

Site Pyo A weather and agriculture app by Ooredoo Myanmar





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SPOTLIGHT: ADAPTATION TO CLIMATE CH

ABBREVIATIONS

Арр	Application - limited functionality software which
B2B	Business to business – refers to the charging mod
BI	Business intelligence – use of data generated by product/service design
CAPEX	Capital expenditure
IVR	Interactive voice response – a dial-in menu which pressing the keypad
OBD	Outbound dialling, also called voice SMS or 'robo potential users.
PIW	Product iteration workshop – quarterly workshop Bl, user feedback from phone surveys, and UX-lea
SMS	Short messaging service - written messages sent
UX	User experience - how the user engages with the
VAS	Value-added service(s)

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del.

service users to make decisions about

allows users to interact with automated messages by

-calling'. A pre-recorded message sent out to users/

ps which aim to review data collected over the quarter from ed research to inform the evolution of the service

to phones with limited character length

e product, practically and emotionally

Executive Summary

Site Pyo is an agricultural application for smartphones available for Ooredoo subscribers in Myanmar

Site Pyo (*Cultivation*) is an agricultural smartphone application (app) launched by Ooredoo Myanmar and their content partner, Miaki, in March 2016. The product rollout was supported by a matched funding agreement between Ooredoo Myanmar and GSMA under 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. As of December 2016, the app had over 150,000 users.

Site Pyo is designed to improve farmers' lives by providing information that improves yields. The app is

free to download on both Google Play and Ooredoo Zone and zero-rated by Ooredoo, which means there are no data charges for time spent using the app. Once downloaded, users can provide profiling information to personalise their app experience, such as receiving customised weather forecasts for their area. Location data is extracted from handset GPS coordinates, where possible. The home screen shows a five-day weather forecast. Other screens contain content on 10 crops, from seed selection to harvesting and storage. Ooredoo sends SMS notifications which encourage users to access the app on a weekly basis. Users experiencing technical difficulties can call the Ooredoo help centre by dialling 234.



Site Pyo home screen. Courtesy of Ooredoo Myanmar.

Marketing has included SMS and outbound dialling (OBD) blasts, as well as making use of existing audiences on Facebook pages, including Ooredoo's and that of U Tun Lwin (a famous meteorologist in

Key findings

- In Myanmar, on-farm change is encouraged by tangible examples of success. Many farmers encountered during the early design research had tried something new in response to success stories, but sometimes suffered because they did not have access to sufficient information to adapt the new practices to their specific context. Attachment to traditional knowledge is strong, but with weather patterns changing, drastic change in farming practices is required.
- Most Site Pyo users are men living below the poverty line. Only 11% of surveyed users are women. Two-thirds (66%) are living below the poverty line.
- Site Pyo users are more likely to change their planting and pest and disease control methods than non-users. The likelihood that a user reports a change in planting is 3.2 times greater than for a non-user. The likelihood that a user reports a change in pest and disease control is twice that of a non-user.¹ The majority (81%) of users reported making at least one type of on-farm change.
- Site Pyo's users value their mobile phones as an information source. While the app is not the only source of information for most users, 44% of users reported the mobile phone as one of two main sources of information that led them to make

Myanmar and an advocate of the service). Ooredoo and Miaki also teamed up for a roadshow which travelled to farming areas to promote the app.

changes in their practices, compared to less than 1% of non-users.

- Signing U Tun Lwin (Myanmar's most trusted weather man) as the brand ambassador for the service was key to success. Users identify Dr. Tun Lwin as a trusted source of information.
- Site Pyo generated no direct revenue, but has brought indirect benefits for Ooredoo. Recognising that farmers were cost conscious, the app was kept free for end users and brought benefits for Ooredoo in the form of greater reach into rural Myanmar, improved average revenue per user (ARPU), and enhanced customer loyalty in a multi-SIM market. While the service did not generate direct revenue by design, Site Pyo users contributed to a 14% increase in ARPU and a 6% increase in data use compared to a negligible increase in a comparable group over the same period.
- The user base has grown steadily, but engagement has not been consistently tracked. At the time of launch and through initial iterations, usage data on the service was not fully tracked due to technology limitations. However, platform improvements implemented in November 2016 provide Miaki and Ooredoo with engagement statistics that are now being tracked and will support further iterations of the product.

