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Intuit Inc.: Project AgriNova

In October 2008, Deepa Bachu, Offering Leader, Emerging Markets, and two of her colleagues had just spent five weeks researching opportunities in Indian agriculture for Intuit Inc.'s Global Business Division. They wondered whether—and if so, how—to proceed with a crop price information service for farmers, code-named AgriNova.

Founded in 1983 and headquartered in Mountain View, California, Intuit was a leading provider of financial management solutions for small and medium-sized businesses and consumers across the world. The company had set up Intuit India in 2005, primarily as a development center to create software for Intuit's core businesses. Recently, Intuit's senior management had assigned its Global Business Division the task of exploring indigenous businesses in India to serve local customers.

The AgriNova team had identified agriculture as a promising market for new information services and had conducted preliminary research on the industry. They visited rural areas, conducted in-depth interviews with farmers and other players in India's agricultural supply chain, and learned about farmers' challenges. Their research revealed that Indian farmers were often exploited by agricultural agents—middlemen who entered into obtuse private arrangements with wholesale buyers, leaving farmers with little information about fair market prices and with low incomes.

Back at Intuit's Bangalore offices, the AgriNova team thought through potential solutions to help farmers increase their incomes, and narrowed in on an idea that seemed promising: collecting data on fair market prices from nearby agents, and then disseminating price and agent contact information to farmers via SMS.

To quickly test the concept, the AgriNova team gathered price information from a few willing agents at nearby markets, then showed a dozen farmers text messages displaying the data. The farmers gave them encouraging feedback, but much uncertainty remained. Beyond this early test, would agents, who stood to gain financially from a lack of transparency, provide farmers with fair prices? Would farmers receive tangible financial value from the service, and if so, would they be able to estimate their gains? Would Intuit be able to handle the operational challenge of collecting reliable, real-time information from multiple markets and agents? Bachu wondered what her team should do next.

Professor Thomas Eisenmann and Research Associate Tanya Bijlani prepared this case. HBS cases are developed solely as the basis for class discussion. Cases are not intended to serve as endorsements, sources of primary data, or illustrations of effective or ineffective management.

Background on Intuit

In 1983, Scott Cook founded Intuit by launching Quicken, a software program that helped consumers manage their personal finances. Twenty-five years later, Intuit employees still followed Cook's customer-driven approach to innovation; they prided themselves on listening to customers and delivering products that "wowed" them.[1] Cook recalled:

> My wife complained about doing the bills. It was a hassle. I had been trained at P&G to find a problem that everybody has and that you could solve with technology. And this struck me as a classic entrepreneurial opportunity. Nobody likes to pay bills. There were about 20-plus personal-finance software products already on the market. I hired a computer-science student [Tom Proulx] at Stanford, who later became Intuit's cofounder, and we tested the leading sellers. They were slow and a waste of time. So we built our first product, Quicken, totally differently than every other competitor.[2]

Cook later realized that small business owners had similar problems, so he created QuickBooks, the first accounting software that required no accounting training. Intuit's product portfolio expanded to include income tax, payroll, and online banking products and solutions for consumers, small and medium-sized businesses, accountants, and financial institutions. (See **Exhibit 1** for Intuit's products and services.) By 2008, the company had 8,200 employees worldwide; operations across the United States, Canada, the United Kingdom, India, and other locations; and annual revenues of $3.1 billion and net income of $477 million.

In April 2005, Intuit set up a 100,000-square-foot research and development center with 90 employees in Bangalore, India, to develop software products for the company's core businesses. By 2008, the center had grown to 250 employees—mostly engineers, plus some offshore customer support staff. That year, Intuit senior management issued a challenge to its Global Business Division to develop indigenous businesses for the Indian market. Brad Smith, Intuit's CEO, explained, "One of our main goals in India is to find an important, unsolved problem and solve it well—offering locally built connected services and solutions, and upholding our commitment to helping people save and make money."[3]

Searching for New Business Opportunities in India

Under the guidance of the Global Business Division's Lindsey Argalas, vice president, New Market Development, Global Alliances & Strategy, and Bharath Kadaba, vice president, Product Development, Intuit assembled a group of employees to brainstorm new business opportunities for Indian customers. Among several markets they studied, they hypothesized that the Indian agricultural industry was large and rife with problems.

