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# Blurb

Dear readers,

As one era ends, another begins. The year 2016 was a disruptive year in payments, with many new digital payment solutions coming to the fore. 2017 promises so much more as old habits and customs linked to cash gradually give way to digital way of doing things.

In the first article "Towards a Cash-light India in a Post-demonetization Era" we turn the spotlight firmly on India. India's move to demonetize 86% of its currency is not only bold in execution but humongous in scale. But how prepared is India for digital payments in a post demonetization era? Read this article for more.

The next question obviously is - how do we make this transition to digital as quick and painless as possible? The answer: UX. It all boils down to how the end user perceives digital payments vis-a-vis cash. The article "Mobile Money 2.0: User Experience to Take Centre Stage" talks about the holy grail in digital payments - UX.

Next, we take up a couple of interesting use cases of digital money. In "#SDG4: Leveraging Mobile Money for Quality Education", we focus on how digital payment has made it easier for students to make quick and easy payments from remote locations. We have also included a few interesting case studies to spice up things a bit.

And, finally, "Telecom Distribution System: The Bedrock of Telecom's Success" describes the impact of digital payments on last mile Telco retail logistics. Digital payments would not only help to remove stock out situations by providing an alternative to the physical cash transaction model with digital stock replacement and payments model but also pave the way for a less cash economy.

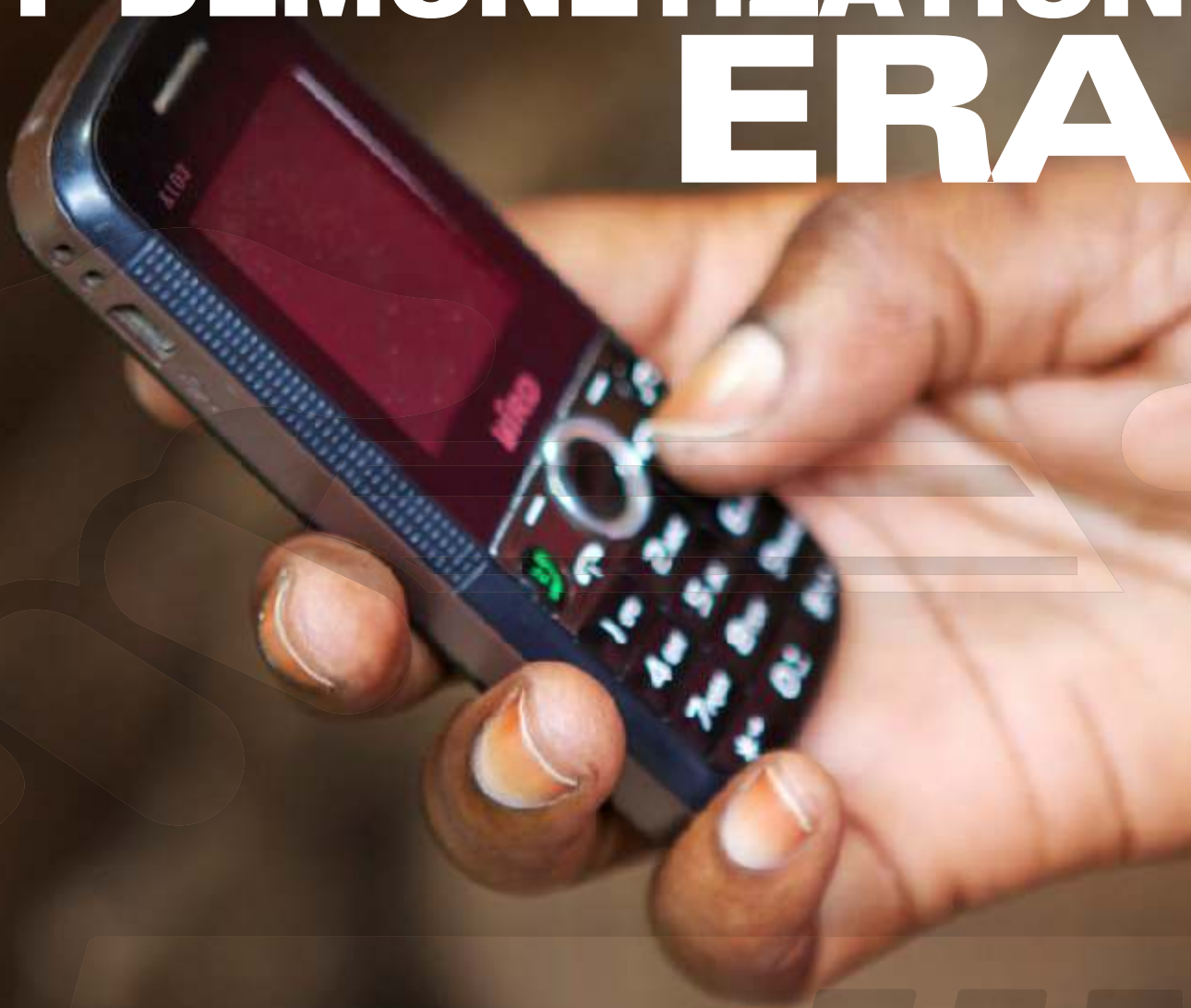
As a leader in the digital payments landscape we bring you the latest developments from the world of payments. We hope that you like reading our articles and insights as much as we love writing them for you...

