



# Where is technology taking business?

## Mobility

**70%**

**of mobile workers** will use a tablet or a hybrid device that has tablet like characteristics by 2018.

Source: Gartner <sup>1</sup>

With technological change, comes business opportunity. Shedding light on the next generation of technological trends, we explain the forces driving these changes, examine their interconnectedness and identify how businesses can best respond to the shifting landscape and be better positioned to achieve a competitive advantage.

Business has experienced a technological tipping point. Technology is shaping business at an ever accelerating pace as employees, customers, suppliers and the general public have unprecedented access to ever-increasing amounts information. The implications for businesses today are real and significant. Technology and innovation can help businesses uncover more opportunities and help them forge competitive advantage.

However, technological advancement also poses new challenges and the need for businesses to adopt new skill-sets and strategies.

The following trends are occurring simultaneously across consumer and business worlds and deserve consideration because of the vast opportunities that they can expose for Next Generation Enterprises.

## The next generation of technology trends

### Mobility

- Mobile phones will overtake PCs as the most common web access device worldwide by 2013, and over 80% of handsets sold in mature markets will be smart phones by 2015.
- Media tablet shipments will reach around 50% of laptop shipments by 2015.
- 1.6 billion smart mobile devices will be purchased globally, two third of the worlds workforce will own a smart phone, 40% of the workforce will be mobile, half of businesses will use laptops and mobile computing exclusively and half of all non PC devices used in business will be purchased by employees in 2016.
- 70% of mobile workers will use a tablet or a hybrid device that has tablet like characteristics by 2018.

Source: Gartner <sup>1</sup>



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## Apps

# 1/3

of consumer brands will integrate payment into their branded **mobile apps by 2015.**

Source: Gartner <sup>1</sup>

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Technology can enrich the lives of users wherever they are and wherever they may be going. As a result, businesses need to reach their mobile customers in a manner which reflects their dynamic and migratory behaviour. Business teams such as IT, Sales, Service, Marketing, Service, and Operations need to design mobile friendly infrastructure for internal and external stakeholders that meet their specific needs. This will involve knowing where people are, using data to anticipate habits and demand, and responding to requirements contextually and in real-time.

Internally, tablets are propelling the productivity of workers and allowing them to be less bound by physical constraints. And while devices will continue to grow in popularity, the hardware itself will not be as important the services it accesses. Manufacturers will focus more on software – the intuitiveness, the ease of sharing content software, the interface – to provide the best possible user experience.

## Cloud

- The market for cloud based business process services will double in size to nearly \$145 billion, between 2011 and 2016.
- 55% of all companies will outsource even their most critical applications to the cloud by the end of this decade.

Source: Gartner <sup>1</sup>

The hub for personal files, and access to services that facilitate communication, collaboration and media consumption, is shifting from the computer to the cloud. While cloud storage adoption and cloud related services is still in the infancy phase, the benefits will soon be realised; offering applications and data services that are portable, affordable and make information more accessible and available. While cloud services are attractive and provide an opportunity for wider information capacity, security and information duplication are two areas that will need to be addressed throughout the adoption of the technology. Cloud solutions will however remain a cost effective method of managing information and conducting information back-up and recovery.

The cloud will be an opportunity for every service and vendor. With less attention and deliberation over devices, all eyes will be on the cloud, what is in it, who has access, how it can be used and the overall business benefits it bestows.

## Apps

- Mobile app store downloads will surpass 81.4 billion worldwide in 2013 (up from 45.6 billion in 2012), with free downloads accounting for 90% of the market.
- The number of mobile CRM apps available for download from app stores will have grown by 500% by 2014.
- One third of consumer brands will integrate payment into their branded mobile apps by 2015.
- The use of mobile apps will surpass that of internet domain names, making mobile apps the dominant means of engaging with brands by 2016.

Source: Gartner <sup>1</sup>



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## Strategic Big Data

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of marketing organisations **will outsource analysis of big data by 2015.**

Source: Gartner <sup>1</sup>

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As application software (apps) have the ability offer valuable IT solutions that require little to no technical knowledge to use, they continue to build in popularity with people increasingly use them in place of internet browsers.

