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9B19E015

elengo: BUILDING BUSINESS MODELS TO ADDRESS MACRO-OPPORTUNITIES (b)

Trevor Wright wrote this case under the supervision of Nicole Haggerty solely to provide material for class discussion. The authors do not intend to illustrate either effective or ineffective handling of a managerial situation. The authors may have disguised certain names and other identifying information to protect confidentiality.

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Chris Janssen had been in Kenya for three months conducting research on the Kenyan agricultural market. Before returning to Canada to check on his first start-up, he sat down at a Nairobi coffee shop to do a final assessment of all the data he had collected. Janssen had taken three unique approaches to learning more about Kenyan farmers: primary interviews, a survey, and his own attempt at chicken farming. He was pretty sure he knew what his new venture would offer the market, but he wanted to review the data one more time. As he sipped on some coffee grown just outside of Nairobi and ate a chapati, Janssen decided to use design thinking principles to synthesize the data and solidify the value proposition of his new undertaking.

**PRIMARY INTERVIEWS**

During the trip, Janssen connected with people at all stages of the supply chain. Finding information was easy: Kenya had a strong culture of communal support. Janssen’s findings provided deeper insights into the macrodata he had previously reviewed. Some of Janssen’s key learnings pertained to the following.

**Population**

Janssen learned that a culture of land inheritancemeant that farms remained small and therefore could not reap the benefits of scale (see Exhibit TN-1). As one farmer told Janssen, “I have already split half my land among four of my children, and the other half will go to the next four when they come of age.”

**Climate Change**

The farmers also told Janssen about their experiences with the changing climate. To them, it now seemed like every season was different from what they were used to. This made it difficult to effectively plan what to grow, and it led to many farmers losing their crops to drought or torrential rain. The farmers Janssen met did not have the educational resources to find the technologies that would mitigate climate risk. Talking to one chicken farmer, he was told,

A flood last fall destroyed much of our communities’ grain supply, so the cost to feed my chickens has been high, eliminating my profits! Some of my neighbours have begun feeding their chickens household food waste. For some, this killed their chickens, and for others, it worked, so I do not know if this is a good option!

**Market Access**

Janssen spoke with farmers whose only means of selling outside their town was via a broker who visited seasonally with a non-negotiable price. While some of the coffee farmers Janssen met participated in co-operatives to improve their bargaining power, he did not find similar arrangements between produce and livestock farmers. Janssen thought that there might be an opportunity to improve co-operation between these farmers similar to what had occurred in the coffee market. Some of the young start-up farmers that Janssen connected with in cities told him how they had mastered taking care of their fruits and vegetables, but they could not find a consistent buyer who would purchase their produce in bulk. Yet, when Janssen asked what they had done to promote their businesses, the farmers had often spoken with their immediate community members but done little to formally market their products. Janssen knew that the demand existed because a vegetable canner in Nairobi had told him that his business frequently experienced shortages for the produce it processed. Janssen sensed that there were gaps in many farmers’ knowledge of how to participate in formal markets.

Asking a few farmers if they had considered purchasing storage silos or water pumps provoked laughter: “No, we can’t afford those. However, recently many of us have been using credit to purchase fertilizers for our plants so we can harvest more.” Connecting with the microloan community in Nairobi revealed that the cost of performing due diligence in rural communities was generally considered the primary barrier to increasing the supply of capital for African farmers.

**Mobile Phones**

Janssen was with the farmer Charles Mwangi one day, when he came to truly appreciate the unique role that cell phones played in Kenyan society. A young man, David Nganga, approached Mwangi and Janssen because he had previously agreed to purchase a few of Mwangi’s chickens. After seeing the chickens, Nganga and Mwangi exchanged a few words, and Nganga left. “The deal fell through?” Janssen asked. Mwangi replied,

No, David currently has his line of credit SIM card but does not want the bank to see the transaction on his account. You see, Equity Bank [Equity Bank Kenya Limited] gave David a line of credit for buying fertilizer from a supplier in town, but David doesn’t need fertilizer right now. So, he is going to go to the fertilizer shop ‘to pay’ them, and then they will give him cash to pay for the chickens.

Janssen was with some dairy farmers one day, when he saw how the growing prevalence of smartphones was affecting farming: “You see, Janssen, my friend who works at Tuskys [a Kenyan grocery chain] told me how cheese is growing in popularity. I used YouTube to learn how to make cheese, and now I am turning a portion of my milk into cheese every week and selling it to a few restaurants in town.”

