

Mahindra
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Blurbo

Dear readers,

"A journey of a thousand miles begins with a single step" - so goes an old saying. Vritti began its journey last year with a small step - to bring you the freshest stories from the world of mobile payments served hot from the factory. Today is our FIRST ANNIVERSARY. We celebrate our one year of relationship with you by bringing another power packed edition with diverse stories about the most powerful idea of our time: "**mobile financial services**".

On our first anniversary issue, celebration begins by discussing the social, economic and political emancipation of women in our article: "**Bending the Gender Gap with mobile money**". The celebration continues as we turn the spotlight firmly on "selfie payments" in our article: "**Selfie Payments - A Marketing Gimmick or a ... Innovation**". "**A journey of modern ATMs**" takes you on a journey of how the humble ATM developed from a quiet sentinel at the frontiers of payments to today's high tech ATM that have become the face of banks and financial institutions. For the finale, we try to solve the prepaid puzzle in "**Solving the Prepaid Puzzle**". I hope you like reading our anniversary issue as much as we loved bringing it to you.

Happy Reading!

Srinivas Nidugondi

SVP and Head of Mobile Financial Solutions
at Mahindra Comviva

SELFIE PAYMENTS

A Marketing Gimmick or a Reliable Innovation?



— By Ankit Gohil

Since the time the word “selfie” was listed as one of the top ten buzzwords of 2010, the selfie mania has been growing by leaps and bounds. The highest priest of the English language - the Oxford Dictionary - declared “selfie” as the word of the year in 2013. Scrabble followed soon, allowing its usage in 2014, much to the glee of millions of fans.

Remember how we used to get amazed by the use of biometrics in science fiction movies like Mission Impossible. Directors have been able to wow moviegoers with the use of cutting edge biometric technologies such as iris scanners, facial recognition devices for many decades. These movies have played a part in educating the public about biometric technology which has led to its wider acceptance. Today biometrics is an important part of the payments industry due to its reliable, fast and convenient nature. With the launch of Apple Pay, Android Pay and Samsung Pay the use of biometric recognition has become even more popular. Although the use of voice recognition and acoustics for biometric authentication has been around us for some time now, it is “Selfie Payments” or Facial Recognition that is garnering the maximum amount of attention.

With a number of companies around the world innovating around selfie technology, it has become impossible to ignore. Today many financial and technology companies are developing payment authentication solutions based on facial-recognition technology. This will allow the customers to

make payments using their smartphones by clicking a selfie instead of entering a PIN or a password. Users just need to store their sample image in the smartphone application which is converted into a unique code. Selfie taken at the time of payment is then encrypted and compared with this saved code to establish the user's identity. The primary aim of the selfie in payments is to authenticate the identity and reduce the friction in payments thus, enhancing customer experience.

Last year in March founder of Alibaba, Jack Ma Yun, showcased “Smile to Pay” technology that will allow users to pay for goods and services by taking a selfie from their smart phones. The technology is developed by Ant Financial which also operates AliPay. The company has already made the feature available to its employees and is planning to make it available to public in the next few months. As per Jack Ma, “Smile to Pay” will be first rolled out in China and later to other countries. Apart from this, Ant Financial is touted to be working on new technologies which would allow users to pay by speaking a word or a phrase or by taking a photo of a tattoo or even a pet.

To defend its position in the financial payment space, MasterCard announced the launch of payment by selfie at the MWC 2016 held in Barcelona. It has tested the Identity Check™ technology in a pilot program with 500 participants in the United States and the Netherlands in 2015. By this year MasterCard is planning to roll out this feature in 14 countries including US, Canada, UK, France and Germany. Austria is planned to receive it in 2017.

MasterCard is leveraging Daon's IdentityX® platform as one of the technologies in Identity Check™. Identity Check has a layered approach to security which includes device cryptography, geolocation and biometric verification thus, providing a secure and convenient environment for making payments.

On the other hand technology giant Google is working on its multi-factor authentication system "Hands Free" for removing friction in payments. Hands Free eliminates the need of pulling out smartphone and tapping it on the POS machine. It uses multiple technologies such as Bluetooth, Wi-Fi and location services to detect when you're at a store and combines customer's initials, phone and picture to complete the transaction. Thus, it can even be used with smart phones that doesn't support NFC.

Customers setup the app with their credit card information and a selfie picture. While making payment at the participating store, customers just need to say, "I'll pay with Google" to complete the transaction. The cashier then verifies customer's identity by asking their initials and comparing the picture linked to their Hands Free account. Thus, it amounts to paying with just your voice which is definitely convenient and uber cool.

Google launched a pilot for Hands Free this year in March and is currently available in

selected stores in U.S. including McDonald's and Papa John's.

After patenting one-click buying, online retail giant, Amazon, has filed a patent application for a mobile payments technology that will allow users to authenticate themselves via a photo or a video. This would work in conjunction with another patent that Amazon holds for a technology which enables a device to authenticate an individual through photo or video.

The user will be required to perform certain actions, motions or gestures such as to smile blink or tilt his or her head to ensure a swindler is not simply displaying a photo of the individual linked to the account. The patent suggests that the technology could be used on a number of devices, including desktops, laptops, phones and tablets.

Currently no official confirmation related to selfie technology has been provided by Apple but rumours abound. Apple's latest acquisition of facial and emotion recognition start-up Emotient and facial expression capture solution provider Faceshift is adding to these rumours. It is to be seen when will Apple come up with its own version of facial recognition technology for payment authentication? And whether or not it could replicate the success it achieved with its fast and reliable fingerprint sensor technology.

