# FINANCIAL INCLUSION:

## Barter to Bitcoins, Bricks and Mortar to Mobile—Developing 21st Century Financial Services Solutions for the Unbanked Poor


Don Tapscott
Executive Director
Global Solution Networks

Amit Kapoor
Honorary Chairman
Institute for Competitiveness, India

*and*

Jill Rundle
Contributing Writer
Global Solution Networks


"**The stark reality is that most poor people in the world still lack access to sustainable financial services, whether it is savings, credit or insurance. The great challenge before us is to address the constraints that exclude people from full participation in the financial sector. Together, we can and must build inclusive financial sectors that help people improve their lives.**"[1]

**— Kofi Annan**
former UN Secretary-General

GLOBAL SOLUTION NETWORKS

# Table of Contents



# The Idea in Brief

The opportunity to develop global systems for the exchange and growth of wealth and for the "monetizing" of individual production requires new thinking about both markets and customers.

Bringing poor populations into the economic mainstream will allow broad-based leverage and protection for even the most modest wealth. At the same time modest savings, multiplied by the billions of workers who might engage with the financial services industry, represent a potential injection into the world economies of many billions of dollars. To attract that inflow of deposits, providers must develop complex sensitivities—to the fundamental needs and the inexperience of their new customers, the market-specific mechanisms that will encourage mutual trust, and to technology to ensure success—even as they work to boost their own bottom line.

The ancient system of barter is still relevant, even as cyber exchanges begin to populate mainstream economies. New approaches will be most effective when both ends of the spectrum are carefully considered. Flexible business models will accommodate the developing world economies of rural agrarians as well as newly urban workers, and work within the dual challenge of managing bottom line risk while developing products that will enhance the potential of these new markets.

# The Challenge of Financial Inclusion

*Financial inclusion* first appeared in the academic lexicon of the early '90s when social geographers used the term when discussing patterns of bank branch closures. The elimination of traditional brick and mortar banking locations limited access to financial services in poor and rural communities, threatening opportunities for continued inclusion in financial markets. The term was later adopted by development experts who noted that large numbers of people, particularly in developing nations, had limited access to mainstream financial services due to a combination of factors that included geographic isolation, lack of education, financial inexperience or "illiteracy" and low financial and social status. By the early 2000's the term gained relevance as research revealed a direct correlation between financial exclusion and poverty.

Socially based financial networks have served around the world for generations and are familiar and trusted by their communities, but they lack the capital, both monetary and intellectual, to overcome the limits imposed by marginal involvement in the world economy. The cooperation of networks

of global entities can help bring these populations into the mainstream and out of poverty, but such entities must also be sensitive to the dangers of undermining social fabric and of exploiting the financially "illiterate" who must work through the difficulties of gaining a foothold in the new economy.

It is tempting to overlay new economies in areas where the national or local economic systems are not succeeding; to introduce new currency substitutes such as Bitcoin or Fakka[2] (the micro-reload card product developed by Vodafone); to introduce new payroll and payment transmissions systems such as mPesa or Barared. These systems offer the ability to respond quickly to market demands but—to the extent that they operate outside of a regulated banking system—they fail to provide the security of a standard currency and, more immediately, they do not protect users from exploitation through exorbitant fees and usage charges, high interest rates and meagre security.

## A Brief History of Money[3]

**Double Coincidence of Need—**In the beginning there was barter: the exchange of my production for your efforts; my cow for your tools; his rice for her weaving. But my cow is worth ten of your tools and I don't need ten tools. The bar owner can give the piano player free food and beer, but how does the guy pay rent? Barter is simple, but it's problematic when needs don't coincide.

**Measure of Value**—Any object that allows storage of the value of production is money. Domestic animals—cows, sheep, camels—were the basis of the earliest exchange systems, but they weren't convenient to carry, and how to make change? And how much wheat for cheese, blankets, or boots? What if my camel died?

The Chinese used cowrie shells as a currency over 3,000 years ago—indeed many parts of the world adopted the pretty mollusks. They were easier to carry than cows, and the value was recognized across cultural boundaries. They were still in use in the 20th century, as odd as it was to leave currency creation in the hands of Mother Nature.[4]

**Means of Subdivision**—Cowrie shells and coins provided an important improvement on the barter system, making it possible to divide one's wealth. The tailor's coat couldn't be cut into bits to pay for a loaf of bread—money solved that problem. He could get the full value of the week he spent manufacturing a coat converted into an accepted currency, then divide it to pay the baker, the butcher and the landlord. He might even have some left over—creating the need for banking.

An international network of invested stakeholders, enabled by the Internet, can offer much in response to the questions of user capability, user confidence, and security and safety for newcomers to the financial services industry. Through an approach that demands a long-term vision, many players can bring the expertise and service levels needed. Rather than allow the unbanked poor (those who for whom barriers of cost, distance or documentation prevent participation in the mainstream financial services industry[5]) to be exploited by short-term desire for profits on the part of unscrupulous operators. A thoughtful consortium of interested parties can offer not only expertise, but the checks and balances that both grow an industry and protect consumers and their long-term interests.

There are as many consortia working on the problem of financial inclusion for the unbanked poor as there are regions where these populations reside. The Internet creates transparency that reveals both good and bad operators in the arena. At the same time it radically improves the ability of these entities to collaborate both on the development of strategies to address problems and on the rapid deployment of best practices as solutions are rolled out and new capabilities emerge.

The model of a multi-stakeholder development group is the very essence of the future potential for the global financial services industry. The efficiency that is realized by using the expertise in many different types of organizations through open collaboration is enormous when compared with the possible cost, both internal and external, of any one player operating in a silo. In addition, it opens the opportunity for consumers to push back to have their needs met by providers. Ultimately, the goal of reducing poverty may be well-served by a strategy of financial inclusion executed using Global Solution Networks to develop strategies, tactics and products.

## What is "Banking?"

Currency reserves value, whether it's in the form of a cow, printed paper, or a virtual collection of Bitcoins. But, whatever form it takes, currency is only as secure as the way in which it is stored.

If currency stores value, how does one store currency? For the unbanked, the answer has been boxes and mattresses.

Cows wander off, shoeboxes of cash are pilfered, and no one knows what might happen if the hackers get into the Bitcoins. To assure some security for accumulated wealth, financial services industry products store it in accounts, transmit it for payments, leverage it for growth with credit and insulate it from loss with insurance. Access to these services not only protects the wealth of the earners, but also provides the opportunity to make that wealth grow.

## Global Solution Networks

In his landmark 2013 paper entitled "Introducing: Global Solution Networks. Understanding the New Multi-stakeholder Models for Global Cooperation, Problem Solving and Governance," Don Tapscott describes the potential that exists to solve some of the most prevalent problems in the world today—from poverty to climate change to health crises to natural disasters—through the effective engagement of any of ten different types of network.[6] Each type has elements that can be brought to bear on problem solution and conflict resolution. In the arena of financial inclusion and financial capability or literacy, drawing the attention of networked entities may provide new and better solutions and allow for the best of all possible outcomes.

The Tapscott network types:

- **Knowledge Networks** develop new thinking to solve global problems, but keep their emphasis on idea generation not on advocacy.
- **Operational and Delivery Networks** deliver change and supplement or bypass traditional models.
- **Policy Networks** include non-government actors in developing government policy.
- **Advocacy Networks** change the agenda or policy of government, corporations or others.
- **Watchdog Networks** scrutinize institutions to ensure good behavior.
- **Platforms** provide foundations on which other networks can organize.
- **Standards Networks** are developing standards and technical specifications outside state systems.
- **Governance Networks** are non-government with the right and responsibility for non-institutional global governance.
- **Networked Institutions** provide knowledge generation, advocacy and policy, and delivery of solutions.
- **Diasporas** pursue problem solving through kinship and ethnicity connections.

The opportunities for these solution networks to impact financial inclusion projects will be noted throughout this discussion.

## Billions at the Bottom

*How big is the bottom of the pyramid; what can it offer to the world economy?*

The opportunity to reach the unbanked poor at the "bottom of the pyramid" has broad implications both for the macro world economy and for the societies operating in the unbanked informal economies that cannot access or contribute to the capital resources of the financial services industry.

The magnitude of these numbers, while difficult to quantify, has been estimated at just over half the world's population.[7] One estimate, developed in 2009, suggests there are about 2.5 billion adults in the world who do not use any saving or borrowing, most of them living in Africa, Asia, Latin America and the Middle East.