^{1.} Based on a comparative analysis of users and non-users using coarsened exact matching. Significant at the 95% confidence interval.

Country context

Ooredoo is one of two new telecom players in a high-potential, agriculture-dependent market

Myanmar has gone from minimal mobile connectivity to one of the fastest growing mobile markets in the world. With the entry of global mobile network operators, Telenor and Ooredoo, in 2014, Myanmar leap-frogged traditional mobile usage, with the majority of mobile subscribers (79%) being online.² Ooredoo offers a 3G and 4G-only service. To encourage use of Ooredoo services in this dual-SIM market, Ooredoo developed a service for farmers, drawing on Myanmar's heavy dependence on agriculture.

Agriculture contributes almost half of Myanmar's gross domestic product (GDP) and employs most of its labour force. About 15% of Myanmar's total land area (67.7m hectares) is currently used to grow crops, with great potential for expansion. However, Myanmar is one of the world's most vulnerable countries to climate change. In addition to rising sea levels and heavier rains, the effects of drought, heat waves, and

seasonal change on agriculture is exacerbating existing development issues, particularly food and water insecurity.³ In July 2015, Cyclone Komen hit Myanmar, causing many farmers to lose their livelihoods in the storm. 570,000 hectares of agricultural land were flooded, destroying 270,000 hectares of crops (mainly rice paddy).4

Myanmar's main crop is rice, with approximately 27 million tonnes produced each year on average.⁵ There are two rice harvest seasons, from October to December and March to June. Sugar crops and vegetables are the next most commonly grown crops by weight.

Recent demographic and population data is not readily available for Myanmar. Data from 2009–10 suggest that over 65% of children in Myanmar may be malnourished.6

TABLE 1

Myanmar country context at a glance

Number of live agricultural value-added services (Agri VA

- Mobile penetration (Q4 2016)⁸
- % of population living in rural areas (2015)⁹
- % of the labour force employed in agriculture (2014)¹⁰

% of GDP contributed by agriculture (2004)⁹

Country population (millions, 2016)⁹

Target market (millions, 2016)¹¹



- 2. GSMA Intelligence, Q4 2016
- 3. Shrestha, Thin, and Deb, September 2014, "Assessment of climate change impacts on irrigation water requirement and rice yield for Ngamoeyeik Irrigation Project in Myanmar", in Journal of Water and Climate Change, 5(3), p. 427, http://jwcc.iwaponline.com/content/5/3/427.
- 4. Food and Agriculture Organization of the United Nations (FAO) and the World Food Programme (WFP), 2016, "Special Report: Crop and Food Security Assessment Mission to Myan mar", http://reliefweb.int/sites/reliefweb.int/files/resources/FAO-WFP Crop and Food Security Assessment Mission to Myanmar.pdf
- 5. Average over 14 years (2000-2014) from the model for GSMA, 2016, "Market size and opportunity in digitising payments in agricultural value chains", http://www.gsma.com/mobilegramme/magri/market-size-and-opportunity-in-digitising-payments-in-agricultural-value-chains. Please contact the mAgri@gsma.com for the full methodology
- 6. World Health Organisation (WHO), WHO Nutrition Landscape Information System (NLiS), http://apps.who.int/nutrition/landscape/report.aspx?iso=MMR

7. mAgri Deployment Tracker (currently offline). Please contact mAgri@gsma.com to receive the full list.

- 8. Unique mobile subscribers in Myanmar (end of Q4 2016) as a percentage of the total market population. GSMA Intelligence.
- 9. The World Bank DataBank, http://databank.worldbank.org/data/home.aspx
- 10. John T. Slagle, 2014, "Climate change in Myanmar: impacts and adaptation", http://calhoun.nps.edu/bitstream/handle/10945/44672/14Dec Slagle John.pdf?sequence=1&isAllowed=y
- 11. The number of agricultural workers in Myanmar 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 (Agri VAS)", http://www.gsma.com/mobilefordev ue-added-services-Agri-VAS.pdf

S, 2016) ⁷	4
	48%
	66%
	70%
	48%
	55
	2.97

ment/wp-content/uploads/2015/02/Market-size-and-market-opportunity-for-agricultural-val-

