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How Mobile Technology is Driving Global Entrepreneurship

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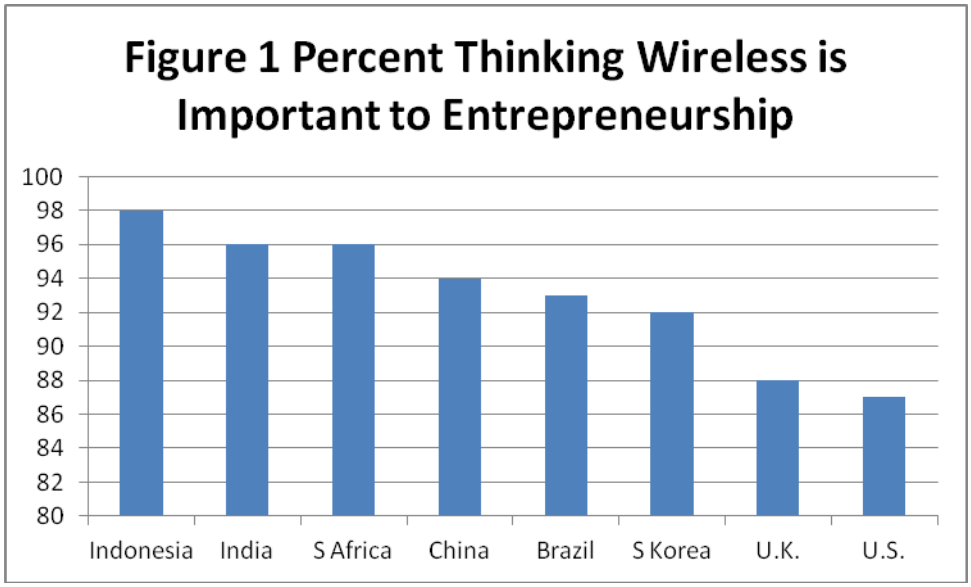
Entrepreneurship is crucial for economic development around the world. In places such as Nigeria, Egypt, and Indonesia, micro-entrepreneurs generate 38 percent of the gross domestic product.[1] Analysis of time-series data demonstrates that small businesses create a disproportionate share of new jobs.[2] They generate new ideas, new business models, and new ways of selling goods and services.

Mobile devices represent a way for entrepreneurs to overcome the challenges of doing business.[3] Mobile phones help people communicate with one another, access market information, sell products across geographic areas, reach new consumers, enter mobile payment systems, and empower women and the disadvantaged. A report from the United Nations Conference on Trade and Development found that "ICT infrastructure is an increasingly vital determinant of the overall investment climate of a country."[4] Furthermore, researchers have found that each "one percent increase in mobile penetration is associated with 0.5-0.6 rate of FDI/GDP."[5]

In this report, I discuss how mobile entrepreneurship improves the opportunities for social and economic development around the world. As part of our Mobile Economy Project, I analyze the importance of wireless technology for entrepreneurship, how mobile improves access to capital and market information, how it helps entrepreneurs serve broader geographic areas and reach new customers, the manner in which it empowers women and the disadvantaged, and the way mobile payments stimulate economic development. I conclude by outlining the steps we need to take to overcome current barriers to m-entrepreneurship.

The Importance of Wireless Technology for Entrepreneurship

Wireless technology is vital for entrepreneurship and small business development. The TIME Mobility Poll, conducted in cooperation with Qualcomm, which surveyed 4,250 adults in eight countries, found that 93 percent believes that wireless mobile technology is very or somewhat important for entrepreneurship.6 Figure 1 shows that Indonesians (98 percent) are slightly more likely to feel that way, while Americans (87 percent) are less inclined to do so.



Ninety-one percent thought wireless encourages home-based entrepreneurship by improving the ability to sell goods in regional and global marketplaces.

The survey revealed that 81 percent of those interviewed reported mobile technology helped them search for the lowest available price for something they wanted to buy; 78 percent felt it gave them access to a larger group of potential customers; 78 percent believed it helped them follow up with their customers; 77 percent thought it granted access to financial services information; 74 percent believed it allowed them to find where they could sell goods for the best price; and 63 percent believed it strengthened the economy in their home country.