*A fortune in small increments is at the bottom of the pyramid, representing an unexploited opportunity that reaches into billions of dollars.*

The unbanked are not only hard to count, they are also difficult to reach. The inclination to dismiss these populations as being unreachable or unprofitable has persisted, yet studies in some of the poorest areas suggest that even the lowest income households can and do use financial services products.[8] More important for the potential providers is the scalability that is suggested by the numbers of unbanked workers. The cost, through lost revenue, of excluding them from the world economy—and missing the potential of their contribution—can affect the poor and the affluent alike. The value of their contribution in the form of deposits to accounts, and the resulting accumulated capital that can then be loaned to create new revenue streams, has the potential to raise the prospects of the individuals and their households, as well as their community, regional and even national economies.

## Lost Economies

Throughout the informal networks of exchange that operate in the unbanked society at the bottom of the pyramid, thousands of cash-to-cash transactions are moving billions of dollars of value without ever reaching the formal banking sector or the mainstream economy. Additionally, welfare funds that are distributed to the world's poor are diverted out of the mainstream economy and into this cash economy, never being deposited into instruments that could produce revenue opportunities before the funds are expended. The loss of resource value for the formal economy is staggering. Additionally, the workers are unrecognized by the credit industry and unable to leverage any of their wealth for economic growth, either their own wealth or the

cumulative wealth of their community. These lost economies are bleeding value out of the mainstream economy and into a cash society.[9]

The opportunities for banking institutions to develop markets for these populations have been untapped primarily because it is untenable to use the models and products that have worked for larger depositors in wealthier communities when serving customers who are living on minimum wages in the developed world, or on $5 a day or less in developing nations. The deposits are too small, withdrawals are frequent and in small amounts, and the value of the accounts may fluctuate from nearly zero to only small balances. In the banking industry of the developed world, these customers would not be considered profitable. By considering new approaches to the market, developing simplified products, and changing the business problem the question becomes not "can we make money?" but "how do we make money?" In broad regions, tapping into vast new market opportunities becomes possible.

# Understanding the Financially Excluded

*Financially "excluded" workers are limited to exchanging value for value and denied financial growth opportunities of mainstream economy.*

## Unbanked and Under-banked

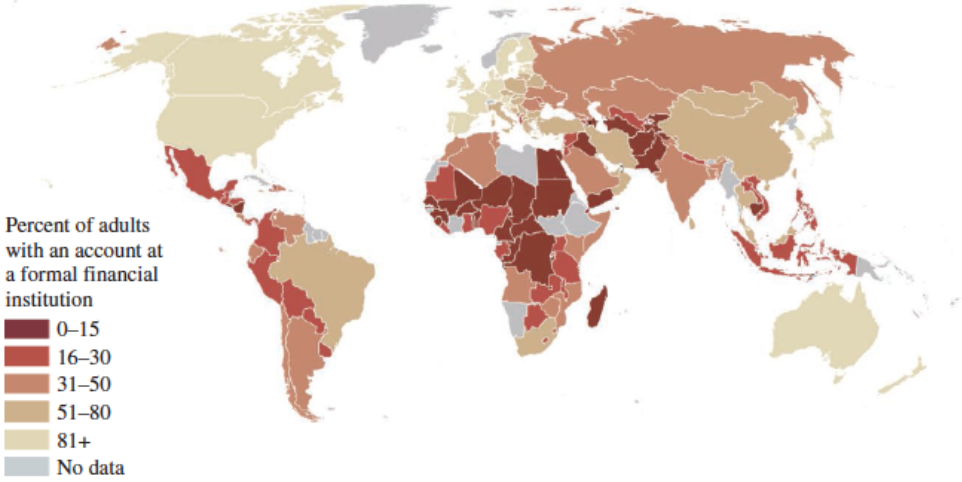
For the poor in both developed and undeveloped countries, the possession of a bank account is a demographic dividing line. Global Findex reports that three quarters of the world's poor are "unbanked," meaning they have no relationship with a financial services provider of any kind.[10] This is the case for a variety of reasons, some obvious and some surprising: they may believe that they don't have enough cash to require a bank account; they may be located too far from a physical bank location to make it practical to use banking services; they may lack adequate identification or documentation; they may not understand or trust the banking industry; or, perversely, the cost of storing their hard-earned wealth in a bank is too high.

For many small-account holders banking products cannot accommodate their needs. Banks charge steep interest rates, require unsustainable minimum deposits, and levy exorbitant fees for basic services on small value accounts. What makes the engagement by the poor even more unlikely is the confusing manner in which banks present their costs. It's just too difficult to

*GSN Opportunity:*


*The existence of these ethnically or nationality based financial arrangements is so common that they offer a clear entrée in these communities. A* **Diaspora** *that recognizes and leverages the social connections could provide a link from traditional practices to mainstream services.*

anticipate the expensive pitfalls. In many ways, the clearly stated costs of the "informal" alternatives make them less bewildering to use.




Source: Authors' calculations using Global Findex data.

Formal Account Penetration Worldwide, from a calculation using Global Findex data[11]

But the alternatives, if clearer in their costs, are expensive. An unbanked American worker—and estimates of the size of this group range to nearly 10 million unbanked households, and 24 million underbanked households—might spend up to $40,000[12] over the course of a lifetime just to cash payroll checks at a check-cashing store. On top of that expense, the use of payday loans, money-orders, pawn shops, check cashing services and rent-to-own purchase plans, while easier to access, drain more value out of limited incomes.

The expense of managing their money outside of the mainstream banking channels is a loss to their net worth that the poor would do well to minimize. The loss is compounded in the local and global economy when the low-income workers do not seek or cannot gain access to some of the more profitable financial services. Without banked savings they cannot qualify for credit, or protect themselves and their communities with insurance against loss of income. And without the deposits, albeit small, of these workers, the financial services industry does not develop the local resources to invest in community initiatives.

For those low-income earners who do have a financial services relationship, they may still be "underbanked." Though they may have a bank account, for various reasons they will still rely on the costly alternatives from time to time. If the banks could overcome the concerns and apprehension of this audience regarding cost, convenience, and barriers to entry, the low-income population would be a very large customer base.

*GSN Opportunity:*


**Watchdog Networks** *can provide the scrutiny required to ensure commercial interests do not trump consumer protection in the race to offer new services to the unbanked poor. Such a network could be modeled off the new US-based Consumer Financial Protection Bureau, which educates and empowers consumers in order to protect them from unfair, deceptive, and abusive financial practices (http://www.consumerfinance.gov/).*

*GSN Opportunity:*


**Operational and delivery Networks** *could boost the acceptance and ongoing success of financial services by providing education, training and trouble-shooting for new products and delivery channels. Following the pioneering work of Digital Study Hall in India, such networks could build a video-based curriculum for financial literacy, using best practices assembled by a global community.*

## Informally Banked

Not having a bank account is not the same as not managing one's money. The poor are as concerned with money management as are the well-to-do. The critical difference is that their financial aptitude can have a much more profound affect on fundamental issues of life and survival. Even small fluctuations in cash flow can make the difference in being able to afford the basics of food, shelter, clothing and medical care.

In a phenomenon economists call "income and consumption smoothing,"[13] some tight-knit communities have developed a system, or many systems, of informal banking. But to refer to the financial connections that communities develop to support each other as "informal" diminishes the importance of those connections in many parts of the world. Financial connections are an important part of the social fabric that benefits all of the community members. To try to replace it, or worse, invalidate it, would be damaging to the social health of the community.

Low-income workers frequently need assistance for consumption smoothing, or bridging the time between payday and the day the bills are due. Two friends might split their paychecks to tide each over to payday. Short-term small loans amongst circles of friends or family members are frequent.[14] In the Latin American communities the loan sharks or "prestamistas" (Spanish for money-lenders) are practically mainstream resources. And the cultural expectation in Latin American society that the young will take care of the old essentially precludes any retirement planning.

A group of neighbors might join a group savings club, known as a "sou-sou" from the West African custom, a "kye" amongst Korean immigrants, or a "tanda" in the Latin American communities. In these arrangements each member contributes the same proscribed amount and one member gets to make use of the pooled funds on a rotating basis. Some of the clubs are so large that waiting for your turn at the fund can take years. And the concept of the sou-sou has even hit the Internet with the introduction of sou-sous.com, albeit without the social glue of the community-based clubs.

