

TRANSFORMATION OF RETAIL BANKING TO CLOUD SERVICES

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Abstract : Retail banking refers to the consumer-oriented services offered by commercial banks. These services include checking and savings accounts, mortgages and various types of loans and investment services relating to retirement and educational planning. Retail banking encompasses the services offered to consumers by commercial banks. The term "retail" refers to the almost storefront-shopping nature of commercial banking services.

IndexTerms- Retail banking, cloud computing, Software.

I. INTRODUCTION

Retail banking is a framework that allows commercial banks to offer banking products and services in one place at virtually any of their branch locations. The retail banking aspect turns commercial banks into a kind of "store" (or retailer) where clients are able to purchase multiple banking products.

In part, some of the uncertainty surrounding the role and adoption of cloud technology in the retail banking sector stems from the differing understanding, both on the part of IT groups and wider business functions, of exactly what cloud is. To ensure consistency and accuracy in the study, Ovum provided respondents with a concise definition of cloud and its components prior to the interview. Ovum definitions used in the study are:

- **IaaS (Infrastructure as a Service):** IaaS offers computing, storage and network resources and associated services usually from a virtualized environment.
- **PaaS (Platform as a Service):** PaaS provides a platform to develop and run applications, delivered via a public or private network and includes operating systems, development environments and tools supported by the PaaS provider.
- **SaaS (Software as a Service):** SaaS combines application functionality delivered via a web browser and open published APIs with data encryption, transmission, access, and storage services. The deployment of SaaS is usually supported by underlying IaaS and PaaS elements.
- **Cloud:** 'cloud' technology, services or solution is defined as the combined use of IaaS and SaaS, and possibly PaaS, to provide required business functionality delivered via a public network (such as the internet), private network or a combination of both.

A number of questions in the study are specifically focused on the adoption and use of SaaS rather than referring to the more general 'cloud'. The use of SaaS-specific questions ensures that respondent organizations are broad users of cloud technology as SaaS deployments, in most cases, are enabled and supported by underlying IaaS (and possibly PaaS) components.

II CLOUD SERVICE MODELS

Cloud computing offers more flexible business models to the financial institutions which lowers operational costs. However, it is essential to select the cloud service model that best matches the core business requirements. These models are:

BPaaS– Business Process-as-a-service- Used for general processes such as payroll, billing, human resources etc.

SaaS– (Software-as-a-service) – Users can access the software and data from their browser, and business software and related data are housed by the cloud service provider. Accounting, enterprise resource planning (ERP), customer relation management (CRM), human resource management, invoicing, service desk management and content management software can be delivered using this model.

IaaS (Infrastructure-as-a-service) – Rather than purchasing software, servers, network equipment or data centre space, the businesses can buy these resources as fully outsourced services.

PaaS(Platform-as-a-service) – In this model, the cloud service provider offers a complete platform to the businesses to develop , run and manage their applications without engaging in the infrastructure complexities associated with application development and launch.

There are three types of commonly deployed clouds. Private cloud is operated specifically for a given company and is most secure of all options. The company may exist on or off the premises, and can be managed either by the company, or by a third party. Public clouds are for a large industry group or for the general public, and ownership lies with the cloud service seller. Hybrid infrastructure consists of two or more public or private clouds that are linked but remain unique entities.

Benefits of Cloud Banking

The merits of cloud technology in retail banking have been hotly debated over the last 5 years, creating a huge amount of marketing hype in the process. While some continue to see this as principally vendor noise, what is undeniable is that IaaS, PaaS, and SaaS do form an important part of retail bank IT sourcing strategy.

The unfortunate consequence of the years of debate is that attention has been drawn away from the developments in cloud, and the real benefits it delivers to the banks that have successfully adopted it.

The use of cloud in retail banking today is widespread. Almost all of the retail banking IT decision makers interviewed for this study reported the use of at least some cloud technology, with only relatively minor differences in take-up across banks of all sizes and in all regions.

This broad level of adoption is reflected in the degree of new IT spend accounted for by cloud technology components. Respondents were asked what proportion of their organization's current new IT infrastructure spend was allocated to IaaS/PaaS versus on-premise infrastructure. They were also asked what proportion of total new application spend (including license, maintenance and services costs) was allocated to SaaS versus traditional packaged, or in-house developed, software.

Cloud is a distinct IT environment that remotely provides measured and scalable IT resources, and relies on a pool of shared physical and virtual resources rather than deployment of personal or local software and hardware. Cloud deployment offers great choice in choosing the management required and level of security, and hence is suitable for almost any business. Although there is no magic bullet that can meet all the requirements, cloud computing offers several advantages to the financial institutions. These benefits include:

Cost-saving– The large up-front capital expenditure can be turned into ongoing, smaller operational cost without any bulk investments in new software and hardware.

Business continuity– In cloud computing, the service provider manages the technology, and banking firms can have higher levels of fault tolerance, data protection and disaster recover. Cloud computing also offers a high level of back-up and redundancy at lower cost.

Usage-based billing– Institutions can pick and choose the services based on pay-as-you-go basis.

Business agility– As the cloud is available on demand, the infrastructure investment is minimized, saving the time for initial set-up. The development cycle for the new products is reduced, leading to more efficient and faster response to the customers.

Business focus– Financial firms can move non-critical services such as software patches, maintenance etc. to the cloud, and can focus on their core business areas, not IT.