In addition, the poll inquired as to how important wireless mobile technology would be for various business activities. Ninety-one percent believed it would enable access to financial services for businesses and entrepreneurs. Ninety-one percent thought wireless encourages home-based entrepreneurship by improving the ability to sell goods in regional and global marketplaces. Ninety percent believed it would help businesses use online tools such as inventory planning. Eighty-nine percent said it would enable farmers and fisherman in rural areas to coordinate with markets to search for the best possible price for their goods. Eighty-nine percent thought wireless streamlines the way businesses handle transactions by allowing a merchant to accept payment and move funds.

In nearly all developing countries, mobile subscriptions are growing rapidly. Places reporting the highest growth rates over the past five years include Armenia (115 percent), Vanuatu (113 percent), Fiji (91 percent), Botswana (88 percent), Tajikistan (82 percent), Kyrgyzstan (81 percent), and Peru (80 percent).[7] According to a 2011 Gallup poll, 71 percent of adults have cell phones in Nigeria, 62 percent in Botswana, and 50 percent in Kenya and Ghana. Indeed, it is estimated there are 616 million mobile users in Africa as a whole.[8] This growth in the use of handheld devices creates enormous and numerous opportunities for social and economic development.

Accessing Capital and Market Information

In many emerging nations, it is a major challenge to gain access to capital and market information. Indians cite credit problems as their most significant problem. It is hard to find banks that will lend businesses money and most people lack the collateral they need to guarantee loans. The result is that entrepreneurs often have to rely on friends and family members to get credit.[9]

Developing places typically do not have functioning infrastructure or much in the way of financial resources. In sub-Saharan Africa, only "29 percent of roads are paved, barely a quarter of the population has access to electricity, and there are fewer than three landlines available per 100 people."[10] In Indonesia, 75 percent of the country has incomes below $2.50 per day.[11] The combination of poor infrastructure and poverty makes it difficult for entrepreneurs to access financial resources and information. The lack of timely information disrupts markets and weakens pricing signals.

To encourage development, organziations in Indonesia are helping underserved residents use mobile technology to access unique business opportunities and gain the skills needed to lift themselves out of poverty. This Mobile Microfinance initiative helped create Ruma, a local social enterprise, that connects individuals with one another through shared ventures. Entrepreneurs can pool resources and secure microfinance loans to develop their businesses. Some resell airtime minutes through their mobile phones, while others market services such as job listings or survey information. There are currently more than 15,000 Ruma entrepreneurs serving approximately 1.5 million unique customers. Eighty-two percent of the businesses are female-owned and 47 percent claim their incomes doubled as a result of their involvement in the initiative.[12]

In Indonesia, farmers use a mobile service called 8villages to access market information. Using a handset, they can join a social network that gives them access to product reviews, crop prices, agricultural expertise, and weather conditions. By 2011, over 600,000 individuals had signed up for the service and gained the benefits of digital collaboration.[13]

These types of services have a strong track record of boosting market efficiency. A study of Niger agricultural markets found that "the introduction of mobile phones reduces dispersion of grain prices across markets by 10 percent."[14] And when more people have cell phones, the market effects become even stronger. There also are significant benefits for food consumers and producers. In some cases, profits rose by as much as 29 percent annually.[15]

In Brazil, mobile devices have helped train fishers and improve their access to information. Wireless communications tell them where the fish are, how to catch different species, and what water conditions are best for fishing. In addition to tracking expenses, new technologies allow them to sell directly to hotels and

restaurants, and thereby keep more of the profits.[16]

In Tanzania, microfinance loans have helped local entrepreneurs open Internet cafes. With only 1.6 percent of the country's population having Internet access, these businesses give people and businesses access to the outside world. People can transfer money or make long distance phone calls, effectively opening up commerce in rural areas.[17]

Several media companies use SMS service to provide consumers and businesses with up-to-date market information. *The Standard* newspaper in Kenya has 10,000 subscribers for its business text messages and its mobile site generates up to 300,000 hits per month. It sends four or five daily messages and charges 10 KES (around 11 cents) per message received. The company also markets text messages for sports and entertainment updates.[18]

Mobile devices help entrepreneurs serve broader geographic areas and reach new consumers. This expands their opportunities and helps them grow their businesses.

