CLOUD COMPUTING
A NEW ERA IN RETAILING

To influence purchasing decisions and give time-pressed, on-the-go, digitally connected customers what they value and expect, retailers today need to build detailed consumer profiles from multiple sources, enriched by insights from advanced analytics. The advent of cloud computing now makes it possible for retailers to meet 21st-century consumer expectations during all phases of their shopping experience

By Arun Gupta

In the good old days of technology deployment, IT departments worked with the business teams in selecting solutions for specific requirements: Point of Sale, Merchandising, Planning, Buying, Supply Chain, Customer Management, and more options were available from multiple vendors. The vendor teams worked with business and IT to evaluate the solutions over a period of time which then ran through approval cycle post which project timelines were cast. Implementation was done by System Integrators or the Principals.

IT would then go off and engage hardware vendors on sizing the CPU, Memory, Disk space and various other parameters on Servers that host the application; number of users and data volume added to the complexity of hardware procurement which typically had lead times of 8-12 weeks. The interim time was fruitfully spent in creating the Business/Functional Requirement Specification or Document. These were used to build the solutions or configure Commercial-Off-the-Shelf (COTS) solutions over the ensuing months and at times years.

The equilibrium was broken with the advent of the Internet, which threatened to disrupt business models and technology. It was as if certain death awaited those who shunned embracing Internet based technologies or business models. Unrealistic euphoric expectations came crashing to the ground leaving many futurists licking their wounds and business leaders went back to basics to run their business. In its wake the Internet did leave behind a new set of opportunities with applications on hire and data centres with empty spaces.

Cloud Computing as a term became popular almost a decade after we started using it. In the initial days it was Application Service Provider,

SaaS market is double of IaaS, while PaaS remains a niche market

Internet based Applications followed by Mobile Apps and then variations that confused everyone on what the Cloud really is. Presumably as easy as swiping a card, no one talked about data integration with legacy applications or bandwidth required to upload voluminous data. Not to be outdone by the new age companies, conventional providers created a new category: virtual servers in data centre equals Private Cloud.

Variations followed with virtualisation of every layer of computing and networking; most popular being Application-as-a-service followed by Infrastructure-as-a-service and Platform-as-a-service. The promise of variable billing, pay-as-you-go, pay-for-what-you-use, and other models of elasticity offered good value propositions to customers. The biggest promise to business: independence from unresponsive and slow IT teams who lacked agility and had struggled to keep pace with the new business reality.

Data centre to niche players and Software application providers, everyone eventually joined the bandwagon. New disruptions keep bombarding IT and business alike with Software Defined Storage, Software Defined Network, and Software Defined Every thing that you can imagine !Mobile created new opportunities especially with the smartphone becoming the primary device of information consumption and collaboration; today every enterprise struggles to balance the Cloud with legacy systems creating a hybrid world.

For small and medium retailers the Cloud came as a boon with low complexity of management and reduced upfront costs. While initial offerings were basic, they have quickly evolved to provide complete functionality from Planning, Merchandising, Supply Chain, Store Management, to Loyalty and Point of Sale. For the large retailers Cloud Computing offers efficiency in data centre assets and lower provisioning latency; for aspiring Omni-channel retailers, the necessary platforms to make the transition to new world opportunities.

In the new world mediums of communication are decided by the customer; she has choices that did not exist before. Researching from mobile, evaluating on the web, checking out merchandise in store and then finally completing the transaction at any of the channels based on price, availability, peer feedback and convenience. Instant gratification wins over loyalty; everyone likes promotions and offers. Customer segments are breaking into smaller groups with many additional attributes and markers redefining micro-segmentation.

The rise of marketing tools and analytics was aided by availability of plethora of tools from niche players and large solution providers alike. Retailers today want to try at low risk before taking the plunge and investing in technology; Cloud based models are satiating this need effectively while also providing new features and functionality on the go. Competitive landscape for technology solutions now allows retailers to experiment and explore without being tied down to any specific solution or technology and keep pace with evolution.

Fast fashion and just in time inventory have redefined merchandising practices, allocation and logistics; multi-channel commerce adds another dimension extending the supply chain beyond the physical stores. Just in time and inventory turns demand different models in comparison to fill rates and availability. Customers expect 100 percent OTIF (On Time In Full) for orders placed across

58 percent select Cloud due to cost, flexibility and security benefits.

channels with the ability to choose schedule for delivery or pickup; and reverse logistics in case the product does not meet expectations.

Supply Chain requires predictive models that keep learning with every transaction across segments of customers and merchandise at the basic level; retailers need to look beyond the monolithic to the new age technology providers who are adept at technology with faster, better, cheaper options and analytical models on the Cloud that can keep costs down while fulfilling customer expectations. Cloud based solutions also offer new promotional capabilities based on tactical analytics of basket, recency, frequency and other parameters.

Multi-tenant systems with data demarcations by company make interesting licensing models with shared cost of infrastructure; it also creates perceptions of insecurity of data. Is my data safe? Can competitors access my data? What if there is a security breach? How do I know that when I exit the provider, has my data been deleted? How do I customise to fit my requirements? What if the provider jacks up prices after signing? How can I transfer large volumes of data online? Connectivity is still a challenge in many places …

By 2019, 83 percent of data centre traffic will be on the Cloud

All valid concerns when deploying Cloud based applications; Cloud providers survive because they have the tools to manage the apprehensions. For them it is their business at stake (not that it is not for the retailer), but they earn based on their ability to provide these services seamlessly to multiple customers. In all probability their stack would be better than an in-house deployment. They are subject to higher scrutiny by every customer before signing up; they are also targets by hackers and other elements.

Global Cloud providers see India as a high potential market and have setup local infrastructure to comply with data residency requirements for specific industries and improve access latency. Local data centre vendors compete with them at times losing on price due to economy of scale. IaaS is a viable offering today for IT departments for most workloads, starting point is test and development which is easily migrated to the Cloud; better orchestration capabilities now enable hybrid options with legacy on premise and Clouds coexisting harmoniously.

So where is the opportunity beyond the hype of elasticity, scale up and down based on use, economy of scale, management overheads, and reduced dependence on hiring and retaining internal skillsets. What should retailers do when it comes to deploying Cloud based systems or solutions from new age providers while protecting their existing investments? Is there a middle path that offers the best of both worlds? Maturity of conventional wisdom married to dynamism of disruptive technology led models of selling and engagement!

Cloud adoption has been growing by 50 percent year-on-year for the last 3 years; reasons that constrained adoption earlier have become enablers: cost, flexibility and security. Transition needs careful planning and diligent execution; consultants and vendors offer cloud readiness assessments as a part of their presales efforts. Define the business case and the evaluation parameters upfront based on your reality especially if there are short periods of peak load (weekends and festive seasons) which use the IT infrastructure effectively.

Retailers should review technology (hardware) refresh cycles or major upgrades to existing systems as probable opportunity; change management may appear to be complex for large retailers, the benefits will in many cases outweigh the risks associated with new technology. Create and encourage an internal innovation team which scans the new technology horizon for relevance; keep watching customer trends globally and locally. Participate in hackathons or create your own, get bright young talent to challenge conventional wisdom.

Cloud is here to stay, where are you in the journey? Don't be shy of hiring experts to help the cause. The incremental investment is worth a lot more than potential disruption to service and business. IR

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