## Financially Illiterate

To develop a product set that is useful and attractive for a target customer group is one step, to deliver it via a channel that the audience can access readily is another, but the challenge of developing those banking products is only part of the solution. To simply get customers to open an account is a start, but it is a faulty measure of the success of a financial inclusion strategy. People also need the skills and the knowledge of how to use those products to plan for the future, and to insure against downturns. Education, training and follow-up are critical components of gaining success in a financial inclusion project.

*GSN Opportunity:*


*As the new channels become the new mainstream, the development of standards across the range of providers will be critical. A mobile-based service that is in isolation from a chip-and-pin service, that is isolation from a magnetic card service, has the potential to create chaos in the marketplace.*

*A dominant provider with a proprietary delivery channel could also make healthy competition difficult. A* **Global Standards Network** *could do much to streamline integration of various product features, and maintain open channels for competitors to utilize.*

A report by Vodafone[15] details their vision for 12 developing markets. They note the shift from agricultural agrarian workers in a rural society to urban poor where the lack of a formal identity and limited literacy create challenges to income potential as well as reliance on a cash economy with limited saving and irregular cash flow. The enthusiasm with which mobile providers pursue these markets needs to be carefully balanced by consideration of the ways in which the availability of these products and services may exploit workers who can ill afford to spend any of their meagre incomes on extra services or fees and penalties.

In her 2008 article "Against Financial-Literacy Education,"[16] Lauren Willis makes a compelling argument for the financial literacy of the consumer audience to be minimized, that is, reduced to the simplest possible terms, perhaps by creating a product set that can be easily understood and engaged by even the least experienced users. She suggests that the services supporting products be reconfigured so that users can enjoy the benefits the products offer while providers bear the responsibility for seeing that the products are being used effectively or, at the least, not to the user's detriment. She argues that, just as consumers don't make their own medical and legal decisions, but rely on providers to advise them on best practices, so they should not be judged as able to make complicated financial choices in an increasingly complex environment.

The opportunity for the financial services sector to reach these customers and both provide a social service and realize new revenue is large, but it is a new market problem that will require a new paradigm.

# Conventional Financial Paradigms and Their Limitations

*For even the more knowledgeable unbanked populations, many issues may inhibit their willingness to take advantage of financial service opportunities.*

## Safety

There is nearly constant news reporting of security breaches, denial of service problems, hackers, identity theft and fraud, so it should be little wonder that confidence in the financial services industry would be low among the unbanked. And as the effects of the global economic downturn continue to be felt, especially at the bottom of the economic pyramid, the concerns about long-term security are increased.

*GSN Opportunity:*


*Illustrious, and very well funded, organizations have the means and the inclination to make enormous changes in the way that micro-finance impacts the developing world. Their different approaches each have merit on the face.* **Networked Institutions** *could offer much to the outcome by monitoring the efforts and effects of each approach, defining success, identifying best practices and brainstorming adjustments and improvements on the fly.*

For the inexperienced, possessing little personal knowledge of the banking systems, the headlines do little to build confidence.[17] But this is such a common problem in the banking industry that it's almost not news. In the midst of the cyber-revolution, cyber war in the banking industry is ever more sophisticated.

**The top 6 financial services hacks from 2013 as reported on the Wall Street and Technology website:[18]**

- 160 Million Credit Cards, 5 Hackers, Hundreds of Million Withdrawn — July 2013
- 8 Men, 2 Years, and $15 Million in CyberFraud — June 2013
- 2,904 ATMs, 10 Hours, $45 Million Stolen — May 2013
- 7,000,000 Credit Card Accounts Hacked over 2 Years — April 2013
- 6,000 ATMs Withdraw $3 Million For 9 Identify Thieves — February 2013
- 4,600 Bank Executives Feel Anonymous's Revenge — February 2013

The global financial downturn left many concerns about the safety of the financial services market as a place for the poor to store their modest wealth. Even though bank savings accounts weathered the downturn reasonably well, there was still concern that the money in a bank account might not be safe in a downturn. For low income earners, for whom every penny is important, the possibility that what went in might not come back out can be a banking non-starter.

## Cost

Engaging in the financial services industry is not without cost for the user, and those costs can be onerous for the low-income worker. Minimum balance requirements can be daunting when working from one paycheck to the next—fees for access to funds, fees for payment instruments, fees for overdrafts, annual fees, late payment fees—and all of these costs can be hidden or may be imposed unexpectedly as posting practices can cause fund availability to vary. For the working poor a paycheck can quickly be reduced far below minimum wage.

## Location

In the developed world, bank branches have been closing for decades. The lack of a brick and mortar location makes traditional banking nearly impossible in many rural locations. In addition, Internet-access banking, which has been gaining ground in the western markets, is also limited in poor populations, both in the developed world and especially in the developing economies, where access to a reliable Internet-enabled device may be limited or unavailable. Mobile cellular access may be the channel that can change this for both markets as new products leapfrog over old product formulas to take advantage of the ubiquity of cellular penetration.

## Inappropriate Business Models

In addition to concerns about safety, cost and location, the most significant inhibitor of financial inclusion—and the greatest challenge for traditional financial entities seeking to expand into untapped markets—is the simple fact that services and business models designed for affluent consumers simply don't work for the unbanked poor. The best illustration of these limitations is the surprising success of microfinance, which succeeded precisely because its originators discarded most of the prevailing assumptions about lending money to the poor. This success is perhaps best demonstrated by the story of Muhammad Yunus and the Grameen Bank.[19]

The Grameen Bank started with a small amount of capital that was lent in small amounts to Bangladeshi villagers at a rate of interest that would allow them to use the money effectively in a small business, and still be able to afford repayment. Included in the membership commitment was a pledge to take care of others who are in difficulty and to take part in social connections. It was a financial entity that entered into a social contract with its community.

Initially directed toward men, Grameen came to be centered on women as better users, and better administrators, of the program. In 2006 its founder, Muhammad Yunus, was honored for his work with the awarding of the Nobel Peace Prize.

Grown out of savings from poor women, the bank now has over 8 million borrowers, lends Tk1,000 crore a month and holds Tk8,000 crore as deposits. Yet, five years after winning the Nobel Prize, it became the subject of an ongoing Bangladeshi government probe that is attempting to displace Yunus as director and reduce the bank's influence by dividing it into several separate entities and nationalizing its operations. The government has been increasing its stake in the bank through contributions to authorized share capital and has plans to increase its investment to reach a 51% share. What happens to the original organization in Bangladesh as the effects of the government attempts to take control are played out remains to be seen.

*GSN Opportunity:*


*Products and policies that work well in one country, or even in one region of a country, may not work well in another setting. The success of any program will depend on involving* **Knowledge Networks** *that can capture best practices and help practitioners adjust the specifics from one market to another.*

**Knowledge networks** *continue to review the success of mPesa and its corollary product set, including other Safaricom offerings such as mPayroll, and also similar undertakings by other providers in other parts of the world. As they observe the merits and weakness of each program, they will bring together interested stakeholders to improve and develop new ideas and serve wider markets.*

The model has been copied with success in developing countries around the world and just this year a Grameen program has been introduced in Scotland with the support of the Scottish government and Tesco Bank, which is providing £500,000 in loan capital. As Kevin Cadman, new director of the Grameen Scotland Foundation said of the new venture, "It goes straight to the heart of what finance should be all about—knowing customers as individuals and meeting their needs and aspirations."[20]

Microcredit is not always a panacea. Unregulated, it has the same potential to devolve into a debt cycle that resembles the abyss of loan sharks and pawnshops, where consumption spending is amplified by debt service. Without additional resources of health care, education and infrastructure for clean water and adequate shelter, the very poor may never reach the level of the so-called "less poor." Yunus has defined the emergence from poverty as having a house with a metal roof, clean water, sanitation, warm clothes, mosquito netting, sufficient food to alleviate hunger, access to healthcare, a school and about $75 in savings.[21] For the very poor, microfinance may not be enough to reach that goal.

Research has shown that the more social capital a borrower has invested in the community and the stronger the connection that borrower has with the lending entity and the other constituents in the community, the lower the possibility of default. Less socially invested borrowers may "see the money" rather than understanding how to make that money work for them to secure their futures or to build sustainable lifestyles based on prudent financial management. The success of the microfinance programs that involve their communities directly supports that finding, while the recent spate of suicides in the microfinance consumer population that led to the disastrous government suggestions that borrowers simply default has seriously undermined the early successes in the Indian market. As noted by Jonathan Morduch, public policy and economics professor at NYU, although the lives of individuals have improved, loans to the poor have not yet had a demonstrable effect on aggregate poverty levels. "The boldest claim for microfinance—that it can single-handedly eliminate a large share of world poverty—outpaces, by a long distance, the evidence accumulated to date."[22]

## Can Gates or Omidyar Get Microfinance to Scale?

These challenges notwithstanding, well-respected and well-resourced players are placing large bets that microfinance can succeed where traditional financial models have failed.[23] Pierre Omidyar, the developer of eBay, believes that microfinance should not be donor-driven; that it can be a profitable, self-sustaining business, albeit with narrow margins. To test his idea he gave a $100 million donation to his alma mater, Tufts University, with a stipulation that it must generate its returns through microfinance investment. His philosophy was that self-empowerment, not merely poverty reduction, was the goal.

