

## CellBazaar: A Market in Your Pocket

In the late 1990s, there was much prognostication about the sub-computer future. It would put leapfrog theory into action, allowing developing economies to catch up with industrialized nations in one generation. But despite all the publicity and investment, usable sub-computers have not become the holy grail. Only the educated middle class has adopted them. The mass of people, especially in the rural and suburban regions of developing economies, have not. The issues extend beyond expense and availability, because no usable technology has been developed for these potential users. We often hear media-friendly examples, like the fisherman who checks the weather forecast on the web. While these stories amuse people at conferences and NGO forums, the truth is that such users are rare. Most of the applications on computers have little utility for a sub-literate mass population.

CellBazaar began with a classroom observation that looked at this weakness and the corollary of opportunity. Simply put, the mobile phone has become the ubiquitous computing device in developing countries. The meteoric growth of mobile phone users in emerging economies has superseded all analyst predictions and future scenarios. The mobile phone has replaced the computer as the fastest-growing technology. Allowing people almost everywhere to stay in touch with family, friends, and customers, and fulfilling myriad other needs, the mobile phone has become *the* essential technology. In countries like Bangladesh, the adoption curves have been astonishingly rapid, displaying classic “hockey stick” patterns. To take full advantage of this opportunity, we launched the mobile phone based market called CellBazaar in Bangladesh.

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*This case study is jointly written. Kamal Quadir describes the founding days, when CellBazaar moved from classroom to startup. Naeem Mohaiemen writes about the marketing and technology challenges as the company matured through market penetration.*

*Kamal Quadir (kamal@cellbazaar.com) is founder and CEO of CellBazaar. Earlier, he interned at Insight Venture Partners in New York, led the Business Development Division of Occidental Petroleum’s initiative in Bangladesh, and worked for New York City’s Chamber of Commerce.*

*Naeem Mohaiemen (naeem@cellbazaar.com) is Vice President of Business Development and Marketing at CellBazaar. He worked on digital media and convergence projects in New York at Mercer Consulting (Marsh & McLennan), HBO, and Time Warner Cable.*

## MARKET IN YOUR POCKET

In developing countries, the limits on communication technology hinder business. People must travel great distances to get market information. Isolated and uninformed, farmers, traders, and businesspeople have little information, and thus no power to bargain with middlemen. CellBazaar was devised to solve this problem. Using this platform, everyone gathers market information so they can make smart business decisions. In the process, they provide a birds' eye view of the entire market for both sellers and buyers. Those who lack the capital to set up a brick-and-mortar business can do so using their mobile. Individuals emerge as creators of micro-markets, and the prices in the overall market eventually converge. Outliers are eliminated simply because quick comparisons make it clear that they are charging above-average prices.

CellBazaar works on four synchronized platforms: SMS (texting), which works on all phones; WAP (wireless application protocol), with an easy, graphic interface; Web (viewable by a global audience); and IVR (interactive voice response), which allows users to call to hear the latest news. More new platforms are being added, as the market rapidly adopts newer mobile phones. CellBazaar generates revenue from the data usage on all these platforms and dramatically increases the use of simple airtime minutes, as buyers and sellers talk to finish their transactions. As m-commerce matures in the developing world, CellBazaar hopes to have an already trusted platform and a growing user base.

The CellBazaar service allows people to buy and sell over mobile phones. Nearly 22 million GrameenPhone users can buy any agricultural product, such as rice, fish, or chicken, as well as large-scale purchases like an apartment, land, or car, and consumer goods such as a television or refrigerator. People can also offer services, like tutoring. The service is run by the customers: they post items for sale, delete items after they are sold, adjust prices if items fail to sell, and do much more besides.

Over the last year, CellBazaar has grown rapidly; it now has 1.5 million users and averages 90,000 hits a day (including page views and SMS messages). Its registered seller base is 51,000, and its unregistered user base is 30 times that size. The diversity of products posted has resulted in constant innovation and change. As the company grows and matures, it appears set to be the first Internet model startup in Bangladesh's history, with global media interest, local imitators, overseas expansion plans, and international-standard management and staffing.

Kamal originally designed CellBazaar at MIT as a graduate student. The project received the MIT "Ideas for Development" award, *Slate* magazine named it one of its "10 Faces For The Future," and it was one of 25 recipients of MIT's Tech Awards 2007 for Applying Technology to Benefit Humanity. In 2008, CellBazaar received three major international awards—from the GSMA in Spain, Telecom Asia in Thailand, and Manthan in India—resulting in increased interest in international expansion partnerships.