Agriculture represented about 25% of India's GDP and accounted for 60% to 70% of employment. There were approximately 150 million farmers in India, most of whom grew crops for sale rather than for personal consumption, and 88% of them owned very small plots of less than two hectares (five acres). Since 60% of cultivated areas were rain-fed (i.e., lacking irrigation), farmers were highly dependent on the monsoons. Farmers often could not afford high-yield seed, fertilizers, and pesticides, and most lacked knowledge of farming best practices, contributing to poor yields.[4]

Although Mahatma Gandhi had famously referred to farmers as "the backbone of the country," in reality, with their small and volatile harvests, farmers were often impoverished. Lacking the skills

and training necessary to switch professions, they felt trapped in a vicious cycle. Farmer suicides in India were common; 16,000 had occurred in 2007.

Meanwhile, there were 296 million mobile subscribers in India by July 2008, and mobile penetration was growing rapidly, even in remote rural areas.[5] Tariffs were falling due to intense competition among mobile carriers. The Intuit group brainstormed ways to use information technology and mobile phones to increase the size of farmers' information networks and thereby match market supply and demand more efficiently.

Bachu elaborated: "Scott Cook, who now is chairman of the Intuit board's executive committee, still spends a lot of time teaching Intuit employees about customer-driven innovation. We are trained to look for a big unmet need that we and our partners can solve well, with durable competitive advantage. Great new business opportunities must meet all three of these requirements. For AgriNova, we began with the question, 'Is there a big unmet need?'"

The Indian Agricultural Market

Ready to begin a detailed exploration of opportunities in Indian agriculture, the Global Business Division assembled a three-member team, led by Bachu. She had worked at Intuit since 2001, both in Bangalore and at the headquarters in Mountain View. Her 16 years of experience included product management, user interaction design, and software engineering. Bachu had a special passion for entrepreneurial ventures. Shailesh Goyal, a product manager, and Narendra Mudigal, a software engineer, joined Bachu on the project. (See **Exhibit 2** for profiles of the team.)

In keeping with Intuit's "Follow Me Home" method of carefully observing how customers used products in a real-world setting, the AgriNova team went into nearby rural areas in the state of Karnataka to interview, over a three-week period, 29 farmers from 16 villages and 18 middlemen across 7 wholesale agricultural markets. They found it easy to talk to farmers, who were happy that someone was trying to help them. "You speak to a particular farmer, and there's quickly a bunch of people around him who want to give you their input, too," Bachu said.

The team observed that farmers had a strong sense of community and often relied on their peers for support. After their morning's work, farmers in a village congregated at "chai time" (tea time) to gossip and to share information, such as nearby crop prices. Bachu noted:

> Farmers are very community oriented. There's no holding back information or competition between them. This was an important insight for us, because their information today is mostly limited to people they have chai with—usually within their village. We thought, what if we were able to expand their networks using technology?

The team discovered that most farmers, although illiterate, could read numbers and recognize city names and other words. "They read like children," Bachu explained. "A word becomes a picture for them." Farmers understood the economics of their business and could calculate break-even crop prices easily. Their children went to school, and some could speak English. All but one of the farmers they interviewed owned a prepaid mobile phone, and these farmers were comfortable using simple SMS-based services. Finally, a fraction of farmers in most communities were "progressive"—that is, open to experimenting with new farming practices. This led the AgriNova team to believe that despite their poverty, farmers could potentially benefit from, and become customers of, agricultural information services.

The Agricultural Supply Chain

The Indian agricultural supply chain comprised *farmers*, three types of *middlemen* (wholesalers, agents, and distributors), and *customers* (including retailers, food processors, and exporters). Small farmers in India received approximately 40% of the retail price of their produce, while middlemen collectively received 35%, and retailers and other customers 25%.

Farmers sold about 65% of their produce in wholesale markets known as mandis (pronounced "mun-dees"), usually within 60 kilometers (40 miles) of where they lived. In 2007, there were about 6,300 mandis in India, 98% of which were regulated to some extent.[6] Mandis lacked cold storage facilities, and farmers had no choice but to sell perishable goods such as vegetables, fruits, and flowers on the same day. Although they could, in theory, return nonperishables such as cotton or coffee to their farm for temporary storage, few farmers could afford the additional transportation and time costs that this would incur.