Happy Reading!

**Srinivas Nidugondi**

SVP and Head of Mobile Financial Solutions  
at Mahindra Comviva

# TOWARDS A CASH-LIGHT INDIA IN A POST-DEMONETIZATION ERA





— By **Srinivas Nidugondi**

When it comes to climbing the digital financial services curve, India holds a unique vantage point. Here's how. We boast of a significant population, spread across diverse consumer and business segments. That apart, we hold ready infrastructure that ensures these segments can make a clean debut in the digital space!



Now for the bigger picture. It goes without saying that mobility has made quite a few ripples in the financial services space. This fact, combined with the fact that we (once again) boast of the second largest mobile customer base globally, translates into opportunities galore. To add to the fuss, a majority of transactions are still executed via cash in India. Just to provide a sense of the magnitude of the same, according to various reports, a 12 per cent cash to gross domestic product ratio exists in the country. This, in a nutshell, clearly implies that cash is still the king. Well, in India, at least.



Interestingly, India is a bit of an anomaly in this context. Here's how-globally, the spotlight is either on the financial inclusion opportunity or enabling digitally evolved consumers to enjoy better user experience. On the other hand, disruption is taking place in both these segments across the table in India-from the millennial generation to the financially excluded, everyone is scrambling for a piece of the financial services pie. The result? Intense activity in the wallets and the payments bank space, of course!

Now, the story of mobile wallets in India is an oft-cited one. The catch, this time around, is this-while prior success stories centered on the bludgeoning usage of application-based taxi services, the context has shifted somewhat. Now, mobile wallets have been thrust into the spotlight, propelled by the current demonetization initiative and the push to make India "less-cash".

In this situation, payments banks are expected to be successful by leveraging mobile technology. Meanwhile, the government is doing its bit through initiatives like

the Jan Dhan, Aadhar and Mobile trinity, more popularly known as "Jam". This, for all intents and purposes, is expected to push the various players in this space to offer a bouquet of financial services.

Now, let's examine the developments on the infrastructure side. The country has witnessed the largest roll-out of instant transfers (it began with immediate payment services (IMPS) and was followed by the Unified Payment Interface (UPI) facility and BHIM app). This, in a nutshell, implies that India is more than familiar with advanced payment infrastructure. The next obvious step, therefore, is for financial technology players to experiment with offering different services. In my opinion, though, the game will undergo a paradigm shift when players deploy the "India stack" thought process. Or, simply put, when these players begin offering a fully digital experience during the overall transaction.

So, while the consumer side has witnessed a lot of action, the means of enabling merchants to accept digital payments has been woefully inadequate. To be more precise-well under 1 million merchants accept card payments in an over 12 million base. Here, we believe that a unified payment acceptance medium, covering both proximity and online payments and various other methods will have to be offered. Bear in mind, though, that these initiatives need to be in line with the Indian government's efforts to push digital payments across the length and breadth of the country. The only way to enhance the base in question is to leverage the mobile handset, in cases where low cost dongles get paired to mobile phones to become point-of-sale (POS) machines and

the application on the merchant's phone can accept online transactions!

Permit me to sign off with a few more thoughts in this regard. First off, players who are able to offer asset and other related products to consumers and businesses can disrupt existing business models. Person-to-person (P2P) lending is one such thought process. Further, significant opportunity exists in managing payments for businesses, especially in distribution intensive sectors. Moreover, players who focus on the customer's experience in an end-to-end manner, while offering

these services across various channels have the best chance of success.

The bottomline is this-the ability to view digital wallets as not just a payment medium of payment but as one that manages credentials (either authorization or access) is critical. India is "the" place to be for financial technology players. The question, though, is that does the country have enough clout to be a case study for bringing in a transformative change in the digital space? **Watch this space for more.**



**About the author: Srinivas Nidugondi** has over 19 years of experience in various industries including financial services, payments and commerce in a variety of business and product related roles and most recently with a specific focus on enabling banking, payments and related services through digital channels. At Mahindra Comviva he heads the Mobile Financial Solutions business unit, which currently has over 130 deployments globally, providing services for more than one billion consumers.