But CellBazaar has faced challenges. Some are the traditional obstacles in any emerging economy: poor infrastructure and little culture of entrepreneurship. Other problems have come from the unexpected rate of technology adoption: platforms often take off faster than expected. The CellBazaar case offers valuable lessons to new technology entrepreneurs entering emerging economies.

#### FROM CLASSROOM TO REALITY

I (Kamal) often tell a story about a newspaper item that appeared in the early 1980s: in the remote Chittagong Hill Tracts (CHT) area of Bangladesh, people would trade a basket of oranges for a box of matches. Reading this item was an eye-opener for me. It was a live demonstration of how lack of road access created an incredible premium for something as banal as a box of matches (usually given away free at road-side tea stalls in the capital city of Dhaka). In fact, the CHT region is so isolated that it only received mobile phone connectivity in 2008. It was a classic case of market failure due to lack of communication, information, and infrastructure. This simple lesson manifested years later as I began developing CellBazaar's business plan.

After working in the energy and finance industries, I spent the years between 2000 and 2003 jump-starting Bangladesh's animation industry. The country had no digital animators, so I trained the first set. Recruiting raw talent from the country's art schools and also from untrained backgrounds, I trained them from scratch in digital animation. My own interest in the fine arts was invaluable in this process. Many of my trained animators went on to form their own animation shops; some are now receiving contracts to produce animation for Hollywood films. Through this experience, I also faced for the first time the concept of "pioneer's penalty," which CellBazaar would also experience and overcome. Being the first to bring a new class of product to Bangladesh can be exciting, but it is also difficult, as it means building the foundations as well as the company.

In 2003, after helping to train the first batch of local animators, I went to MIT to complete an MBA at the Sloan School. My plan was to take a break from the emerging markets and explore new technology projects in the U.S., particularly through the Massachusetts technology corridor. My ongoing assumption, partially influenced by the challenges of the animation industry, was that countries like Bangladesh were not yet ready to reap the full benefits of the technology revolution. The "digital moment" had not fully arrived in the developing world, in spite of donor-funded efforts such as the sub-computer and the fabled use of the Internet in fishing villages.

While at MIT, I started a class project at the Media Lab re-investigating the technology sector in Bangladesh. During my two years back on a college campus, many changes came to Bangladesh. While computer projects funded by donor agencies had produced meager results, another trajectory was sweeping the country. As of 2005, the personal computer was struggling to cross the million mark in Bangladesh, but the mobile phone had crossed the 10 million mark; and by 2008,

it would reach 47 million. But only a fraction of this available new capacity was being utilized. One analogy I often make is that a mobile phone has computing power roughly equivalent to the basic computers NASA used in 1969, but very little of that power is being used. The average mobile user in Bangladesh is only storing numbers, making calls, sending SMS messages, downloading ring tones, exchanging files, and changing his or her “wallpaper.”

Seeing this untapped potential, I looked for a matching market demand. The most obvious unfulfilled need was market and trading information. The transparency was minimal in market pricing in every sector, from agriculture to electronic devices, from housing prices to repair services. Middlemen and intermediaries ruled this scene, inserting themselves into the value chain, preying on less knowledgeable buyers and sellers, and adding a layer of price inflation that benefited no one. CellBazaar was designed to be a marketplace on the mobile phone, reaching a mass population, which would remove the intermediary and give buyers and sellers direct access to one another. By creating an interlinked, multi-industry marketplace that millions could view at the same time, the project would also push sellers toward transparency and push prices toward convergence, so that markets would always be fair, equitable, and workable.

At this stage, the project was still in “blue sky” mode. The mockup I created for my class project showed state-of-the-art visuals, images of sellers and products, advanced GUI, a star-rating system, and more—all contained within a screen that looked like the (as yet unknown) iPhone screen. The project received an MIT Ideas Award for its contribution to ideas of technology and development, but I had no idea whether the technology infrastructure in my native Bangladesh was ready for all this. I went home on a look-and-see mission: to survey the lay of the land and estimate when the local market would be ready for the project.