M-Farm is a mobile solution for farmers in Kenya that provides timely market data. Based on the company's entry in a startup competition that netted a 10,000 euro grand prize, the application asks farmers to text a certain number to receive information on where they can sell their products and what the price is in different locales. This has enabled farmers to cut out the middle men and get the best prices for their agricultural production.[19]

In Trinidad and Tobago, research has found that 95 percent of those in the fishing industry use cell phones for market information. Fishermen there have access to two mobile applications: GFNF (Got Fish Need Fish) and Prices, that shows the market prices for various fishes. Seventy-eight percent of those using these apps in the mFisheries service report that the site allows them to rely more extensively on broader market prices as opposed to local dealers. Eighty percent say the apps have saved them time doing their job.[20]

Serving Broader Areas and Reaching New Consumers

Mobile devices help entrepreneurs serve broader geographic areas and reach new consumers. This expands their opportunities and helps them grow their businesses. A study of the South Indian fishing market revealed substantial benefits when mobile phones became more prevalent in Kerala. More than one million people in that Indian state worked in the fish industry. Yet nearly all the fishes were sold at a local market because fishermen had no way of knowing who the buyers were or what the prices were outside their home area.

The introduction of cell phones in 1997 broadened access to market information and gave sellers up-to-date pricing signals up and down the coast. Within four years, 60 percent of the boats relied on mobile devices to check market prices in different areas. The result was that "fishermen's profits increased on average by 8 percent while the consumer price declined by 4 percent and consumer surplus in sardine consumption increased by 6 percent."[21]

There are other examples as well. The Self-Employed Women's Association in

India includes 1.1 million workers who pool their resources to improve their bargaining power. The organization sends agricultural workers daily SMS messages on commodity prices so farmers can determine the best places to sell their products. Those participating say they have been able to market fruits and vegetables over wider areas and thereby earn higher incomes.[22]

The Ethiopia Commodity Exchange program has helped entrepreneurs expand their markets. Before 2008, 95 percent of farmers sold their products in local markets and were not able to access other areas. Transaction costs were high and they had problems getting fair prices due to the lack of market competition. With the advent of the Exchange, though, agricultural producers gained access to external buyers and were able to negotiate better prices. This boosted their incomes and improved the quality of food products.[23]

The India-based Hand in Hand Partnership enables women to use mobile devices to launch businesses in the technology area. It provides mentorship, training, credit, and technical support. In Tamil Nadu, India, where the partnership is based, 500,000 women have joined self-help groups and started 334,000 businesses. The result has been that "monthly income has increased from 700-1500 INR to 3000-3500 INR."[24]

In Capetown, South Africa, the Taxi Rank has set up a mobile system that allows customers to compare taxi prices for various car services. Users simply text their pickup and dropoff points, and each company sends them bids and the time available to provide the service. If customers have a phone with geolocation features, the company can even pinpoint their exact pickup location.[25]

In Kenya, the Farmers Helpful network gives agricultural producers access to the latest research. Farmers can ask questions of experts concerning crop rotation, artificial insemination, and crop insurance. This helps them improve their agricultural production and marketing, and increase their overall income.[26]

Empowering Women and the Disadvantaged

Entrepreneurship barriers are especially problematic for women and the disadvantaged. These individuals constitute a growing proportion of the labor force in many developing nations. In places such as Nigeria and Indonesia, women represent about one-third of the workforce.[27] Access to mobile technology is particularly important for females because there are 300 million fewer women globally than men who own mobile devices. Overall, there is 21 percent gender gap in owning a phone worldwide, but this number rises to 23 percent in Africa, 24 percent in the Middle East, and 37 percent in Asia.[28]

Female entrepreneurs often have difficulty breaking into established markets and supply chains, and thereby gaining a foothold. It is challenging for them to access capital, acquire talent, and build their companies to a larger scale. Women face special challenges because in many nations, they do not have the same

freedoms or legal opportunities available to men to access business networks.