Partnership model

Site Pyo flourishes despite underdeveloped ecosystem

Site Pyo is a special project within Ooredoo. To date, it has been independent of other departments, but is likely to be housed in the Digital Services department. Myanmar has a new and highly competitive tech market, with many opportunities for a small but growing group of skilled practitioners. For this reason, staff turnover on the Site Pyo product team has been high. An in-house user experience (UX) lead was employed by Ooredoo for the first 12 months of the project, however, this role was not re-staffed. The UX work stream was also supported by frog design, which offered UX consultancy across the mAgri mNutrition portfolio.¹²

Miaki Myanmar¹³ was set up in response to a gap in the market for a content aggregator for this product. Miaki employs a product manager as well as a data scientist

and content specialist, who work on Site Pyo and are currently seeking partners to monetise the app. Any technical changes to the app are charged with Miaki managing the technology side on a day-to-day basis. Changes are implemented through Revotech, who built the app and own the platform. Content development in Myanmar was supported by global content partner, CABI.

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 support throughout the product development cycle, from implementation to iteration, business intelligence (BI), monitoring and evaluation, and content support.

FIGURE 1

Ooredoo's contracted partners for Site Pyo



12. The mNutrition global UX partner, contracted by GSMA to ensure user needs and experience were prioritised. https://www.frogdesign.com/. For more on the global partners, see GSMA, 2017, "Creating scalable, engaging mobile solutions for agriculture", https://www.gsma.com/magri/creating-scalable-mobile-solutions

13. Originally based in Bangladesh, Win Miaki is the content partner for <u>Grameenphone Krishi Sheba</u> (also supported as part of the mNutrition Initiative). The company expanded into Myanmar in 2016.



Product timeline

Growth of the user base has been steady, but engagement has not been tracked consistently.

At the time of launch and through initial iterations, usage data on the service was not fully tracked due to server limitations. However, platform improvements implemented in November 2016 have provided Miaki and Ooredoo with engagement statistics that are now being tracked and will support further iterations of the product.

FIGURE 2





Total number of users: count of all users who have ever been on the platform

Active users: users who opened the app during the month

Product iteration workshops: quarterly workshops where service data is reviewed and changes planned

Design firm, frog design, accompanied Ooredoo and the GSMA into the field for initial market research

during Q1 2015. The team conducted in-depth interviews with 22 farmers, as well as various input suppliers, agricultural experts, and merchants. They mapped the archetypes they encountered, their place in the farming ecosystem, and their pain points throughout the farming cycle to understand firsthand the needs of the customers they aimed to serve.¹⁴

Key insights from the field:

• Tangible examples of success encourage replication. Many farmers encountered during the research had tried something new in response to success stories, but did not have access to sufficient information to adapt the new practices to their specific context.

FIGURE 3

Key Issues at PIWs

PIW	Date	Selection of key issues identified	Suggested solution	Implemented
1	May 2016	Data along the customer journey is not captured, which hampers product analysis.	Capture additional data on usage of the app to track their journey through the service.	In progress
2	July 2016	Product awareness among farmers is very limited.	Promote Site Pyo on Ooredoo and U Tun Lwin Facebook pages. Implement on-the-ground marketing activities.	Yes
		Registration process is very long and users abandon registration midway.	Perform user testing on improved registration flow. Test the best translations of 'button' words (like 'submit') in Burmese.	Yes
3	Nov 2016	Nov 2016 Monetisation for the app has not been fully explored. Explore business-to-business (B2B) monetisation through, for example, in-app advertising, enhanced features for premium customers, 2G services for crop and weather advisory, or a call centre that charges for expert advice.		In progress

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

- Trust is a major influence on behaviour. Some farmers reported accepting lower prices to work with a trusted broker; others referenced traditional knowledge, including astrology. A behaviour change-focused value proposition for agricultural users would have to acknowledge traditional practices while also providing comparative information.
- Entrepreneurialism is not purely an individual activity; it involves multiple actors in the ecosystem to hedge against risks. Farmers work with brokers, trusted lead farmers, and other actors to make decisions.

After soft launch, three product iteration workshops (PIWs) were held with the Ooredoo, Miaki and GSMA teams. PIWs aimed to review data collected over the quarter, including user feedback from phone surveys and UX-led research.