## BUILDING FROM SCRATCH

Back home, I soon discovered that things were moving faster than I had expected. Although news of business and technology developments did filter back to the Boston campus via online news services, nothing could match my sudden on-the-ground, real-time, lived experience. To my surprise, I found that in the two years I had been in the U.S., the mobile market had turbocharged beyond my business school classroom calculations: the hockey stick curve had sharpened. More important, mobile phones were starting to trickle down to the “financially constrained” (FC) sector. Two points became clear. First, the business scene was more than ready to absorb the CellBazaar concept and the window of opportunity was immediate. And second, we should quickly expand my MIT business plan to incorporate the FC sector, especially the untargeted agricultural sector.

Dropping my plans to take a job with a private equity firm in the U.S., I registered CellBazaar as a U.S. business and moved into rapid-action mode. I raised the necessary capital from Omidyar Network, Barred Rock Capital and Gray Matters Capital in the U.S. Soon we had registered the company as a Foreign Direct

Investor—a process that is normally quite byzantine in Bangladesh—had filed a patent application with the Bangladesh patent office, and had signed an exclusive partnership (until spring 2009) with GrameenPhone, the country's largest mobile operator, with 60 percent of the market share.

The decision to sign this exclusive partnership with GrameenPhone was a complex one. The concept of exclusivity is not well understood in Bangladesh, but it goes to the core of our two-pronged market strategy:

In 2005, the local market was flooded with “value added services” or “content providers.” Often dismissively referred to in the shorthand of CP, these companies provide many different variations of ringtones, “wallpapers”, videos, and weather forecasts. In a mass market, these were considered simple add-ons for the mobile companies. From the beginning, CellBazaar wanted to be taken seriously as an equal partner, and exclusivity was a necessary first step.

In a war for market share, telephone companies in developing countries rapidly find themselves competing, using incentive packages that include rate cuts, free minutes, free SMS, and more. The result has been a race to the bottom, with no company attempting to differentiate itself by aiming upward. CellBazaar decided to offer a differentiating service that would become so essential to people's lives that subscribers would consider switching carriers to use it. In order to prove this concept—that a service partner could be powerful enough to drive customers to switch providers—we had to be in an exclusive partnership.

After positioning, patents, and partnerships, we faced another major challenge: building up a staff and management team. Bangladesh's oversize population is a remarkable phenomenon: 150 million people, with an average age in the early 20s, live in a country the size of the U.S. state of Wisconsin. Dhaka, the capital city, is unofficially home to 15 million people, which would make it the world's most densely populated city. But this population explosion is also an economic asset: in its analysis of the “Next-11” countries (“Dreaming with BRICS: The Path to 2050,” 2003), Goldman Sachs identified this bulging population as potential consumers. Still, startups face a challenge: in this huge population, there are few trained managers, especially in high technology.

FDI regulations encourage foreign firms to hire local workers, to encourage knowledge transfer and build local capacity. This policy makes sense from the point of view of long-term sustainability—and I was committed to building up local expertise for the long term. Meanwhile, courses at MIT had taught me about the value of intellectual property: it was essential that the in-house team understand, control and modify the code. But Bangladesh had no established workforce with experience in building mobile phone applications that have intense database needs and are integrated into e-commerce. We hired a Danish-U.S.-Bangladeshi joint venture to jump-start the application development, but the long-term solution had to be local.

To go more local, we hired young computer science graduates who were relatively inexperienced but showed problem-solving potential. Here we encountered another challenge: as a startup truly using a U.S. model, our key recruitment plat-

form offered a mixture of salary and equity. While employees in Silicon Valley understand the potential payoff from equity, the model is unknown in Bangladesh. No equity success stories are inspiring bootstrap innovators. Still, we hired a hungry young group of programmers and technology innovators. Sometimes it felt like a garage startup: we interviewed Employee #2, currently our chief application developer, in an ice cream parlor as we had no office at that time. From that simple beginning, the technology team has advanced to interfacing as equals with members of foreign technology teams who have ten years of experience.

The other area of major hiring was the marketing team; here the challenges were different and equally daunting. With the advent of the mobile phone sector and galloping growth, Bangladesh has a large pool of marketing graduates who are eager for jobs. Given the large pool, the salary pressures are lower than in technology. Bangladesh also has an established hierarchy of Ivy League style schools (NSU, BRAC University, etc.), producing graduates, some of whom we hired. We made a surprise discovery about the nature of marketing in this setting: these graduates had been trained for a world of meetings, memos, marketing plans, and forecasts. In other words, office-based, paper-generating planning work. But for a startup like CellBazaar, marketing needed a grassroots, roll-up-your-sleeves, guerilla marketing approach. We needed marketing people who could interact with common people at all levels, especially those of working-class and agricultural backgrounds.