**Education**

While harvesting maize with some women one afternoon, Janssen learned about extension workers. He asked the women how they learned to farm: “We learned from our mothers and our fathers and from each other!” “Did any of you go to school for farming?” Jansen asked. “No, but sometimes extension workers come by with information for us on how to improve our farms. The problem with them is that sometimes they demand money, and they bring education that does not actually solve our problems.”

University students shared with Janssen their dreams of working for large agrochemical and energy companies. Janssen could not help but feel like the universities were not training students to meet Kenya’s primary agricultural needs. He recalled when he had been conducting research on microfranchises in Nairobi after graduating university. Microfranchise owners had articulated to Janssen their goals of attending or sending their children to university, and yet no one ever spoke of attending trade schools or technical colleges. One evening, Janssen was talking with some friends he had made on the rooftop of his hostel’s restaurant. Atieno, Barika, and Collins were all unemployed university graduates who each ran several different businesses to earn their incomes. Atieno ran a small chicken farm in Nairobi as well as a fruit stand; Barika owned a plumbing installation company and vegetable plot; and Collins operated a butcher shop and managed a hotel. They all shared the same sentiment: “Our university educations did not teach us to do what we do now—we taught ourselves.” Janssen concluded that the tertiary education system in Kenya was improving people’s aptitude for learning and problem-solving, but it was not disseminating the practical skills people needed to build the nation.

**Emerging Services for Farmers**

Although current start-ups were creating value for farmers, Janssen felt that these services had two shortcomings: First, they failed to leverage the strong sense of community that Janssen had been observing through his interactions in Kenya. Second, the dominant services were SMS (short messaging service) based. SMS-based platforms would lose supremacy in the long term given the anticipated increase in the use of smartphones and mobile Internet networks.

**FURTHER RESEARCH**

**Surveys**

Janssen performed a lean market research experiment using Facebook Ads and Google Forms. Using Facebook’s targeting capabilities, Janssen promoted surveys to females and males aged 15–65 who had previously demonstrated an interest in farming through their “likes” and group memberships. Naming the company eLengo, Janssen collected unique and valuable data on the needs of Kenyan farmers. “Lengo” meant “aim” or “target” in Kiswahili, so it was a fitting name for a company aimed at helping farmers achieve their business goals.

Janssen needed help estimating the potential market for a smartphone-based platform. Assume Kenya had a population of 55 million people, 40 per cent of whom had a smartphone, and that this data otherwise represented smartphone users in Kenya. What services could Janssen offer to what markets? Using this data, for whom should Janssen design a minimum viable product (MVP)?

**WhatsApp Messenger Minimum Viable Product**

Within the survey, Janssen also invited people to join WhatsApp Messenger (WhatsApp) chat groups. Ninety-eight per cent of survey respondents signalled that they would like to join these groups. WhatsApp groups allowed Janssen to test his hypothesis, which was that by bringing people with similar interests together and leveraging the Kenyan culture of communal support, active communities would develop. With prompts from Janssen, groups soon confirmed the hypothesis. Janssen began seeing the sharing of expertise and educational resources within the WhatsApp groups (see Exhibit TN-2).

**Chicken Farming Experiment**

With the survey revealing that chicken farmers would be the optimal first target market, Janssen decided that if he was going to teach others how to raise chickens, he should probably first learn how to raise them himself. Janssen asked his friend David Otieno if he would like to use his plot in Nairobi to try to raise chickens, with Janssen providing the initial investment. Otieno agreed, and Janssen arranged to send 50 chicks to Otieno’s plot. Janssen attempted to manage the farm remotely, but it took only a few weeks to realize that raising a flock of healthy chickens was a genuine challenge. In week two, temperatures dropped one night, and 20 of the chicks died. This cold spell gave another 10 influenza, killing them in the next two weeks. Just when Janssen thought that 20 birds may reach maturity, Otieno called him one morning to report that almost all of the remaining birds had been attacked by some other animal in the night. With almost all of his birds now dead, Janssen found a new appreciation for the challenges of raising animals.

**FINDING A VALUE PROPOSITION**

As Janssen finished his coffee, he thought about how he knew the resources and processes he would be able to leverage, but he needed to determine what value proposition he could offer the Kenyan agricultural market.

Janssen considered which potential business models he should use to serve this market, as well as which ones would be profitable. He decided to use design-thinking frameworks to identify key opportunities in the market.