The success of any major technology relies on its simplicity, effectiveness and if it's a financial technology then heavily on its security aspect. To gain acceptance, "Selfie Payments" need to prove that it's really a secure form of payment authentication. However, looking at the past failures of introducing facial recognition technology in market this task is easier said than done. There have been instances where people even circumvented savvier systems

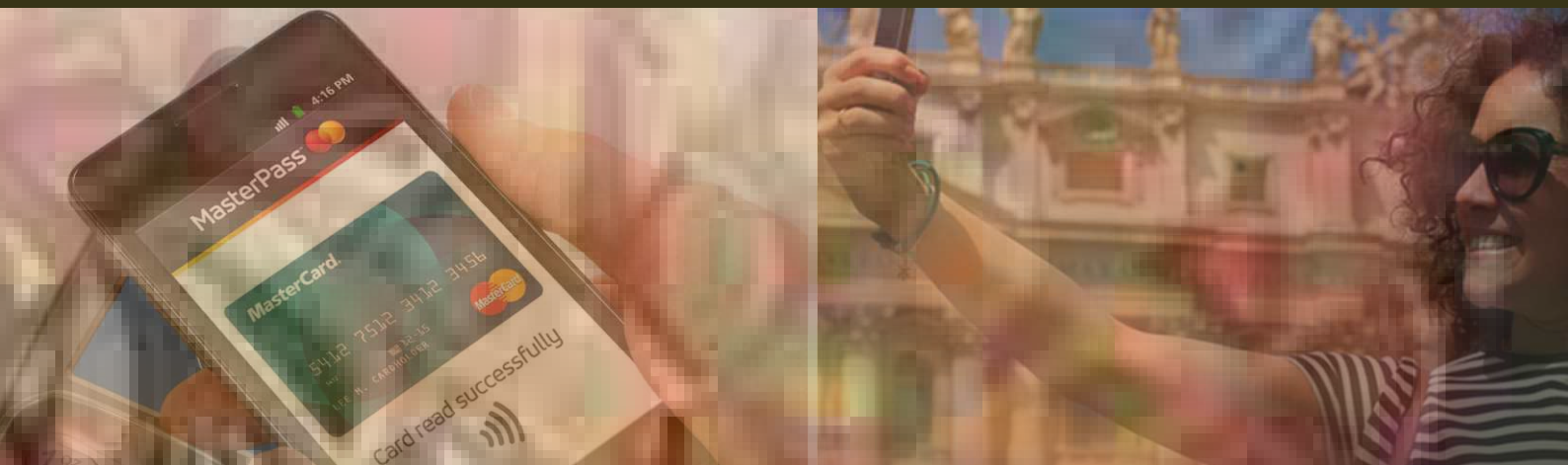
using high quality photos and high definition videos.

Since none of the companies mentioned above have yet launched “Selfie Payments” for public, it's really difficult to predict the extent of its speed, effectiveness and above all the level of security. These factors along with the overall user experience will determine the fate of this technology.

Seeing the track record of similar technologies and with the kind of investments and technological advancements being made today “Selfie Payments” will definitely make its mark.

Until then Smile, Click & Share.

Happy Selfing!



About the author: Ankit Gohil is the Business Development Manager for Mobile Financial Solutions at Mahindra Comviva. He has completed his masters from Indian Institute of Management Indore. Prior to his current stint, he worked with Oracle India and Virtusa. He is a technology enthusiast with a keen interest in payments space.

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BENDING
**GENDER GAP**
WITH **MOBILE**
MONEY