Commercial sustainability

A simplified registration and on-boarding process, informed through UX research and implemented in the second half of 2016, led to a significant increase in subscriptions. Initial uptake of Site Pyo was slow due to low awareness and limited word of mouth. About 50,000 users were added in the first six months through organic growth and promotion via low-cost available social media channels (such as the Ooredoo Myanmar Facebook page), but a strong promotional push across a variety of digital channels over the next four months saw the addition of more than 100,000 new users. Nine months after launch, the service had over 150,000 unique users.

User engagement has not been consistently tracked. Detailed data, including records of each individual interaction with the app, were not captured by the platform provider. This has led to an incomplete understanding of how users engaged with the product through BI analysis. Provisions have been made for improved tracking going forward.

Initial Android OS app development was low cost, so minimal capital expenditure (CAPEX) was incurred.

Site Pyo implemented lessons from other markets to focus on low-cost digital marketing initiatives (such as Facebook promotions, Ooredoo store, SMS, and OBD) for promotions. Road shows, where Ooredoo staff visited seven locations to promote the service, increased the cost of marketing overall, but were a key customer touchpoint, which helped the product team raise awareness and understand problems with the product.

Site Pyo generated no direct revenue, but has brought indirect benefits for Ooredoo. Recognising that farmers were cost conscious, the app was kept free for end users and brought benefits for Ooredoo in the form of greater reach into rural Myanmar, improved average revenue per user (ARPU), and enhanced loyalty in a multi-SIM market. While the service did not generate direct revenue by design, Site Pyo users contributed to a 14% increase in ARPU and a 6% increase in data use compared to a negligible increase in a comparable group over the same period.

"Finding a long-term, sustainable model to continue offering this vital service is critical. There are real costs – like the content development and application maintenance – as well as other costs and considerations, such as digital engagement, promotion, and zero-rating the application to take away the barrier of discoverability. We want to continue to offer such services for farmers, and will be working very closely to make sure that this happens."

Charity Safford, Chief Marketing Officer, Ooredoo Myanmar

A range of farming archetypes access Site Pyo, suggesting it has broad appeal

Farming archetypes in Myanmar were identified through design research supported by frog design during Q1 2015. Ten farmers interviewed in recent fieldwork were categorised as 'Knowledge seekers', two as 'Pioneers', nine as 'Slow and steady', and

FIGURE 4

Farming archetypes in Myanmar



15. Based on gualitative assessment by field researchers

one as 'Trapped'.¹⁵ Based on gualitative analysis, Knowledge seekers seem more likely to report a positive behaviour change and positive outcomes, and to attribute them to the Site Pyo service, compared to Slow and steady farmers.

Community engagement	
A trusted community leader with links to the larger ecosystem. Ministry of Agriculture, trusted villagers, and the media are sources of information.	
Dependent on the community for information and contributes to the local exchange of knowledge and resources. Not very aware of the network beyond the village.	
Part of the community, but only professionally. Receives most information through interactions with trusted community members. Rarely watches TV or listens to the radio.	
Tends to engage with other community members who are in a similar situation. Primary sources of information are trusted friends and family.	

Benefits for users

Phone surveys and field research to explore the benefits of using Site Pyo were conducted in January and February 2017. As this was an interim study performed only nine months after service launch, changes to farming behaviour have been tracked (as indicators of possible future benefits) alongside improvements to on-farm production and income.

Ooredoo's contact centre staff spoke to 350 users and 129 non-users.¹⁶ 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 22 respondents interviewed in the field were selected to provide a range of perspectives from different service users.

FIGURE 5

Site Pyo outcomes pathway



Specific on-farm changes reported by Site Pyo 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 **95% or the *90% level.

16. Users are those who first accessed the service before the end of July 2016, and were active on the service for at least 90 days. Non-users are those who downloaded the app for the first time in the 30 days prior to survey launch in January 2017.

Users made changes to their habitual planting and pest and disease control methods

The likelihood that a user reports a change in planting is 3.2 times greater than a non-user. It is twice as likely that a user reports a change in pest and disease control as a non-user.¹⁷ Users interviewed during the fieldwork gave examples of using the app to determine how many seedlings to grow and the timing of planting. They reported seeing benefits from these changes.