# #SDG4: LEVERAGING MOBILE MONEY FOR QUALITY EDUCATION



— By Mohit Bhargava

**Delivering inclusive and equitable quality education is fourth amongst the seventeen Sustainability Development Goals (SDG) charted by the United Nations. The vision is to ensure that by 2030 all girls and boys get quality primary and secondary education for free and all women and men get access to affordable and quality technical, vocational and tertiary education. To achieve this goal, Information and communication technology (ICT) is playing a major role in transforming and enhancing the way education is imparted. Moreover, the use of digital payments (especially mobile money) in education has simplified access to education. This article talks about how mobile money is making quality education accessible to all.**

The education sector is going digital. Today we can purchase books online, access e-libraries, attend lectures virtually (distant learning via internet), complete entire course online via webex or videos and even give exams online. With the digitization of education, the payments involved in it are also becoming digital. Digital payments include both online payments and mobile payments. In developing markets, which is characterized by its low internet access and limited usage of credit and debit cards, mobile payments has emerged as the most prominent alternative payment channel.



Mobile money is rapidly becoming the most preferred way of making education related payments and is transforming the education sector in multiple ways as discussed below:

## Simplifying payment of fees

The act of paying fees for school or university, or applying for a course at an institution or enrolling for an examination is time consuming, because of the time it takes to travel to the educational institute or nodal center and stand in a queue to make the payment. The time and money spent on traveling to the educational institute and paying for fees can be used

more productively. The virtual nature of mobile money helps to solve this problem. Thanks to mobile money, it is easier for students or their parents to pay instantly at their convenience, that too remotely and in smaller installments. Many mobile money services such as Orange Money, Airtel Money and EcoCash facilitate fee payments for schools and universities using mobile phones. Mobile money services does not require customers to have a bank account, hence even unbanked users can make payments using these services. Additionally, mobile money services can be accessed from features phone via USSD or IVR, without any internet connection.

Côte d'Ivoire is one of the biggest success stories of school fee payments using mobile money. The Ministry of National and Technical Education (MENET) partnered

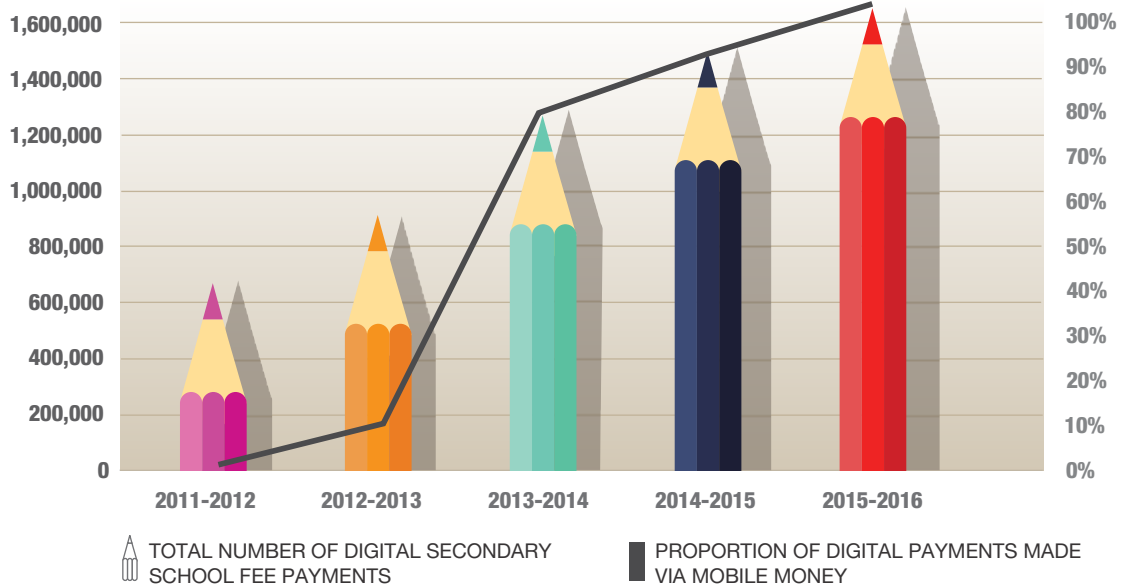


with four accredited mobile money providers in the country and made it mandatory for secondary school students to pay their school registration fees digitally. The impact of these collaborations and the adoption of digital payments have been phenomenal. In academic year 2015-16, 99.3% of Côte d'Ivoire's 1.7 million secondary school students paid their annual school registration fee via various mobile money services. The service has provided convenience to parents as they can now focus on their work, rather than worry about paying fees. The service has also benefited MENET and schools in multiple ways. Digitization of fee payments has reduced cash handling costs as well as

digital registration of secondary school students allowed MENET to consolidate its student database, eliminate duplicate entries and significantly increasing the quality of its information.<sup>1</sup>

Côte d'Ivoire is not the only country. In Guinea Conakry, Orange is enabling students to pay counseling fees in universities via Orange Money. Students can access Orange Money service on their mobile phone to generate a code. They then log-in to Guinea University Online Orientation Platform on internet, and enter the code and their mobile number to make payments. In addition to paying the fees, students also receive free data, SMS and

**Digital Secondary School Fee Payments in Côte d'Ivoire**



Source: GSMA

incidences of armed robberies, which was very commonplace before the introduction of digital payments. Secondly, with mobile money, school fees are now collected in full, and that too much earlier in the year, which means that schools have more access to funds function properly and provide better learning conditions to students and working conditions to teachers. Lastly,

call minutes enabling them to connect with friends, teachers and family. The service has seen great uptake. More than 90% of University counseling fees are paid through Orange Money.<sup>2</sup>

