complete the Esoko profiling survey after SIM registration, but the whole process was too long. Esoko's outbound call centre took on the role, but they were only able to make 2,500 calls per day at most; not all calls led to successful profiling and not all potential users could be reached. In September 2016, around 15% of users in the CUG had not yet recieved content.
- **Outbound calls created a strain on the call centre.** When call centre agents took over profiling, the number of inbound calls that could not be answered increased: when inbound calls exceeded 4,000 per month in February 2016, almost a quarter of calls went unanswered.[19]
- **Automatic profiling is more efficient, but less targeted.** Profiling based on most used cell tower and popular crops in that area is a new method for the service (Q4 2016) and it is apparent from the field work that users are not aware they can change their registered crop.

  "They should give us information on all the crops that we cultivate because I only receive messages on maize alone."
  Service user, Male, Trapped, 30, Mampong district

Navigation and content

- **Content delivery has not always been 'as advertised'.** Not all users were receiving as many messages as they should. To combat this, a 'send and store' facility has been installed, which means there are several attempts to send each SMS.

  "Last year the messages failed me; I expected the messages to come but I didn't get any so I ended up planting my maize in September but the rains stopped in October so the crop failed."
  Service user, Male, Competent optimist, 56 , Techiman North district
- **Porting new users onto the service repurposed the call centre.** With the new influx of users in December 2016, the number of successful calls to the Esoko expert agents technical issues rose from 25% to 45%.
- **Market price SMS must be relevant to end users.** UX research found the original market price messages (stating wholesale and retail prices) were not perceived as useful. The retail price offered was switched to a 'bag' price, which is the unit farmers are familiar with.
- **Users report that information is not always usable through the given channel.** Not all users can read the English SMS messages.

Payment

- **Manual subscription was not well understood.** Manual subscription, based on UX-led observations that farmers were used to 'paying dues' to belong to clubs, tested well in early UX research, but when the service launched, many users dropped from the service because they did not know or had forgotten they needed to renew the service. Vodafone introduced an auto-renewal process to address the problem in Q4 2015.
- **Users had to have the correct airtime balance on the 30th day of their subscription to remain on the service, otherwise they would be cut off.** This was too narrow a window; further iterations experimented with longer time frames for the manual subscription fee to be paid (30 days, then eventually 90 days).
- **Free access has brought an influx of new users.** These users increase the reach and value proposition of the free call bundle. However, power users interviewed in the field indicated the service and free call bundle were more valuable than the original GHS 2 per month payment plan:

  "The benefit I will get from the service is far more than the two cedis."
  Service user, Male, Escapist, 32, Mampong district

18. BI analysis of Esoko platform data, June 2015–December 2016. Target market is defined as the number of agricultural workers in Ghana with mobile phones who are likely to pick up VAS. For the full methodology, see GSMA, 2015, "Market size and market opportunity for agricultural value-added services", http://www.gsma.com/mobilefordevelopment/wp-content/uploads/2015/02/Market-size-and-market-opportunity-for-agricultural-value-added-services-Agri-VAS.pdf.
19. BI analysis of Esoko platform data, January–March 2016

20. To September 2016, before charging was turned off

Future roadmap

To ensure the product is viable over the long term, Vodafone plans to return to a small B2C charge to cover service costs. All power users asked about the value of the service during the fieldwork (11 out of 11) said it was worth more than GHS 2 per month, suggesting the original charges were reasonable for the comprehensive package. Strong user education is required to ensure Farmers' Club members understand the full value of what they are paying for.

Farmers' Club also has the potential to carry customised content on a platform for organisations who work with farmers. By repackaging the SMS and OBD messages delivered to users within certain closed groups, Farmers' Club could expand from a purely B2C offering to a B2B offering. For instance, an enterprise customer could have specific content developed for their particular value chain (e.g. cocoa or rubber) and send messages scheduled in line with the cropping calendar.


COURTESY OF FROG DESIGN

For case studies on five other services in the mAgri mNutrition portfolio and analysis across all six services please visit https://www.gsma.com/magri/creating-scalable-mobile-solutions

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