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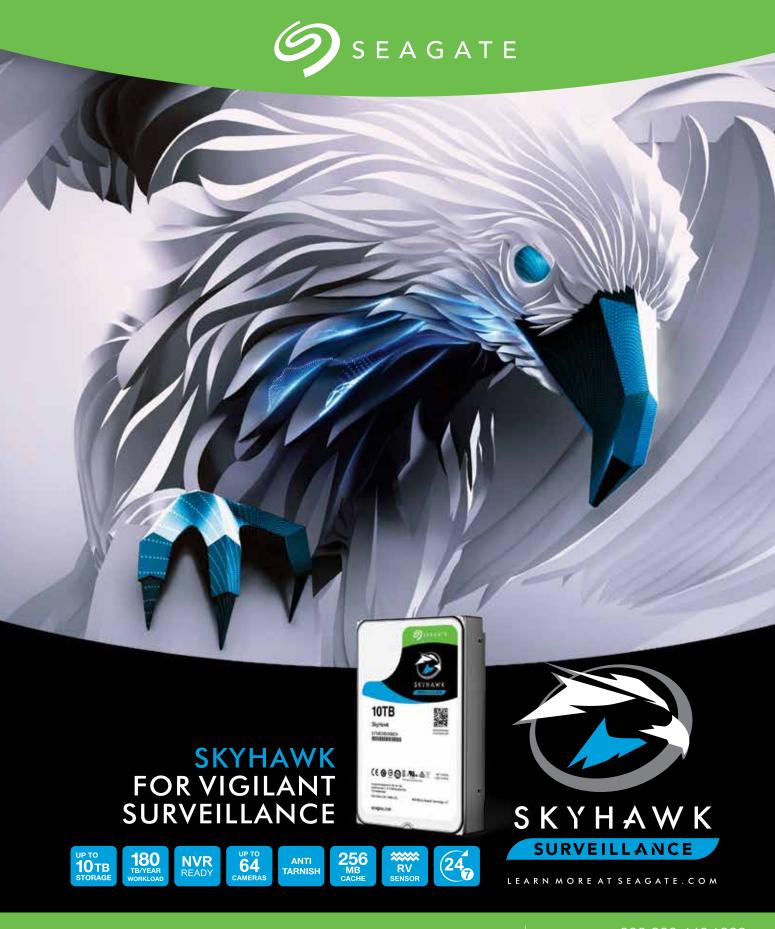
Special Feature

SECURING ONLINE BANKING TRANSACTIONS IN DIGITAL INDIA

MAY 2017 | VOLUME 03 | ISSUE 02 | US \$10 | ₹75



PAVING THE WAY FOR DIGITAL REVOLUTION



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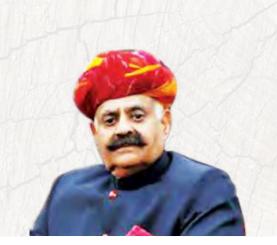
DATA CENTRE & CLOUD SUMMIT REPORT 2017





Nearly two years ago, Chandigarh became the first among States and Union Territories to launch the Central Government's ambitious Direct Benefit Transfer (DBT) scheme for foodgrains. This has facilitated transfer of the food subsidy amount directly into the bank accounts of eligible households, eliminating in the process, the leakages and delays in supply of food grains, duplicate and ghost beneficiaries.

National DBT Summit 2017 will enumerate how modern technology and IT tools are helping realise Prime Minister Narendra Modi's dream of 'Maximum Governance, Minimum Government'.



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India Making Cashless Economy a Reality

he Information and Communication Technology (ICT) is greatly catalysing
India's aspirations for universal financial inclusion, and transforming the way
people access financial services.

If demonetisation marked a watershed moment in the digitisation process of the
Indian BFSI sector, new initiatives like BharatQR code, UPI and BHIM app are
likely to alter the banking and payment landscape in the country.

Our cover story 'E-Payments Paving the Way for Digital Revolution,' in this latest issue of the magazine highlights the latest push by the Narendra Modi-government to digitally connect the BFSI sector with the masses to bring efficiency into the entire system and deliver financial services at the fingertips of the common man.

The surge in digitisation process of this proportion, however, comes with its own set of challenges. Therefore, there is a need for banks to stay abreast and develop stable digital security infrastructure in view of ever increasing self services by customers.

Our special feature -- 'Securing Online Banking Transactions in Digital India' -- underscores how privacy of customer data, a robust security infrastructure, and a strong security and privacy law hold the key to prevent phishing and piecemeal attacks on the BFSI sector.

Setting aside their apprehensions, financial services institutions are now increasingly using cloud technology to manage the flow of data. However, it entails a plethora of challenges like the issue linked to privacy as cloud technology transforms the ownership of data that traditionally belonged to the individual. It calls for a need to developing standards required both by the financial institution as well as the cloud providers.

Similarly, security concerns owing to systemic bot attacks, viruses that change and mutate to create chaos within operating devices, thus posing identity threats, also need to be addressed with utmost urgency.

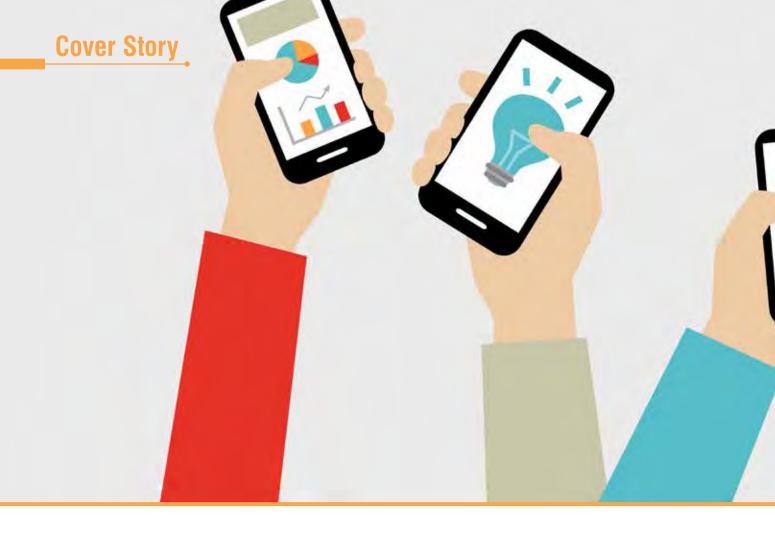
In order to raise these issues that are crucial for digital transformation of India to be effective, the Banking & Finance Post organised a Data Centre & Cloud Summit in Mumbai, on March 2. The latest issue carries a conference report of the summit that served as a huge platform for industry leaders from the BFSI domain to deliberate and discuss in length the key concerns of the sector and provide a way forward.

We hope our bouquet of interviews with industry leaders in this issue will bring more value to our readers in terms of raising their awareness on the key developments affecting the BFSI sector and help them scale new heights.

Looking forward to our readers' invaluable feedback.

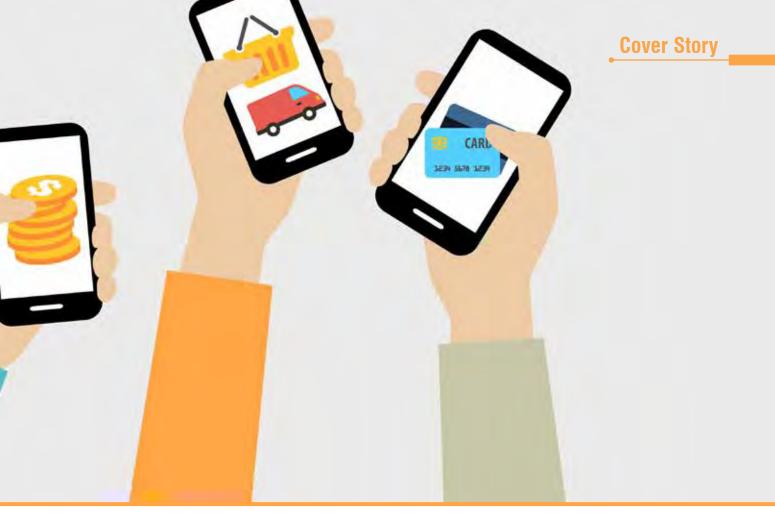






E-Payments PAVING THE WAY FOR DIGITAL REVOLUTION

As India is rapidly heading towards digitisation as part of its economic growth planning, there is a rising inclination to cling to e-payment mode, writes Rashi Aditi Ghosh of Elets News Network (ENN).



rior to demonetisation, there were limited options available for digital payments. But the Narendra Modi Government with emphasis on cashless transactions is promoting the usage of digital payments in the form of apps and services like BharatQR code, Unified Payments Interface (UPI), BHIM app, and National Unified USSD Platform.

These services were introduced alongside the existing banking services such as internet banking, mobile banking and Immediate Payment Service (IMPS).