At mandis, farmers sold through agents. Agents did not take ownership of farmers' produce but rather brokered its sale to wholesalers, who in turn resold the goods to retailers and other customers. The government's Agricultural Produce Marketing Committee (APMC) issued licenses to agents and charged them a rental fee for mandi store space. Mandis typically had between 5 and 200 agents, with an average of approximately 50 agents per mandi. Most agencies were small family businesses, passed down from father to son over generations. Their success depended partly on the strength of the agent's relationships with wholesalers and farmers. If an agent could transact on behalf of more farmers, he had an edge in attracting more wholesalers, and vice versa.

Farmers sold about 30% of their produce directly at the farm gate to distributors, who resold it to large buyers such as processing mills and grocery chains, and in some cases, to wholesalers in mandis near large cities. Farmers sold the remaining 5% of their produce directly to customers, including small mom-and-pop shops, large grocery chains, exporters, and companies that processed agricultural products, like soybeans, coffee, and cotton, domestically.

Transactions in a Mandi

The AgriNova team discovered that about 5% of the sales in a mandi were through auctions; in the remaining 95% of cases, agents brokered private transactions between farmers and wholesalers.

Auction sales Farmers auctioned their produce by placing it on display outside an agent's store at a prespecified time. One by one, the agent auctioned off each farmer's lot by calling out ascending prices, and buyers placed their bids. Such auctions started with one agent's store in a mandi and moved to the next; farmers could not move their goods once an auction had commenced. The winning buyer paid the agent a commission of 8% to 12% of the sale price and paid the balance to the farmer, who had observed the auction's closing price. Since an agent's commission depended on the sale price, it was in his interest to secure a high price. However, if the agent set the floor price too high, he could drive buyers away. Goods of similar quality typically sold at roughly the same price at a given auction. (See **Exhibit 3** for a photo of an auction in progress at Chikballapur Mandi.)

Most auctions, however, lacked full transparency. Agents in a given mandi usually colluded in advance to fix the floor price for the produce being auctioned. Notwithstanding mandi rules that commissions should be paid only by buyers, agents usually took a commission from both the farmer and the wholesaler. In even less transparent auctions, agents sometimes employed a system of hand touches hidden under a towel, and bids were not called out. As a result, farmers did not know what price their produce had sold for, leaving the agent free to pay the farmer less than the fair price.

Non-auction sales Often, a farmer would leave his produce with a mandi agent with whom he regularly transacted, with the understanding that the agent—serving as a broker on the farmer's behalf—would arrange, on a "best efforts" basis, a sale to a wholesaler. Wholesalers would visit the agent's store, negotiate with the agent for the produce, pay the agent, and leave. The farmer, not knowing how much the wholesaler had actually paid, would accept whatever payment the agent offered with little discussion or debate. Bachu explained, "An agent could say he had sold potatoes for 1,100 rupees a quintal when the actual price was 1,500 rupees, and keep the difference, in addition to charging his commission."

Farmers' Go-To-Market Choices and Constraints

A farmer whose crop was ready for harvest had to decide when, where, and to whom to sell his produce. Indian farmers faced many constraints in making these decisions.

When to sell? When to sell was a crucial decision for farmers, because crop prices in India were highly volatile. It was not unusual for prices of perishables in a mandi to fluctuate 50% over the course of a day, and 100% on consecutive days. (See **Exhibit 4** for the fluctuation in bean prices in one day.) About 35% of the time, farmers sold their goods at a deep discount, resulting in a financial loss on their harvest.

When crops ripened, farmers had a window of only a few days at most to harvest and sell perishable produce. Although they could potentially store nonperishables temporarily at the farm, in reality, very few small farmers could afford silos for long-term storage of their entire crop. If a farmer did not harvest and sell his produce quickly, his goods could spoil. Complicating things, crops in a region tended to ripen at roughly the same time, during which buyers would converge at a mandi. Due to a lack of aggregated information on market participants' plans, however, it was difficult to precisely predict the supply-and-demand balance at a mandi even a day in advance. If the bulk of the buyers arrived at the mandi a day or two later than the bulk of the farmers, prices could hit all-time lows.

Transportation constraints further restricted farmers' flexibility. Small farmers rarely owned trucks and usually contracted for trucking services the day before traveling to a mandi. Transportation costs were high, and due to poor infrastructure in several states, travel times were long, so farmers did not have the option to change destinations while en route.