In this arena, urban language and a visible middle-class background were actually a hindrance: they created a wall of separation from the man on the street. Rapidly recognizing this challenge, we completely changed our strategy. Now the focus was on staff with street smarts and savvy talking skills; people from non-Ivy schools were ideal here, as they could integrate easily and mix with people of all backgrounds. This shift in strategy created a twin-track marketing team, with the smaller staff of office-bound workers learning to work smoothly with a larger staff of “street marketers.” This successful experiment also generated startup energy and entrepreneurial speed for CellBazaar in the early days.

#### A RAPIDLY EVOLVING MARKET

As we launched CellBazaar in Bangladesh, it took off rapidly. In fact, we discovered that people were eager for software and platform innovations that we hadn't yet planned. We also had blind spots as to how fast the market would change—but we managed to adapt quickly, constantly adjusting our product strategy.

When we first launched CellBazaar in 2006, we assumed that SMS-based phones would continue to dominate the market for another few years. Only a few people had WAP/Internet enabled mobiles with graphic interfaces; high-end smartphones were a rarity. Our forecasts said it would take several years before most people had Internet-enabled phones. Our initial launch focused only on an SMS-based application; our plan was for the technical team to continue modifying that application for another year or two, and then we would launch the second-generation applications on WAP and the Web.

In the early days of CellBazaar, we would go to partner meetings and deliberately use only a low-end mobile phone. We were trying to demonstrate that the product was available to the masses, with even the cheapest phones. Often a company CEO would bring out a high-end phone (in 2006, still a rarity) and ask why we did not have a similar phone. We would respond that most people could not afford such a phone (then retailing at upwards of 35,000 Taka/U.S. \$500), and we wanted to reach a mass audience.

But by January of 2007, the handset market experienced a seismic shift, and suddenly high-end phones were proliferating. Here the younger members of our team, especially the most recent graduates, served as an early warning system. We started seeing trends from two ends of the market. The tech team spread news of the rapid increase in graphic-enabled phones, which were status symbols in the college and teenage market. Meanwhile, the marketing team heard news of second-hand Internet-enabled phones spreading in the sub-middle class market.

At least five complex, interlocking factors help explain this rapid penetration, especially into the financially constrained segment:

- Nokia began a major foray into Bangladesh, identifying it as a major consumer market for high-end, prestige phones. Its successful blitz campaign used very unconventional methods for Bangladesh, including road shows with fashion models, celebrity endorsements, and aspirational ads featuring western users at play.
- The status-symbol phones, especially the sliding N95, E95, and Music Express, became hits in 2007.
- The iPhone arrived as the first celebrity phone, Bangladesh-based hackers managed to unlock it in record time, and the press was intrigued.
- Cheap clone phones flooded into Bangladesh from China's grey market; soon look-alike phones were retailing for as little as Taka 8,000 (about U.S. \$120), while the Nokia originals retailed at Taka 30,000 (about U.S. \$430).
- More and more local youth were joining networks to trade video clips, and then wanted video-capable phones—Internet capability was an accidental bonus.

Contradicting our cautious estimates, more than 25 percent of the country's user base had Internet-enabled phones by early 2007. This led us to change our strategy rapidly, and fast-track the WAP and Web platform. In startup mode all over again, the teams worked around the clock to meet intense deadlines and we launched the WAP and Web applications by mid-2007. Now we could access the growing market simultaneously from net-enabled mobiles as well as computers. People were using all three platforms to access the same synchronized database, which vastly increased the complexity of our data management challenges. The technical team experienced a few hiccups and growing pains, but their trial-by-fire produced a seasoned team: in six months they had matured well beyond their years.

The fast-track gamble paid off: three months after the launch, more people were using the WAP platform than the SMS platform and we had ten times the

traffic. The Web platform took off in early 2008, partially due to our ubiquitous bumper sticker campaign. By the end of the first quarter of 2008, WAP and Web usage were roughly even; both were getting about 20 to 30 times the traffic of the SMS platform. We learned that once a consumer has access to a net-enabled phone, they will never go back to using CellBazaar on the SMS platform. The ease of use and speed of the GUI platform makes it unbeatable.

