APPLICATIONS AT THE HEART OF THE DIGITAL ENTERPRISE
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Introduction

“The twenty-first century will be equivalent to 20,000 years of progress at today’s rate of progress; about 1,000 times greater than the twentieth century.”

– Raymond Kurzweil, author, inventor, futurist, and director of engineering at Google.

Overview: The Arrival of the Digital Enterprise

Did you quietly steal a few moments online for a spot of holiday shopping this Thanksgiving, Black Friday or Cyber Monday? If you did, you were part of a growing trend that is impacting enterprises, forcing them to change the way they view their applications.

Here is the evidence: online sales on Thanksgiving was 19.7 percent in 2012; Black Friday sales grew 18.9 percent over the last year; and from Thanksgiving through Cyber Monday, online sales stood at $5 billion, an increase of 22 percent over last year. During Black Friday, mobile traffic was 39.7 percent of the total online traffic. And, to top it all, mobile sales were 21.8 percent of the online sales pie, an increase of almost 43 percent. Admittedly, this appears like a statistical pile up. But look underneath and there is a remarkable tale. Quite simply, the story is this: a dramatic transformation is underway in how consumers are buying, how enterprises work and how processes are getting transformed across the value chain.

Surprisingly, enterprises have been slow to make this transformation. They continue to remain rooted in their siloed past with monolithic systems that do not put the user at the centre and foster collaboration. They have made decades of sensible investments in enterprise systems that have monitored, captured and analyzed transactional data so successfully. These are what author Geoffrey Moore in a paper for the Association for Information and Image Management (AIIM) refers to as Systems of Record (SoR).

Organizations are only beginning to see the growing need for collaboration, and to create experiences between customers, employees and partners at the edge of the enterprise that interfaces with the external world, referred to by Moore as Systems of Engagement (SoE).

Even the enterprises that have been able to truly embrace today’s powerful, collaborative applications (SoE) are struggling to make sense of their past investment (SoR) to meet the demands of the future. As a result, today enterprises find that they are spending an increasing amount on just maintaining these systems, without being able to extract incremental ROI. This must change.
And there is a compelling reason why this must happen quickly. SoE is where the next wave of collaboration and productivity gains will come from. This is where applications will need to be rich, interoperable, real-time and contextually aware.

Enterprises therefore find themselves at a crossroads, and are trying hard to connect the two systems by standardizing and automating their ‘Systems of Record’, transforming it and rendering it flexible enough to adapt to the ‘Systems of Engagement’ in the ever-changing business landscape using the ‘Systems of Integration’.

Applications Empowering the Digital Enterprise

The arrival of the digital enterprise means that applications continue to remain at the core of the business, but they are now architected to meet consumer/ user expectations at the edge.

This is good news for the enterprise that wants to ensure that its finance department can communicate seamlessly with HR, or wants production to directly interact with the supply chain in real time. Businesses are showing exceptional results by letting their customers create the right marketing push using apps that are simple and fun to use.

British luxury brand Burberry presents a fine example of the challenges that lie ahead in bringing SoR and SOE together. With revenues dropping dangerously (from 15 to 7 percent in 2009), Burberry decided to take stock of the situation.

The company, founded in 1856, decided to use the “mother tongue” of this generation: digital. Burberry began investing in a campaign called Art of the Trench, using its own custom-built stand-alone social media platform. Burberry customers were encouraged to exchange their pictures wearing a trench coat on the Art of the Trench website and could (along with aspirational customers) ‘like’ and share the photos via Facebook, email, Twitter, or Delicious. Within a year of the launch of Art of the Trench, Burberry’s Facebook fans grew to over one million, the largest at the time for a luxury brand. E-commerce sales grew 50 percent year over year, a fact that could be attributed in part to the digital campaign.
Conversion rates from Art of the Trench click-throughs to the Burberry site were higher than from other sites. By 2012 Burberry moved over 60 percent of its marketing budget to digital.

The front end of Burberry had successfully gone digital. They began to open 20 to 30 new stores every year; they were live streaming their runway shows across giant in-store screens across the world; store associates began carrying iPads giving customers access to global collections; customers began asking for merchandise they saw on the tablets; social channels were busy, but none of it was connected.

While customer experience was excellent and Burberry began to acquire an excellent picture of customer needs, it quickly realized the need to tie up all its platforms, technologies and communication channels to be able to meet growing customer demand. That is when in a bid to create a genuinely social enterprise Burberry needed to bring together its SoR and SoE, so that both worked seamlessly together.