Exhibit TN-1: Surveys

|  |  |
| --- | --- |
| **Age** | **Percentage (%)** |
| 15–20 | 2 |
| 21–30 | 45.3 |
| 31–40 | 31.7 |
| 41–50 | 16 |
| 50+ | 5 |

|  |  |
| --- | --- |
| **Level of education** | **Percentage (%)** |
| Primary school | 5.3 |
| Secondary school | 32.5 |
| University or college, bachelor’s degree | 47.8 |
| Trade or vocational school | 4.1 |
| University or college, postgraduate degree | 10.2 |

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| --- | --- |
| **Access to land to grow a business?** | **Percentage (%)** |
| No | 8.1 |
| Yes, about half an acre | 42.7 |
| Yes, about 1 acre | 23.1 |
| Yes, about 1–5 acres | 4.1 |
| Yes, about 5+ acres | 5.7 |

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| --- | --- |
| **Already farming?** | **Percentage (%)** |
| Yes | 73.5 |
| No | 4.5 |
| No, but I am an aspiring farmer | 22.1 |

|  |  |
| --- | --- |
| **If you have a farm, what livestock and/or crops do you have?** | **Percentage (%)** |
| Poultry | 66 |
| Maize | 37.8 |
| Cows | 28.7 |
| Leafy greens | 15.5 |
| Goats | 12.2 |
| Fruits | 10.5 |
| Potato | 10.1 |
| Beans or peas | 8.5 |
| Coffee or tea | 4.6 |
| Onions or garlic | 3.2 |
| Rabbits | 3.2 |
| Pigs | 2.8 |
| Bees | 2.6 |
| Fish | 1.6 |
| Mushrooms | 0.5 |

Exhibit TN-1 (Continued)

|  |  |
| --- | --- |
| **If you are a farmer, rate your experience from 1–10 (10 = very experienced)** | **Percentage (%)** |
| 1 | 12.2 |
| 2 | 8.8 |
| 3 | 12.2 |
| 4 | 14.3 |
| 5 | 18.7 |
| 6 | 11 |
| 7 | 8.2 |
| 8 | 6.2 |
| 9 | 2.6 |
| 10 | 5.7 |

|  |  |
| --- | --- |
| **If you have a farm, have you created a business plan, and do you track the progress of your business?** | **Percentage (%)** |
| No | 17.4 |
| No, but I would like to | 55.6 |
| Yes, I track on paper | 21 |
| Yes, I track on my phone and/or computer | 6 |

|  |  |
| --- | --- |
| **If you have a farm, where do you get information when you have a problem with your crops and/or animals?** | **Percentage (%)** |
| Find the information on my phone | 51 |
| Ask neighbours and friends | 29.4 |
| Attend a workshop | 10.4 |
| Other | 9.2 |

|  |  |
| --- | --- |
| **If you have a farm, where do you sell your crops and/or livestock?** | **Percentage (%)** |
| Direct to the consumer | 53.9 |
| Through a broker or “middleman” | 32.3 |
| To hotels and/or restaurants | 10.7 |
| Other | 3.1 |

|  |  |
| --- | --- |
| **Check two or three Items you most desire** | **Percentage (%)** |
| Discussion forums for farmers in your community | 41.6 |
| Connections to veterinarians and farming experts in your community | 36.6 |
| Marketplaces to buy and/or sell products and services | 44 |
| Membership in a local co-operative that would help you buy or sell at a better price | 25.9 |
| Business planning and tracking tools | 28.5 |
| Connections to credit institutions to receive business loans | 41.2 |

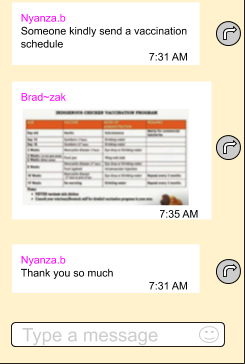
Exhibit TN-1 Continued

|  |  |
| --- | --- |
| **Do you currently use any smartphone applications or websites that help you grow or learn about farming?** | **Percentage (%)** |
| Yes | 48.9 |
| No | 51.1 |

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| **If yes, what applications do you use?** |
| *Sample responses:* |
| YouTube  WhatsApp  Google.com  NO  Kilimo Bora  Facebook/WhatsApp  Smartphone  Phone  n/a  DigiCow  OperaMini  FB |

Source: Adapted by the authors from Google Form surveys conducted by Chris Janssen, ~April 25, 2018.

Exhibit 2: Sample WhatsApp Conversation



Source: Adapted by the authors from WhatsApp conversation, ~March 15, 2018.