Despite these constraints, farmers tried to time when to go to market by consulting with each other and calling agents to learn about prices and the expected supply-demand situation. However, agents had an incentive to inflate the price projections they shared with farmers to persuade them to come to their stores.

Where to sell? Most farmers lived within a reasonable distance of two to three mandis. Prices could vary considerably between mandis in the same region, so choosing the right destination was important. However, farmers had to factor in transportation costs when deciding where to take their produce.

Whom to sell to? Although a farmer could, in theory, choose from among many agents at a mandi, in practice, many farmers felt bound to a single agent. Most farmers' families had worked with a specific agent's family for generations, and therefore felt dependent on that agent. For instance, agents would often extend to farmers small, interest-free loans of Rs. 2,000 to Rs. 10,000 ($40 to $200), which financially bound farmers to the agents. According to a 2003 government survey, 37% of farmer households in India had taken loans for current expenditure in their farm business, and

29% of farmer households had borrowed from agricultural/professional moneylenders.[7] Bachu elaborated: "Agents often have people walking around the marketplaces to see if a farmer is selling through another agent. If so, the farmer will get a reminder that he owes the agent money. It's a small but blatant threat."

Farmers were usually aware that agents were not paying them fair prices for their produce, but often felt powerless to question them. Bachu explained:

> Most farmers seem to know that their agents are not giving them the best price. However, they feel like their agent would take advantage of them less than other agents—they have been going to the same agent for generations, after all. Some farmers believe their agents are giving them interest-free hand loans. In reality the agent lowballs the farmer on price and earns far more than the foregone interest.

Most mandi agents had an understanding that they wouldn't poach each other's farmers; however, in some instances, farmers did switch agents to improve their price realization, especially when they were not indebted to a specific agent. The AgriNova team also found instances of savvy farmers who had found ways to avoid exploitation and maximize prices. Bachu noted:

> We met a few smart farmers who shunned loans from agents and instead used microfinance. One farmer who was not attached to any agent also inspired us. He would leave his truck laden with produce outside the mandi and send a few boys inside with baskets of produce. These boys would sell the smaller lots to three different agents, then report the results to the farmer. The farmer would then sell the bulk of his produce to the agent offering the highest price.

Farmers sometimes sold their produce directly to distributors at the farm gate. These distributors typically arrived unannounced at a farm, and were usually willing to purchase the farmer's entire output for an immediate cash settlement. Farmers had to make on-the-spot decisions about whether to sell. Doing so allowed the farmer to avoid the price uncertainty of visiting a mandi, and saved time and transportation costs. However, it was difficult to compare a distributor's offer with what a farmer might receive at the mandi the next day. The AgriNova team found that farmers were more comfortable going to a mandi where they could compare prices with other farmers. Bachu added, "If a farmer knew the fair price, they'd be better able to negotiate with distributors."

Early Ideas for Intuit Services

Armed with insights from the field, the AgriNova team returned to the office three weeks later, mapped out their learnings, identified two major pain points for farmers, and brainstormed potential SMS-based information services for them.

What to Grow?

The team had discovered that farmers found it difficult to decide what crops to plant. They had no way of knowing how many farmers in their region would plant a given crop, the yield that would result, and the final crop prices. Similarly, they found it difficult to decide what crops to grow for export, because they lacked the ability to predict harvests and commodity prices in other countries. "Farmers told us that they would like to know what crops other farmers were *not* growing—crops that were likely to fetch them a better price," Bachu said.

The team conceived of a service whereby farmers would send Intuit an SMS about what they were planning to grow, and Intuit would reply with information showing how many nearby farmers were also planning to grow the same crop. They tested the concept by showing wireframes of potential SMSs to farmers but discovered that farmers were unable to make sense of the information.* "Farmers couldn't take a piece of information, like '500 other farmers in your region will be growing potatoes,' and know if that was too much or too little," Bachu remarked. (See **Exhibit 5** for wireframes of initial concepts.)

The team also considered creating a service whereby farmers who were ready to plant would send Intuit an SMS, and then receive a crop recommendation and price prediction based on Intuit's supply-and-demand forecasts. However, they reasoned that developing a reliable price prediction algorithm would be difficult and would require deep expertise in agricultural economics that the company currently lacked. Hence, the team rejected the idea fairly quickly. "We felt that 'What do I plant?' was a big unmet need, but we did not have the internal capability to solve it well," Bachu said.