Rising usage of Digital Payments:

- Paytm saw more than five-fold rise in overall traffic;
 MobiKwik witnessed more than 40 per cent increase in app downloads in less than 18 hours of the demonetisation
- Digital transactions had increased 42 per cent from 672 million in November 2016 to 958 million in December 2016
- The BHIM (payments) app was launched in December last year. It has recorded close to 20 million downloads so far (As on April, 2017)

Future projections pertaining to the usage of Digital Payments:

A Google-Boston Consulting Group (BCG) report

says digital payments industry in India will grow 10 times to touch \$500 billion by 2020 and contribute 15 per cent to the GDP

Digital payment options and its usage: BharatQR code

BharatQR code is an initiative led by the National Payments Corporation of India (NPCI), Mastercard and Visa to enable digital payments without cards or card swiping machines.

Quick response (QR) codes carry information that could only be decoded with the help of a QR code scanner and that is exactly what BharatQR does. Banks have been integrating BharatQR services to their existing mobile apps and therefore no additional app or service is required to use BharatQR.

To use the services of BharatQR code for digital payments, the user will need an internet-enabled smartphone and bank app compatible with BharatQR code.

The user can eliminate the need of manually entering required information like phone number or card number to make the transaction by just scanning the QR code using the bank app.

All it takes is scanning the QR code and the amount gets transferred to a bank accounts.

Unified Payments Interface (UPI)

Unlike BharatQR code, UPI is not an app but a service.





Digital transactions had increased 42 per cent from 672 million in November 2016 to 958 million in December 2016.

The UPI considerably reduces the steps involved in the fund transfer process like typing card details, net banking password, IFSC code, etc, and facilitate instant fund transfer via virtual payment address (VPA) using mobile platform.

To use UPI services, all you need is an internet enabled smartphone equipped with UPI supported banking app that supports UPI services.

Also, to use the UPI services, the user need to create VPA. These VPAs act as the address to direct payments and can be used to receive or transfer money.

In addition to this, these VPAs eliminate the need to add or enter any information like account number, IFSC code, etc. before transferring funds and, therefore, simplifying the whole fund transfer process significantly.

Bharat Interface for Money (BHIM)

BHIM, unlike BharatQR and UPI, is a service based app developed by the National Payments Corp. of India (NPCI) to promote digital transactions using UPI.

To use the BHIM app, the user needs to have an internet-enabled smartphone and a UPI compatible bank account.

The BHIM app works on UPI protocols and thus requires mobile number linked to the bank account to make transactions. With the help of BHIM app, the user can manage multiple bank accounts that support UPI services in one single app.

The app also enables other features – user can check bank balance, switch accounts and send money to non-UPI supported banks with the help of IFSC code, account



number. The app also supports fund transfers to Aadhaar registered bank accounts.

National Unified USSD Platform (NUUP)

NUUP is based on unstructured supplementary service data (USSD) codes. The USSD codes don't require any internet connection or smartphone and can simply work by transmitting information using GSM network.

Because NUUP services are based on USSD codes, the service is limited to check account balance, generate mini statement, fund transfer via MMID (a code allotted by banks on mobile banking registration), IFSC code or Aadhaar number, and generating OTPs, M-PIN.

Different banks follow different protocols to use NUUP services and, therefore, the user needs to follow up with the bank to confirm the USSD code for various services.

Benefits of Cashless Transactions

According to an online survey conducted by ET Wealth, 84 per cent of the respondents switched to digital transactions due to the convenience associated with it.

Results of the survey:

- Convenience: 84 per cent
- Discounts/cashback rewards: 49 per cent
- Easy tracking of spends: 54 per cent
- Shortage of currency notes: 34 per cent

(Source: ET Wealth conducted the online survey of 663 respondents in last December. Figures denote in per cent of respondents.)

Security Concerns of Digital Payments

Despite all the convenience associated with the digital transactions, there are various security concerns that are reasons of worry for its users.

The Centre for Software and IT Management (CSITM) conducted a study at the Indian Institute of Management-

Bangalore focusing upon the cyber-security risks that the digital payment solutions carry. The study found loopholes in the digital payment services in the country.

Results of the study:

The study pointed out some serious privacy and security concerns. For instance, some e-wallet apps allow automatic linkage with third-party vendors. This can result in automatic amount deduction from the user's account without their consent of the user.

Confidentiality breaches were potentially possible for almost all the mobile payment solutions except for USSD (Unstructured Supplementary Service Data).

Another major security concern was that many apps do not log the users out automatically. This means that anyone in possession of a phone with such apps can make digital transactions using that account, even if the person is not the original owner.



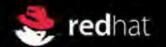
The BHIM (payments) app was launched in December last year. It has recorded close to 20 million downloads so far (Till April, 2017).

The study evaluated few apps on the following six key security principles based on the Basel Committee's "Risk Management Principles for Electronic Banking" and the Reserve Bank of India (RBI) norms for electronic banking transactions:

- The potential for confidentiality breaches
- The management of the transactions for subsequent repudiation
- The strength of the authentication process
- The data and transaction integrity procedures
- The extent of access and availability of services
- The procedures for maintaining privacy of customer information

Explaining the security concerns associated with the digital payments, Rajnish Khare Head, Digital Transformation, Social Business and New Media and Mobility Banking, HDFC Bank Pvt. Ltd. said, "With the rise of digitisation the responsibility to safeguard the banking services against cyber criminals has also grown. Considering that cashless payments will become both a necessity and a huge convenience, it is imperative that security becomes embedded into design rather than a bolt add-on."

"HDFC Bank adheres to the Payment Card Industry Data Security Standard (PCI DSS) and ISO 27001 (international standard that describes best practice for an Information Security Management System (ISMS)," Khare added. ■



TIMESOFMONEY ENHANCES ITS GLOBAL TRANSACTION PLATFORM WITH RED HAT



SOFTWARE AND SERVICES

Red Hat JBoss Enterprise Application Platform

Red Hat Consulting

TimesofMoney, India's leading global digital payment services provider, experienced rapid growth but was held back by a legacy platform that restricted scalability and efficiency, resulting in frequent downtime. The company needed a cost-effective solution that would seamlessly streamline its business processes, including back-end operations, risk management and compliance, and merchant and customer onboarding. Migrating to Red Hat JBoss Enterprise Application Platform helped TimesofMoney scale quickly to meet stakeholder and customer expectations. The implementation also helped the company take full advantage of the capabilities of its global transaction platform and create a foundation for future technology upgrades.





FINANCIAL SERVICES

HEADQUARTERS

250-500 EMPLOYEES

Red Hat consultants were readily available 24/7 for support, which enabled seamless migration and deployment. The support provided by Red Hat and the migration team has been excellent, and the implementation is robust and reliable."

SENIOR VP & HEAD OF TECHNOLOGY, TIMESOFMONEY

BENEFITS

- Optimised business processes and reduced service downtime
- · Improved performance from 20 to 500 transactions processed per second
- · Simplified application server management and integration for external users
- · Gained ability to provide decoupling through Advanced Web Services to its customers



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"The legacymiddleware deployed at TimesofMoney did not offer a scalable, globally accepted, standardised platform. We needed a solution that would help us enhance scalability and minimise server downtime and service denial issues."

RAMA SINHA RAY SENIOR VP & HEAD OF TECHNOLOGY, TIMESOFMONEY

LEGACY PLATFORM OVERWHELMED BY INCREASING DEMAND

Founded in 2001, TimesofMoney is a pioneer in the global digital payments market. In addition to offering the widest delivery network in India, TimesofMoney provides technology solutions for consumers, institutions, and merchants across the globe. The company offers cross-border digital payments and remittances, white-labeled remittances, and mobile money platforms, as well as an online payment aggregation engine.

The company's remittance and payment applications are key platforms for its business—both retail and institutional. A rapid increase in business volume meant integrating these platforms with multiple client systems, merchants, banks, and external know your customer (KYC) identity verification services became increasingly important. But responding quickly to dynamic business conditions posed a challenge.

"We were unable to expand our capabilities, as the middleware we had installed did not support any IT upgrades," said Rana Sinha Ray, senior VP and head of technology at TimesofMoney.

To meet this challenge, TimesofMoney sought a solution that would ensure an enhanced user experience. In addition, the company sought to offer Advanced Web Services to its customers as a decoupling strategy for easier integration with external providers who use the TimesofMoney infrastructure for processing. Adding this offering is key to maintaining competitive advantage — and critical to partner and customer satisfaction.

"We evaluated several existing proprietary products in the market, and upon mapping their capabilities to our requirements, we concluded that while they offered several benefits, they were not what we were looking for. We needed a subset of functions that aligned with what Red Hat offered," said Ray.

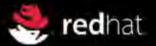
A FUTURE-READY PLATFORM FOR KEY APPLICATIONS

To find a solution, TimesofMoney engaged Red Hat Consulting. Red Hat's consultants performed a detailed issue analysis and recommended migration to Red Hat JBoss Enterprise Application Platform, part of the Red Hat JBoss Middleware software portfolio. In addition, Red Hat's consulting team completed a proof of concept (POC) to identify potential migration challenges, and Red Hat Global Support Services (GSS) conducted a performance bottleneck analysis.

Implementation of Red Hat JBoss Enterprise Application Platform was highly complex and challenging, as all of TimesofMoney's business was running on the legacy system. "Our application functions needed to leap generations forward to meet the latest standards," said Ray.

