Digital Revolution in Public Finance

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The number of Internet users has grown rapidly over the past decade and today two-fifths of the world's population use online. Increasingly equipped with Smartphones, consumers depend on the Internet for a growing range of everyday activities, from connecting with friends and family members to shopping and banking. Businesses also harness the Internet extensively across their operations. The digital economy's value chain broadly consists of three elements: devices, networks, and applications.

Devices include Smartphones, tablets, PCs, game consoles, wearable, sensors, and the growing range of connected machines and vehicles which make up the Internet of Things (IOT). Systems and software enable devices to run applications, while fixed, mobile, and satellite networks connect devices to the Internet. Applications include online services, content rights, and the enabling technologies to deliver them. Online services are the most visible and most dynamic part of the digital value chain. Video, music, gaming, social media, over-the-top (OTT) communications, e-commerce, local information services, and search are among the applications that are becoming increasingly indispensable to the digital citizen.

Rapidly advancing technologies, evolving customer expectations and a changing regulatory landscape are opening doors to disruptive innovation in financial services. From crypto-currencies to big data to peer-to-peer lending, financial technologies innovations have captured the attention and imagination of customers, investors and incumbents.

Disruptive innovation is here to stay, creating clear threats to the traditional structure of the financial world, but also opportunities for positive change and growth. The challenge: the financial services industry is struggling to understand which innovations will be the most relevant, as well as figuring out the evolutionary path of emerging innovations and the specific implications of those evolutions on existing institutions.

There are many large forces sweeping society, from demographic and social changes to shifts in global economic power. But one force in particular – namely, technological breakthroughs – is having a disproportionate influence on public financial services.

Digitization makes finance accessible, lowers costs, and creates opportunity

It is the topic du jour for policymakers in almost every developing economy—especially in Bangladesh. Financial inclusion makes saving easier and enables accumulation and diversification of assets, boosting economic activity in the process. As its economy continues to grow, the country must take one crucial step if it wants to escape the poverty trap, and even more so now as commodity exporters face a downward terms-of-trade trend: deliver more financial services to people and institutions.

Yet access to financial services for the poor has been limited. Minimum bank balance requirements, high ledger fees (costs for maintaining micro accounts), and the distance between poor people's homes and bank outlets hinder their access to financial services and credit. Moreover, unaffordable "collateral technology" (the system of fixed assets required for loan approval) raises costs more than anything else, and the financial products available are often not suitable for customers with low and irregular income.

Banks have had to bear high costs to provide financial services to the poor. Market segmentation, low technological development, informality, and weak regulation increase the costs of doing business. In Bangladesh, markets are heavily segmented according to income, niche, and location, and their sophistication, level of development, and formality or informality reflects that segmentation.

High customer-monitoring costs, perceived higher risk, and a lack of transparent information have been almost insurmountable challenges for banks, and microfinance and other specialized institutions have not been able to fill the gap.

A new digital landscape

The global financial crisis changed the landscape. Foreign banks scaled back their activities in Bangladesh, while new local banks increased their presence. The relative success of microfinance institutions in Bangladesh encouraged domestic banks to expand their networks. At the same time, nonbank financial institutions, such as savings and loans and cooperatives, formalized their activities. In response, regulators began introducing alternative models that helped cut intermediation costs. For example, agency banking allowed banks to locate nontraditional outlets in remote areas where brick-and-mortar branches and outlets are not financially feasible. Bank representatives at such outlets can perform authorized tasks, such as opening bank accounts, processing loan applications and loan repayments, and so forth.

These changes were driven by demand. Market participants pressured regulators to build their capacity to cope with innovations and to develop institutions to support financial sector growth. Greater credit information sharing and the development of information for market participants, deposit insurance, and financial intelligence units generated a virtuous circle.

But these changes pale compared with the transformation introduced by the emergence and low cost of digital financial services. In Bangladesh, mobile-phone-based technology (bKash) for the delivery of financial services lowered transaction costs significantly and started a revolution in the payment system.

Suddenly, businesses did not have ▸

to give their employees time off to take money to their villages to care for relatives or small farms. Employees no longer had to travel long distances carrying cash and exposing themselves to robbery and other dangers.

Digital financial inclusion—a new revolution

A growing body of evidence indicates that improving access to finance for small and medium enterprises (SMEs), people at the bottom of the pyramid (BoP) and women has the potential to accelerate economic growth and move the poor and vulnerable out of the vicious cycle of poverty. Two billion people worldwide (or 38% of adults in the world) do not have access to formal financial services.