In Ghana, WAEC, the body that conducts the Senior School Certificate Examination in West African countries has partnered with Airtel Money, allowing students to buy

pins to check their results. Students can also pay for request for certificate, attestation and verification of results using Airtel Money.<sup>3</sup>

In Bangladesh, Grameenphone facilitates payment of exam fees for graduate courses in Rajshahi University. The payments can be made over the counter, where the student visits a Grameenphone mobile money agent and pays him the fee in cash. The agent accesses the mobile money service on his handset and makes the payment to generate the transaction ID. The transaction ID is used by the student to obtain his admit card online.

Digitizing payments are leading to new low-cost schools. For example, in Kenya, Bridge International Academies has launched the cashless “academy in a box”. School fees are paid in small- monthly payments using M-Pesa mobile money service, which supports salaries for academic staff and other expenses. Entire operations are automated and executed via smartphones and tablets, eliminating accounting and financial management related expenses. Founded in 2009, Bridge International Academies expanded to nearly 400 schools and over 100,000 pupils by 2014.<sup>4</sup>

## Expanding the availability of content

Books, journals, whitepapers are costly and it is not possible to buy all of them. Moreover, most of the learning is restricted geographically, which means that the students have no understanding of what is happening globally. The few copies of

books from international authors which are available in libraries have high demand and can be accessed only by a limited number of students. However, digitization of education is changing this scenario. e-Books are available online which are much cheaper than the printed version. The students are able to get exposure to global study material as they are able to buy books from international authors online. The libraries are becoming digital, allowing students to access content online and pay for the subscription via digital medium as per their convenience. Digitization is making education affordable as students are able to just buy the required portion or relevant content and not the entire book.

A relevant example in this context is EcoSchool initiative from Econet Wireless, Zimbabwe's largest mobile operator. EcoSchool provides online access to digital content for tertiary students in Zimbabwe. Students get digital books, e-courses, mobile courses and job alerts via a web-based platform at affordable costs. The payments can be made through operator's mobile money service EcoCash.<sup>5</sup>



## Facilitating virtual learning for distance education

Virtual classrooms are making distant learning possible in an efficient manner. Students need no longer be restricted by distance, lack of quality educational institutes or unavailability of courses. Lectures can be attended online, exposing students to world class academicians across the globe. They are able to learn skills by looking at videos. Not only this, students are giving exams online and the checking of papers are also done using IT softwares and result produced within minutes. The results are obtained online and certificates issues in digital formats. All the payments related to distance education are made remotely through online and mobile payments. In future, to make virtual learning specially the practical classes more realistic technologies like virtual reality will come into play.

## Enabling quick and convenient salary payments for teachers

In many emerging countries, teachers are paid salary in cash. As it takes time to distribute cash, salary is usually paid late. Sometimes, the salary is not even received



in full, as a portion of it is pocketed by corrupt senior officials. As an alternative to cash, the governments in many countries have started transferring money directly to bank accounts. However, in countries with poor banking penetration, this necessitates traveling long distances and standing in queues for hours to cash-out salary.

Mobile money has emerged as a viable option overcoming flaws of conventional salary payment system. This can be understood better with an example from Liberia. In rural Liberia, primary school teachers were paid their salary in bank accounts. Many banks have branches only in big cities. Each month, the teachers had to travel over 10 hours by bus to capital city Monrovia to collect their salary. The entire travel and lodging consumed on average US\$25 which is 15% of teacher's

salary. Moreover, due to all the travelling the teachers would miss classes, which would disrupt the interest of students in the classes. In July 2016, USAID with Ministry of Education and mobile operator Lonestar rolled out mobile salary payments pilot for 67 teachers. The results of the pilot are encouraging. The teachers receive salary instantly and in full in their Lonestar mobile money account. On average they save 14 hours of travelling as they are able to cash out at nearby local mobile money agent. The cost of collecting salary has also gone down by 90% as teacher only have to pay small cash-out fee. Teachers are now able to focus on teaching rather than worrying about collecting salaries. After positive results from pilot, the service is now being scaled-up.<sup>6</sup>

## Providing funding and support for education

Inability to afford education or pay fees is the most important factor for high drop-out rate from schools. Governments, NGOs and financial service providers globally are working together to ensure parents have financial resources to pay for education of their children. Providing low-interest education loans is one of the initiatives run in many countries. According to World Bank Findex report, in low and middle income countries, 8.3% (adult) population borrowed for education or paying school fees. However, a very large portion of loans for education are informal loans as most people in low and middle income countries do not have a bank account and thus the credit rating to qualify for a formal loans from bank.