This experience led us to a wholesale change in our revenue models, as some things arrived sooner than expected. In particular, we are now testing targeted advertising (linking an advertiser to a specific product search) on the WAP platform. Although targeted advertising was theoretically possible on SMS, it lacked graphics and animation, and would never have been able to command premium rates. Based on this experience, in fall 2008 we launched a fourth platform, using interactive voice recognition (IVR). This fit with an overall trend among cell phone companies of covering all platforms, and also of earning higher revenues by being easier to use. Because the IVR is in Bengali and requires no typing, it was the next logical step after WAP and Web.

Right now, our sources of direct revenue are SMS fees (per SMS), IVR fees (per minute), WAP browsing fees (per kilobyte), and targeted advertising. In addition, we have several channels of indirect revenue, including the voice revenue generated when a person makes a phone call to complete a transaction (GrameenPhone is now researching the number of minutes generated and amount of revenue to share with CellBazaar). A popular consumer item can generate calls from up to 30 callers, and if they begin to negotiate over the price, the calls can last from five to ten minutes. In addition to these existing revenue channels, we see many additional sources of revenue that we are currently offering for free. We intend to make the service as popular as possible, and build up a national critical mass. Once the CellBazaar service becomes absolutely ubiquitous and an essential daily tool (i.e., a consumer can no longer imagine doing a buy-sell transaction without us), we can gradually charge fees for add-on services.

## INVENTING TECHNOLOGY BUILDING BLOCKS

Even though we created a top-tier technology team, and brought the entire development in house by month six, we faced many challenges, mainly because we found ourselves to be the first at the gate for many features. That meant we had no local expertise to turn to, no one who had implemented anything similar. Nor could we import expertise, given the country's restrictive laws regarding short-term work visas.

In this context, the Internet became a boon for our in-house technical team. A combination of chat groups, bulletin boards, Usenet groups, hacker forums, and Skype calls brought a virtual team of tech experts into our office. Aided by the "geek core" emphasis on collaborative work, and also by the fact that this was a startup based in Bangladesh, many technologists from northern countries donated time and expertise. This was crucial for trouble-shooting many of the new



issues we faced. To give a taste of these challenges, here are five key issues we faced and solved.

*Building WAP.* The WAP version of the application had to support a large variety of WAP-enabled handsets, from many providers, as well as the cheap clones. Because Bangladesh has no local standards, there were (and continue to be) many variations in phone settings, none of which we could control from our end. Over time, we had to fix problems through trial and error, which is extremely time-consuming.

*Synchronizing all platforms.* We had to synchronize all the data collected via an SMS, WAP, or Web platform. But these three platforms were connected via different gateways, and each had completely different environments and platforms. Moreover, we had no documentation for many of these new environments.

*Recruiting bug testers.* There is no local demand for bug testing, and no outsourcing market for them. Thus there was no local pool of testers, especially not for mobile phone applications. So we had to recruit computer science students and train them from scratch. After months of training, they became capable testers. Naturally, as often happens in technology, the premium training they received from us made them lucrative hires for other companies that are now setting up shop. So the pool of bug testers has a high turnover rate, another form of pioneer's penalty.

*Adding animation and images.* After we launched the WAP platform, it became crucial to start adding visually appealing graphics and animation. Most of the animation capability in Bangladesh used flash technology for browsers screens, so no one had experience animating for mobile phones, where the files have to be made ultra-light. Here too we had to train the first practitioners.

*Integrating the local language.* As most people here find English challenging, we try to introduce bilingualism whenever possible. We managed to do some of this on the WAP platform, but faced challenges. The existence of competing software houses in West Bengal (India) and Bangladesh means that there are competing standards on Bangla software. Lacking a universal standard, we had to create our own. We worked closely with CRBLP (the Center for Research on Bangla Language Processing) of BRAC University to design a program that could convert the non-standard text into standard Bangla. Even then, we also had to build an in-house image converter, to guarantee that all mobile phones would be able to display the Bengali fonts.

## MARKETING TO THE MISSING MIDDLE

After we launched the service, finished troubleshooting all the bugs, and added new platforms, we finally began to concentrate on the most basic step in building an audience: marketing. We created Above the Line marketing agency to produce television and radio commercials and print ads. We also used many types of grass-roots marketing: we gave out bumper stickers and educational booklets, and visited regional and local markets, rural community information centers, and college

fairs. We had one-to-one sessions with customers, and relied on word of mouth.