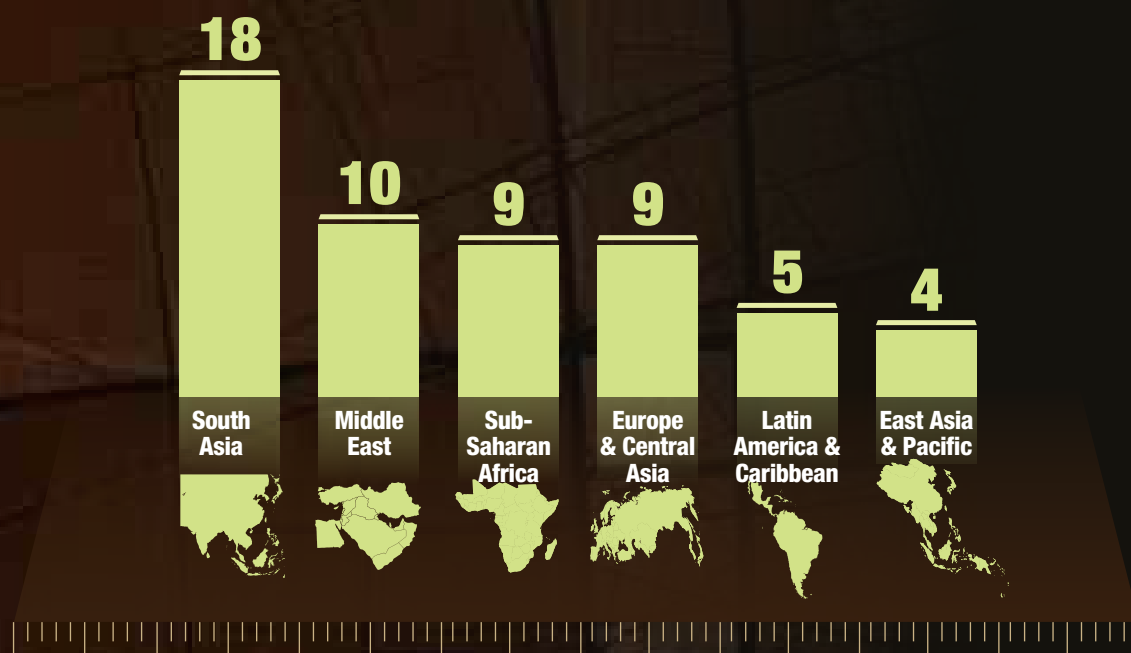
— By Mohit Bhargava

From times immemorial women have been fighting against various prejudices and repressions in society to get their voice heard and better their lives. In the last century many women have distinguished themselves in science, business, politics and popular arts. Indeed the world would've been a much poorer place to live without the contributions of these pioneering women.

While the developed world witnessed major advancements in women's rights, the third world and underdeveloped countries lagged behind. In the absence of top down implementation of socio-economic policies and initiatives, the women in these countries have to take the lead in society's transformation and break out of the vicious cycle of gender inequality and poverty.

But lack of access to capital and deeply entrenched socio-economical prejudices have created a barrier to their progress. From a historical point of view, women, especially in developing and third world countries have always found it difficult to access capital vis-à-vis men creating a gender barrier in their socio-economic-political development. This gender financial access gap between developed and underdeveloped countries is apparent from World Bank Global Findex data. Globally, 58 percent of adult women have an account compared to 65 percent men – a 7 percent gender gap in account ownership. In developing countries, the gap widens to 9 percentage points, and in some regions such as South Asia this gap is a huge 18 percentage points¹.

Financial account ownership gender gap (percentage points)



Source: World Bank Global Findex

It should hardly come as a surprise that the countries with the largest financial access gender gap are also the countries where the socio-economic conditions of women are the worst. Without any recourse to banking or any other mode of financial access, the women fail to exercise any degree of control over family budget. And without any control over household spending, these women are not in a position to take care of themselves or their families. On the other hand, a child whose mother controls the family budget is 20% more likely to survive – according to an estimate provided by FAO. With more control over the budget, there is more food on the table, more priority on health and education, which all leads to healthier and happier and more prosperous families in the long run. Moreover, with quick and easy access to capital, women can start their own business and thus take full ownership of their destinies and not leaving it to the fickle nature of the government or nature. Thus the single most important thread running through all women's poverty alleviation as well as socio-economical-political empowerment

initiatives is the closing of the financial access gender gap. This not only enables women to take control of their lives but also the lives of their children and families.

In this context, Mobile money has massive potential especially when it comes to closing the financial access gender gap. Already, we are witnessing the financial access gender gap narrowing significantly in countries where mobile money has made inroads into the financial system. For example, in Kenya and Zimbabwe, where mobile money has overtaken formal banking system, financial access gender gap is lower than the regional average. In fact, for EcoCash, Zimbabwe's largest mobile money service, women constitute 52% of the customer base². From tailored mobile money services for women and family-oriented marketing to deploying female agents, mobile money providers have played a huge role in creating gender parity. This article shows how the mobile money operators are transforming the lives of women in the developing world.



As per a GSMA Report, achieving gender parity in account ownership can unlock an estimated \$20 billion market opportunity for the African mobile industry in the period 2015-2020. Mobile money providers recognize this opportunity and are working to leverage it³.

➔ Mobilizing Savings

Multiple researches have proved that women are better at saving than men. Owing to their penchant for savings and financial management, women are able to bear multiple financial burdens for their family including paying for school fees, food, emergencies, celebrations, births, funerals and much more. However, due to cultural norms, low literacy and restriction on movement, women mostly save at home (and stay away from formal banking). Without access to traditional financial instruments of savings these women invest

in low yield investments, like livestock which is prone to diseases and depletion in value. Some cash is always kept handy under the mattress to meet day to day needs, but this only puts them in a great deal of physical danger since crime rates are so high.

In the absence of formal banking infrastructure, a number of traditional savings club have taken deep roots in Sub-Saharan Africa. Savings club is steeped in the rich tradition of informal savings groups in Africa which explains its popularity. It is

a popular group savings and lending mechanism with each member contributing regularly to a cash pool that they borrow from on a rotating basis. The pool is patronized by women as it allows them to form groups with other local women or with fellow local church-goers. In a traditional Savings Club, the members deposit cash on a daily/weekly basis in a box with three locks (keys of these locks are with three different members). Due to use of cash, traditional Savings Club have multiple operational challenges related to handling cash, ensuring security, maintain transparency and keeping records.