When, Where, and to Whom to Sell?

Because most mandi transactions lacked transparency and farmers often felt obliged to sell though a single agent, they found it difficult to ascertain whether they were getting the best possible price. The team conceived of two potential services to help farmers increase their access to information and improve price realization.

Crop exchange The team considered creating a simple SMS-based marketplace through which a farmer would provide details about their produce via SMS, and agents would bid for it through a transparent auction. Farmers thought the concept was promising, but agents were reluctant to commit to prices electronically and were dismissive of the idea, citing, for example, concerns about purchasing crops without being able to first visually inspect their quality.

As an alternative, the team considered connecting farmers and wholesale buyers directly via SMS, thereby providing both parties with greater price transparency and allowing them to transact without paying an agent's commission. However, they reasoned that cutting agents out of the process would meet with resistance, and it would be difficult to mobilize a critical mass of buyers and sellers. The team rejected this alternative without further evaluation.

Price discovery service Another idea for helping farmers realize better prices was to collect current price information from agents and/or farmers at various mandis, and then disseminate it to farmers via SMS. For instance, if the team knew a farmer's location and crop mix, Intuit could send him a text message when his crop was ready to be harvested, with price information for nearby mandis. Alternatively, the farmer could make a "missed call" to Intuit's service, thereby requesting the data on demand.† In India, mobile phone customers paid to send but not to receive calls and SMSs, and a missed call did not incur charges.

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* Wireframes, used in early stages of product development, were depictions of software-generated screen output or web pages showing the placement of key content and navigation elements.

† With a "missed call," an individual placed a call but hung up before the call's intended recipient answered, leaving a record of the attempted call on the recipient's mobile phone, and shifting the cost of completing a text or phone response to the recipient. Indian consumers relied heavily on missed calls, and many businesses were using them for marketing and customer service purposes.

However, when the team shared wireframes of the concept with farmers, they found that such a service would not be adequate to help farmers improve price realization. Bachu explained: "Farmers said that knowing the mandi with the highest price was not enough. They also needed to know which mandi agent would give them that price."

In response to this feedback, the team decided to make the mandi agent an integral part of their solution. They spoke to agents, some of whom, despite their earlier reluctance to purchase crops based on an SMS exchange's prices, were willing to supply current information about a fair price range, to commit to making purchases within that price range—at least for a reasonable period of time—and to have the price range along with their phone number included in an AgriNova text message.

Encouraged by the agents' responses, the team selected 12 farmers from nearby villages to participate in an initial working prototype review. The team gathered current prices from three nearby mandis for two crops that the farmers were harvesting, working with a supportive agent in each mandi. Within hours, they showed the farmers SMSs with this price information and a specific agent's phone number. Farmers affirmed that this information would be very useful when they were ready to go to market. (See **Exhibit 6** for SMSs from an initial working prototype review.)

Bachu concluded:

> We ultimately chose the second unmet need—that is, "To whom do I sell?"—and selected the price discovery option, because we felt that our ability to solve that problem would be greater. At least some agents in a mandi seemed willing to provide us with fair prices that they were willing to pay. Initially, it was a challenge to figure out how to display information to illiterate farmers, but by week five, after testing lots of wireframes and SMS mockups, we knew what we wanted.

Next Steps

Five weeks after they began evaluating opportunities in Indian agriculture, the AgriNova team was excited about their potential to solve a large unmet need in the market. However, several uncertainties remained.

First, several free and subscription-based Internet, SMS, and voice-based agricultural information services, which provided mandi crop prices, weather information, and farming tips, were already offered in different parts of the country, while others were being planned. AgriNova's competitors would include ITC, a leading exporter of agricultural products; Reuters, a media conglomerate; and Reliance, a leading mobile operator. Besides enjoying an early mover advantage, some of these players had access to significant financial resources and, to improve their reach, had locked up strategic partners—for example, farmers' cooperatives and mobile handset manufacturers. Although competing services delivered mandi prices, none of them associated the names of specific agents with these prices, and the team wondered if tying up with agents would give AgriNova an advantage. (See **Exhibit 7** for AgriNova's competitors.)