Wireless communications help with this issue by training students how to become entrepreneurs. In Indonesia, the Global Ready eTraining Center program has trained 1,000 students in technology services. Those enrolled get vouchers for a three-month program. More than 95 percent of the individuals enrolled completed the class, and 75 percent said the course increased their income as a result of the skills acquired in the program. Ten percent of the graduates have launched technology-related businesses.[29]

A survey undertaken by the Development Fund found that 55 percent of women around the world "earned additional income due to owning a mobile phone" and 41 percent "increased their income and professional opportunities."[30]

If people can transfer funds quickly and efficiently, it becomes easier for small and medium-sized businesses to sell their products. This improves the efficiency of the marketplace and removes barriers to growth.

Using Mobile Payments to Stimulate Development

Mobile payment systems represent a way to reduce the cost of financial transactions and thereby help entrepreneurs. If people can transfer funds quickly and efficiently, it becomes easier for small and medium-sized businesses to sell their products. This improves the efficiency of the marketplace and removes barriers to growth.

Reducing "friction" is very important in African, Asian, and Latin American financial markets because barriers to financial transactions remain quite high.[31] Only 30 percent of those who live in developing African nations have bank accounts.[32] A study of mobile payment in developing nations showed that mobile-based transactions were on average 19 percent cheaper than traditional bank services."[33]

In Kenya, the network provider Safaricom has pioneered a successful mobile payment initiative known as M-PESA based on the Swahili word for money. It has 12 million people who rely on it using one of the company's 20,000 distribution sites.[34] Users can deposit money, make withdrawals, or transfer funds across accounts. It has become a popular way for small businesses to handle their financial transactions outside the banking system.

Overcoming Entrepreneurship Barriers

In short, mobile technology offers extensive help on various forms of social and economic development. Wireless communications broaden access to information, improve capital access, overcome geographic limitations, and expand market access. With mobile phones and tablets proliferating at a significant rate, these communications tools enable women, the disadvantaged, and other individuals to access a broader range of investors, suppliers, and customers. Combined with social media platforms, people can extend their reach through mobile devices and

pool resources in meaningful ways.

Yet despite these virtues, entrepreneurs face many obstacles around the world. A survey by Booz & Co. found that the leading challenges for improved entrepreneurship include assistance with customer relationship management, credit, capital access, marketing, market data, financial resources, investment, training, and mentorship.[35]

In South Africa, businesses report their major needs include: assistance with marketing (38.8 percent); gaining access to raw supplies and materials (32.6 percent); provision of alternative sites (30.4 percent); better access to loans (29.3 percent); forming contacts with others in similar businesses (25.4 percent); easing government regulations (23 percent); access to modern technology (19.7 percent); and help in getting loans (3.9 percent).[36]

With the benefits of mobile communications, it is crucial to improve the adoption of mobile technology. This means addressing problems such as mobile cost, concern about technology, and societal restrictions on the use of mobile devices. In some countries, people don't have cell phones because they say they are embarrassed to request a device.[37] Unless countries overcome financial, cultural, and policy obstacles, it will be impossible to gain the full advantages of mobile technology.

It also is vital to improve tax and investment policies that impede innovation. Microfinance loans are a major source of capital for small businesses in many developing countries. People need low costs to afford loans and business services. And once entrepreneurs start to make money, they need tax and regulatory policies that encourage business development. Keeping company registration expenses and licensing requirements down is vital in the developing world.

Governments can use their purchasing power to encourage entrepreneurship. If they give most of the contracts to large firms, it discourages small businesses and makes it more difficult for them to succeed. Having procurement systems that are open and transparent levels the playing field and allows all to compete fairly. Electronic processes help those across wide geographic areas gain access to public contracts.

Legal obstacles that impede opportunities for women and the disadvantaged must also be addressed. Many individuals face limitations on starting businesses or borrowing money, and this restricts their economic development options. Countries should liberalize their rules to encourage entrepreneurship on the part of all interested in starting companies, regardless of gender, religion, or nationality. Creating incubation areas where businesses can benefit from social networking and economies of scale is helpful.

There needs to be better training for entrepreneurship so people learn how to launch businesses and improve marketing, communications, and development. Showing individuals how they can master the basics of business development and network with others would reduce barriers to entrepreneurial activity. If these obstacles can be overcome, many more entrepreneurs will be able to gain the full

benefits of the mobile revolution.

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Endnotes

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