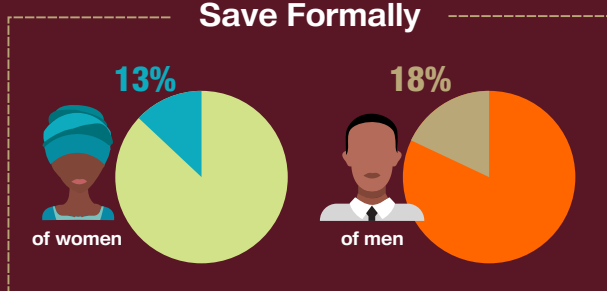
Mobile money providers such as EcoCash Zimbabwe, Tigo Chad and Airtel Money Uganda have introduced mobile money-based Savings Clubs to overcome these challenges. Any registered mobile-money customer can set-up and participate in a Saving Club. The group chairman initiates account opening via mobile and invites members to join in. The chairman also selects members (usually three) who approve of funds being withdrawn via multiple SMS sign-offs. All members receive SMS for any activity on group and can also check club's account balance anytime. To earn interest, the money in Savings Club is moved to a linked bank account using mobile-phone. Mobile savings club thus provides a more secure, transparent, rewarding and convenient experience for women. It empowers them to take decisions that are beneficial for themselves and their families.

User Story: Chad

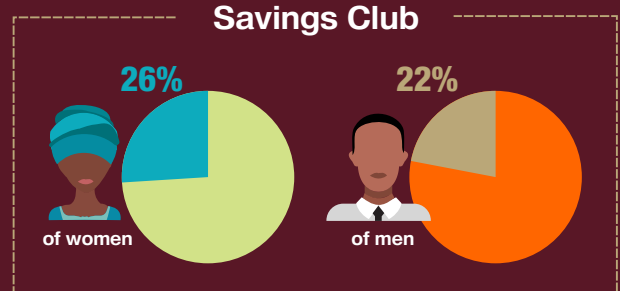
Tigo Cash in Chad has introduced a Savings Club service dubbed Tigo Paare. Sales Women in Chad (involved in importing, transformation and resale of products from Lake Chad) contribute daily to Tigo Paare group account. The collected money is used to fund a member's shop or project each month⁶



Save Formally



Use an Informal Savings Club



Source: World Bank Global Findex



User story: Zimbabwe

EcoCash Savings Club in Zimbabwe is one of the most successful mobile money-based Savings Club with Women constituting 60% of the customer base⁴. With EcoCash Savings Club the Mbereko Women's Groups at the Border Church Clinic, in rural Marondera District of Zimbabwe provides access to emergency finances to pregnant women and new mothers. With group savings and access to pooled funds, pregnant women or new mothers now have money to take care of themselves and their babies. Additionally, EcoCash has set up a Green Kiosk booth to help various women's group to operate EcoCash agency business, providing liquidity to community savers.⁵

→ Putting Health First

There is a stark difference in the health conditions of women across the globe. While in high income countries woman's life expectancy at birth is 83 years, in low and mid income countries it drops to 72. The situation is worse in Sub-Saharan Africa where life expectancy at birth is just 60 years⁷. There are a number of reasons for these low numbers such as maternal deaths, poor nutrition amongst girls and high prevalence of HIV amongst females. Maternal death is the primary reason for low life expectancy rate in developing countries. In fact, 99% of all maternal deaths occur in developing countries. More than half of these deaths occur in sub-Saharan Africa and almost one third occur in South Asia⁸. Lack of funds is one of the prominent reasons for high numbers of female deaths in developing world.

By providing quick and easy access to funds, mobile money can help in improving

women's health in more than one ways. Governments and NGO use mobile money platform to distribute funds directly to the unbanked and the economically backward women which helps in reducing maternal deaths and eradicating malnutrition. Since the money is transferred directly the aid money reaches the intended recipients without any leakages.

Insurance companies are enrolling women for health insurance policies via mobile phones enabling them to pay premium and receive claims via mobile money. Mobile money is also being used by individuals and NGOs to crowd source funds for ailments like cancer which require huge medical expenditure. In Uganda Justine Nyachwo collected funds via mobile money for cancer treatment of her friend Carol Atuhirwe, a Uganda Christian University student⁹.



User Story: India

In India, the State Government of Madhya Pradesh, with partner Vodafone M-Pesa, disburses financial aid to mothers, who receive the payment directly on their mobile phone. The beneficiary is informed with an SMS mentioning the amount of the health subsidy, the withdrawal code & procedure, facilitating cash-out at any Vodafone M-Pesa agent. Direct disbursement to the mothers has resulted in reduction of the money being collected by the fathers and therefore never reaching the intended beneficiary in some cases.¹¹



User Story: Mali

Mali has a maternal mortality rate of 587 per 100,000 live births, one of the highest in the world. In order to make pregnancy and delivery safer Orange Money in Mali partnered with the NGO Population Service International (PSI) and NSIA, an insurance company, to launch a linked savings and insurance product targeted at pregnant women. Orange Money users can open a mobile savings account with a minimum initial deposit of XOF 3,000 (₹ USD 5). Once the account has been opened users can save money anytime with a minimum deposit of XOF 100 (₹ 16 Cents), by moving money from Orange Money account to Savings account via mobile phone.

When savings balance reaches XOF 40,000 (₹ USD 44), the user automatically gets enrolled for a 12 month life/disability and maternal health insurance. Orange Money pays XOF 100,000 (₹ USD 165) for child delivery complications including haemorrhage, eclampsia and dystocia, XOF 50,000 (₹ USD 82) for the C-section and XOF 150,000 (₹ USD 260) in case of death or permanent disability. Patients who do not attend prenatal consultations only gets 75% benefit. This encourages women to seek prenatal care. Additionally Orange money used female actresses to market this insurance product effectively and relate with women.¹⁰

User Story: Lesotho

Vodacom Lesotho in collaboration with Lesotho Ministry of Health issues Transport Vouchers to HIV infected women and children using M-Pesa mobile money service. HIV care and treatment is free of cost in Lesotho. By providing funds to the women and children to travel to the clinic the government is eliminating one more barrier in getting cost-effective treatment.¹²



→ Educating the future

"If you educate a woman, you educate a family, if you educate a girl, you educate the future."