"[Previously] I used a lot of seedlings in the field as I did not know how many seedlings I should have planted in one acre of farm. Now the app said 130,000 seedlings, I [...] reduced number of seedlings per acre to grow. [As a result] my farms have more or at least same yield, less cost and less waste. Also, there is less pest infestation. So, I got much profit. I broadcast only 1.5 tins [of seed] per acre and others broadcast 3 tins per acre." Site Pyo users, male, 57, Pioneer, Kayan district

"The weather app announced that La Niña is likely to happen most after El Niño. After [El Niño] we grew the crops early for avoiding the cold. But later we know that La Niña is weaker; we can grow the crops late and we grew them late. But for those who were worried the weather and grew crops early faced pests' infestation. Most farmers suffered."

Site Pyo user, male, 63, Slow and steady, Shwe Bo district

FIGURE 6

Behaviour changes and outcomes



Behaviour changes and outcomes in the matched subset of users (108) versus non-users (116). Results are highlighted and odds ratios (the odds that the change/outcome will occur given exposure to the service compared to the odds of the outcome occurring in the absence of that exposure) shown where a significant result was found. Statistical significance is affected by the sample size and the magnitude of the difference between proportions.

^{17.} Based on a comparative analysis of users and non-users using coarsened exact matching

Changes in harvest/post-harvest practices or crop diversification did not show any statistically significant effects, although odds ratios were positive for these changes. This does not mean that the service had no effect in these areas, rather, that no effects were detectable given the sample size.

Most users have made a change in their on-farm practices compared to last season. The majority (81%) of users reported making at least one type of on-farm change in either planting (choice of crop and how to cultivate, 50%), pest and disease control (64%), or harvesting or post-harvest practices (31%).

There were no significant findings of the effect of Site Pyo on production or income levels.

Myanmar's farmers face a real challenge from climate change-related issues. While 41% of users reported an increase in production, the same proportion reported a decrease. Over a third (36%) reported an increase in income, while 47% reported a decrease. Comparative analysis found a negative odds ratio for both, which means that users may be less likely to report an increase in production and income than non-users, although neither effect was found to be significant. With chaotic climatic situations, and the country still reeling from the effects of Cyclone Komen in 2015 (the effects of which were still being felt into the 2016 season with higher prices for food and labour), farmers in Myanmar are struggling to see the benefits of making on-farm changes.

The field interviews revealed links between the use of the service and increased production and income (although respondents were not specific about amounts and mechanisms), as well as other factors, such as climate conditions. Users also pointed to negative outcomes due to weather conditions and pest infestations. Other issues included lack of access to farming technologies, challenges getting crops to market, and government-regulated water supplies.

"For sesame, they upload information on common pests which occur in sesame, sesame variety, etc. I tried the one sesame variety called 'black sesame' relevant to our local area [...] It had a good production when harvested and I got a good price."

Site Pyo user, male, Slow and steady, Wetlet district

"I can say it [income is increasing]. There are benefits from watching this application. This is because I don't have any loss and I can adjust the days for what I'm going to do." Site Pyo user, male, 48, Knowledge seeker, Shwe Bo district

"Nowadays, there are frequent heavy rains. Heavy rain made the water level of the streams increase and the crops were drowned." Site Pyo user, male, 26, Slow and steady, Shwe Bo district

Site Pyo's users value their phones as an information source. While the app is not the only source of information for most users, 44% of users reported the phone was one of the two main sources of information leading them to make changes in their practices, compared to less than 1% of non-users. Non-users were more likely to report family members as a primary source of information.

Overall, users report a high level of appreciation for the service and the information it provides, and noted that these lead to various benefits. The weather forecast in particular was considered very useful.

Most of Site Pyo's users are men living below the poverty line

Most Site Pyo users are male. Only 11% of users were found to be women. However, women were significantly more likely to report changes in planting practices (63%) compared to men (49%).

Only two women farmers were interviewed for the fieldwork. Due to the small number of female respondents, a differentiated quantitative analysis was not possible. However, it was found that female fieldwork respondents reported more changes to nutritional practices, such as recipes or food preparation, than men.