To bring the loans into formal economy, financial service providers are providing mobile based loans. For example, Airtel in Tanzania provides Airtel Timiza loans. Airtel Timiza offers small-term, low value loans which are directly credited into customer's Airtel Money account. Customers do not need any bank account, or qualify any stringent qualification criteria, or provide any security or do any paperwork to get Airtel Timiza loans. The loan amount depends on customer's usage of Airtel services. These loans allow parents to pay school fees on time, without impacting their household budget. Parents repay the loan when they get next month's salary.

Mobile money providers are also bringing innovative insurance schemes for students. Allianz insurance and Orange Money in Senegal offers a special insurance scheme for students, where in case of death of the paying parent the child gets 1,200,000 FCFA (US\$ 1,956) to fund two to three years of schooling. For availing the insurance scheme, the parent has to pay premium of 12,000 FCFA (US\$ 19.56) in a single installment or 1,000 FCFA (US\$ 1.63) in 12 monthly installments using Orange Money.<sup>7</sup>

## Encouraging parents to educate children

In some countries due to various cultural or economic conditions, parents are uninterested in sending their children, specially the girls to school. As per World Bank, female literacy rate in South Asia and Sub-Saharan Africa is as low as 57% and 52%. The local governments in these regions are aware that educating females is necessary for creating an egalitarian

society. Hence, to enhance female literacy rate, governments have started various initiative like giving stipends and providing mid- day meals to girls who attend school. Mobile money can catalyze various government initiatives to improve female literacy. Mobile money can be used in disbursing government stipends which is a big motivation for parents to send their daughters to school. NGOs can now disburse funds directly to parent's mobile money account which allows them to buy school uniform, stationary and books for their daughters.

Telenor Pakistan under the Sindh Education Reform Program (SERP) is disbursing education stipends to female students via EasyPaisa mobile money service. The aim of SERP program is to improve literacy rate amongst girls belonging to BOP families in rural area. The program was started in June 2014 in 23 remote districts of the Sindh province, with 425,000 students receiving stipends.<sup>8</sup>

*Achieving affordable quality education for all by 2030 is a challenging vision, but the above example shows that mobile money is the right tool to accomplish it.*

**About the author: Mohit Bhargava** has over eight years of work experience in product marketing and research in the telecom domain. At Mahindra Comviva, he is serving as Manager in product marketing for the mobile financial solutions portfolio. His areas of function primarily include evangelizing Mahindra Comviva's mobile financial products and their impact on transforming the financial landscape globally.

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# MOBILE MONEY

User Experience to  
Take Centre Stage



— By Vamsi Madhav

Mobile money has, to quote the GSMA, “done more to extend the reach of financial services in the last decade than traditional brick-and-mortar banking has in the last century.”

Penning articles and blogs on mobile money ad-nauseam tends to get a bit tricky after a while. Here's why-it is more or less an established fact that the facility continues to grow by leaps and bounds (as expected, really). To illustrate, as per the GSMA's State of the Industry Report 2015 on mobile money, in December 2015, mobile money was available in 93 countries via 271 services. The number of registered accounts globally shot up by 31 per cent, to a total of 411 million. Meanwhile, mobile money providers processed just over a billion transactions for the same time period.

In short, mobile money has, to quote the GSMA, “done more to extend the reach of financial services in the last decade than traditional brick-and-mortar banking has in the last century.” Now to flip the argument. The phase of attempting to establish this facility as a viable method of executing financial transactions is over. It has played (and continues to) a key role in deepening financial inclusion. (A quick side-note-according to data on global financial inclusion released by The World Bank Group, mobile money services are available in 85 per cent of countries where the number of customers with an account at a financial institution is less than 20 per cent.)



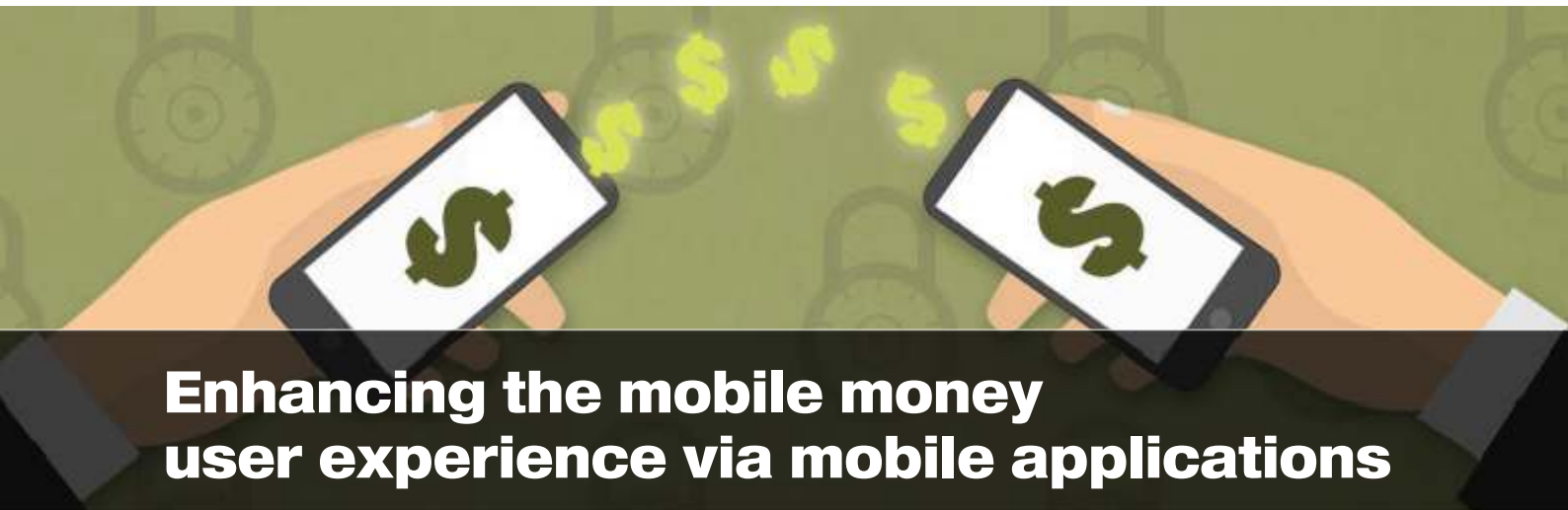
Last but not the least, mobile money providers have, over the years, launched a wide array of innovative services to net and retain customers. So, (and here's why writing about it can get tiresome), what next?