— Queen Rania of Jordan.

The 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.¹³

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. Parents or students can use the platform to pay for school fee, university fee or examination fee without having to travel to the educational institution. Similarly, university students can access lectures and books from international faculty and authors online and pay via mobile money. Students can also crowd source fund for their projects using mobile money. The possibilities are endless.



User Story: Pakistan

Telenor Pakistan under the Sindh Education Reform Program (SERP) is disbursing education stipends to female student 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.

➔ Fostering entrepreneurship

The agent network has an important role to play in the mobile money ecosystem. Mostly, it is the men who run the mobile money agent business but operators have slowly recognized the benefit of hiring female agents. Female agents are able to bond with female customers in a better manner which helps to increase the uptake of mobile money amongst

female customers. This is an important point of consideration as the operator may operate in a country where social norms may restrain interaction between men and women. With more female agents handling new registrations these concerns are quickly taken care of which helps to increase the female customer base.



User Story: Somaliland

In Somaliland mobile money agents have to take photo of their customers at the time of registration. With a significant Muslim population, most females in the country wear niqāb and do not remove their veil in front of male agents. This hindered uptake of mobile money amongst women. To overcome this barrier Telesom ZAAD hired female staff to register new ZAAD female customers. This proactive step, helped ZAAD to increase number of registered women subscribers from 17% of the customer base in 2009 to 24% in 2010.¹⁵



Hafasa Aubi doing a mobile money transaction

Source: <https://www.usaid.gov/results-data/success-stories/mhawala-golden-business-opportunity-afghan-women>

User Story: Afghanistan

Hafasa Aubi, an Afghan economics graduate is a private mobile money agent in Afghanistan. She operates from home and offers mobile money services such customer registration, cash-in, cash-out, top-up and bill pay-ments to neighbors and local business people. She earns a 7% commission per transaction. Aubi, who is just 23 years, is able to earn enough to fund her higher education as well as support her brothers and sisters. Mobile money has enabled Aubi to run a business independently, while following cultural norms. Aubi is one of the 1500 Afghan women who have taken mobile money agent training.¹⁶

Besides increasing the female customer base, the agent business model is fueling the entrepreneurial ambitions of many women in the third world and developing countries. These empowered female agents stand tall in the society as they run independent businesses and earn enough to support themselves as well as their families. In many

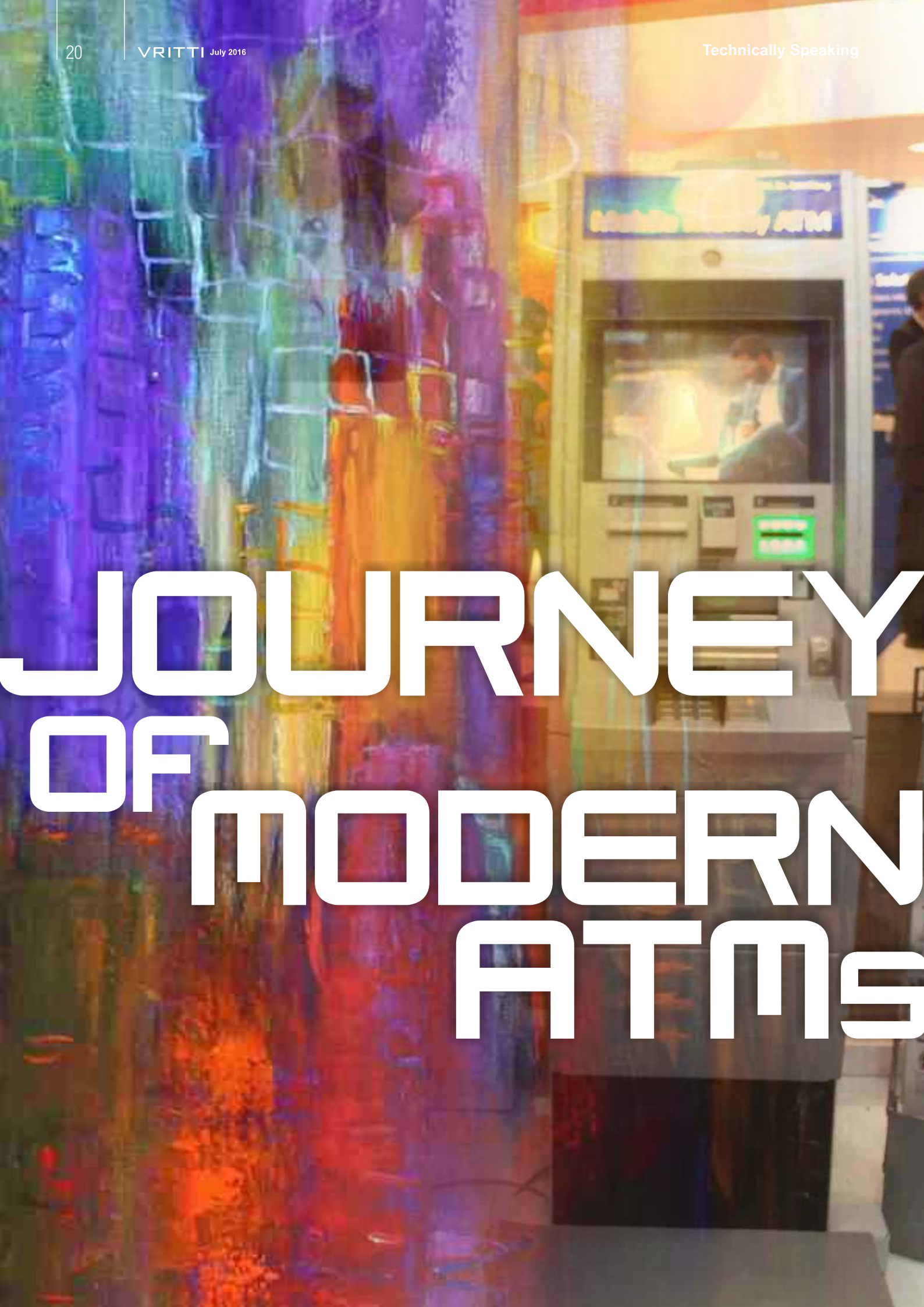
countries where women are unable to move outside their homes freely due cultural and social norms, mobile money helps them to run a business from their home. Home-based mobile money business helps women to fulfill their financial needs and entrepreneurial goals, while adhering to the cultural norms of the society.