In 2005 Citigroup launched a microfinance business division. Though they had to be driven by a profit motivation—being a publicly traded company with responsibility to their bottom line—they also had a PR image need to be socially responsible in their business dealings.

Next, the Gates Foundation made a commitment thought to be in the range of many hundreds of millions over many years designated for microloan use. As a donation, there was no expectation of repayment, to the foundation.

## Sustaining, Profitable, Subsidized

There are three different philosophies of microcredit being used as a way to alleviate poverty, and there is no clear outcome for any of them so far. The Tufts money is still waiting for a vehicle, Citi is installing ATMs in India that make use of the new biometric ID program, and has raised capital for a microfinance program with Accion affiliate Compartamos, the largest microfinance group in Latin America. Gates has a broad approach that is impacting smaller organizations around the globe including Bangladesh, Latin America and Africa. While the jury is still considering the costs and benefits of each concept, the overriding lesson is that only new business models can truly address the needs of millions of financially excluded people around the globe.

# Bridging the Financial Divide

*Low income and emerging market societies can benefit from access to financial products, but how do they get access?*

The Alliance for Financial Inclusion (AFI) reduced the requirements for successful financial inclusion to four fundamental features:[24]

1. Access—barriers to entry must be identified and removed and can be easily measured by numbers of users and accounts.
2. Usability—the products must be both easy to understand and easy to use, measurable by frequency of use.
3. Quality—the product must have the interest of the customer at its core and be relevant to their needs. Service issues and complaints are a key indicator.
4. Welfare—though difficult to measure, the effect on the welfare of the user must be positive.

In large part the informal money management systems that are employed around the globe offer all four features. The critical element that is missing for these populations is the ability to leverage their wealth beyond the informal system in order to improve their livelihoods and living situations. By becoming integrated into the mainstream financial services industry, people can both contribute to the economic development of their region, and protect themselves from economic shocks of work cycles, crop variability, market shifts and health problems.

The financial sector offers ways to transfer payments, provides some security to the transactions, and allows for any surplus funds to be made available in the form of credit to its participants. In addition to the fundamentals delineated by the World Bank, the issues of identification and certification are critical components that bring with them both the positives of identity security and the hazards of fraud and identity theft.

## Providing Access to Financial Services

*While the "unbanked" in rural and developing regions do not have consistent, low-cost access to the Internet, they can access financial services using mobile technology.*

Cellphones have become the darlings of the economic development movements, not only because they have the potential to create connections that enable financial inclusion in the banking industry, but also because they have been shown to elevate incomes for their owners across livelihoods. Fishermen can sell their catch fresh, and so at a premium, before they reach shore; farmers can find crop prices and select markets; rickshaw drivers, day laborers, and unfortunately even illegal traffickers can increase trade just from having a call-back number. It's a textbook bottom-up example of economic growth.[25]

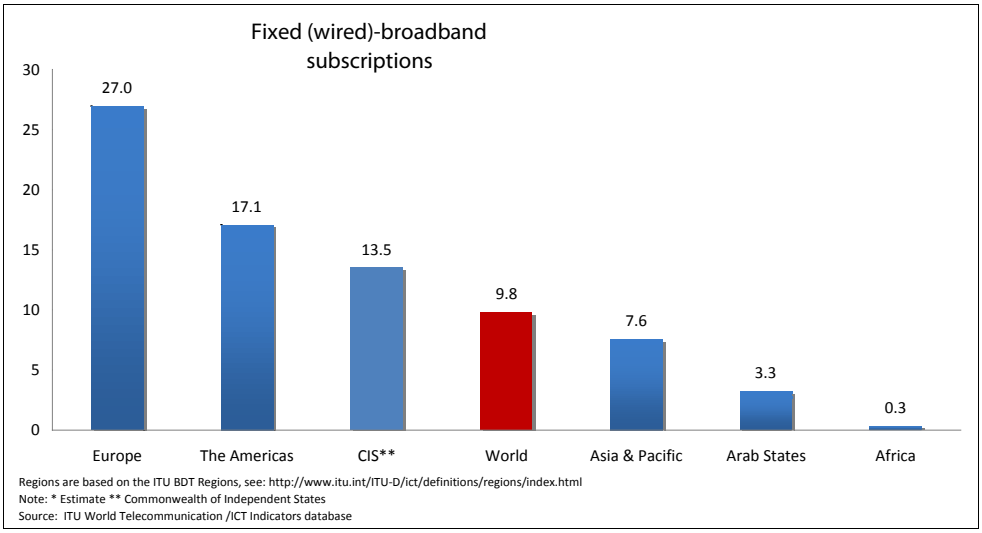
In 1996 Grameen bank, partnered with three foreign companies to create a mobile phone service that would extend across Bangladesh. The undertaking grew to 8 million users in less than 10 years. Still, it was out of the reach of the mass of the Bangladeshi population and so, using microcredit, the bank funded the creation of a phone business that had "phone ladies" providing access to telecommunications in remote areas of Bangladesh, making and receiving calls for villagers who could not afford the units themselves.[26] As this model spread to other areas, in 2006 Nokia field researchers even discovered a money moving economy being run with airtime as the currency.[27] To send money home, workers in Uganda were purchasing prepaid airtime cards, then calling the "phone lady" in their home villages and providing her the number. She added the time to her phone account and paid the value to the workers' families, less a small commission. This may represent the first mobile-based "banking" system.

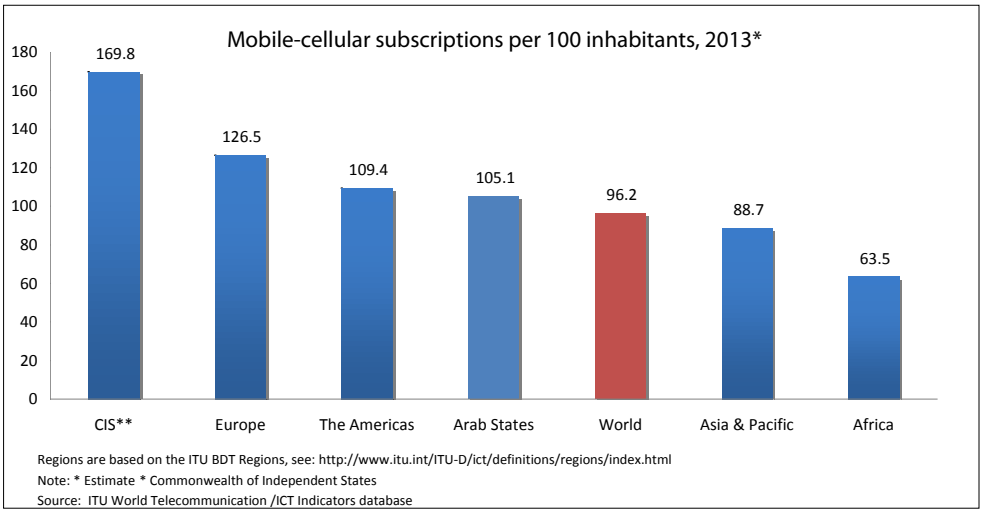
## *GSN Opportunity:*


*Having many players in a market developing competing solutions using incompatible back-of-house systems is a recipe for consumer chaos and confusion. A financial services* **Platform** *could go far in assuring interoperability among competing solutions and grant consumers greater convenience and lower switching costs.*

*Such a* **Platform** *would need to leverage not only existing technologies that are operating in the market, but also have the flexibility to embrace new technology and maintain security against fraud and firewall breaches.*

*Just as numerous credit card operators can function through the clearing systems in the developed world, systems for the developing world need to consider the capabilities of the communications systems that exist today and look for ways to improve those systems without shutting out older users as the systems evolve.*




From 2005 to 2013, mobile phone use quadrupled in the developing world, reaching penetration rates as high as 89% in some areas.[28, 29]