It's quite straightforward; really. Today's customer expects, no, demands, convenient and immediate service. Ideally, mobile money services ought to be always available, consistent and easy to access and use. Naturally, then, mobile money providers ought to begin focusing on what makes customers tick. It comes as no surprise that enhancing customer experience is thus thrust into the spotlight.

It isn't as daunting as it sounds and is, essentially, a matter of collaboration. Take interoperability, for instance. According to the State of the Industry Report 2015, several mobile operators have already forged partnerships in this regard, in various telecom markets, including Madagascar,

Rwanda, and Thailand (2015) and Indonesia, Pakistan, Sri Lanka, and Tanzania in 2014 and 2013 respectively. This can, by all means, be considered a step in the right direction. How? Well, by allowing customers to transact between different mobile money schemes, account-to-account interoperability aims to increase the value of mobile money for providers and customers alike—a larger addressable market for the former and enhanced experience for the latter. Now let's expand the scope of this argument. Interoperability isn't merely restricted to operators. Players like banks, mobile money providers, mobile transfer operators, biggies like MasterCard and Visa, all hold a chunk of the interoperability pie.

This is merely the tip of the iceberg, though. Operators can still cover a substantial amount of ground across several areas. Permit me to identify and elaborate on a few:



## Enhancing the mobile money user experience via mobile applications

Smartphone penetration is on an all-time high. As per data released by Statista, in 2015, over 25 per cent of the global population used a smartphone. By 2020, this number is expected to increase to 37 per cent. As these devices become increasingly ubiquitous, so do the applications that

come housed in them. To stand apart from the competition, therefore, operators ought to focus on offering mobile money applications that reduce the time taken to execute a transaction, while obviously offering cutting-edge customer experience, combined with various bells and whistles.

Speaking of which, mobile money providers in Latin America and the Caribbean certainly take their applications seriously. So much so, that these players are raising the global bar by adding various frills to the usual product line-up. For example, according to the GSMA, in Mexico, Telcel's Transfer application permits a customer to generate a barcode for merchant payments. This is then scanned by a cashier's barcode scanner or through the application itself for person-to-person transfers. This facilitates easier interactions with third parties, while not disclosing the customer's mobile number.

Meanwhile, as per the GSMA once again, Brazil-based prepaid payment instrument Zuum permits customers of other operators to access its mobile money application. When a new customer subscribes to Zuum through the application, logic verifies the operator to which a particular mobile number belongs to. Even if the customer falls outside Vivo's domain (Zuum's partnering mobile operator), the customer is still able to use all of the application's mobile money features.



## Simplifying merchant payments

In other words, ensuring that each transaction is as simple as paying the merchant cash. Africa, in particular, is chock-full of interesting examples in this context. The continent is using near field communication to simplify USSD-based merchant payments. Let's consider the Airtel Money Tanzania's "Tap Tap" NFC Merchant Payment service. It is, essentially, a one-stop shop that leverages NFC technology to simplify mobile money merchant payments. It also resolves various challenges such as long-drawn transaction times (from a minute to a mere 10 seconds), previously unaffordable payment methods and arguably the most

important issue—that of small change, as it offers a convenient payment method.

That's not all—consider the EcoCash Express Debit Card or the "Tap-and-Go" card. All customers need to do is tap the card against the POS machine, after which the payment would be recognised. For transactions valued under \$5 and up to a daily limit of \$100, a cardholder no longer has to enter a PIN number on a POS terminal. And speaking of transaction values, customers can purchase goods for as little as 10 cents using the card and the Tap and Pay service. Another instance of the convenience I mentioned earlier.