Migration involved multiple code changes, which were streamlined with input from the Red Hat team. Red Hat also offered round-the-clock support and consulting throughout the migration to eliminate errors and optimise output.

The success of this smaller migration encouraged TimesofMoney to migrate both its remittance and payment applications to Red Hat JBoss Enterprise Application Platform.



CUSTOMER CASE STUDY Times of Money enhances its global transaction platform with Red Hat

ABOUT RED HAT

Red Hat is the world's leading provider of open source software solutions, using a community-powered approach to provide reliable and highperforming cloud, Linux, middleware, storage, and virtualisation technologies. Red Hat also offers award-winning support, training, and consulting services. As a connective hub in a global network of enterprises, partners, and open source communities. Red Hat helps create relevant, innovative technologies that liberate resources for growth and prepare customers for the future of IT.

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SUCCESSFUL MIGRATION PROVIDES IMPROVED CAPABILITIES

SEAMLESS TRANSITION AND INTEGRATION

With assistance from Red Hat consultants to develop the implementation and launch strategy, TimesofMoney transitioned its massive business applications to Red Hat JBoss Enterprise Application Platform in less than two months. In addition, the new solution simplified application server management.

"Given the detailed planning and strategy that Red Hat helped us with, we were able to migrate to the new system seamlessly, even while the application was running and business continued as usual," said Ray, "We were able to support all of the functions of the existing application platform after porting it to the new middleware."

The new solution now lets TimesofMoney seamlessly integrate with multiple client systems, banks, and external stakeholders.

IMPROVED AGILITY AND PERFORMANCE

With Red Hat JBoss Enterprise Application Platform, TimesofMoney can more effectively perform business. During migration, back-end administration module application components were redesigned to enhance performance and agility. As a result, the company's systems improved processing from 20 to 500 transactions per second.

"Red Hat JBoss Enterprise Application Platform comes with a clear, functional framework, so a lot of inefficiencies in programming and coding standards were eliminated," said Ray.

ENHANCED KNOWLEDGE

Red Hat Consulting also provided training to the TimesofMoney team during the middleware platform migration, as well as for ongoing management of the new platform.

"We were introduced to the concept of open source architecture by Red Hat," said Ray. "While there was initial concern about the availability of the right resources to maintain this platform, partnering with Red Hat reassured us of our ability to continue using it. This has been the major highlight of our association with Red Hat."

ADVOCATING OPEN SOURCE

TimeofMoney continues to experience success with its new platform. As a result, the company has recommended Red Hat JBoss Enterprise Application Platform to one of its partners, a large public sector bank in India. The bank also successfully completed platform integration and has gained confidence in potentially improving business agaility with its existing applications.

ABOUT TIMESOFMONEY

The company offers a hosted network in which clients can choose to utilise the money transfer originating and receiving locations of TimesofMoney. It offers multi-channel global origination and delivery capabilities across various geographies. TimesofMoney's extensive list of partners covers leading banks in India and abroad and includes leading names such as Yes Bank, Citibank, HDFC Bank, State Bank of India, and other reputed banks.

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Dr Ranjit Patil for Urban Development, Government of Maharashtra



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The relatively new concepts of digital lending and digital loans have the potential to change the traditional lending scene in the country. However, the road to achieving perfect state is still full of unexpected turns and needs the lenders to revisit their strategies, writes Achintya Gupta, Director, Kuliza, a company that helps financial enterprises in their digital lending implementation and digital commerce transformation journeys, for Elets News Network (ENN).



igital lending and digital loans are very quickly changing the lending scenario and have become a hot topic of discussion across board rooms in banks. The reason why so many banks are interested in digital loans is because of the scale and financial inclusion they can bring to the table along while solving the massive operational challenges related to the traditional offline lending models.

But what only few leading enterprises realise is that the road to digital lending cannot be traversed with existing legacy engines and system architectures. If an enterprise wants to achieve digital enablement of loans in its true sense, they need to think very differently and challenge every legacy system that would hinder their speed and product requirements.

Creating a New Digital Lending Architecture

One of our clients, a leading Non Banking Financial Company (NBFC) in the country, decided not to use any of their existing legacy systems for their digital lending SBU. Instead, they chose to build a new digital lending system with us on an open source stack that can provide them the agility to go to the market in a couple of months and the flexibility to create their own product roadmap. As a result, their business is governing technology and product roadmap rather than the other way around. They have complete control on the features they want, the partners they want to integrate with and the parameters they want to include in their credit model.

With a more flexible digital lending architecture, today

they have the capability to configure and launch new loan product to micro-customer segments very quickly in the market.

Customer Experience

Digital lending aims at managing the customer's com-

plete loan lifecycle on a digital interface, from sourcing to evaluation to disbursement and servicing. If the enterprise wants this journey to happen through a self-serviced digitally enabled model, it becomes extremely important to take care of customer experience.

The technology architecture of the digital lending platform will play a key role in ensuring that the right customer experience is delivered. The speed of the application is one of the key reasons why customers drop off. Another architecture failure is when you realise that your desired UX / UI design cannot be delivered in a certain tech framework.

Hence, having the right tech architecture that enables desired customer experiences is of paramount importance to the success of the digital lending strategy. Here, the modern micro-services driven/service oriented architectures are especially useful. They achieve abstraction at every level to ensure the back-end or business logic provides no constraints onto the presentation layer or user interface.



The technology architecture of the digital lending platform will play a key role in ensuring the right customer experience is delivered. The speed of the application is one of the key reasons why customers drop off.

Building Your Own Digital Lending Product

Our past experiences show that the biggest hurdle to a successful digital lending initiative is the enterprise mindset to procure software products to fuel their digital lending strategy. The true power of a digital lending platform can be explored when one starts getting the flexibility to launch features, products and capabilities based on the business requirement and have least technology constraints to it. Hence, it is not possible to build such kind of a system over an existing software product that by default comes with a limited set of features and is not engineered to handle quick upgrades and enhancements.

Perhaps that is the reason that we have seen some of the most successful digital lending initiatives choosing to build their own product rather than taking a system integration approach.

The concept of digital lending is still fairly new, and the road to achieving the perfect state is still full of unexpected turns. However what is undeniably true is that to achieve digital success, banks will need to acquire a "digital-first" mindset.



Digital Payments Revolution
HDFC'S JOURNEY
TOWARDS A
'LESS-CASH' INDIA!

lot has been already said about the digital payments revolution in India – Jan Dhan Yojna, Unified Payments Interface (UPI), Demonetisation, BHIM app, Aadhaar Pay are strategic building blocks towards our goal of a 'less cash' economy.

While the central government has taken countless steps towards this, it is equally important for banks and other financial services institutions to be equal partners in achieving this objective.

Each BFSI company has customers and each of these customers have their peer groups or a circle of influence which may also include the unbanked population.

Just like any revolution's success depends on complete participation of almost the entire population, the success of this digital payments revolution hinges on driving adoption and usage of digitised payments to the last mile customer.

The banking sector rode on to the internet and mobile revolution from 1999 to 2014 by providing digitised banking and payment services via internet banking and mobile banking. While this was more to provide services where the customers were and for their convenience, 2015 onwards, things have certainly heated up!

Banks, FinTechs, StartUps have all focused on proactively providing digitised payment facilities which has significantly contributed to the rise in digitised payments. With the recent thrust by the central government, this has actually exploded – which is a good thing.

HDFC Bank has been riding the crest of this digital payments wave since 2015. At HDFC Bank, an overwhelming number of our customer transactions occur over digital channels – 71%, in fact. Our overall digital payment strategy is based on three corners of the Digital Payments Triangle – User Centricity, Service Innovation and Precaution Measures – We call it our USP Model.

User Centricity

Every revolution is made or broken by its hero, the individual with a cause; the user. We need to understand the 'Who' of this revolution. In the context of the digital payments landscape, the sheer diversity of users in terms of demographics, knowledge & education, usage environment, infrastructure (connectivity & device types) etc. means that a single universal solution may not be a great idea but many specialised payment solutions together will give customers both the choice and comfort to find what suits them best. HDFC Bank's Mobile First strategy aims to make the mobile phone at the center of all these payment mechanisms.

HDFC Bank, therefore, has solutions for users who have smart-phones and good internet connectivity, intermittent connectivity and also who have smart / feature phones with no internet connectivity. We classify these into app based, non-app based and social media.

App-based

Our flagship mobile banking app with 120+ transactions is at the forefront in this category. A one-app does all, it has a significant amount of our customers using this app. With specific customer needs to make easy payments and money transfers, a need for separate app was felt resulting into PayZapp. PayZapp offers the convenience of one-click payment for customers to recharge their mobiles, pay utility bills, transfer money to a friend, avail





HDFC Bank has been riding the crest of the digital payments wave since 2015. It has an overwhelming number of customer transactions over the digital channels.

shopping offers, shop for groceries, buy movie tickets and compare prices to buy flight tickets while planning their travel. PayZapp for business allows merchants to bill their customers and receive payments instantly over the mobile, thereby making it easier for them to collect cash remotely and expand their reach.