Green IT– Transferring banking services to the cloud reduces carbon footprint and energy consumption, and there is minimized idle time with more efficient utilization of computing power.

III BANKING ON THE CLOUD

Banking industry needs to address the ever-growing data input demands, and there is a need to explore the systems that do not rely on like-system migration so that infrastructure can be modified without any disruption. Banks have been slow in adopting cloud computing as there are apprehensions regarding lack of control and environment sprawl which can lead to reliability issues and security risks. Banks also want their financial data to be secured with controlled access. Public clouds come with the issues such as location, regulation, recoverability and liability, and this has led to slow adoption and deployment of cloud computing in the banking sector.

However, cloud computing can change the way consumers interact with banks, and migration to the suitable cloud computing model offer several benefits. Understanding the migration and entire process of migration can be quite beneficial in the long-term. The first step for the banking firms towards cloud computing adoption is opting for the private cloud as it gives banks more control, increased flexibility and reduced complexity. The banks can also alter their resource configuration to match the changes in the demand of their services. The risk of security breach in the private cloud is minimized as it is deployed within the firewall of the organisation. Using VPN (Virtual Private Network), the IT infrastructure of the company can be easily and quickly moved over a single private network. Using private clouds, banks can operate at high transaction volumes without slowing the processes and without overloading the network. The services become more efficient due to dedicated resources of each unit, improving the customer experience. Private clouds offer safety and affordability as the resources are rented, and not purchased. The total cost of ownership is reduced as the capital expenditure is converted to the operating expenditure. Private clouds are safe, affordable and enable easy transition in banking leading to long term success. Banking sector applications are very critical, private clouds provide increased security to ensure that the data is not misplaced or lost. Public clouds offer economies of scale, cost benefit and ROI, whereas private cloud offers high levels of security. Given the concerns regarding control and security, banks can opt for incremental approach which involves using cloud computing to the non-core operations initially, and gradually move more and more operations and processes to the cloud depending on the benefits. Banks need to work on cloud reference architecture, and try to achieve business agility for business model transformation.

As there is no one-solution-fits-all option available, banks need to consider few key aspects. It is essential to thoroughly evaluate all the challenges and advantages associated with cloud computing with respect to their complete range of services-core and non-core. Additionally, geographic regulations, penalty clauses, business criticalities, interoperability and interface impact, audit requirement mandates, and technology are some of the aspects that must be thoroughly assessed. Choice of the cloud model must be evaluated based on the control of the governance and support provided by the service vendor. Non-core banking applications that do not need strict governance and stringent monitoring are suited for SaaS model, whereas IaaS is more suitable for the business critical applications that need to be closely monitored. Banks must keep in mind that the vendor must provide transparency in the security procedures and policies.

All banks must have a cloud strategy, with the focus on long-term business transformation

All banks must have a clearly defined and widely communicated strategy for cloud, and while many do, Ovum believes there is considerable scope to move beyond horizontal and cost reduction-focused activities.

Those banks that do not have some level of a cloud strategy must make it an urgent priority. They should not wait for the technology to mature further or for remaining issues to be completely resolved, as this delay will significantly impact the benefits of adoption.

In planning their IT and cloud strategies, banks must focus on creating a roadmap to transformative change, and not on incremental improvements. These roadmaps must also take account of SaaS in the context of wider industry change, as cloud technology can play a critical role in supporting a bank's overall business goals and supporting its wider ambitions. Ovum believes most cloud strategies in the retail banking industry need to be more comprehensive and more fully encompass the potential for organizational transformation.

A clear consequence of creating and implementing a broader cloud strategy is the impact on the IT function. The requirements of internal IT teams will be equally transformed, leading to the inevitable challenges of change management. Ovum believes that part of the IT function needs to evolve towards assuming a 'broker' role, bringing together the wider business functions of the banks with relevant cloud vendors. IT groups should begin to build a detailed understanding of the cloud vendor landscape and its capabilities, actively promoting opportunities enabled by cloud within the organization, in contrast to the typically more reactive role of today.

IV CONCLUSION

In India, the newly licenses Small Finance Banks and Payment Banks are proactively embracing cloud computing for their core and surround banking solutions. It is not only helping them to reduce the capital expenses to start the business but also aiding flexibility to scale the infrastructure in future based on the growth of the business. Banks these days offer a plethora of services, and hence they have varied requirements regarding the movement of applications to the cloud. Cloud computing can help banks create more agile and flexible business offerings for the competitive and growing markets, and help them transform their business processes. They can explore and grow into the new markets and sectors, and improve their services to the customers across different geographic locations, and integrate customer information and analytics. Cloud computing can help banks to lower the capital investment in IT infrastructure. Cloud computing converts big capital expense into smaller operational expenses. Worldwide not only smaller banks but larger banks too are now perceiving vision to adopt cloud based IT solutions to control the expenses on IT infrastructure. Cloud technology enables banks to adopt a new model at lower cost for delivering innovative channels, reduced TAT to market new offering, meeting customer expectation and comply regulatory guidelines. Cloud based solutions deliver a higher value proposition of IT solutions and services in rapidly changing technical paradigms. Cloud-based core banking may not be booming right now, but banks should take note of the trend since it can deliver clear benefits and will likely grow more prominent in the years ahead.