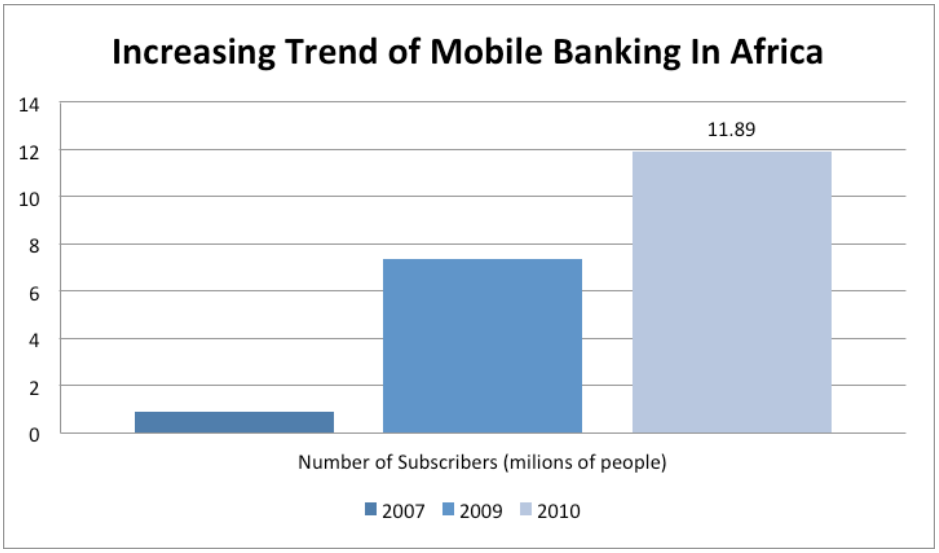
In February of 2007 Vodafone, through its Safaricom subsidiary, rolled out mPesa (pesa is the Swahili word for "money"), a mobile banking system, in Kenya. While they anticipated 200,000 new customers in a year, they realized 1.6 million customers. In four years mPesa had grown to 14 million and it now serves over 17 million customers in eight countries with a new rollout just announced for India. The system allows small transactions via mobile phone (inter-phone transfers, utility bill payments, some retail and bank deposits) using something like an SMS communication and it saves the user the cost and possible risk of traveling and carrying cash to take care of their financial needs.[30]

*GSN Opportunity:*


*The Mexican banking industry is notoriously small in the number of participant banks, and tight fisted with its resources. Most of the limited lending that occurs is to extremely low-risk and high-return government projects. An* **Advocacy Network** *could work from outside the industry to make changes to the paradigm and open access to the resources to a larger portion of the Mexican market.*

## Cell Towers and a Power Grid Replace Brick and Mortar

Vodafone estimates that for every 10,000 people on the African continent there is one bank branch and ATM, but 5,100 mobile phones. This makes the rapidly developing mobile-based financial services the easiest to access for huge unbanked and under-banked populations. These phones are not the feature-rich smart phones that are so common in the developed economy. These are simpler units, often so-called "feature phones" that use specialty applications. To the extent that financial services apps do not require language proficiency, but can work with simple iconic commands and SMS prompts, they will also cross language and literacy barriers.




Mobile phone penetration is increasing in the developing world, and Africa is the fastest emergent continent for information and communications technology growth.[31]

While mPesa has been a juggernaut of success, it has missed the poorest quartile of the Kenyan population, the poorest and least educated Kenyans, where only 40% have access to the service.[32] Mobile is nearly ubiquitous even in the remote areas of undeveloped countries, but even as the infrastructure problems of coverage and electrical power are solved, the penetration into the poorest markets remains incomplete. If the service is available, the cost of the mPesa transactions is prohibitive for the 50% of Kenyans living below the poverty line. Fee structures that are attractive to the bottom line of a multinational company are extracting stunning percentages of financial resources from the poor that can least afford it. Affordability is impacted both by the transaction costs and by the costs of the mobile connectivity that enables access. In spite of the relatively high cost of use for low-transaction size subscribers—8 to 12% for transactions in the under $5 range—the rate of use of the mPesa product in the Kenyan market of individuals living on less than $1.25 a day, had risen to nearly 75% in 2011.[33] This high usage in the face of high fees may be explained by its high utility—

*GSN Opportunity:*


*A regulatory environment that would advocate for the poorest of the poor in order to provide them with affordable access to these new financial resources would go far in raising the prospects of those populations rising out of the ranks of poverty. In Africa, for example, the regulatory environment is challenged by the inefficiencies of the state governments and their ability to regulate the rapid growth of telecommunicaitons providers This creates a level of risk that may be challenging for global operators.*

*GSNs that can offer a governance and oversight capability to address the lack of government involvement will be critical to the success of a financial incusion program. In this case, a* **Governance Network** *would be instrumental in getting products to market that would be cost effective both for the provider and for the user, while protecting the interests of all parties.*

for relatively safe long-distance transmission, for transferring resources in times of crisis, either personal or widespread. The safety of the transaction helps to reduce the potential costs of non-traditional money transfers where large portions or all of a transaction's value can be lost in transmission and the capacity for rapid reallocation of wealth can avert cascading crises in times of natural or economic disasters.

Greater competition among mobile banking providers could help drive down fees for consumers as dominant players like mPesa are forced to respond to new offerings. In South Africa, for example, Wizzit is a branchless banking system operating primarily through mobile phone transactions. It also issues a MasterCard Maestro debit card to account holders for use in retail point-of-sale. While it does not have any brick and mortar branches, it is partnered with banking agents including the South African Post Office. In addition to providing banking services, it has created an employment opportunity that only recruits the unemployed as sales agents, thus adding jobs in user economies.

## Prepaid Cards and Other Alternatives to Mobile Channels

Embedding or co-locating new service offerings within existing businesses and community facilities is another option for getting services to financially excluded populations. For example, Barared offers banking and bill-paying products through iPad kiosks in small stores and pharmacies in semi-urban areas of Mexico. The penetration of locations helps with what may have been high time and transportation costs for poor Mexicans. Mexico has very few banking institutions holding a large concentration of assets, and holds the dubious distinction of having one of the lower rates of commercial lending in Latin America, a likely cause of stalled growth. As a result there is widespread poverty (the average income in Mexico, as reported by The World Bank,[34] was $9,740 in 2012) and a large informal economy. While promising to "provide essential banking services to help them escape their poverty cycle," the reported Barared per-transaction costs are high. For deposits to one of two participating banks, and utility and microfinance loan payments the Barared product charges "the equivalent of a few dimes on the dollar," according to a description in a recent article in The Christian Science Monitor,[35] with the shopkeeper getting a small commission on the transactions.

Prepaid cards in the US have also gained some acceptance in spite of their relatively higher cost over the cost of a bank account. The reason seems to be that the fees for prepaid cards, while high, are transparent and predictable, something that bank accounts frequently cannot claim. The lag in posting time and clearance of payments in a traditional bank account can be costly for customers that run paycheck-to-paycheck and make payments close to due dates. Some prepaid cards are being investigated for unlawful claims and practices,[36] yet many low-income customers continue to use them in lieu of less costly banking options.

Payroll cards have been more insidious. Vodafone, again, has been at the forefront of a payroll card initiative in Kenya they call mPayroll, an electronic

means to deliver paychecks to workers via their mobile device or using prepaid card technology. First offered as a way to pay school workers, the Vodafone Connected Worker report[37] has expanded the offering to include job-finder capabilities, field worker scheduling, identity services, learning and training capability and worker information exchange. In the US, payroll cards represent a large savings for employers who can eliminate the cost of distributing checks. But they are laden with fees for the workers, who must pay to access their funds. Some fee schedules are so onerous that the income of minimum wage workers is reduced to below minimum wage.

The options and opportunities to create new channels for the delivery of financial services are legion, as are the hazards of creating systems that cannot communicate across platforms and services with profit motives that exploit the target audience. The Global Solution Networks that focus on these elements of the new economy will be critical to protecting the interests of both the industry and the users.

## Fostering Usability and Financial Literacy through Education and Training

If access to financial services can be established through the thoughtful creation of products that can be accessed using available channels, such as mobile telephony, the next major challenge is designing services and access methods that low-income workers want, need and, critically, understand.

Training, especially for the users of the new technologies, will be a critical component for the success of any project. The ability of users to both operate the technology and fully understand the benefits and pitfalls of the use of financial services will drive the long-term success of any undertaking. And success will need to be measured both in terms of the goals of the operating companies and the well-being of their customer base. New users will, for example, need to comprehend the difference between and the implications of saving at a low rate of return while borrowing at a high interest rate.