### The Synthesis of Two Philosophies

The alchemy created by the synthesis of SoR and SoE can be astonishing. The blend of the two produces a rich, appealing differentiator that is immediately apparent. A hidden facet of the transformation is that it helps extract more from investments already made in SoR.

What is the most effective way to bind SoR with SoE? What are the challenges that an enterprise must prepare for to ensure the two remain glued successfully? We call the ‘glue’ Systems of Integration (SoI), a layer of technology that allows the divergent worlds of SoR and SoE to interact without disruption. To understand vast differences that SoI must straddle and bind, it helps to examine each of them:

### Systems of Record (SoR)

The obsession of businesses over the last century to capture data from every commercial process – material and energy consumption, transport, production, order processing, and human capital – has resulted in information management systems that are highly secure, robust, reliable but rigid. Great business efficiencies have been extracted using these SoR in the form of monolithic ERP, SCM, F&A, HCM, CRM. SoR ensured organizations could standardize their processes and cut costs.

Today, no business can afford to run without SoR. However, over the years, the focus has shifted to maintaining rather than extracting more from them. Now, enterprises are expending energy and investments over ensuring that the cost of SoR maintenance is minimized through automation or by handing over the task to specialists who deliver it as a standardized service.

But smart businesses are waking up to the potential of SoR: companies like Amazon sift massive amounts of internal data to understand customer interest and ensure they craft customized offers using this information. This is clever; to a degree. But how would Amazon know that the customer is buying books only for gifting purposes? It can do this and there by match customer need with appropriate offers – by including and analyzing data from its SoE. Clearly, SoR can gain from data available across social media, blogs and other external syndicated data sources. In other words, SoR need to urgently talk to SoE.

### The Systems of Engagement (SoE)

Today’s world is moving towards sharing, collaboration, interactivity and engagement. Relationships between employees, clients, partners and customers are changing thanks to rich content, intuitive applications, the availability of data, and the power of analytics. Employees want simple tools like email, rich messaging applications like WhatsApp, collaborative human capital and financial management tools like Workday, sales and lead management tools like Salesforce.com. These tools have the ability to almost surgically suture social media and collaboration into the heart of SoR.

Slowly but surely, these agile, rapidly-changing SoE are forcing organizations to re-think their SoR strategy. Enormous volumes of useful (but unstructured) content are being generated by SoE but the SoR in their current states are struggling to capture the content being generated in first place.
let alone realizing any tangible value out of it. Today even a casual chat conversation between two sales folks on a ‘prospect’ is a useful record. Organizations need to preserve such conversations and extract meaning from them. But the current SoR are not designed to absorb such pressures from SoE.

The Systems of Integration (SoI)

SoI bind applications regardless of technologies. They bridge time zones, vault over language and cultural barriers and distribute emerging intelligence quickly, accurately and contextually. SoI are flexible so that they can absorb the rapid changes evident in SoE to maintain business continuity.

SoI play an even more crucial role. They enable collaboration between SoE. For example, SoI can unify email with social feeds such as Twitter and BBM in addition to stitching applications like Outlook Calendar, selective business processes and enterprise alerts into one single space.

Users are demanding new ways to access mission-critical SoE. They want it combined with new data from SoE so that they can be better aligned with customers and ensure better decision-making. They want data in multiple form factors and they want it on a variety of devices. Today’s enterprise can easily lose its way in this maze of requirements - unless, of course, its approach to SoI is bullet proof.

Bullet Proofing the Transition

If organizations are to align their technology initiatives with their future business goals, it is imperative for them to:

- Expand the horizons of SoR to equip them with features necessary for tomorrow’s business needs while maintaining consistency and standardization across SoR
- Adopt SoE in a manner that is most productive for the organization at large. At the same time, they must look forward to future proof their investments by balancing their investments across the three layers of SoR-Sol-SoE or in some cases re-looking at their application portfolio and process workflows
- Architect applications in a way that ensures SoE overlay and complement the deep investments in SoR through highly efficient SoI

We see five forces that are shaping the way application strategy within an enterprise will get deployed, controlled and strengthened.

Relation between users and enterprises have changed. Users are now at the centre of business strategies. Keep user experience and delight at the centre of application strategy.

Responding to the change needs Agility. To deliver applications that match pace of change, needs velocity in Process, Methods and Practices.

New order of global business makes the Enterprise border disappear. Applications should work and integrate across boundaries, be they in-house or out in the Cloud.