Site Pyo is changing the behaviour of people living below the poverty line. Based on the Progress out of Poverty Index (PPI),¹⁸ an estimated 66% of service subscribers are living below the poverty line. There are only limited statistics available on poverty levels in Myanmar, prohibiting a comparison of this sample with the overall population. Users living above and below the poverty line reported similar levels of on-farm changes, suggesting that behaviour change in response to Site Pyo is not affected by poverty level.

Most (72%) surveyed users reported that farming was their main source of income. In terms of land holdings, just 9% of respondents farm up to two acres, 17% farm two to five acres, while the majority (74%) farm more than five acres. This land could be owned or rented. Especially for older respondents, farming is their livelihood and crucially important to them. This links to the traditional nature of farming as a profession passed from generation to generation. However, many did not want their children to become farmers.

"I want them to have better standards. I want them to be doctors or engineers if possible." Site Pyo user, male, 42, Slow and steady, Shwe Bo district

Site Pyo users were found to be well educated: almost half of fieldwork respondents had a university degree (10 out of 22), compared to 14% of the wider population.¹⁹ Seven had middle or high school education and three had a primary education only. Two respondents were educated in monastery schools.

^{18.} The PPI (Grameen Foundation, 2009) has been used to calculate the poverty outreach of the Ooredoo service. The definition of poverty used here is the new definition 2005 PPP USD 2.50/day line.

^{19.} UNESCO Institute for Statistics (sourced from World Bank DataBank), 2013, http://data.worldbank.org/country/myanmar



Adaptation to climate change with smartphones

Myanmar is one of the world's most vulnerable countries to climate change. Both the Ayeyarwady Delta and Sagaing regions are prominent agricultural production areas, mainly for paddy cultivation, and have been hit by changing weather patterns, including floods, cyclones, and droughts. Interviews with farmers living in the region and actively using Site Pyo confirmed extreme weather patterns are affecting crop production, resulting in the emergence of new pests and diseases in paddy, as well as gram production, creating a higher risk of harvest losses.

To cope with a changing climate, some farmers use the information provided by Site Pyo to plan and manage their crops. Dr. U Tun Lwin, a prominent Burmese meteorologist, provides forecasts which have helped users take precautions to protect their crops, either by harvesting earlier or determining the timing to plant seeds. Interviewees said they primarily use the temperature, rainfall, and emergency alert functions.

"By reading the weather forecast, we could prepare farming practices based on the possible weather change and insects and pests' occurrence. So, it is useful for me. I trust it." U Zaw Pine, Site Pyo user, male, 32, Ayeyarwaddy region

Users reported they had successfully protected paddy seeds which would otherwise have been destroyed by heavy rainfall, and they had been better able to manage the application of pesticides and fertilisers. Users were also able to plan their harvest and storage thanks to the rainfall alerts.

"When the weather forecast said there could be sporadic heavy rains in the upper part of Myanmar, and risk of floods in the delta (lower Myanmar), I called my sister to warn her. [...] By checking the weather information, we could harvest early if needed, in that case, we could avoid crop damage." U Than Oo, Site Pyo user, male, 37, Ayeyarwaddy region

"By harvesting earlier, we could reduce fertiliser cost. If we harvest paddy before it's too hot, we reduce the application of fertiliser. We saved MMK 30,000 (USD 41) per acre in fertiliser usage." U Zaw Pine, Site Pyo user, male, 32, Ayeyarwaddy region

"I spray pesticides, water the roses and harvest the roses based on the weather forecast from Site Pyo. I mainly use it to plan pesticide and water usage. I give water to the rose fields based on the weather alert. If there is a possibility of rain, I delay spraying and the watering." U Zin Ko Hlaing, Site Pyo user, male, 23, Sagaing region



မိတ်ဆွေတို့အနေနဲ့ စပါးပိူးထောင်ဖို့အတွက် ပိူး ခင်းကောင်းကောင်းရှိဖို့လည်း လိုအပ်ပါတယ်။ ပိုူး ခင်းကောင်းကောင်း ရဖို့အတွက် ပိုူးခင်းပြင်တဲ့အခါ သေချာဂရှစိုက်ပေးဖို့လိုအပ်ပါတယ်။ ပိုုးခင်းကို အ ကျယ် (၃)ပေ၊ အလျား သင့်တော်သလိုထားပြီး အ နည်းဆုံး ထယ် တစ်ကြိမ်ထိုးပြီး နှစ်ကြိမ်လောက် ဝင်နိုင်မယ်ဆိုရင် ကောင်းမွန်တဲ့ ပိုူးဘောင်ကို ရေ လာမှာပါ။ ပြီးရင်တော့ ရေသွင်း ရေထု

Screenshot of a detailed daily weather forecast (top left) and other content pages from Site Pyo, courtesy of Ooredoo Myanmar.