## Ensuring seamless online payments

Now, this is where it gets slightly murky. You will be inclined to agree with me when I say that paying online using mobile money isn't the most pleasant or easy experience. This is usually owing to the fact that mobile money still has many miles to go, with regard to making a customer's online experience a seamless one. Permit me to offer two methods to simplify this process:

**The MasterCard Virtual Card:** This is a prepaid service linked to the existing balance in a customer's Mobile Money Account. The card enables customers to execute online payments at any website that accepts MasterCard. The card is virtual as the customer requests for the same via the USSD channel and receives the card's details (the virtual card number, CVV number and expiry date) in an SMS. It is not physically present.

**Linking merchant websites with mobile money:** Essentially, while carrying out a transaction, there is no link between the mobile money application and the retail website. For example, if one is browsing an e-commerce website and chooses to pay via Airtel Money, ideally, the customer ought to be linked to the latter once they are ready to pay. There is, however, no link to seamlessly connect the two, which, obviously, reflects badly on the customer's overall experience. However, in near future, we will witness a seamless link between retail websites and mobile money providers, which will go a long way towards making online payments easier.

Net, net, the point is simple-Mobile Money 2.0 is upon us. Customer experience is the new Holy Grail. Is the mobile payments ecosystem geared up to meet this challenge?





**About the author: Vamsi Madhav** is a seasoned professional in software product management with experience in mobile financial solutions. His experience spans over complete innovation lifecycle, from ideation to launch, for complex enterprise-wide software. He is comfortable evangelizing technology to C-level executives across cultures and industries. He is highly analytical and deeply interested in technology management.





# TELECOM DISTRIBUTION SYSTEM:

## THE BEDROCK OF TELECOM'S SUCCESS



— By Anand Ota

Today's Telecom (prepaid) so closely emulates FMCG model that one cannot but help imagine that the Telecom distribution model must have been designed by a FMCG expert. Since both businesses have to be there at the arm-length of the customer, there is obviously a need to reach out to all possible Multi Brand Outlets (MBOs) which might range from a Grocery shop to a stationary shop to a photocopy outlet across varied geographies.



In order to achieve this scale of distribution, telcos's need to adapt a NXM hierarchy. This is because in a dense market (a metro urban market or a city market) most of distributor's customers are within a ten kilometer radius, but for a rural upcountry distributor the customers can be spread across a couple of villages covering hundreds of kilometers. Hence companies have various channels like "Distributor – Distributor Sales Executive

(DSE) – Retailer" and "Distributor – Sub Distributor – DSE – Retailer". Telecom Companies usually have Channel Sales Managers or Territory Sales Manager who manage one or two such distributors, allowing them to have far-reaching distribution with only a handful of sales employees. Hence it is no surprise that for a technology heavy company distribution is the bedrock of success.



## The inherent problem in Telecom Distribution System

With all the strengths that distribution brings to the table, it also brings its share of problems. In all these distribution systems, the last leg of stock transfer before a tertiary consumer sale is DSE to Retailer sale. This leg of stock transfer, which is better known as secondary sales, is defined by the act of a DSE transferring stock/balance to the retailer and collecting money equivalent to the stock transfer. In a secondary sale, the physical presence of the DSE at the retailer store is necessary to collect the money. Hence Secondary sales in telecom are heavily dependent on DSE's physical presence and cash transactions.

To add to this, all these DSEs have a defined sales route better known as a beat plan, basis which they visit these retailers. Typically in an urban market, a DSE would be visiting a retailer every alternative day and in a rural market the frequency reduces to twice a week or even lesser. Therefore, for a retailer to carry out un-interrupted business, his stock replenishment has to coincide with the DSE visit. To further extrapolate, for this to happen, tertiary demand for retailers has to be uniform & entirely predictable. As the latter is always untrue the discussed distribution system is burdened with the inherent problem of Stock-Out