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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.



JOURNEY OF MODERN ATMS



— By Rahul Vaish

The ATM has served as the humble foot soldier of the economy for the last few decades. It has operated right from the frontlines of the economy – be it rain or sunshine – pumping liquidity into the system. There can be no two doubts: ATMs have become indispensable in today's milieu. They have become an important cog in the wheel. Millions depend upon it. Without this cog, the wheel (the economy) stops to turn smoothly. Ever since its first deployment in London in 1967[1], it has grown in popularity by leaps and bounds. Today, more than 3 million ATM machines operate across the globe with total number of withdrawals exceeding 8.6 billion every year.

Ease of dispensation, 24X7 access, increasing cost pressures on financial institutions together with an ever increasing demand for customer self-service have driven innovations in the industry for some time now. With financial activities moving towards the digital medium, it is not inconceivable that ATMs could very well become the face as well as the heart of banking operations across the globe. However, in order to do so, banks have to develop the next-generation of technologies that leverage biometrics and mobility to control fraud as well as facilitate onboarding of more transactions.



2013

Bank of America introduced an ATM with an automatic "Teller Assist" technology that made Real time interactions between customers and bank: This user interactive technology in ATMs enabled customers to chat with a Bank teller representative (located on remote side) via real-time video conferencing and thus allowing the customer to receive personal banking assistance. This simple but yet very useful technology helped thousands of people from commuting to banks for their queries.^[7] Also in 2013, world's first ATM for Bitcoins was also introduced in Canada - This first kind of ATM machine lets customers to buy and sell the virtual currency known as bitcoins using cash. The machine first checks customer's identity by scanning their palm. Now, to buy bitcoins they must select how much money they want to spend, and accordingly then need to insert the cash; alternatively they can also select how much cash they want to redeem. These ATM machines are equipped with display of QR codes which can be scanned on smart phones to transfer the bitcoins to or from virtual wallet.^[6]

2010

'Finger Vein' biometric technology came in the ATM industry: This innovative technology of Finger vein used Infrared light, which was allowed to pass through the customer's finger - when exposed in a certain region. The advanced programmed device detected the unique patterns of micro-veins beneath the skin and compared it with the user's pre-registered profile to verify his/her authenticity. This technology later proved to be substantially more reliable than other fingerprinting biometric techniques.^[4]

1997

Diebold introduces Facial and Voice Recognition biometric technology. ATMs equipped with sophisticated cameras and high quality micro phones authenticated customers on the basis of their speech and facial patterns. The combination of both (facial and voice) "if matched" with sampled data facilitated banking transaction.^[2] In the same year, the world's first talking ATM for the visually impaired users was introduced by Royal Bank of Canada.^[3]

2014

NFC technology was introduced in ATMs for Cash withdrawal: NCR, which is one of the world's biggest ATM manufacturer introduced world's first Near Field Communication (NFC) solution for the ATMs- Now, customer's did not needed to enter their cards into the card reader instead were just required to 'tap' their cards on an electronic board for their authentication. NFC technique was very quick and also saved millions from card skimming frauds.^[9]

2012

The Ogaki Kyoritsu Bank started using 'palm vein' biometric technology in their ATMs to identify the unique pattern of veins present in the palm of each of the customers, and allowing them to operate ATMs - card less.^[5] Later, in 2012, ATMs with QR codes for authentication also became popular. This authentication technology was not biometric instead it scanned a unique QR code (Quick Response Code) from user's smart phone (via an app) and further authenticated it via cloud-hosted services to enable secure card less transactions. As this technology used smart phones and no cards or PIN, customers found it not only a handy solution but it also reduced the threat of card skimming.^[6]

1999

Diebold introduces Iris Biometric Recognition technology to make biometric authentication even more dependable. Iris Biometric recognition technique is another kind of biometric technology. The high definition cameras installed at the ATMs were programmed to capture specific features of the customer's iris and then compared it with the previously recorded sample. A match between the both initiated quick, secure and convenient transaction.^[2]

1996

The journey of modernizing ATMs started when Diebold introduced biometric Fingerprinting Verification in their ATMs. These ATMs were desktop applications which recognized users on the basis of their fingerprints. Now because, the fingerprints are unique for every individual, therefore, this secured method of cash dispensing soon gained high popularity.^[2]

However, the ATM is more than just a mute cash dispensing tool. In the future it could be well the face as well as the heart of banking operations. In this context, the maturing of new technologies such as biometrics, NFC and mobility couldn't have come at a much better time for banks and financial institutions who want to reduce their footprint drastically by providing safer and faster self- service option.