As the need for better comprehension of financial tools and products becomes evident in developing economies, efforts are being made to introduce fundamental skills to new customer groups. The Young Investors Network in Ghana has started a program of seminars in high schools in Accra to provide practical training in finance, savings and investment.[38] The United Nations Development Program has had some dramatic effect with a financial literacy training program that was presented in Fiji in 2006.[39]

The UN program was delivered to the doorsteps of their target audience and resulted in measurable improvements in standards of living and financial security. In the Pacific region, one of the most “unbanked” regions of the world with up to 70% of the population operating outside mainstream financial services providers, improvement was easy to

*GSN Opportunity:*


*A **Policy Network** that could both establish a code of practice for the collection and maintenance of personal information and provide oversight and data security could be critical to the integrity of any identification system.*

accomplish.[40] Perhaps not surprisingly, programs to reach out to individuals who are new to the mainstream, while showing results in increasing knowledge, are not popular if they are not delivered directly. The audience who may profit most from the information balances the cost in time and effort to attend seminars and learning sessions against the possible monetary gain that the learning could provide and decides against participating. Researchers at the World Bank suggest that reaching these audiences may require discovering "teachable moments" and looking for novel ways to teach using new media outreaches.[41]

## Ensuring Quality with Multistakeholder Governance

*A network made up of diverse elements can provide the checks and balances that will ensure a high level of participation and prevent exploitative practices.*

Telecom operators have made the greatest inroads into creating a mobile and cashless economy and because of their deep penetration into global markets they are best positioned to roll out connectivity to the largest audience. The challenge is to provide cost-effective handsets that have sufficient functionality to serve the purpose. Some mobile providers have become virtual banks through their ability to retain money from deposit to transmission and transform money into airtime as a currency.

The wireless environment is increasingly the Wild West. Mobile operators, with their ubiquity in world markets, provide the most obvious channel for service distribution and are best prepared to activate initiatives because they already enjoy nearly complete penetration in developing markets; but they also stand to realize the most return on the business model, which could arguably make their motivations suspect. New ideas, new markets and little control means that data is being gathered, fees are being charged, and many may be paying for services that not only do not benefit them, but exploit them for the benefit of a larger entity. With so many interests competing for a piece of the new global economy, there is real concern that the interests of the poor be protected from the short-term profit motives of the providers.

As mobile operators get all the attention, and have a channel advantage in many remote markets, there are many additional service provider categories, each with players who have a stake in the financial inclusion opportunity:

- Banks and financial services entities including personal and enterprise credit
- Digital security providers
- Payment processing, transaction and clearance providers

- Alternative operators and microfinance lenders such as Kiva and Kickstarter
- Exploitative agents such as check-cashing stores, loan sharks, and cash kiosk operators

These are just some of the entities vying for a part of the emerging markets, and they are unlikely to cede ground to the telecom industry without mounting a challenge. The point-of-purchase transaction capabilities, which Vodafone has started to address with their Fakka program, and which the prepaid, payroll and credit cards have models for, may become a lucrative and socially responsible option. Getting a transactional device, whether card based or handset based, to be operational in these untapped markets could have enormous impact, but the challenge of creating a new model for card operations is daunting. Credit cards are based on an issuing bank holding an account, and all of the challenges of "banking" the developing world have to precede the issuance of a card, making the current model problematic in the developing world.[42]

## Addressing Security with Identification and Certification Solutions

> "The real danger is the gradual erosion of individual liberties through the automation, integration, and interconnection of many small, separate record-keeping systems, each of which alone may seem innocuous, even benevolent, and wholly justifiable."[43]
>
> — U.S. Privacy Protection Study Commission, 1977

One more critical component needs to be addressed. Who are these future customers? How can they be identified and differentiated from their neighbors in a database? If identity confusion can be an issue in the western world (and it is, identity confusion is all to frequent where Mary Smith the punctual bill payer and Mary Smith the deadbeat both bank at the same branch and have the same zip code), what's the solution, for example, in the cities of India where many use only one name, aren't sure of their age, and have no fixed address?

A recent initiative has tackled this issue. Founder of Infosys, Nandan Nilekani's latest undertaking is Aadhaar,[44] a project of the Unique Identification Authority in India. Using iris and fingerprint scanning technology, more than 16 million of India's impoverished have already been recorded. The technical challenges are as big as the database that's being created. The scalability of the data capacity is unknown because the scale of the data is unknown. De-duplication alone is a massive undertaking, and necessary to prevent issues of error and fraud. But fraud is possible with

several techniques to mimic eyes and fingerprints on scanners. The security issue is a moving target, though the creators take their confidence from the credit card companies that suffer with some misuse as the cost of operating a fundamentally effective system.

While the majority of the Indian population may not have much to save, as we have discussed, if all were given the chance to save anything at all it would be a huge injection into a banking system. The creation of the database and its resulting ability to allow individual accounts to be opened for the poor is an enormous opportunity. For now, the 12-digit number that is issued for each enrollee is being accepted as sufficient identification to open a banking account, and also to purchase a mobile phone. In fact, the number allows residents of Delhi to prove they live in Delhi, something they could not before, and this provides them access to subsidies and benefits that are intended to address the issues of poverty and which they could not secure without identification. Connecting the poor to banks makes the elimination of fraud and scams for state funded services a real possibility. No longer will expensive travel be required to collect state support and no longer will those funds need to be carried as cash by the recipients.

Along with all the benefits come some obvious privacy issues. Civil liberties questions have been raised and are being considered in the Indian Parliament.

# Implications for Network Leaders

There is tremendous interest in the pursuit of financial inclusion as a means to lift the poor out of poverty. As with all big ideas, however, some caution needs to be exercised in the development of financial inclusion programs. The following priorities and challenges are particularly relevant.

**Unexploited opportunities to serve the unbanked reach into the billions of dollars—but strategies to exploit windfall profits must be discouraged, and expectations calibrated to the emerging goals of financial inclusion.** Stability of governments in the developing world can be affected, for good or ill, by the opportunity expressed by developing bank deposits from the cash transactions that run the lives of the populations at the bottom of the pyramid. Welfare money that flowed into the hands of the very poor could be recaptured into a banking system through deposits rather than disappearing into the cash economy. Seasonal shifts of wealth accumulation could be captured and leveraged to smooth consumption throughout the year.

While the upper- and middle-income populations and even, to some extent, the low-income earners, can tolerate some profit taking by the suppliers of

financial services, the very poor have no such capacity. To make financial inclusion serve its social purpose of lifting the very poor out of abject poverty, the temptation to do so at a profit level that is familiar in the more affluent markets must be resisted.

**Traditional financial paradigms need rethinking, and services must be adapted to the needs and realities of bottom of the pyramid consumers.** Technology is disrupting traditional relationships with money. New exchange mediums are emerging with increasing frequency in the virtual world. Loyalty programs create micro economies. Any system that rewards loyalty with redeemable value is, in essence, creating its own economic system: airline miles, Fakka, cash-back incentives. These programs create a closed currency in which accumulated value can be exchanged for goods and services.

These reward systems are starting to break out of their quid-pro-quo paradigm as the new cyber currencies gain traction in electronic financial exchanges. Marc Hockstein, Executive Editor of "American Banker" talking about Bitcoin[45] said,

> "...Bitcoin, in addition to being a currency, is also a payment system...To some extent it competes with the banks themselves and with Visa and MasterCard. It's a way to send money, to transmit value, as well as a way to store value...I don't think it's going to destroy the banking system tomorrow, but if you step back and look at the implications, a whole banking and payment system has been built from scratch, in this century, without legacy systems, available to anyone with an Internet connection or access to the Internet...who knows if Bitcoin itself is going to be the technology that follows through on those implications. But really think about it: if you were to build the banking industry from scratch today, would it look like the banking industry we have? I think it might look a little bit more like Bitcoin..."

As operators enter regions that have no legacy systems to hinder creative solutions, anything is possible regarding the solutions that may emerge as the leaders.

**Mobile technology offers the quickest route to service unbanked consumers at scale, but concerns about excessive fees, security, identification and fraud remain vulnerabilities.** As the 21st century shopper gets more accustomed to the ease of using a handset for a transaction medium, the lines between "cash" and electronic signals start to blur. In Egypt Vodafone stepped into an opportunity when they realized that merchants in the busy markets wouldn't bother with loose change. When a transaction came up short in the customer's favor the merchants preferred to add an onion to the bag, or a handful of candy. Vodafone introduced Fakka (Arabic for "small change"), arguably a new, if limited, currency that is both sold as an impulse purchase near the cash register, and handed out

to make up for the extra pennies still owed in the shop transaction. Fakka makes airtime an alternative currency: well understood, easy to value and outside the formal financial system. The program has been a huge success for Vodafone, and seems to be well accepted by the market.