Second, the team asked whether farmers would realize tangible financial benefit from a price-discovery service. To quantify the service's benefit, a farmer would have to estimate the price he otherwise would have received from his regular agent in the absence of AgriNova's information, and then compare this hypothetical figure with the price that he had actually received after using

AgriNova. If a farmer changed his behavior based on Intuit's service, would he believe that he had, indeed, received a better price?

Third, they questioned whether agents would provide reliable price data. So far, a handful of agents had verbally agreed to do so, but to launch a service, large numbers of agents would need to cooperate. And if they did, would the agents honor the prices that they provided? Gathering price data from farmers was also an option, but the team realized that farmers had an incentive to overstate prices to benefit their peers.

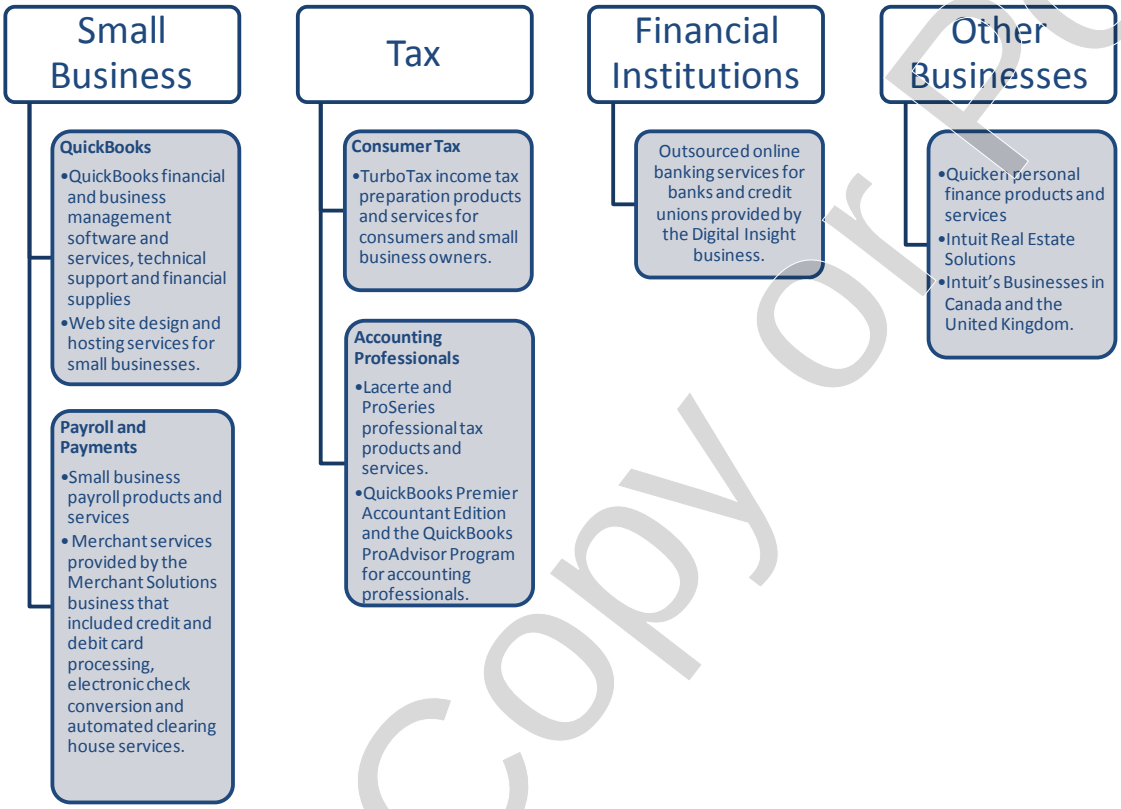
Fourth, they wondered how the service would affect agents in the long term—and, once its potential impact was understood, whether agents would keep participating. On the one hand, agents who worked with Intuit could attract more farmer clients, thereby boosting their transaction volumes, commissions, and revenues. On the other hand, agents were profiting substantially from a lack of price transparency, especially in non-auction transactions, and risked losing income by providing fair market prices.

Fifth, there were operational issues. In order to gather reliable data in a scalable manner, Intuit probably would have to rely on a "feet-on-street" team of contract price collectors to work with agents. Intuit's staff in India had no experience managing such outside vendors. Could vendors be relied upon to supply critical information in a timely manner?