In the mobile phone landscape in South Asia, one trend is obvious: using “city” or “smart” language to market to all audiences. Most marketing targets what is identified as the “shopping mall” generation; in fact, a category of Bollywood films even targets this niche. People increasingly use “Hinglish” (Hindi and English mixed into a hybrid urban language), and the same trend has rippled through the advertising scene in Bangladesh. The prevailing wisdom is that rural and mofussil (suburban) youth live an “aspirational” lifestyle: they want to copy their presumably sophisticated city peers. One advertising executive told us, “If city populations love it, everyone else will follow.”

CellBazaar decided to defy this conventional wisdom, ignoring advice from ad gurus. We felt that the core audience to be served is the rural population, for three reasons.

- CellBazaar can have a far greater incremental impact on the lives of these people than on city dwellers, so their usage and loyalty will be stronger. To cite an example we often use, a city teenager may use our service to buy a cheaper mobile phone, but a villager may use it to find an entirely new market for his product and thus increase his income.
- The vast majority of Bangladeshis are non-urban; they are a growing majority of mobile phone users.
- We feel that once a product is branded as “city” or “educated,” it actually alienates and distances the non-urban population.

When some consumers first see marketing that uses the elements “SMS” or “.com,” they decide this is a product for the urban middle class and the young urbanized generation. In fact, those who benefit the most from CellBazaar, by being able to buy and sell (effectively setting up their own shop), are the working class, the financially constrained, and the self-employed. But they are usually the ones who mistakenly think “This is not for us.”

Marketing to rural people is a delicate matter in any culturally sensitive nation. Language, accent, enunciation, regional touch, profession: all of these have rural versus urban biases. If we handled any of that with an insensitive touch, we would alienate the audience and leave ourselves open to charges of “exploitation.” Because agencies and executives from urban backgrounds create most of the marketing assets, they also have to consider issues of “authenticity,” even for a company in the high-tech sector.

In order to maximize our conversation with the target audience, we created a popular character called Shamsu Hawker. Genial and smiling, Shamsu is the Bengali everyman. Riding on a train, he would talk about selling newspapers (“hawker” is the name of this profession) and explain how CellBazaar allowed him to expand into the business of buying and selling used TVs. Shamsu was the perfect blend of village optimism, entrepreneurial zeal, and a sense of humor. By putting him on a train, we signaled that CellBazaar could be reached anywhere, even in the remotest village. Once the commercials aired, the character gradually became well-known and then popular.

Our next phase in marketing will be to start talking with city audiences. Here the challenge will be to extend our brand identity authentically without alienating our village customers. It is a delicate balance, and many traditional companies (especially those selling household products) have stumbled when expanding from a rural base into the cities. Managing the crossover properly will be our next challenge—in line with this, our newest commercial shows a city family selling some household goods so it can buy newer replacements.

CellBazaar currently has a staff of 22. We have always believed in keeping the team small and not adding overhead. The most successful of our campaigns have involved grassroots street marketing, using unconventional devices, language, and partners. The majority of the marketing is carried out by a small team using proprietary tools, one-to-many networks, and grassroots word-of-mouth techniques. In this way, we leverage a small headcount into a big and contagious impact.

### PIONEER'S PENALTY

One challenge for CellBazaar has been the sharp learning curve, called the “pioneer’s penalty.” Because we offered the first such service in Bangladesh, we had to tackle basic issues of mobile literacy. As phones become cheaper, and clone phones arrive from China, more Internet-enabled mobiles are reaching more financially constrained users, who sometimes have trouble activating the phones’ features.

We discovered three challenges in people’s attitudes towards technology:

- *Technophobia*. People sometimes fear technology. But when our marketing teams interact with individuals and explain the service, users learn very quickly. Thus, human contact and one-to-one or one-to-many teaching is essential.
- *English perception*. Although very little English is required to use our service, people perceive that advanced English is required.
- *Generation*. Many people see new tools on mobile phones as something mainly for young people. Because of the ubiquity of ringtones and video clips, people automatically assume some association with entertainment rather than understanding the phones’ other values.

In addition to overcoming these biases, we have to train people in the basic functions of their phones. Beyond dialing and storing numbers, many people do not explore the majority of their phone functions. To return to the metaphor we used earlier, millions of people have a NASA computer in their pockets, but they are severely under-utilized.