Chillr on the other hand focuses mainly on reducing cash transactions completely. A radical approach by a Kochi-based startup, it aims to make money transfers so simple that customers don't feel the need to carry their wallets. In a span of just two years, customers

Industry Perspective

have done over Rs 3,000 crore worth of transactions on Chillr.

Non-app based

The idea of a feature phone based payment solution without the need of internet is radical in itself – but, very much possible. And, it works!

When the industry only knew USSD, HDFC Bank came up with a whole new banking channel based solely on giving a missed call. We call it missed call Commerce which allows customers to recharge theirs and their family's prepaid phones and soon will enable funds transfer, fixed deposit / recurring deposit booking etc.

Who would have thought that a habit, we Indians developed when call rates were unaffordable, would become a digital payments channel for the masses?

Social Media

This is new. But it seems to be the future! We continue to spend more and more time on Facebook, Twitter, What-sApp and various other channels. Some of these channels have already become payment enablers while for others, it's only a matter of time.

Take for example – HDFC Bank OnChat – Our Artificial intelligence-based Facebook chatbot that helps customers as well as non-customers with e-commerce transactions. This is becoming an entirely new channel for us as more and more

HDFC Bank has solutions for users who have smart-phones and good internet connectivity, and also who have smart / feature phones with no internet connectivity.

Indians get comfortable with messengers like WhatsApp, Facebook, Hike etc. In just four months of its existence, HDFC Bank OnChat has already crossed the one million mark and it is attracting non-HDFC Bank customers as well!

Service Innovation

With the users identified and armed, we need to focus on "How" do we best reach out to them to maintain the momentum of the revolution? HDFC Bank believes in a two-fold strategy when it comes to providing digital payment services – 1) Home grown as well as 2) Collaborative Tie-ups primarily with FinTechs and StartUps. A two-pronged strategy helps a large bank like HDFC Bank maintain its agility as well as leverage on the banking infrastructure in terms of its expertise and customers. At HDFC Bank, we firmly believe that collaborative tie-ups with FinTechs will help us achieve far greater heights in financial inclusion rather than harbouring competition.



PayZapp and Missed Call Commerce are completely home-grown solutions that have made a difference in our customer's lives across the spectrum – the young and savvy to the technology novice.

Chillr is a classic example of our collaboration with Start-Ups. Back in 2015, when no bank was willing to tie-up with this Kochi-based startup, HDFC Bank was the first Indian bank to integrate its IMPS platform with Chillr to facilitate instant payments. There has been exponential growth ever since and Chillr now supports 44 banks!

HDFC Bank OnChat is another example of our tie-up with a Bengaluru-based StartUp. We became the first Indian bank to provide end-to-end e-commerce transactions on Facebook messenger. Where we thought it would be a niche, customers have adopted this channel rapidly. In fact, a large number of users of this channel are not HDFC Bank customers!

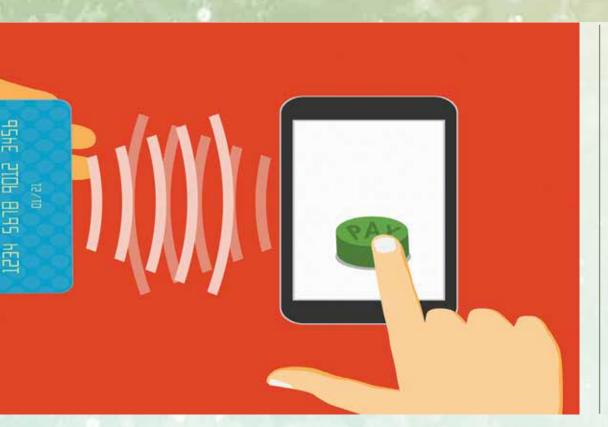
Precautionary Measures

Nothing is more important to HDFC Bank than the safety and security of our customers' data and financial records. We go the extra mile to avoid getting carried away with blindly replicating competitor products in payments digitisation race.

Some of the important precautions that one must take:

Solutions for all (tech users and non-tech users)

Sophisticated solutions based on cutting edge often untested technology often leaves out a large audience



thus running a risk of omitting them completely. BFSI's, FinTechs and StartUps must ensure that any digital payment solution is simple to set-up, easy to use and available regardless of various connectivity issues.

For example, HDFC Bank's Missed Call Commerce runs on the user just giving a missed call on a single number and works from feature phones as well as smart phones. There is no dependency on internet and works 24x7. There cannot be anything simpler than this and can be used by everyone!

Security

Security forms a crucial aspect of any digital payment solution and at HDFC Bank. We take it very seriously. Only when our services are secure, customers will be willing to try them and continue to trust a digital payment solution.

All our services like Chillr, PayZapp, HDFC Bank OnChat, Missed Call Commerce, Mobile and Net Banking adhere to strict security and two-factor authentication protocols and so far, there hasn't been any major breach.

Control

With ease and convenience comes along the devil of tendency to over-spend. We have seen it with credit cards and will most likely see it with digital payments as well. While this issue may exist only with a certain type of customers, increased penetration means the numbers itself can be huge. Customers need to be given an option to control their spending and money transfer limits and need to be also made aware of this!

A classic example is Chillr App which makes payments



HDFC Bank has solutions for users who have smart-phones and good internet connectivity, and also who have smart / feature phones with no internet connectivity.

literally a three-step process and can complete a payment on less than 10 seconds. Our customers can control their daily and monthly spend and money transfer limits from the app itself. On the other hand, for simple solutions like Missed Call Commerce, a person can recharge one mobile number only once in a day. There is also a limit on the maximum recharge amount at an overall customer level just in case he links multiple mobile numbers.

There is a popular saying that 'Revolution is as unpredictable as an earthquake and as beautiful as spring'. To ensure that India's Digital Payment revolution is the herald of a sustained financial spring, we, at HDFC Bank, continue to build and explore emerging technologies like Artificial Intelligence, Internet of Things and BlockChain etc. We feed the revolution using the U.S.P. Model, for the benefit of our end customers. This is the center piece of the bank's digital payments strategy to achieve our goal of 'less cash' economy.

(The writer is Rajnish Khare | Head - Digital Transformation, Social Business & New Media and Mobility Banking | HDFC Bank)

Array Networks DEPLOYING VIRTU ETWORKING A SECURITY FUNCTIONS



nterprise and service provider data centres continue to grow in both complexity and expectations. Networking and security professionals are looking for ways to gain agility through software-centric approaches. However, many still rely on hardware to meet the requirements of business-critical operations.

The competing imperatives force a trade-off: opt for agility and face significant expense and complexity for guaranteed performance, or opt for dedicated hardware appliances and sacrifice agility. IT leadership is faced with an unfair choice that sacrifices one area for another and constrains their ability to achieve business objectives.

Array Networks is pioneering an innovative approach to eliminate this compromise. Our Network Functions Platform combines the best attributes of dedicated hardware, virtualisation and software-centric computing to create an environment that provides guaranteed performance for virtual networking and security functions.

In other words, Array is enabling agility-at-scale.

Organisations can transition to an agile approach, without sacrificing the performance needed for businesscritical applications.

Racks of legacy gear can be consolidated to reduce space, power and cooling costs. Services can be provisioned on-demand with guaranteed SLAs. Security need not compromise the user experience.

Host Array application delivery virtual appliances or host virtual appliances from best-of-breed networking and security vendors; the choice is yours. With Array's virtualised hardware environment and a growing ecosystem of platform partners, businesses can finally reconcile their desire for agility with their need for performance.

To learn more about Array Networks and Array's line of AVX Series Network Functions Platforms, contact us today at: sales-info@arraynetworks.com,

1-866-MY-ARRAY, www.arraynetworks.com,



Envisioning the opportunities ahead, Maharashtra Cooperative Summit 2017 aims to explore and boost the opportunities available in the state. Maharashtra is the pioneer state in the country to initiate cooperative movement. Initially, the movement was confined mainly to the field of agricultural credit, but today it has spread to other sectors such as processing, marketing, housing, dairying and textiles, etc.

KEY HIGHLIGHTS

- Conference: Key decision-makers, thought leaders, and experts to give insights about the current scenario and road ahead
- ◆ Exhibition: Innovative products and solutions to gain exposure in the industry
- Awards: Ambitious strategies, cutting-edge technologies, innovative projects and initiatives to be felicitated

BFSI CTO SUMMIT 2016







WHY YOU MUST ATTEND?

- Attend high-ranking meetings with the Who's Who in the sector to strengthen the movement
- Attend sessions where you can hear from and interact with leading personalities in their respective fields
- Get an insight into the broader governance, IT priorities and initiatives
- Build relationships through exclusive network settings
- ♦ Ask experts all the questions that you always wanted to
- Get an expert face-to-face perception on specific issues
- Forge and diversify partnerships with governments, businesses and other organisations
- Capitalise on innovations; explore opportunities and make intelligent and informed IT investment choices

PAST PARTNERS

Associate Partners





























SECURING ONLINE BANKING TRANSACTIONS IN DIGITAL INDIA



ith demonetisation advancing the advent of digital age in India by several months, if not years, it is pertinent to revisit our preparedness to handle the online security challenges that are entailed. Besides the inadequate online security infrastructure currently in place, issues like poor digital literacy and the impending online security challenges arising from the introduction of new tax regime in the form of Goods and Services Tax (GST) are among key concerns that needing attention to be addressed at the earliest. It will ensure robustness of the Indian BFSI sector.