Leveraging enterprise information assets requires thinking beyond analytics. Applications should act on the intelligence gathered from assets and help make business efficient.
User Gravity

The user decides on the content and the context in which it is required. The user has channel preferences that the system must understand, memorize and use for customizing the experience. This means continuously seeking a 360° view of the user (customer), through the lens of data within the organization and data outside the organization. This data then routinely issues an edict, so to say, that helps shape the application. This means that SoE must be designed in a manner that complements the existing SoR by furnishing the most relevant information on the user. In a multichannel world, the SoI plays a critical role. It ensures that the customer experience remains consistent across channels.

To increase its digital revenue, a Multinational Market Leader in consumer electronics wanted to enable multi-channel, personalized digital marketing campaigns that would engage its worldwide consumers and offer a superior customer experience. Wipro partnered with the client to create an automated multichannel personalized platform to launch new campaigns. The platform enabled better user experience as targeted campaigns resulted in an increase of 150% in the average time spent on the website by a customer. Also, the platform helped in reducing launch time of localized campaigns by 30%.

Borderless World

Business Velocity

We are living in a world with dynamic user expectations and business needs. Business velocity demands a higher level of automation and standardization within processes and systems to ensure faster delivery of relevant information. Applications must not only be delivered faster but must adapt to new processes faster.

Today, we almost live in a version-less universe of software. Rapid application transfiguration using agile development, automation, and best practices for delivery and deployment, are the keys to staying in the future.

Wipro helped design a comprehensive SOA roadmap for a Telecom Giant which in turn helped in expanding rapidly into a number of circles and simultaneously improve operational efficiency. The initiative was designed taking into consideration the different products and re-usable components. As a result, unified order processing helped process bulk orders faster by 50% thereby increasing the number of orders processed by 10X times.

Wipro introduced a new integrated CRM system for a utility major that enabled a complete view of customer’s account details and information on a single screen. This helped in dramatically cutting down the time required to cater to customer enquiries. The contact center agents could now handle customer inquiries 166% faster, completing calls in about 45 seconds, compared to more than two minutes previously, resulting in a drastic improvement to their customer service.
Enterprise Intelligence

We define smarter applications as the ones that are context aware, client aware and intelligent enough to adapt to situations. Applications must be responsive regardless of the platform. They should be able to access and build context around data and deliver actionable intelligence to the end user. And the only way to do this is through self-correction and recalibration as the user behavior and environment change. This auto-correction and recalibration behavior within applications can only be induced if organizations are willing to invest in expanding the current scope of their SoR and SoE.

A Leading Multinational Bank wished for the timely identification of data leakage cases which were currently difficult to identify under a large pile of alerts generated by the Data Loss Prevention (DLP) solution. Wipro provided intelligent reports through the usage of the Security Analytics and Intelligence framework which provided the bank with user context (such as designation, department, user ID expiry date) from the client's IDAM solution and data context using the intelligence gathered from the business team. These enriched reports per department when reviewed by business line resulted in timely identification of data leakage cases.

Wipro implemented one of the largest information systems with advanced analytics capability, transforming and analyzing 12 million records daily for Public Transport Route Planning. This not only aided customer experience by reduction in waiting time and traffic congestions for end commuters but also resulted in productivity gains to the tune of 13% for the workforce.

Resilient Design

A digital enterprise cannot happen accidentally. It requires thoughtful design that leverages existing assets even while creating new capabilities. With businesses becoming borderless, virtualized and highly accessible to employees from across devices and networks, the complexity of applications cannot be under-estimated. In an open, collaborative environment, applications must be designed for resilience. They should be assured for scale and must be highly resilient.
Conclusion

These are going to be busy times for enterprises attempting to re-tool themselves to stay relevant. What once ran the business (SoR) and helped it stay relevant has become merely a cornerstone for staying competitive. The value of current applications may begin to witnessing exponential decay if they are not reshaped by SoI to meet user expectations (SoE). Before the edifice comes down, businesses must re-architect their applications strategy.

Over a period of time, Wipro has built the necessary capabilities across the five pillars that enable today’s enterprises make this transition. Our goal has been to make Systems of Record robust and uncomplicated and at the same time keep them relevant to ever evolving Systems of Engagement. The end objective is clear: the enterprise must never fall short of delighting users and living up to their expectations.
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About Wipro Ltd.

Wipro Ltd. (NYSE:WIT) is a leading Information Technology, Consulting and Business Process Services company that delivers solutions to enable its clients do business better. Wipro delivers winning business outcomes through its deep industry experience and a 360 degree view of "Business through Technology" - helping clients create successful and adaptive businesses. A company recognized globally for its comprehensive portfolio of services, a practitioner’s approach to delivering innovation, and an organization wide commitment to sustainability, Wipro has a workforce of over 140,000, serving clients in 175+ cities across 6 continents.

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