Before we teach people how to use CellBazaar, we teach them the basic tools of mobile phone technology: what screen icons mean; how to type words, numbers and symbols; and how to use navigation buttons, shortcuts, search functions, etc. To simplify such training, we began designing educational booklets—which soon became our most ubiquitous marketing material, passing from hand to hand. The process also taught us more about communications. Our first booklet was 12 pages long, and came in four different colors, each with different examples geared toward separate demographics: rural, professional, teenager, elderly. We soon discovered

that, rather than responding favorably to their niche, consumers were getting bewildered by the choices. The length of the booklet also intimidated them: they looked at our marketing outreach people as if to say, “Do I have to read all this?”

Learning from that experiment, we became efficient about text, cutting the booklet down to three pages, and finally two alternate versions: a take-away two-page version, and a leave-behind one-page version. Amazingly, we lost no essential details in the transition from 12 pages to one: we got better at saying a lot with a few words and pictures, and trusting that the reader would learn intuitively. Readers only needed the audacity to believe that they could use the market, make money, find goods, and complete transactions. They could keep their old habits (going to the same market location, shopping on designated days) and complement them with new habits (browsing, checking prices, starting conversations) to harness the service’s full potential.

Having learned all these functions, consumers will easily pick up new features as they are added to mobile phones. In the future, as all mobile phones are transformed into full-fledged computers (e.g., Apple’s iPhone), the CellBazaar user will be trained and ready to do anything with mobile devices. We foresee that in the future, each “super” user of CellBazaar will be able to start their own digital-based commodity training hub. We already have a model: after Korea set up garment factories in Bangladesh and trained its workers in Korea, the first batch of Korean-trained garment workers went on to start their own garment factories in Bangladesh within a couple of years.

#### LESSONS FOR FUTURE ENTREPRENEURS

With increasing global attention to the concept of businesses driven by mobile phones, CellBazaar has gotten invitations to expand into other countries. We think similar developing countries are the best place to expand the concept, especially those with a strong mix of agricultural-consumer-industrial products. To do so, we will need like-minded and innovative partners in the new destination countries. In initial talks, we have found that in addition to our technology, another valuable intellectual property is the many pieces of explicit and implicit learning we have gathered through our launch and ongoing operation in Bangladesh.

During a recent visit to Delhi to attend the Manthan Awards (“ICT for Development”), we were struck by the amount of energy and expectation the Information Communications Technology (ICT) industry had focused on the rural market. Reaching this group via a buying-selling market on the mobile phone is a core part of CellBazaar’s strategy and vision. In Delhi, we found that vision shared by many others—from mobile payment solutions to rural cyber-cafes to complex database engines.

While the rural market is our focus, and is one reason why Indian companies have shown an interest in our story, it is also important to focus on the realm of the possible. When PowerPoint presentations end with idealized images of a farmer, alone and unaided, accessing all the pleasures of ICT data, we risk having

hype overtake reality. The reality is that bringing mobile- or computer-based ICT to farmers will require one last mile of work, and it will involve some kind of human translation or help.

We also see our work as laying the groundwork for others. Though we were teaching mobile computing so people could start to access CellBazaar, the trained consumer can use any new application that appears on the mobile. Realizing this, we began to partner with state and private institutions that were also interested in training the masses in technology, in order to develop infrastructure. We have begun partnerships with the SME (small to medium enterprise) capacity-builder Katalyst and with the rural cybercafe program Community Information Center. We are eager to move to the next stage: more macro-level public-private partnerships that will help CellBazaar grow and reach thousands of additional users.

In Bangladesh, the adoption curve in rural markets has been slower than in urban centers, but we remain committed to continuing to target this sector, as that is where consumers get larger incremental benefits through mobile-based commerce. In developing countries, telephone operators need to start considering their consumers as producers. Buying and selling (trading) through the mobile is one way that consumers become a profitable sector for phone operators. It is a win-win solution, and the vast rural sector is where such opportunity remains untapped.

So we have reasons for hesitating about those over-idealistic visions of a farmer instantly accessing all the wonders of ICT. This vision is indeed possible, but it will not happen instantly. Much grassroots-level hard work and many public-private partnerships for technology education will be essential. Micro-entrepreneurs who build small businesses play key roles, as they can spread the service through word of mouth, motivated by their own small profit potential. But rather than over-optimistic projections or blue sky scenarios, what is needed most is realism, stamina, off-the-beaten-path innovation, constantly evolving next-generation technology, and long-term vision.