For example, let us take mobility. Today, the mobile phone is more than just a device – it is an extension of our selves. In the entire history of the electronic device, never has anything resembled its popularity and ubiquity. So why not use it at the ATM to withdraw cash or top up your mobile wallet?

Well, it seems that the techies at Mahindra Comviva have already crossed that one out of the wishlist. “Wincor Nixdorf, one of the leading providers of IT solutions to retail banks and Mahindra Comviva, the global leader in providing mobility solutions, have collaborated to enable seamless transaction experience at the ATM. With advent of this new solution, consumers using mobile wallets powered by Mahindra Comviva's mobiquity® Wallet will be able to withdraw cash and top up their mobile wallets at the

ATM by simply scanning or presenting a QR code or use their NFC enabled mobile device.

In the future, customers will have more expectations from their banks. Customers used to mobile's quick and immediate service would want similar services from their banks. On the other side of the equation, banks will have to rationalize costs on the account of increasing pressure on their margins. In this scenario, ATMs will grow in importance and will become the face of the banks.

The transformation is already underway: In U.K. many banks provide ATMs that enable customers to pay in checks and cash, print statements, check direct debits and standing orders, and even make faster payments. To increase ATM uptake, banks are going to the extent of removing tellers out of sight so that the customers have no other choice but to use the ATMs.

It is not as if the customer is not interested. A recent report by ATM Marketplace asked consumers what they wanted to see from their FI's ATMs. The list included the ability to make bill payments, the sale of prepaid cards, cardless cash withdrawals, setting personal preferences and email receipts.

About the author: Rahul Vaish is an Application Developer for Mobile Financial Solutions at Mahindra Comviva. He has completed his Engineering from LPU, Jalandhar.. Prior to his current stint, he worked with Aon Hewitt and Steria. He is a technology enthusiast with a keen interest in payments space.

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SOLVING THE PREPAID PUZZLE



— By Anand Ota

Telecom Market in a Glimpse

The share of prepaid in Telecom Market is gigantic and is forecasted to increase even further in the future. As of June 2016, 73 odd Telecom groups across the globe had 971 prepaid deployments. There are 7.46 Bn telecom subscribers across the world. A

staggering 76% of these, 5.68 Bn are prepaid subscribers. Total subscriber base by June 2020 is projected to become 8.61 Bn and 6.47 Bn of them will be prepaid.

Prepaid Market which has a Brick & Mortar Retailer as a Channel

For making this article more relevant, the world market has been pruned to Africa, Asia (excluding China, Japan, and Korea) and America (Excluding USA) to arrive at a prepaid telecom market which is dependent on a distribution hierarchy business model. Oceania & Europe have not been considered as these follow aggregator model.

The addressable market has 3.92 Bn prepaid subscribers, spread across 53 Groups & 546 operators. This market is expected to have 4.64 Bn subscribers. During the same period this market will move to \$46.1 Bn from \$42.9 Bn, while the ARPU drops to \$9.93 from \$10.83.

Prepaid Market Trends:

The Four Major Problems to Solve for an Operator

Growing subscriber base, rising stock-outs positions

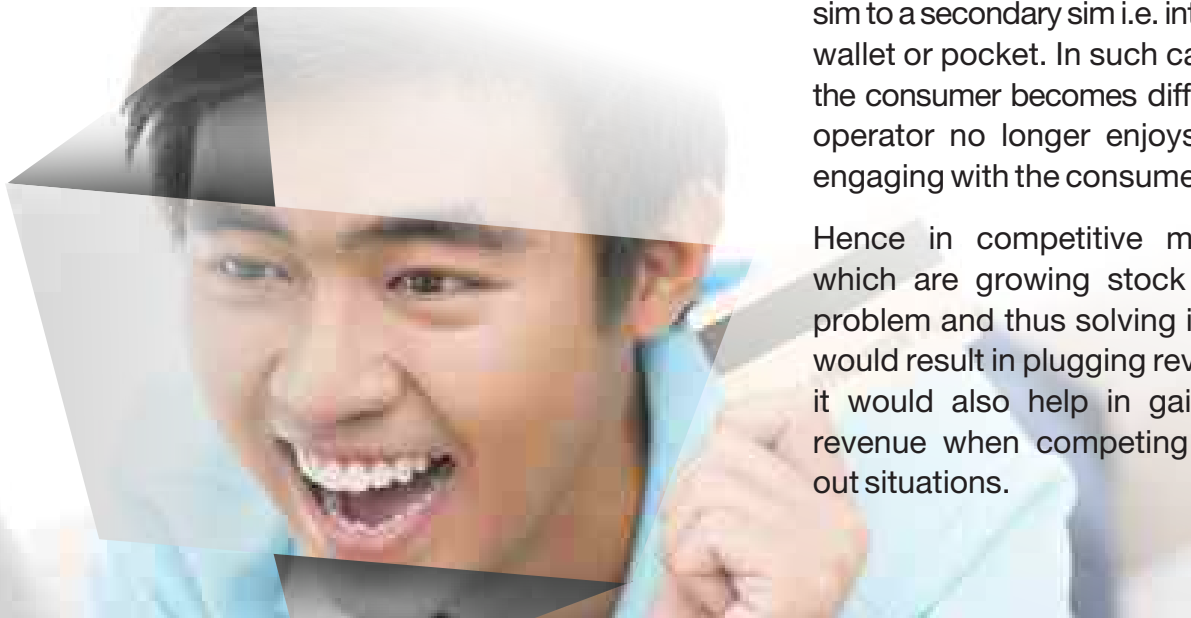
Prepaid market will grow by 16.6% over the next 4 years. This makes our addressable market one of the most exciting one to be in. As the market grows, it is obvious operators would want to invest in the prepaid e-recharge platform. The majority of these subscribers are set to come from the rural and sub-urban markets. These markets are typically far flung from the distributor point. That makes these markets infrequently serviced. A typical Foot on Street would be servicing this market once or twice monthly, while an urban market would be serviced once a week. This means that the problem of balance stock out in such markets will become more acute.