While the Fakka solution operates in small increments the issues of security and identification are not urgent, but scaling to large transactions will heighten requirements for security of accounts, devices and recipients.

**Services for the poor should be bundled with education.** The hazards of providing financial services, especially credit products, to individuals that have not had experience with banking, saving, credit and insurance are obvious. Short-term earning requirements of large stakeholders need to be kept in check and the consumers need thorough support and training in the use of the products. As the old saw goes, "give a man a fish and he will eat today, teach a man to fish and he will eat for a lifetime." It is of critical importance that new markets in areas of poverty are developed with long-term interests in mind and that the new consumers of the financial services products are protected from exploitation and provided with adequate training so that they may benefit rather than suffer from the actions of large operators. It is easy for the inexperienced user of credit to see the money, and easy to find ways to spend it, without comprehending how to make that money work effectively over time.

**Effective governance is rooted in multistakeholder networks.** The successful implementation of any new financial services paradigm will require the thoughtful participation of a network of supporters—from government regulation to give special attention to the goals of good governance and the minimization of corruption, to foundations to provide oversight, prevent exploitative practices and provide funding, to follow-up observers to evaluate the outcomes and provide insight for change and development. The challenge is to create a network and working model that is profitable for the operator while encouraging the personal growth of the users. The role of Global Solution Networks is critical. To create thoughtful solutions, consumer protections, critical thinking and innovation, and in depth evaluation of outcomes, multistakeholder groups will give the best chance of success for both provider and consumer. As success is realized, the market for global financial services will grow. Indeed, if financial inclusion realizes its potential to help lift the poor out of poverty, that will be the time for industry and business interests to take advantage of the market and look for profit opportunities.

In the end, any strategy must be assessed both in terms of its measurable success in its test market and in terms of its scalability across markets and across borders. With vision and patience new markets can be opened around the world that will benefit both the businesses that undertake to serve them and the communities that they serve.

# Endnotes

1 "Press Release: General Assembly Greenlights Programme for the International Year of Microcredit 2005." un.org. United Nations, 29 Dec. 2003. Web. 10 Nov. 2013. <http://www.un.org/News/Press/docs/2003/dev2452.doc.htm>.

2 "Vodafone's latest innovation lets you do more with your change." jwt.com. JWT Worldwide, 9 Oct. 2012. Web. 10 Nov. 2013. <http://www.jwt.com/blog/the_work/vodafones-latest-innovation-lets-you-do-more-with-your-change/>.

3 William Stanley Jevons. *Money and the Mechanism of Exchange*. New York, New York: D. Appleton, 1875. Print.

4 Bamaturaki Musinguzi. "When Two Cowrie Shells Could Buy a Woman." *The East African: Home*. BDAfrica, 14 Feb. 2009. Web. 2 Aug. 2013.< http://www.theeastafrican.co.ke/magazine/-/434746/530264/-/15l3r28/-/index.html>.

5 Asli Demirguc-Kunt and Leora Klapper. "Measuring Financial Inclusion, The Global Findex Database." N.d. MS. Elibrary.worldbank.org. The World Bank, Development Research Group, FInance and Private Sector Development Team, Apr. 2012. Web. <http://www.thttp://elibrary.worldbank.org/doi/pdf/10.1596/1813-9450-6025cd.ie/Economics/staff/phonohan/Honohan%20King%20Mar%209.pdf>.

6 Don Tapscott. "Introducing Global Solution Networks: Understanding the New Multistakeholder Models for Global Cooperation, Problem Solving and Governance." N.d. MS. Gsnetworks.org. 2013. Web. <http://gsnetworks.org/introducing-global-solution-networks/>.

7 Alberto Chaia, Aparna Dalal, Tony Goland, Maria Jose Gonzalez, Jonathan Morduch and Robert Schiff. "Half the World Is Unbanked." N.d. MS. Financialaccess.org. Financial Access Initiative, Nov. 2010. Web. <http://www.financialaccess.org/sites/default/files/publications/Half-the-World-is-Unbanked.pdf>.

8 C. K. Prahalad. *The Fortune at the Bottom of the Pyramid: Eradicating Poverty Through Profits*, Wharton School Publishing, 3 September 2009.

9 Jaime Zimmeman and Sascha Meinrath. "Mobile Phones Will Not Save the Poorest of the Poor, The Cost of Cellphone-based Services Is Hurting Huge Swaths of the Developing World." *Slate Magazine*. Slate, 9 Feb. 2012. Web. 4 Aug. 2013.< http://www.slate.com/articles/technology/future_tense/2012/02/m_pesa_and_other_ict4d_projects_are_leaving_behind_the_developing_world_s_poorest_people_.html>.

10 Patrick Honohan and Michael King. "Cause and Effect of Financial Access: Cross-Country Evidence from the FinScope Surveys." N.d. MS. Tcd.ie. Trinity College Dublin, 9 Mar. 2009. Web. <http://www.tcd.ie/Economics/staff/phonohan/Honohan%20King%20Mar%209.pdf>.

11 Asli Demirguc-Kunt et al. Ibid.

12 Susan Burhouse and Yasmine Osaki. "2011 FDIC National Survey of Unbanked and Underbanked Households." N.d. MS. Fdic.gov. Federal Deposit Insurance Corporation, Sept. 2012. Web. <http://www.fdic.gov/householdsurvey/2012_unbankedreport_execsumm.pdf>.

13 Jonathan Morduch. "Income Smoothing and Consumption Smoothing." *Journal of Economic Perspectives* 9.3 (1995): 103-14. Web. <http://www.nyu.edu/projects/morduch/documents/articles/1995-Income_Smoothing_and_Consumption_Smoothing.pdf>.

Income smoothing is accomplished by diversifying income sources to protect against loss of income due to seasonal or economic shifts. Consumption smoothing is the phenomenon of maintaining consumption levels in spite of variations in income. In the developing world it is accomplished by informal saving, lending and insurance practices that permit movement of resources among households or family members.

14 Marianne McCune. "When People Make Their Own Banks." Npr.org. *NPR, All Things Considered*—Planet Money, 14 June 2013. Web. 31 July 2013. <http://www.npr.org/player/v2/mediaPlayer.html?action=1&t=1&islist=false&id=191606307&m=191713565>.

15 Matthew Kirk, Andrew Dunnett, Christele Delbe, Annette Fergusson, Justin Keeble, Harry Morrison, Katie Whitehouse and Rohan Pewekar. "Connected Worker—How Mobile Technology Can Improve Working Life in Emerging Economies." Vodafone.com. Vodafone Group Plc, Apr. 2013. Web. <http://www.vodafone.com/content/dam/sustainability/pdfs/vodafone_connected_worker.pdf>.

16 Lauren E. Willis. "Against Financial-Literacy Education." *Iowa Law Review* (2008): 197-285. Www.law.uiowa.edu. University of Iowa. Web. <http://www.law.uiowa.edu/documents/ilr/willis.pdf>.

17 Becca Lipman. "Top 7 Financial Services Hacks By The Numbers ." Wall Street and Technology. N.p., 26 July 2013. Web. 11 Nov. 2013. <http://www.wallstreetandtech.com/data-security/top-7-financial-services-hacks-by-the-nu/240159036>.

18 Ibid.

19 "A Short History of Grameen Bank." Grameen Bank—Bank for the Poor. N.p., n.d. Web. 11 Nov. 2013. <http://www.grameen-info.org/index.php?option=com_content>.

20 "Kevin Cadman Appointed Chief Executive of Grameen in UK." *BBC News*. BBC, 25 Feb. 2013. Web. 11 Nov. 2013. <http://www.bbc.co.uk/news/uk-scotland-scotland-business-21548932>.

21 "10 Indicators." Grameen Bank—Bank for the Poor. N.p., n.d. Web. 11 Nov. 2013. <http://www.grameen-info.org/index.php?option=com_content>.

22 Jonathan Morduch. "The Microfinance Promise." *Journal of Economic Literature* 37.4 (1999): n. pag. Print.

23 Connie Bruck. "Millions For Millions—This Year's Nobel Peace Prize Winner and Some High-tech Entrepreneurs Are Competing to Provide Credit to the World's Poor." *The New Yorker* 30 Oct. 2006: 1-10. Print.