"We are walking into a digital age and it is important to change our infrastructure to embrace the digital theme. All applications will have to be integrated with security," said Murtaza Bhatia, Practice Head-Security and Data centre Services. Dimension Data.

2016 Data Breach and Its Fallout

In September 2016, guite a few banks replaced or asked their customers to change the PIN (Personal Identification Number) of their debit cards, fearing the card data may have been stolen. As many as 3.25 million debit card PINs were changed in one of the India's largestever cyber security drives.

Card network providers like Visa, MasterCard and home-grown RuPay swung into action after receiving complaints from some banks that their clients' cards had been fraudulently used, mainly in China and the United States, even though they were in India.

Of the total number of affected debit cards, around 2.65 million were on Visa and MasterCard platforms, while 600,000 were on RuPay. According to a gov-



We are helping the banking sector in taking a leap in terms of digitising their network. As data centre providers, our role has increased manifold.

ernment official, around 90 ATMs were involved in the breach.

While the breach impacted a large number of debit card holders, the actual number of cards affected accounted for just 0.5 per cent of the nearly 700 million debit cards issued by banks in India.

"2016 has been certainly one for the history books, a lot of things happened in the year as far as notable security happenings are concerned. The attackers were very organised, scientific and creative. The cold hard truth is that the security is only as good as the weakest link. So gaining complete visibility of all kinds of IT resources is now becoming more critical than ever," said Taylor Chan, Senior Sales Engineer, SolarWinds.

Challenges in Securing the Banking Space

One of the major challenges for online banking in India remains the security infrastructure required for ensuring safe transactions. Integration of security applications with the online transaction process requires supporting tools and good infrastructure.

Another problem while installing security measures

TIPS FOR CUSTOMERS

Change your password regularly

For the very first time a customer login to his/her internet banking account, he/she will be required to use a password provided by the bank. Customers should change their internet banking password regularly for account's safety. Additionally, users must use unique pattern for choosing a password that includes special characters. numerals and alphabets. More importantly, password must be kept confidential at all times.

Do not use public computers to login

Public computers like ones at internet cafe or customers need to avoid logging in from private internet cafes or similar places used generally by anyone and everyone. In case a person has to login from such places, he/ she must ensure of clearing the cache and browsing history, and delete all the temporary files from the computer. Also, the users should never allow the browser to remember their ID and password.

Never share your details with anyone

Banks never ask for customers' confidential information like ATM pin, Internet banking ID or password etc via phone or email. In case a customer gets a phone call or an email from the bank requesting details, he/she should inform the bank immediately in this regard.

Regularly check your savings account:

Check your account after making any online transaction. Verify whether the right amount has been deducted from your account. If you see any discrepancies in the amount, inform the bank immediately.

Always use licensed anti-virus software

To protect your computer from new viruses, ensure that licensed anti-virus software is installed on your computer. Pirated versions of anti-virus software, though available for free, but they may fail to protect your computer from new viruses prevalent in the online world.

Disconnect the internet connection when not in use

Most broadband users do not disconnect the internet connection on their computer when they are not using it. Malicious hackers can access your computer via an internet connection and steal your confidential banking information. To keep your data protected, ensure that you disconnect from the internet when you do not require it.



for online transactions is that they must be customised as per the requirement, number of transactions and as per the customer base. "All of us want to go for digital transaction but we have fear of security. We need to have a customised security framework and offering made available to the customers," said S Ganesh Kumar, Chief General Manager, Reserve Bank of India during an Elets conference in December 2016.

According to M Nagarajan, Chief Executive Officer, Surat Smart City, when we are talking about digital upgradation, it is mandatory to think about the challenges. "There are certain inhibiting factors that are responsible for adaptability. We are not able get complete benefits of digitisation because of low digital literacy," he said.

Providing Solutions

Public and private sector financial institutions are taking lot of initiatives to provide secure and hassle-free online

For managing the cyber Security threats to the BFSI sector, Mannan Godil, Chief Information Security Officer, Edelweiss Financial Services, advises, "Prevention would just be better than cure. How much you prepare yourself is not going to be enough. It is good to be prepared and call ourselves prevention-ready. You will have to have a response team in place so that you would be able to respond. We will have to strategise so that we are not just looking at prevention but also incident response."

A strong legal framework for data protection and privacy will also be a welcome move, as India currently



lacks one to put checks and balances in place. However, any such law in India should keep in view the fact that a vast majority of the citizens are not tech-savvy and it must have the provision of increasing digital literacy across the country.

A proctive approach to ensuring security would also be of immense help. "Banks have the tendency of totally depending on the regulations subscribed by the regulatory authorities. But if we take prior action and inform the Reserve Bank of India regarding the threats in the initial phase, better detections and solutions can be initiated," said Zulkernain Kanjariwala, Head IT, Doha Bank.

Innovation is the Key to Unlock Future

Amidst plethora of challenges lies a great opportunity, i.e., to set up a very modern data protection infrastructure for our banks that is far superior to any such initiative in other parts of the world.

"We are helping the banking sector in taking a leap

in terms of digitising their network. As data centre providers, our role has increased manifold. Along with the growth, we have also seen the growth of the security," said Ripu Bajwa, Country Manager - Data Protection Solutions, Dell EMC.

According to Saurav Sinha, Presales Manager, BMC Software India, his company has emerged as the 10th largest software organisation in the world, underscoring the potential for security providers to grow. "We have more than 10,000 customers worldwide with a



A strong legal framework for data protection and privacy will also be a welcome move, as India currently lacks one to put checks and balances in place.



significant presence in India as well. We basically focus on secure transactions and other financial services for banks and their customers."

"In our environment, one large innovation we are adopting is the Blockchain in terms of trust-based transactions which is universal now. Another solution which we adopted for security is machine learning," said MV Sheshadri, Chief Information Security Officer, National Stock Exchange during an Elets conference in December 2016.

Lalit Popli, Head-IT, ICICI Prudential Asset Management, believes that lot of innovations are happening at the break-neck speed. "Blockchain with Bitcoin are being adopted by a lot of financial institutions," he said.



NABARD: DIGITAL **PAYMENTS OPENING NEW HORIZONS IN BANKING**

Demonetisation has given greater impetus to digital transactions pertaining to the financial segment. The acceptance of digital payments have grown in sync with the rising availability of relevant infrastructure, says Subrata Gupta, Chief General Manager, National Bank for Agriculture and Rural Development (NABARD), in conversation with Harshal Yashwant Desai of Elets News Network (ENN).

hat kind of services NABARD offers today? How has the organisation grown over the years?

NABARD was established in 1982 with its prime focus on refinancing. Over the years, the institution has diversified and today we are focusing on areas like tribal development, watershed development, Self Help Group -Bank Linkage and financial inclusion, rural non-farm sector development, climate

> change as well as infrastructure financing. We have also made forays into supporting producer organisations that are considered as the future. We also continue to provide refinancing services. All this is being done over and above the role we play in the area of institutional development and supervision of rural financial institutions.



How has demonetisation affected the overall economy in the long run?

Demonetisation has greater impetus to digital financial transactions. We see higher acceptability of digital modes of payment with rising availability of relevant infrastructure. However, with cash coming back to the system, there has been a fall in digital payments as compared to the levels it had reached during the period of the cash crunch. This has also taught us a lesson that if we face problems in cash transaction then we can adopt digital payment. The government has now decided to incentivise banks and merchants for Aadhaar based payments so as to enable more people to participate in digital banking.

NABARD has recently tied up with Fino Paytech to facilitate the rural banking digitisation drive. Tell us about the progress of the project?

NABARD is extending grant assistance to banks for deployment of two lakh PoS/mPoS devices in one lakh villages and in Tier 5 and 6 centres. NABARD is also extending its support through microATMs to Regional Rural Banks (RRBs) and Rural Cooperative Banks (RCBs). However, there is no direct tie-up with Fino Paytech. The genesis of the supposition may be a news article in April 2017: with the headline 'Fino Paytech to help NABARD digitise rural banks across five states'. In fact, Fino Paytech will be tying up with district central cooperative banks and their primary agricultural Credit Societies for providing Aadhaar enabled microATMs and financial inclusion gateway services to them. The decision of tie up of such kind, if any, rests with the banks and not NABARD's.

Tell us about the EShakti initiative.

The Self Help Group-Bank Linkage Programme (SHG-BLP) was the first savings-led microfinance model in the world

purveyed through the mainstream banking system of the country. It was also a major step towards gender sensitive financial inclusion way back in 1992. Promotion of SHGs is process oriented and focusses on building credit discipline, starting with savings and on-lending within the group. After its prolific expansion since pilot test for a period of five years (1987-1992), it was felt that the route to expansion of choices for clients and ease of appraisal by bankers should be digital.