• ရာသီဥတု ဆိုးဝါးချိန်မှာ ရိတ်သိမ်းခဲ့ရင် ပဲစေ့ ပျက်စီးမျပမာဏ တိုးလာနိုင်တာကိ<u>ု သက်ပြသင်ပါ</u> 🕈 သိမ်းထားပြီ တယ်။

• ရိတ်သိမ်းရာတွင် နောက်မကျသင့်ပါ။

ကြည့်ပြီး အသံကြားရမှသာ ရိတ်သိမ်းခူးဆွတ်ပါ။

ပါ။ • သီးတောင့်များ ခြောက်ပြီး ညိုနေတဲ့အခါ၊ လုုပ်



🗧 ပဲစဉ်းငုံ ရိတ်သိမ်းခြင်း

အပင်ကြီးအဆင့် ခါးရိရောဂါမှာတေ

ပင်ညှောင့်ပေါက်ပြီးနောက် အပင်ငယ်အဆင့်မှာ ခါးရိရောဂါများလက္ခဏာများကို တွေ့ရတတ်ပါ တယ်။ မျိုးညှောင့်ထွက်ပြီး အပင်ပေါက်လေးများရှိ အစေ့ခြမ်းလေးများတွင် ရေစိုနာကွက်များကို တွေ့ရ တတ်ပြီး အမြစ်၊ ဒါမှမဟုတ် အညွှန့်ထိပ်ဖျားများမှာ အနက်ရောင် ဆဲလ်သေလက္ခဏာများကို တွေ့ရ တတ်ပါတယ်။



🗲 ခါးရိရောဂါလက္ခဏာများ

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The customer journey

Users faced various challenges with on-boarding in early versions of the app. Lack of dynamic content and access through other networks also caused usability issues.

"I like information about the weather. All the information concerned with agriculture and U Tun Lwin is included in this app, I like all contents."