24 Joanna Ledgerwood, Julie Earne and Candace Nelson. "Measuring Financial Inclusion and Assessing Impact." *The New Microfinance Handbook: A Financial Market System Perspective*. Washington, DC: World Bank, 2013. 115. Print. <http://books.google.com/books?id=xyvbDfqm8TEC&pg=PA8&lpg=PA8&dq=ledgerwood,+measuring+financial+inclusion&source=bl&ots=9tfuf57IR1&sig=m8wQ1CfdaRg6OAoRL_p05W2D1gE&hl=en&sa=X&ei=EXx6UtXKNtS_kQewqIDgCw&ved=0CDcQ6AEwAQ#v=twopage&q=nclusion%E2%80%94access%2C%20usage%2C%20quality%2C%20and%20welfare&f=false>.

25 Sara Corbett. "Can the Cellphone Help End Global Poverty?" Nytimes.com. *The New York TImes*, 13 Apr. 2008. Web. <http://www.nytimes.com/2008/04/13/magazine/13anthropology-t.html?pagewanted=all>.

26 Muhammad Yunus, Bertrand Moingeon and Laurence Lehmann-Ortega. "Building Social Business Models: Lessons from the Grameen Experience." *Long Range Planning* April-June 43.2-3 (2012): 308-325. Building Social Business Models: Lessons from the Grameen Experience. Elsevier—Long Range Planning, 2010. Web. 11 Nov. 2013. <http://www.sciencedirect.com/science/article/pii/S0024630109001290>.

27 Sara Corbett. Ibid.

28 "Statistics." ITU. International Telecommunications Union (ITU), 17 June 2013. Web. 11 Nov. 2013. <http://www.itu.int/en/ITU-D/Statistics/Pages/stat/default.aspx>.

For a thorough data capture of global ICT trends see statistics page of the ITU (International Telecommunications Union) website at: <http://www.itu.int/en/ITU-D/Statistics/Pages/stat/default.aspx>.

29 Ibid.

30 Asli Demirguc-Kunt, et al. Ibid.

31 Sara Corbett. Ibid.

32 Tavneet Suri and Billy Jack. "Reaching the Poor: Mobile Banking and Financial Inclusion." *Slate*. The Slate Group, a Division of the Washington Post Company, 27 Feb. 2012. Web. 11 Nov. 2013. <http://www.slate.com/blogs/future_tense/2012/02/27/m_pesa_ict4d_and_mobile_banking_for_the_poor_.html>.

33 Peter Ondiege. "Fostering Financial Inclusion with Mobile Banking." African Development Bank Group, 18 July 2013. Web. 11 Nov. 2013. <http://www.afdb.org/en/news-and-events/article/fostering-financial-inclusion-with-mobile-banking-12125/>.

34 Asli Demirguc-Kunt, et al. Ibid.

35 Lauren Villagran. "How an IPad in a Corner Store Can Spell Success in Mexico." *The Christian Science Monitor*, 28 May 2013. Web. 11 Nov. 2013. <http://www.csmonitor.com/World/Americas/2013/0528/How-an-iPad-in-a-corner-store-can-spell-success-in-Mexico>.

36 Jessica Silver-Greenberg. "DealBook." DealBook 16 Senators Seek Inquiry of ATMStyle Pay Cards Comments. *The New York*

*Times*, 11 July 2013. Web. 11 Nov. 2013. <http://dealbook.nytimes.com/2013/07/11/16-senators-seek-inquiry-of-a-t-m-style-pay-cards/>.

37 "Connected Worker," Vodafone, April 2013.

38 "Financial Literacy Crucial to Poverty Reduction." Thebftonline. *Business & Financial Times*, 22 July 2013. Web. 11 Nov. 2013. <http://www.thebftonline.com/index.php?option=com_content>.

39 Jonathan Sibley. "Financial Capability, Financial Competence and Wellbeing in Rural Fijian Households." UNCDF.org. United Nations Development Program, Pacific Centre, Oct. 2009. Web. 11 Nov. 2013. <http://www.undppc.org.fj/pages.cfm/newsroom/success-stories/2010-1-1-1/financial-literacy-changes-life-of-villager.html>.

40 Jonathan Sibley. Ibid.

41 Miriam Bruhn, Gabriel Lara Ibarra and David McKenzie. "Why Is Voluntary Financial Education so Unpopular? Evidence from Mexico." Finance & Private Sector Research. The World Bank, June 2013. Web. 11 Nov. 2013. <http://econ.worldbank.org/WBSITE/EXTERNAL/EXTDEC/EXTRESEARCH/EXTPROGRAMS/EXTFINRES/0,,contentMDK:23428555~pagePK:64168182~piPK:64168060~theSitePK:478060,00.html>.

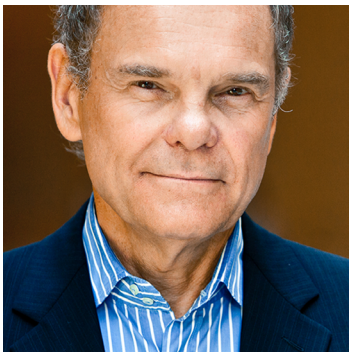
42 Mont Cessna. "Visa 2nd Quarter Result: Credit Card Processing Volume Up, Up and Away." Credit Card Processing Space. Credit Card Processing Space, 1 May 2013. Web. 11 Nov. 2013. <http://www.creditcardprocessingspace.com/visa-quarterly-result-transactions-up-up-and-away/.>.

43 "Personal Privacy in an Information Society." Epic.org. Privacy Protection Study Commission, 12 July 1977. Web. 11 Nov. 2013. <http://epic.org/privacy/ppsc1977report/>.

44 Vince Beiser. "Massive Biometric Project Gives Millions of Indians an ID." Wired.com. Conde Nast Digital, 19 Aug. 2011. Web. 11 Nov. 2013. <http://www.wired.com/magazine/2011/08/ff_indiaid/2/>.

45 Marc Hochstein. "Why Banks Should Care About Bitcoin." Interview by Jeanine Skowronski. Americanbanker.com. *American Banker*, 5 Apr. 2013. Web. 28 July 2013. <http://www.americanbanker.com/video/why-banks-should-care-about-bitcoin1058077-1.html>.

# About the Authors



Don Tapscott is Executive Director of the Global Solution Networks program. As one of the world's leading authorities on innovation, media and the economic and social impact of technology, he advises business and government leaders around the world. He is CEO of the think tank The Tapscott Group and has authored or co-authored 15 widely read books. In 2013, the Thinkers50 organization, in partnership with the Harvard Business Review, named him as the 4th most important living business thinker. He is Adjunct Professor of Management for the Rotman School of Management at the University of Toronto and the Inaugural Fellow of the Martin Prosperity Institute at U of T.


Dr. Amit Kapoor is Honorary Chairman at Institute for Competitiveness, India; Prosperity Institute of India and Professor of Strategy at Management Development Institute. He sits on the board of Competitiveness initiatives in Mexico, Netherlands and France in addition to being advisor to Thinkers50 and participant with the Global Solution Networks of Martin Prosperity Institute and Rotman School of Management. He has been inducted into the Competitiveness Hall of Fame at Harvard Business School and has received the Ruth Greene Memorial Award for writing the best case of the year. Amit is the author of India City Competitiveness Report, India State Competitiveness Report, India State Sustainability Report, Livability Report, et al. He is also a columnist with Mint, Financial Express, Outlook Business & Governance Now.

Jill Rundle is a contributing writer for Global Solution Networks. A graduate of the University of Pennsylvania, she has had an extensive career in advertising, marketing and communications as well as working in the world of private and public education.

**Global Solution Networks** is a landmark study of the potential of global web-based and mobile networks for cooperation, problem solving and governance. This project is a deliverable of the research program, offered through the Martin Prosperity Institute at the Rotman School of Management, University of Toronto.

## Program Management

Don Tapscott, Executive Director
Dr. Joan Bigham, Managing Director
Anthony Williams, Executive Editor

**Program Membership** offers unlimited access to gsnetworks.org program deliverables including project plans, research publications and multi-media presentations, all posted for member use, review and feedback. Webinars on current research are held quarterly. Please visit our web site at www.gsnetworks.org or contact info@gsnetworks.org for information on participation.


Ten Types of Global Solution Network

MARTIN Prosperity Institute

Rotman School of Management UNIVERSITY OF TORONTO