EShakti is a project for digitising financial and non-financial records of SHGs launched by NABARD (www.eshakti. nabard.org). The EShakti programme is a multi-stakeholder exercise with NGOs, technology service provider, SHGs, banks, government agencies and NABARD for digitisation of various aspects of SHGs. The records created speed up the appraisal and sanctioning process of loans at banks as well as help in evaluating the individual members taking into consideration of their financial behaviour, which is necessary in order to become direct customers of the bank.

Which are the other initiatives undertaken by NABARD to make its operations digitised?

NABARD has an online human resource system as well as an accounting system in place. A data collection platform helps in collating data from the banks. Furthermore, we are in the process of putting in place a document management system as well. This would more or less cover all aspects of day to day work. In future, the bank also has to get into data mining for faster and more precise analysis of data.

How has been the response for RuPay Kisan Credit Cards (KCCs)? What was the idea behind launching this card?

KCC was launched in 1998 to give flexibility to the farmers in drawing the loan amount as per their requirement. The short-term loan became more like a credit limit. In 2012, NABARD pushed for the issuance of RuPay KCCs by banks against their KCC accounts in order to enable farmers to transact on the digital platform. In the light of Prime Minister Narendra Modi's recent announcement, NABARD is aiming for 100 per cent coverage of KCC accounts with RuPay KCCs in all banks. The commercial banks and RRBs have covered all the KCC account holders. Rural Cooperative Banks are expected to cover their customers by June-July, 2017.

Tell us about your activities in tribal welfare sector and water campaign?

Based on the successful experience of Adivasi Development Programmes, NABARD went for replication of "Wadi" model across the country. "Wadi" model is a comprehensive programme that has helped in improving living standards of marginalised tribal families in remote areas. The word "Wadi" means orchard. Usually Wadi model follows a one acre norm based on following considerations:

- Most poor tribal families own small plots of land
- Around 40 to 80 fruit trees can be planted in a plot of oneacre. This is the minimum needed for getting enough income from horticulture, with low investment and low annual expenses
- A family with at least two working adults can take care of these fruit trees
- The plants take about five years to start bearing fruits.
 During this intervening period, tribal farmers are encouraged to go for inter-cropping with vegetables so as to enable them to have a source of income

NABARD has been involved in water management projects for a long time. NABARD started its Indo-German Watershed Development projects started during 1990s. The aim was to have an integrated and comprehensive development of micro watersheds, which included mobilisation of rural communities through village watershed committees (VWCs)/NGOs to make people own the project.

NABARD has recently launched a water campaign that aims to spread awareness among farmers about increasing productivity and livelihood by conserving water. It will be covering one lakh villages in the most vulnerable/water



NABARD is extending grant assistance to banks for deployment of two lakh PoS/mPoS devices in one lakh villages and in Tier 5 and 6 centres.

scarce/ rain-fed districts in 21 major States with the support of other stakeholders.

NABARD's regional offices will hold meeting with stakeholders to strategise and solicit support, identify local volunteers, and extend benefits of ongoing schemes to villages and aid credit facility for creating water management structures if needed.

Share with us details about your institutional development initiatives?

As part of our institutional development initiative, 201 RCBs in 16 states completed CBS with Application Service Provider model. NABARD pushed for CBS adoption in order to introduce modern banking in the rural cooperative sector. It enabled them to go ahead with technology adoption and provide anytime anywhere banking, RTGS/NEFT, etc, to their customers and also enabled them to optimise their manpower requirement. Setting up of V-Sats in Business Correspondent points and PoS/mPoS devices at merchant outlets in Tier 5 and 6 centres have also been supported by NABARD to give a boost to the digital infrastructure.

Nainital Bank Ltd AIMING TO TRANSFORM BANKING





Digitisation has opened new vistas for the banking sector. The essence of the revolution is not just for digital sake but to ensure respite from the cash leakage, says **Manish A Shah**, Head - Digital Bank, Nainital Bank Ltd., in conversation with **Rashi Aditi Ghosh** of **Elets News Network (ENN)**.



ell us about your products and services.

Nainital Bank is a full-fledged bank and it operates in Uttarakhand, Uttar Pradesh, Delhi and a couple of other states in northern India. There are a lot of opportunities for us to grow especially because we don't have any physical presence outside these States.

We are focusing on reaching, servicing and acquiring customers in the digital

domain. We are a year away from our target. Our journey has just commenced and we are working hard in making our digital endeavours a success.

We are aiming to become a universal bank for our chosen set of segments. We will heavily focus on transforming the country into a cashless economy.

Banking sector is transforming in sync with the "Digital India" drive, what are the initiatives taken by your bank in this regard?

We don't have any major initiatives as of now because we have just started our journey. But we are definitely gearing up in ensuring the same.

The essence of digital revolution is not just for digital sake. Digital Banking is essentially about ensuring respite from the cash leakage. The whole genesis of "Digital India" is reaching directly to the beneficiary.

In addition to this, digitisation intends to eradicate black



money and it is also giving an opportunity to several people to come into the formal sector.

For example, before digitisation, a taxi driver working in a city used to get his salary in cash. He had to use informal ways to send the money to his family in the village.

But after digitisation, everyone egipped with a smart phone can access banking and by using the formal mode anyone can transfer money in no time.

A person, who had no bank account, can now apply for a formal loan and can also avail all the banking services, without paying anything extra to the money lender. Thanks to financial inclusion and digitisation.

Digital revolution has much more to offer as far as financial services are concerned than just taking transactions electronically.

How is digitisation boosting the concept of financial inclusion?

Digitisation makes banking a convenient option for the users and this is the reason why it is boosting financial inclusion. Banking in the rural segment is less popular. But due to onset of digitisation, a large section of the unbanked population is now part of the formal banking system and this inclusion is much more than just opening of zero balance accounts.

Many organisations like Ola and Uber have provided good employment opportunities to the rural populace and therefore, acted as a catalyst for financial inclusion.

These people now have a credit score and are eligible to avail several banking luxuries.



The essence of digital revolution is not just for digital sake. Digital Banking is essentially about ensuring respite from the cash leakage.

With digitisation the risk of getting infested to malware is also high, what are the measures initiated by your bank to ensure a secured banking?

It is extremely important to have security systems in place before enabling digital banking. There is a fundamental requirement to ensure layers of encryptions.

When we talk about Aadhaar, telecomm and financial companies are merely allowed to use the authenticated info but they don't have any access to the card holder's biometrics. As that information is stored in a data base which is different from the accessed path of the transaction.

A lot of these basic principles are being looked at our end. Earlier, all the transactions were made internally and the users have very less information about it. But today every one can see their transaction details and access it online.

A customer having an access to the banking system is new so some of the basic concepts of the security systems are need to be incorporated.

Industry Speaks LALIT POPLI

In the era of Digital Banking, ICICI Prudential AMC's goal to keep "investor first" has helped it grow fast. The asset management company ensures that clear processes are maintained and followed in helping it manage risks in a transparent manner, says Lalit Popli, Head-Digital Acquisition, ICICI Prudential AMC Ltd, in conversation with Rashi Aditi Ghosh of Elets News Network (ENN).



ICICI Prudential AMC Ltd ENSURING 'INVESTOR FIRST' BANKING

CICI Prudential Mutual Fund has completed 24 years in the country, how has been the journey so far?

The journey so far has been very exciting. Our goal of standing true to our product and keeping 'investor first' has helped the AMC tremendously in its growth. So far, our partners in this journey – independent financial advisor, bank RMs, ND/RDs RMs have all supported us in communicating our fund details, investment philosophy and processes to the end investor, thus helping us build a very trusted brand in asset management business. We have ensured that clear processes are maintained and followed, thereby helping the fund house manage risk in a transparent manner. Our investors who are our raison d'être have believed in our capabilities and have remained invested with us over the years for which we are very happy.

In sync with the "Digital India" initiative, mutual fund investments are now allowing transactions via digital wallets, kindly share your views on the safety quotient of this feature?

Digital wallets have taken the country by storm, and will soon become a preferred mode of payment for many customers. However, for us it is one of the payment mechanisms and we will enable it in line with legal framework. As far as safety quotient is considered, I feel that there are many digital wallets which have robust in-built security features endeavouring to make these transactions secure. Additionally, even we will be conducting several tests before we enable the same on our platform. Our endeavour would be to ensure that our investor finds using wallets convenient and secure.

Mutual Fund industry in India can boast of tougher compliance standards in comparison to other developed markets, this makes it a good place for investors. How do you attract investments?

The securities and Exchange Board of India (SEBI), through its various initiatives, has ensured that mutual fund as an investment product remains very transparent in its functioning and works well for the final investor. In terms of attracting investments, we conduct several investor education camps to help potential investors realise the functioning and the benefits of long-term investments through mutual fund. Also, we were among the first few fund houses to launch a volatility suite of products which can be used as a stepping stone to mutual fund investments. Such products have thus far been successful in providing better investment experience.

Information technology is playing a greater role in enhancing the participation of investors. Tell us about the IT-based services provided by your organisation.