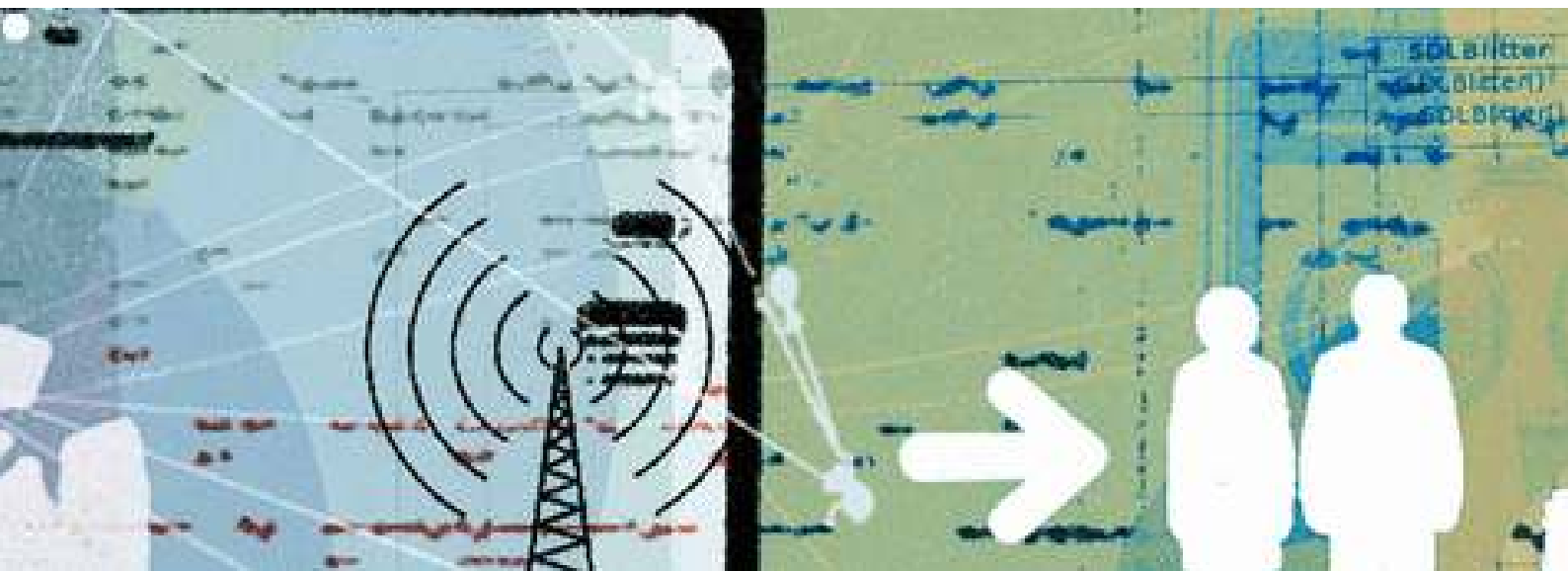
# Stock Out: The problem and its extent

Stock-out is defined as the scenario where in a retailer runs out of stock/balance before his next scheduled DSE's visit. As the retailer doesn't have stock he denies service (in form of recharge) to the consumer. Every stock-out thus leads to an opportunity loss to the retailer and results in a disgruntled customer & retailer, hence is a double whammy to the Telecom operator.

In the multi-sim world we live in today, a service denial born out of stock out for one operator might lead to tertiary sale for another operator. This sale will result in operator sim becoming the primary sim for the customer. This will push primary sim to a secondary dormant sim and buy time for the competing operator (which is now the primary sim) to permanently win-back this sim through promotions as a primary sim. Thus a single instance of stock-out might result in a huge opportunity loss to the tune of the ARPU of one service denied customer. This problem is probably graver and larger than what is explained here because current systems can't capture the extent of the problem. Hence it has slipped under every body's radar for so long.

A tip of the iceberg like visibility of this problem is emphasized by the fact that most telecoms have around 1.5 per cent of their recharges failing (which contribute to around two per cent of tertiary sales) because of retailer not having enough balance. As already explained the verbal service denial that happens post this failed recharge isn't captured by the system and can be anybody's guess.

To put this two per cent tertiary loss into better perspective, a case-in-point is the Indian Prepaid telecom which has grown at sub three per cent levels for the last six quarters. All the individual operators have lost or gained market shares at again a sub three per cent levels. The relevance of this two per cent is further emphasized by the fact that this amounts to around INR 400 Crore (US\$ 58.7 million) for the largest Indian prepaid Telecom player. A point worth noting is that there were only 263 companies in India in FY 16 which has a profit greater than 500 Crore (US\$ 73.3 million).



## The Solution

Solutions for the stock out problem can range from giving an instant credit to the retailer when he stocks out to building in more robust alerts within the system. But I believe the real solution to this problem lies in the problem statement itself. As already stated in the earlier section, the stock-out originates from the distribution model which is heavily dependent upon cash transaction and the physical presence of the DSE at the time of the collection. Hence stock out can be nipped in the bud by providing an alternate to the physical cash transaction model in the form of digital stock replenishment and money collection. This will empower the retailer to request for stock replenishments from the DSE paying him digitally for the same. This will also reduce the burden on the already over-burdened DSE who has to do a host of other things like new acquisitions, hand-set sale, retailer education, retailer promotion management in addition to secondary stock sales.

The beauty of this solution is that it will help to move towards a digital world. This model couldn't have come at a better time with India transitioning to a less cash economy. In its digital drive, the government has clocked 3 lakh transactions through its new initiative of UPI in November and another 16 lakh transactions in December. The scope that prepaid telecom will bring to the table is humongous. The mission statement of this drive is to touch 1 Million transactions in a day. There are around 250 million secondary transactions that happen in India on a monthly basis. The smart-phone penetration of Indian telecom is around 30 per cent, hence around 75 Million secondary transactions can potentially go digital. This in itself would result is two and half million digital transactions a day. Hence this is an apt time to ponder over this stock-out problem and the far reaching impact that the solution will have.





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