Every stock out in a multi-sim market is a revenue opportunity loss, as this recharge denial would mean that the multi-sim customer would go for a competition's recharge on his other sim. The problem actually goes beyond this one-time opportunity loss. Because once the "other Sim" is recharged, it becomes the primary sim till the consumer uses up the balance, giving the competition operator the vital time to engage with the consumer. The competition operator uses his time as



primary sim to splurge the consumer with disproportionate offers with the motive to becoming a permanent primary sim provider. Hence this one-time opportunity loss because of a denial (which was because of the stock out) would push the operator's sim to a secondary sim i.e. into the consumer's wallet or pocket. In such cases winning back the consumer becomes difficult because the operator no longer enjoys the privilege of engaging with the consumer.

Hence in competitive multi-sim markets which are growing stock out is an acute problem and thus solving it for the operator would result in plugging revenue losses. And it would also help in gaining incremental revenue when competing operators stock out situations.



Skewed ARPU, diverse needs

ARPU is a declining trend across the globe. The ARPU of our addressable market will drop by \$0.9 over the next 4 years. Hence the need for a smarter segmentation approach for gaining incremental revenue share is need of the hour. The case of segmenting basis revenue (the typical low, medium, high and very high) ARPU and usage (giving disproportionate benefit for either increasing usage on the preferred leg of usage on starting usage on the lesser preferred legs of usage) has been there and will be there for operators. But the newer challenge that operators are facing is that there ARPU is skewed across geography. There are easily demark-able “High ARPU” and “Low ARPU” geographies.

Hence the future of segmenting would be able to real-time segment customers' basis geographies. Using this segmentation the operators should be able to give extra benefit to these low ARPU geography retailers and consumers. The problem with prepaid customers is that the location captures of both consumers and retailers at the time of enrollment is very loose, hence un-reliable. Thus the need of doing this segmentation and passing this benefit should be done real-time i.e. at the moment of truth, when the actual recharge happens. The

Smartphones' growing numbers on the back of higher data usage

Prepaid retailer of today is shared across businesses like E-money, FMCG, DTH recharge, hand-set sales and many others. This means they have less time for telecom recharge customers. What makes dwindling share of time dwindle further is that the average retailer commission is 2~3%, Hence his earning on an average recharge (which is ~.4 US dollars) is a meager 0.012 USD. Hence the retailer is today resistant and ever-complaining of the time it takes for an e-recharge through STK, USSD or SMS. The only reason today's retailer sticks to selling prepaid recharges is its high volumes and fast pace of rotation (like FMCG).

A ray of hope is that the Prepaid Market will have around 2.24 Bn new smartphone users by 2020 (i.e. 40% of subscriber base). This is a great surrogate indicating that the prepaid retailers will also move towards more smartphones. Hence a far faster and efficient way for them to service the increasing prepaid subscribers is through an APP. Wherein instead of inputting a lot of numbers/texts, he can click his way to a recharge. This would mean that operators would be investing for their retailers to use a more efficient and less time taking recharge platform like mobile APP.



Data monetization

Data ARPU is set to grow at 15% in the prepaid market, while data usage is set to grow at 37%. This during a period where over-all ARPU is set to dip by 9% indicates that the growth in data revenue would be the majority contributor towards the 7.5% overall prepaid revenue growth. This is a phenomenon which is true across all regions and all operators. All the operators would be fighting that extra yard for incremental revenue (knowing that ARPUs are to decline), hence they all would like to use data as the biggest growth levers.

Traditionally the way of growing data has been by either discounting data costs for the end customers or by giving additional commission to the retailer for promoting data. As data penetration was sub 50s in most markets the approach was more of a broad bases approach. The requirement now would be for much smarter and much tighter segmentation in data coupled with newer avenues of pushing data penetration or sales. Thus the problem of enabling data as a growth lever would be great problem to solve for the operators.ge platform like mobile APP.

About the author: Anand Ota is the Product Manager for Mobile Financial Solutions at Mahindra Comviva. He has completed his masters from Xaviers Institute of Management. Prior to his current stint, he worked with Vodafone, Tata Docomo, ICICI Bank and also tried his luck with a start-up named Peel-Works. He is driven by numbers and has a keen interest in the ever evolving telecom space

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