Finally, and crucially, the team had some very preliminary ideas about AgriNova's business model and economics, but basic questions were still unanswered. For example, would farmers pay subscription and/or transaction fees for the service? If not, could AgriNova earn a profit from advertising? How would AgriNova recruit users, and what would the average user acquisition cost be? How much would it cost to collect price data? To support a typical farmer, how much would AgriNova need to spend on SMSs and customer support staff? Lastly, given revenues and costs per farmer, what scale would be necessary to cover fixed costs and earn a profit?

Bachu concluded, "Although the service looks promising, we still have some very basic questions." She assembled her team to plan their next steps.

Exhibit 1 Intuit's Products and Services



Source: Casewriter.

Exhibit 2 Profiles of the AgriNova Team

Deepa Bachu
2nd
Director, Emerging Market Innovation at Intuit
Bengaluru Area, India | Computer Software

Current
Director, Emerging Market Innovation at **Intuit**
Offering Leader, Emerging Markets at **Intuit**
Group Leader, Canada-IDC, Global Business Division at **Intuit**

Past
Senior Manager, Customer Driven Innovation & Experience Design at Intuit, Inc.
Sr. Manager User Experience Group at Intuit Inc, California
UI group manager at Kana Communications
AVP, UI Engineering & Design at Merrill Lynch
Software Engineer and Sr. Software Engineer at Digital Equipment Corporation (now HP)
Programmer Analyst at Computronics, India
see less

Education
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Mount Carmel College

Shailesh Goyal
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Past
Product Manager at Intuit
Senior Development Manager at Intuit
Lead Engineer at Intuit
Founding Member & Engineering Manager at Papyrus Software
Project Leader at Agare Systems
System Software Engineer at August Technology
Software Engineer at KLA Tencor
Software Engineer at Zensar Technologies
Associate Consulant at iFlex Solutions
Engineer at Tata Honeywell
see less

Education
Indian Institute of Management, Bangalore
The University of Texas at Dallas
Dharmsinh Desai Institute of Technology

Narendra M. (See Full Name)
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Current
Senior Tech Lead at **Myntra Designs Private Limited**

Past
Senior Software Engineer at Intuit
Software Engineer at Intuit
Software Dev Engg at Talisma Corporation Pvt Ltd

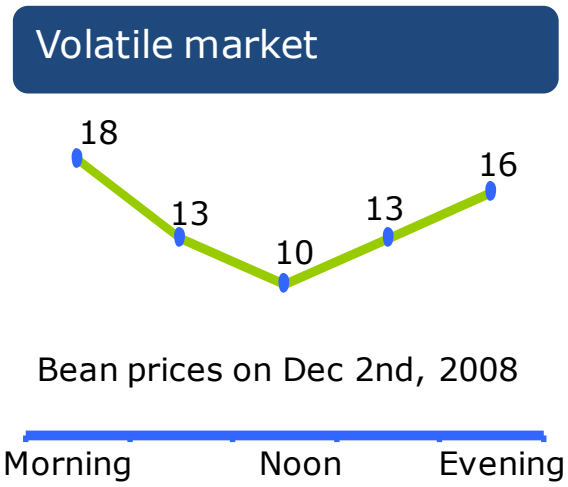
Education
The National Institute of Engineering

Source: LinkedIn.

Exhibit 3 Auction in Progress at Chikballapur Mandi, Karnataka

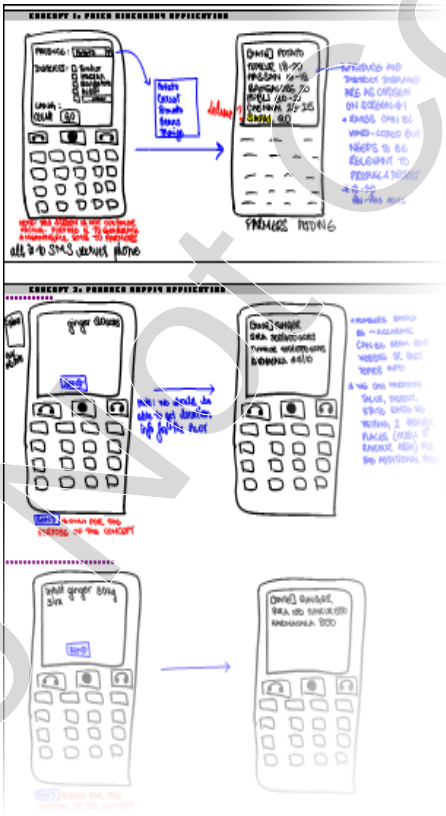
Source: Casewriter.