At ICICI Prudential Asset Management Company, we aim to be at the forefront on the use of technology both for our investors and partners. We were one of the first asset management companies, which enabled transactions over internet through our Web Portal now called "Invest Now" when the internet first gained popularity in the country. Continuing with the same tradition, we were again one of the first companies to move towards mobile application called "IPRUTOUCH" while the use of apps was gaining traction. We further extended the services to our partners to help them go digital by using our platform. Today, this platform powered by latest technology hosts several services has helped investors go completely paperless.

HDFC Bank—ENSURING SAFE AND SECURE DIGITAL BANKING

With the rise of digitisation, the responsibility is to safeguard the banking services against the cyber criminals on the prowl. This makes the need for security imperative, says **Rajnish Khare** Head, Digital Transformation, Social Business & New Media and Mobility Banking, HDFC Bank Pvt. Ltd., in conversation with Rashi Aditi Ghosh of Elets News Network (ENN).



n an industry first initiative, the HDFC Bank Limited has launched three-minute digital loan securities, allowing the customers to avail loans swiftly. Tell us about this new initiative.

The HDFC Bank on 15 March launched digital Loan Against Securities (LAS), allowing customers to avail loans in less than three minutes. This is an industry first initiative by the bank.

The service will also be available to the customers with no credit history. The bank, which will offer 10.5 per cent interest rate on the product, will soon expand the offering to other securities such as mutual funds, bonds and insurance policies.

Customers can avail a minimum loan of Rs 1 lakh and maximum loan up to Rs 20 lakh under this facility. Banks normally disburse 50 per cent of the value of pledged shares as loan. The bank has collaborated with National

Securities Depository Limited (NSDL) to seamlessly deliver this product.

HDFC Bank is the first bank in India to completely automate the entire process of creating an overdraft facility in a separate current account for loan against shares. The bank has collaborated with NSDL to create a seamless customer experience. HDFC Bank Demat Customers can calculate their eligibility for overdraft limit against shares, and open a current account instantly. The entire process can now be completed within three minutes instead of days.

Currently available for demat shares only, this facility will soon be extended to other securities such as mutual funds, bonds, and insurance policies. Digital LAS empowers the customers to design their own loan against shares at their convenience and avail the facility within minutes. Customers, with shares in their portfolio, can leverage it when there is an urgent need for money. For example, a medical emergency.

HDFC Bank recently launched artificialintelligence virtual assistant EVA to answer customer queries, kindly apprise us about this project and its significance.

EVA is India's first Al-based banking chatbot and can answer millions of customer queries across multiple channels instantly.

This technology can assimilate knowledge from thousands of sources and provide answers in simple language in less than 0.4 seconds.

Within the first few days of its launch, EVA has answered over one lakh queries from thousands of customers from 17 countries across the globe.

With the launch of EVA, bank customers can get information on its products and services instantaneously and it also becomes smarter as it learns through its customer interactions.

Going forward, EVA would be able to handle real banking transactions as well, which would enable HDFC Bank to offer the true power of conversational banking to its customers.

Your bank has also launched digital banking services for small and medium enterprises (SME) clients, how innovatory is this project?

HDFC Bank has launched digital banking services for its small and medium enterprises (SME) clientele in March, last year. It will allow clients to access the complete range of services instantly and 24X7 through their desktop, laptop, tablet or mobile.

HDFC Bank provides banking services to about 100,000 SMEs, out of a total universe of 3,60, 00,000 SMEs across India. HDFC Bank's total SME record stood at Rs 70,000 crore, as of March 2016, constituting 18 per cent of the total order book.

With the launch of the SM@, SMEs will be able to get swifter approval of loans, letter of credit, bank guarantees once the necessary documentation has been provided for.

Bank believes that up to 60 per cent of SME transactions will go online by the end of 2016. He declined to provide the average size of SME-related transactions done through the bank.

The digital facility will do away with the need to call on a relationship manager or visit a branch, to transact or to get clearances. For each client initiated transaction request, a Quick Response (QR) code will be sent.

Clients can ask for seasonal/additional limits for a sudden business requirement. This would be processed, based on HDFC Bank's analytics data.

Several banks in India have been focusing on providing lending and banking facilities to SMEs, which are seen as amongst the fast growing segments of the economy.

But for millions of small businesses in India, seeking credit has always been a challenge. Several startups have started to fill up this gap by providing working capital requirements to these units.



HDFC Bank provides banking services to about 100,000 SMEs, out of a total universe of 360, 00,000 SMEs across India.

With digitisation, the risk of malware infestation within e-payments is also rising, how is your organisation controlling the menace?

Unarguably, with the digitisation drive comes the responsibility to safeguard against cyber pickpockets (cyber criminals) who will be on the prowl against unsuspecting consumers. Considering that cashless payments will become both a necessity and a huge convenience, it is imperative that security becomes embedded by design rather than a bolt add-on.

We adhere to "The Payment Card Industry Data Security Standard (PCI DSS)" and ISO 27001 (international standard that describes best practice for an information security management system (ISMS)

We put the best security practices in place while investing efforts in educating people, as they are gradually picking up pace on their cashless journey.

Our bank ensures that the user credentials are tokenised, cryptographic and authenticated before the transaction takes place. We avoid storing customersensitive data in cloud and ensure that servers are well protected with standardised firewall and server security.

Disclaimer: The views and opinions expressed in this interview are those of the interviewee and do not necessarily reflect the official policy or position of HDFC Bank Pvt Ltd.





August 2017 Mumbai



Elets Technomedia is elated to announce a day-long 'BFSI CTO Summit' to be held in August in Mumbai designed to bring together CTOs of leading commercial banks across India, senior level executives, technology innovators and solution providers to understand emerging trends of technology adopted by banks, share innovative ideas and solutions and build network.

The day-long national level summit is tailored to focus on conversing and collaborating through a series of informal conversations led by the summit attendees themselves. Addressed topics centered around key questions and most significant issues facing IT heads of several banks today. The Banking CTO Summit is aimed at helping you to learn from top practitioners and to share experiences with your peers.

KEY THEMES

- ♦ Bankers' role in technology ecosystem
- Latest technology analysis
- Building a digital platform for banks
- Ways to keep advance cyber threats at bay
- Defending against the unknown
- ◆ Blockchain revolution
- Payment Innovations
- Social Banking
- Optimising banking technologies : New Vistas
- Emerging technologies & impact on banking benefits and challenges

BFSI CTO SUMMIT 2016









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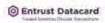






































WHEN BFSI LEADERS DELVED INTO THE WORLD OF DATA CENTRE & CLOUD

As India is pushing towards digitisation in a big way, the security of data, its management and effectiveness in the banking sector are emerging as a major cause of concern.

The rising inclinations towards cloud computing and growing demand for storage space are some of the leading factors for the rapid growth of the data centre segment in India.

In sync with the trend, Elets Technomedia Pvt Ltd organised the "Data Centre & Cloud Summit" at Mumbai on 2nd March 2017.

The event served as significant platform for industry leaders from the BFSI domain, e Commerce, IT and ITES industry stakeholders to exchange ideas, deliberate on issues impeding growth and collaborate to take the industry forward.

The grand summit witnessed the congregation of key decision makers and experts from banking, insurance, financial, government, law enforcement sectors and solution providers to develop common views on the extent of the challenges and the actions that require immediate or long term attention.



Kersi Tavadia, CIO-BSE; N. Rajendran, CTO-NPCI ;and Mukesh Malick, COO-Aditya Birla Financial Services, lighting the lamp to inaugurate the Data Centre & Cloud Summit (From Right to Left)



Distiguished delegates attending the Data Centre & Cloud Summit in Mumbai

INAUGURAL SESSION

IMPORTANCE OF DATA CENTRE

Commercial or technical constraints impede the adoption of any new technology available in the market, but for initiating something new and innovative a business must take risk. New technology pertaining to cloud and data centre is available and we must make proper utilisation of it. This technology is definitely going to change the future.

Kersi Tavadia

Chief Information Officer





Banking sector has undergone a paradigm shift post demonetisation. Public and private sector banks are working hard to get into the digital transaction mode and it is turning out to be very challenging for the entire domain. To contribute to the Central Government's digital drive, there is a need to initiate robust authentic mechanism.

N. Rajendran

Chief Technology Officer National Payments Corporation of India

Aadhaar's journey started in 2010 and so far 1.1 billion people are registered under it. Majority of the adult population has been covered under Aadhaar and the remaining uncovered population falls between 0-5 years and 5-18 years of the age group. We have a storehouse of unique information that has been collected with the help of Aadhaar. As far as biometric information is concerned, we are already one of the biggest in the world.

Prashant Singh

Assistant Deputy General-Technology Unique Identification Authority of India (UIDAI)





Aaadhar is helping customers go digital. It is transforming India and is definitely setting an example for the world to follow. Aadhaar can integrate a lot of documents as it carries a lot of vital information like age, gender, biometric details, bank account details, etc. Aadhaar enabled services are helping the banking sector in making its services more user friendly.

Mukesh Malick

Chief Operating Officer Aditya Birla Financial Service

TECHNOLOGY PRESENTATION

We are an American company founded in 2011 and we went public in 2013. In India, we are based out at Bengaluru. Unlike large MNCs, we are into product development. We offer solutions under the Hortonworks open data platform in the broader sense. We follow the open source model and our aim is to manage the wealth data.