Site Pyo user, male, 26, Slow and steady, Shwe Bo District

	Marketing, sales, and distribution	On-boarding	Navigation and content
Product description	Ooredoo sent over one million SMS and OBDs to promote the service and to advertise road shows (where Ooredoo staff went to help people download the app and answer questions about the service) in seven rural areas. Site Pyo has also been advertised on Facebook (including a promotional video) ²⁰ through Ooredoo's and U Tun Lwin's pages.	Potential users click the link they receive on their phones, or visit the Ooredoo store to download the app. To personalise the app, users can complete their profiles. Although profiling is not essential to use the app, it ensures the user receives regular notifications of content relevant to their chosen location.	When users open the app, they see a five-day weather forecast. Weather forecasts are sourced from Toto Agriculture and Foreca, and are accurate to the village level. Users can navigate through different tabs to see agricultural content on 10 crops as 'wiki' style articles. Content can be stored to view offline by pressing the star the top right corner.
Customer journey	5% of the target market registered ²¹	% of total users reaching content is unknown	% of content accessing users who return to content is unknown
Key findings	 Ooredoo Myanmar has five million Facebook followers, but click-throughs were low. Facebook can be used for targeted marketing, but using the Ooredoo Myanmar Facebook page does not target relevant users. U Tun Lwin's Facebook page (which has 960,000 followers) provides a better opportunity, as people who follow him are interested in weather forecasts. Signing U Tun Lwin (Myanmar's most trusted weather man) as the brand ambassador for the service was key to success. Users identify Dr. Tun Lwin as a trusted source of information: <i>"Last year, U Tun Lwin said there would be 3 storms and all 3 storms hit the delta. I trust it."</i> U Kyaw Naing Win, 35, male farmer Traditonal VAS marketing has relatively low uptake. Although SMS blasts were the most effective way to bring on new users, less than 1% of the links sent were used. Interactive OBDs (where respondents press 1 to receive the link and 2 to speak to Ooredoo's call centre) had a lower success rate. Messages are now being targeted at rural areas; Ooredoo could improve targeting using analysis of their customer data.²² 	 Sending the download URL to potential users required a lot of steps to download. UX research in Q3 2016 led to a more concise download process. The original customer journey of more than ten steps to download was cut to just three, after which the number of downloads increased. Profiling is not essential, but it improves user experience. Users who complete their profiles are able to receive push messaging, which drives them to access content from different app pages. There are several profiling steps: name and township, age, gender, crop choice, and land size. Users need to turn their GPS on for the app to extract location from the handset, otherwise this step is included manually. Currently, 70% of users have not completed profiles. Providing profile data (which could be a useful value addition for bringing on third-party B2B customers) may be more attractive if users saw an immediate benefit from providing information. 	 UX research suggests that users find it easy to navigate the app. However, users are not aware of the purpose of the star (for storing content offline), which could be a useful feature for users low-connectivity areas. Farmers need more actionable advice. For example, content testing showed that farmers do not understand measurement units in metric system and would prefer more empirical units of measurement (e.g. bottle caps). Alerts which showed images and locations for pest and disease with advice on how to combat ther would be invaluable. Agricultural content needs to be dynamic to keep users returning. Newer crops have been added in sections, aligned with the crop calendar, alerting users to the changes with SMS notifications. Earlier crops were uploaded in one go, as one user observed: <i>"I found contents are not updated. Most of the time, I found same information. So, for me, if I read application contents one or two times it seems enough to know the information shared by the application."</i> Kyaw, male, 57, smallholder farmer Users are asking for content to be expanded. Additional content requested by field interviewees include information on broader nutrition, not just crop specific, and detailed pricing information for different crop varieties, including for export.

20. See: https://www.facebook.com/OoredooMyanmar/videos/1055599551229951/

21. Target market is defined as the number of agricultural workers in Myanmar 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-opportuni ty-for-agricultural-value-added-services-Agri-VAS.pdf.

22. For more details, see GSMA, 2017, "Creating scalable, engaging mobile solutions for agriculture", https://www.gsma.com/magri/creating-scalable-mobile-solutions

23. GSMA Intelligence, Q4 2016



• Users are not aware that the app does not incur data charges. Research suggested that users may not know that the Site Pyo is free to use. This is likely to dilute the value proposition for them. Users interviewed raised questions about zero rating on the app.

"Site Pyo application is said to be free. But it is not free. [...] I can only open when I have enough bill [airtime]." Site Pyo user, male, Slow and steady

- The app does not currently generate revenue. Ooredoo and partners are seeking ways to ensure the sustainability of the app going forward.
- Zero rating the app leads to negative user experience in a dual SIM market. Users who try to access the app from a non Ooredoo SIM are sent to the error screen. Since many users are likely to have a second SIM (the average number of SIMs per user in Myanmar is estimated to be 1.6²³), this is has been a major issue. Miaki and OML are in discussions to open the app to non Ooredoo users while keeping Ooredoo's brand prominent.

Future roadmap

Going forward, Miaki will drive product, content, and technology for Site Pyo, while Ooredoo will provide SMS and OBD marketing support and technology infrastructure sharing to ensure the app functions smoothly.

Multiple revenue generation alternatives are also under consideration, from B2B partnerships such as in-app advertising, to a closed user group model with Ooredoo distribution rights for Miaki, and a freemium model providing enhanced features to a charged call centre manned by agricultural experts. Ooredoo is also eager to add a mobile money component for farmers once its mobile money service launches. With a significant user base already using the service, monetisation and sustainability is the main challenge Ooredoo and Miaki must resolve going forward.

In the coming year, Miaki and Ooredoo Myanmar have agreed to add an interactive voice response (IVR) component to the service, providing an easier route to access Site Pyo for Myanmar's farmers given their low technological literacy. Data capture and storage have been improved through server enhancements that will give the product team greater visibility into usage trends and app performance, which will in turn lead to more informed decision making about Site Pyo.





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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