Exhibit 4 Fluctuation in Bean Prices



Source: Company documents.

Exhibit 5 Wireframes of Initial Concepts



Source: Company documents.

Exhibit 6 SMSs from Initial Working Prototype Review

Green Chili in Gujarati using English script

Eggplant in Gujarati script

Source: Company documents.

Exhibit 7 AgriNova's Competitors

	ITC's Echoupal	Reliance Communication's "Live Mandi Prices"	Reuters Market Light	Indian Farmers Fertilizer Cooperative Kisan Sanchar Limited	BSNL's "Mandi on Mobile"	Tata Teleservice's "Mandi Bhav"
Company Brief	Owned by ITC, a diversified Indian conglomerate. Its Agribusiness division is India's second largest exporter of agricultural products such as soy meal, grains, marine products, coffee etc.	An Indian conglomerate that owned a leading Indian mobile phone carrier	Part of the Thomson Reuters group a leading global information company.	A cooperative that distributed fertilizer on behalf of its owners, comprising 40,000 affiliated farmer-run cooperative societies serving 60 million farmers	A government-owned telecommunications company that operated India's fourth largest mobile carrier	An Indian conglomerate that owned an enterprise telecommunications business
Launch Date	Jun-00	Aug-07	Oct-07	May-08	Nov-08	Jan-09
Services	Internet kiosks offering weather information, commodity prices, farming tips. Village representatives offering ITC spot quotes to farmers for their produce. Professional purchasing hubs known as *Choupal Saagars* with modern amenities, where farmers can sell their produce directly to ITC.	Commodity quotes from mandis	Weather reports, market prices (choice of 2 crops and 3 mandis) and farming tips	Daily weather reports, market prices, fertilizer availability, farming tips, and other information.	Market prices	Market prices
Mode of Delivery	Threefold: Internet kiosks in villages; Village representatives known as "Sanchalaks;" Choupal Saagars	Mobile phone application	Push text messaging	Push voice messaging, helpline service through call center	Interactive voice response service	Sms and other mobile software platform
Business Model	Free	Rs. 3 per data request	Subscription based, Rs 175 for 3 months, Rs. 350 for 6 months and Rs. 650 for 12 months	Free voice sms, helpline service at Rs 1 a minute	Pricing yet to be announced	Rs. 30 per month
Partner	N/A	CommodityControls.com, a commodity news and information based portal owned by Network 18 Group	Nokia, a leading mobile provider, announced in November 2008. RML preinstalled on new Nokia phones, as part of Nokia's "Life Tools" suite of services.	Bharti Airtel, India's largest mobile carrier	OnMobile, a data and value added service company for mobile, landline and media service providers.	Impetus Technologies, an offshore software product development company
Subscribers	6,500 echoupal kiosks serving 36,000 villages	N/A	100,000	48,000	N/A	N/A
States Covered	9	10,000 towns and 300,000 villages	2	12	Uttar Pradesh in Northern India	Punjab in North India
Crops Covered	several	several	54		108	500
Mandis Covered	24 Choupal saagars in 2008	500	270		247	3000
Future Plans	15 states and 100,000 villages, 700 Choupal saagars by 2012.	Access mandi rates through the voice portal	9 States by end of 2009	Extend to 6 more states	N/A	Extend to 4 more states

Source: Compiled from Reuters Market Light, "Key Milestones," http://www.reutersmarketlight.com/milestones.html, accessed August 2012; Rakesh Kapur, "M-Power: a unique mobile service empowering farmers through timely information delivery," CSR360 Global Partner Network, October 12, 2011, http://www.csr360gpn.org/magazine/feature/m-power-a-unique-mobile-service-empowering-farmers-through-timely-informati/, accessed August 2012; "RCOM offers 'Live Mandi Prices' on Reliance Mobile World," Reliance press release, August 21, 2007, http://bit.ly/Pbs2Fg, accessed August 2012; Preeti Parashar, "Tata Teleservices, Impetus join hands to launch Mandi Bhav for farmers," *Financial Express*, January 23, 2009, http://bit.ly/PbrEqe, accessed August 2012; http://bit.ly/Pbsaoj; and http://www.echoupal.com/, accessed August 2012.

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