In this context of substantial unmet needs, financial sector policymakers across the world have recognized the game-changing potential of promoting 'digital' financial inclusion. In fact, the tremendous potential of digital technology in opening up access to financial services and driving down costs is being envisaged as the ultimate solution to mitigate poverty. While connection to the digital finance ecosystem contributes towards improving the lives of millions of poor households dependent on cash transactions, the benefits of digital technology in the financial sector are numerous. For example, once linked to the digital financial ecosystem, small holder farmers can save their harvest proceeds in secure, interest-bearing accounts and migrant laborers can remit money to their family at the click of a button. Further, as several publications of the Consultative Group to Assist the Poor (CGAP) and Gates Foundation show, digital finance also gives an opportunity to build a financial history, which can be harnessed to get affordable loans. Additionally, governments are enabled to deliver social welfare payments directly into citizens' accounts. The use of digital payments is thus encouraged as the process is cost effective, secure and can be made through reliable channels.

While these aforementioned potential benefits are duly and widely acknowledged, much action remains to be taken to effectively realize them. Digital Financial Inclusion (DFI) is defined as access to a formal financial system by disadvantaged and low-income segments in an affordable manner. The services provided through digital channels should meet the customer needs and aspirations and should be offered through credible and responsible delivery channels and be sustainable for financial service providers (FSPs).

Functioning of DFI

A digital finance platform enables the unbanked masses to convert their physical cash into digital/electronic money. The digital platform is integrated with the core banking system of banks/telcos and other financial and non-financial institutions. DFI is considered a success when a poor, and thus far unbanked, customer starts transacting digitally with his/her family and friends, formal banking and financial institutions and utility companies, and receives government to-person (G2P) payments directly into his/her bank account. DFI can be categorized into two types, i.e. assisted and self-service. While financial transactions availed of using agent networks—especially for cash-in and cash-out services— are considered assisted DFI, payments and transfers made through use of own mobile phone are called self-service DFI. The following infrastructure needs to be in place to facilitate DFI:

* ***A transaction platform*** which connects the customer/ agent to the core banking systems for electronic deposit, withdrawal and transfer. It also records customer transaction details.

* A ***CSP/agent*** who passes on/receives customer transaction details from the transaction platform. The agent converts cash into electronic money and vice versa. This agent is also involved in enrolling a customer into the financial system and complying with know your customer (KYC) requirements.

* ***Digital delivery channels*** such as point of sale (POS), mobile phones and computer kiosks which facilitate customer authentication and real-time transactions.

* ***Internet connectivity*** which helps the digital delivery channels connect with the transaction platform for customer authentication and transactions on a real-time basis.

* ***A system for capturing and authenticating the identity*** of the customer.

* ***A virtual account*** for enabling digital payment connectivity.

* ***A payment platform*** that connects customers with other service providers and different platforms.

* ***Methodologies and a set of rules*** that enable payment and settlement across platforms.

Ability of the system to connect with other systems through an *application programme interface (API).*

An increasingly cashless society

As cash is gradually replaced by secure, straightforward, and standardized digital payment mechanisms, many citizens in developed countries are now able to participate in the digital economy. Although the existing digital payment landscape—encompassing proximity payments (as enabled by near field communications and Apple Pay), mobile remittances, and mobile wallets—is very fragmented, there is likely to be a shift toward more standardized and interoperable solutions over the next decade.

Today, most new digital payment solutions lack the scale to be profitable and sustainable, but mobile connectivity can and will gradually change the economics of financial services and ultimately enable countries to finally move beyond cash. With a direct connection to a large subscriber base, a mobile operator can lower the cost structure of a traditional bank, reducing the need for bricks-and-mortar branches. Each mobile phone can become a "personal bank in the pocket," allowing citizens to access a wide range of financial services using a browser or app on their handset.

Conclusion

It took more than two decades to connect the world's first three billion people to the Internet; the next billion will come online in a matter of years. Whereas the first two billion used a PC to get online, the next wave of users will make digital decisions on a mobile device. This new generation of Internet users is predominantly young and living in emerging markets, such as countries like Bangladesh.

Just as businesses around the world have to innovate to adapt to a digital economy, governments need to ensure that existing and new regulations are fit for purpose in an increasingly online world. To play a significant role in this new era, Bangladesh has to keep pace with technology.

Rome was not built in a day and neither is a digital economy. Government of Bangladesh should be committed to develop the necessary environment and to overcome the individual regulatory challenges in a cohesive manner, working closely with all partners and stakeholders ■