Regional Sales Manager Hortonworks







TECHNOLOGY PRESENTATION

For data centres, scalability is very important. In addition to this, the total cost of ownership always plays a pivotal role. The high level executives in every organisation are very cautious in the adoption of cloud. Be it a third party data centre or their own data centre, our data centre takes into consideration a very modular design. It believes in the concept that the organisation we are serving should grow with our data centre.

Kalyan Muppaneni

Founder & CEO

PANEL DISCUSSION

ROLE OF DATA CENTRE & CLOUD IN BANKING INDUSTRY

I believe, there are more touch points beyond data centre in banking sector. The agility has surprised us. Scalability is a bigger concern than security. Digitisation sounds very easy but it isn't. Just initiating digital practices won't help unless there is knowledge.



Butchi Babu Burra

Chief Information Officer and GM-IT





R

The topic is far more relevant in today's context. Banking lately is the most in demand domain not just in India but across the world. The changing perspectives are putting a lot of pressure on banking. With the rise of digital banking, the number of transactions also reported a never seen before increase. The touch points of a product are getting more demanding. Social media is also getting associated with the banking.

Sanjay Narkar

Chief Technology Officer IDFC Bank

Earlier, customers were interacting with banks...But in 21st century people are interacting with banks through various channels. New technologies like social media banking, chat-bots are the latest in practice besides several other technologies. Users are a lot more aware now and ready for digitisation. Cloud computing is beginning its journey. Awareness is required for adhering to Reserve Bank of India's guidelines.



Prasanna Lohar

Head-IT





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MUMBAI

Banking & Financial Post, a bimonthly magazine published by Elets Technomedia Pvt Ltd, prides itself in spotting key trends in Banking, Financial services and Insurance (BFSI). No other magazine in Asia offers readers such indepth coverage of BFSI sector. We cover all aspects of the sector – from major challenges in the growth of BFSI sector to new technological advances.



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Our role is to partner with the banks and help them in the usage of data centres. Technology, relevant architecture and adherence to regulatory guidelines are assisting us in a big way in enabling our endeavours.

Sunder Muthevi

Vice President, Product Strategy and IT Pi Data Centers





Vice President Deutsche Bank





We are a 25-year-old company based out of Germany. We have around 80 per cent market in mainframes running on Linux. SUSE is the only organisation which still continues to invest in the main frame technology. Our flagship product has been SAP and SAP HANA. We have around 75 per cent market share in SAP applications running on Linux and about 95 per cent market share on SAP HANA.

Prasanth MS

Regional Manager SUSE In the form of demonetisation, Prime Minister Narendra Modi initiated one of the most important things required for the Indian banking sector. This drive has pushed banks to gear up their digitisation efforts. Rise in digitisation means higher investments in Information Technology. We started with a focus on open source. Our company started six years ago and is based out of Mumbai. We help the BFSI domain to deploy critical applications.

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Rohit Rai

Director Strategy Unotech Software Pvt Ltd



TECHNOLOGY PRESENTATION

IQLECT Software is a very young organisation which serves BFSI sector. We assist infraworld to use real-time insights. I believe that the world would be a better place if we start using data centres. For providing cloud services, we have integrated six data centres. We do analysis of 10 different kinds of data application. Our services monitor 4,500 devices and our machines process close to 12 TB of data.

Rahul Raghunathan

Director SalesIQLECT Software

PANEL DISCUSSION IMPORTANCE OF CYBER SECURITY IN DATA CENTRE & CLOUD

Cloud computing has gained momentum throughout the world. But in India, especially in government, and in BFSI sector, it did not record visible progress. Cloud services are available but most of the institutions are not adopting it due to several security issues.

Surya Naraynan K

Chief Information and Security Officer Central Banking of India





Cloud gives you a lot of resilience, scalability and flexibility to manage business. Cloud gives you the freedom to change the dynamics of business anytime. Using the cloud technology of a good service provider, you are assured of basic security standards. But there are several concerns like the data cannot br transferred from one place to other if it is pertaining to the BFSI sector. Red tapism of log is also a concern.

S V Sundar Krishnan

Chief Risk Officer,

Agility and resiliency are two important concerns pertaining to cloud technology and its usage in the BFSI sector. When we talk about cloud, it is important to build security measures. We have to use several QN APIs to build an encryption.



Abbas Poonawala,

Associate Vice President





PANEL DISCUSSION

IMPORTANCE OF INNOVATIVE TECHNOLOGY IN **NEXGEN BANKING**

Banks must adopt their business model according to the (66) changing environment. Technology upgradation is important for survival in a competitive environment. Now the time has come to redefine banking. This can be brought through innovatory products and services provided to the customers. Technology is not only the enabler in the banking services but also an integral part of the customer services.

P C Panigrahy

General Manager, Financial Inclusion Union Bank of India







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Banking transaction is a process happening between an individual and an organisation. The individual needs to feel secure. This is the reason why biometrics is making a progress. It not only identifies individuals but also authenticate them. When an individual enters a transaction there are a set of interactions that take place. That process needs to be secured. At these points NextGen technologies like Blockchain makes a difference.

Rajnish Khare

Head - Digital Transformation Social Business and New Media and Mobility Banking HDFC Bank





Technology is changing all spheres of life. Payment systems are creating distribution gateways for banking in India. Earlier, banking was meant for the rich and banks portrayed the role of a superior while the customer was inferior. That equation has changed now as the customer's need is a prior concern for the banks.

Rajeev Arora

Chief Operating Officer



NextGen banking is all about the facilities a bank is going to provide to its customers by automating processes. These services will help the banks to reach out to customers smoothly. This will involve technological advancement to fit into this process.

Milind Varerkar

General Manger, IT Saraswat Bank





PANEL DISCUSSION

DATA CENTRE AND CLOUD FUTURE, TRENDS & CHALLENGES

A decade ago the concept of cloud was in the inception stage. The challenge that was hindering the usage was scalability. Other changes emerging as a roadblock were pertaining to adoption and security. However, after period of time, cloud has reached a matured stage.

Shiju Rawther

Head - IT Infrastructure & Security OperationsCredit Information Bureau India Ltd

Technology used in the BFSI segment is changing so rapidly that we all are struggling to store all the data produced. From data centre stand point the volume is going to rise. When we look at the explosion it is needed to learn how to manage data. Every organisation is going towards a strategic approach. Considering the need of the hour, it is important to shift to cloud.



Senior Vice President - BFSI ITC Infotech





Today, most of the organisations are using cloud in one or the other way. Scalability is one of the key factors facilitating this adoption. Currently in the banking sector you don't know how the things are going to shoot up. When UPI was launched most of the banks had a very stunned out growth but with BHIM coming into picture things changed rapidly.

Shashank Shekhar

Head-IT Infrastructure and Digital DCB Bank

People in the sector are always talking about cloud technology as a safer option. But cost is a major factor associated with it. Cloud played a very important role in scaling up the infrastructure during demonetisation. It can take care of any transaction load on the banking sector.



Head-IT





We have done CRM implementation through cloud in Mahindra Financial Services. Cloud is a phenomenon which is gaining momentum now. Whomsoever has a large volume of data and a timeline to complete a project, cloud definitely helps. Cloud is cost effective if it is to be used for a longer period.

Suresh A Shan

Head-Innovations, Information & Technology,

Banking transactions change in a calibrated way. I believe that with little bit of planning we can do better and might not require to shift to the cloud. There is an element of risk which is involved with the cloud technology. It purely depends on the business type to determine whether adoption to cloud technology is required or not.

Lalit Popli

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Head-Digital Acquisition





If we are looking at setting up a cloud in an organisation that does not have it, we must look at it in its entirety. Technology is important, but eventually it depends on the business requirement. Innovations are important, but sticking to the basics in sectors like banking is also very pivotal.

Maya R Nair

Head - Information Security Idea Payments Bank

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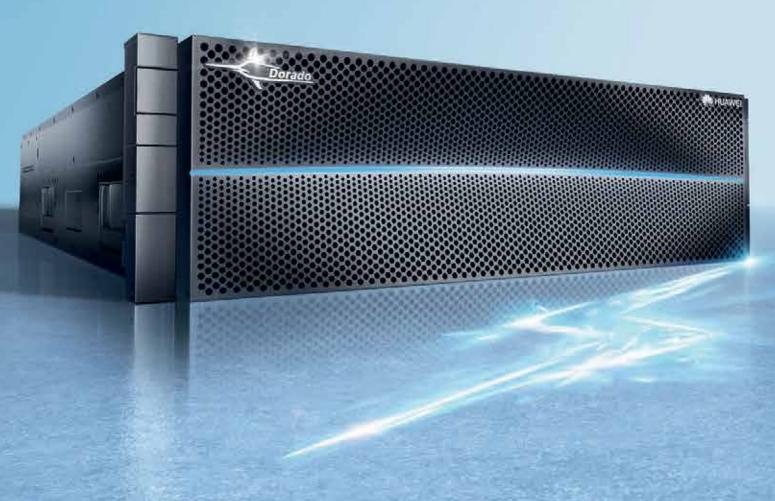












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