Gartner also believes that, enterprise-owned application stores will offer mobile applications to workers by 2014. These private app stores will allow organisations to help guide users and recommend services as well as act as ecosystems that partner with app developers with complementary mobile based solutions.

## Strategic Big Data

*“Organisations will abandon the concept of a single enterprise data warehouse containing all information needed for decisions. Instead they are moving towards multiple systems, including content management, data warehouses, data marts and specialized file systems tied together with data services and metadata, which will become the ‘logical’ enterprise data warehouse.”*

- Over 30 billion devices will be permanently connected, and another 150 billion intermittently, and contribute to a surge in data and real time analytics, by the end of the decade.
- 85% of marketing organisations will outsource analysis of big data by 2015.

Source: Gartner <sup>1</sup>

Big data is both a big challenge and a big opportunity. There are volumes of customer, operational and market data available to businesses today, but the challenging part is knowing how to access it from the various repositories in which it is stored – such as silos, warehouses, and external systems - and using it to make critical decisions.

Specific skills are required to manage big data such as data management, analytics and business expertise, as well as non-traditional skills for extracting the value of big data. In order to harness big data and transform it into a corporate asset, organisations require cooperation between an enterprise’s architecture and operations, and to use big data strategically.

## Social Media

- 70% of large enterprises will permit access to external social media by 2015, compared with 50% in 2010.
- 50% of large organisations will have an internal social network similar to Facebook by 2016, and 30% of these will be considered as essential as email and telephones are today.
- 20% of enterprises that employ social media beyond marketing will lead their industries in revenue growth by 2015.

Source: Gartner <sup>1</sup>



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## Integrated Ecosystems

*“The market is undergoing a shift to more integrated systems and ecosystems... Driving this trend is the user desire for lower cost, simplicity and more assured security”*

Source: Gartner <sup>1</sup>

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The true potential for social media is becoming realised. Social media is an auspicious vehicle for businesses to engage with internal and external stakeholders. In addition to actively contributing towards increasing an organisation’s brand equity, the use of social media is maturing into a viable channel for revenue exploration.

Social media presents many opportunities for large businesses. It can be used as a customer acquisition and retention tool; by communicating ideas and messages, publishing informative articles, promoting initiatives, fostering common interest communities and answering queries. Social media can also be leveraged to engage and collaborate with stakeholders and partners by co-branding and co-contributing to a promotion, or by simply sharing knowledge or information on projects and people. More recently, social media has become an essential component for coordinating crowdsourcing resources as it allows organisations to reach a wider audience faster, cheaper and more efficiently than ever before.

## Integrated Ecosystems

*“The market is undergoing a shift to more integrated systems and ecosystems and away from loosely coupled heterogeneous approaches. Driving this trend is the user desire for lower cost, simplicity, and more assured security.”*

Source: Gartner <sup>1</sup>

Incongruous connections between isolated systems and technologies will be replaced with synchronised ones that offer greater customer experience.

As technology evolves, vendors of hardware, software and services are aligning systems and applications. Vendors are creating more integrated systems in order to achieve more seamless, easier deployment, more functional devices and appliances, more secure connections between previously disparate systems, with the ability to exploit digital (see also Strategic Big Data).

## The Internet of Things (IoT)

*“Over 50% of Internet connections are things [physical objects and devices]. In 2011, over 15 billion things on the Web, with 50 billion+ intermittent connections. By 2020, over 30 billion connected things, with over 200 billion with intermittent connections. Key technologies here include embedded sensors, image recognition and NFC. By 2015, in more than 70% of enterprises, a single exec will oversee all Internet connected things.”*

Source: Gartner <sup>1</sup>

In the past, all content interconnected over systems and networks were keyed, captured, entered and uploaded manually. Now, electronic data is becoming more standardised through technologies such as RFID, sensor networks, NFC, Bluetooth, Zigbee, WiFi and WiMAX.

Businesses can benefit from IoT with greater control and more efficient manufacturing processes, automation and analytics as a result of these connections and more agile information sharing systems. Privately, consumers will enjoy smarter homes, smarter apparel, intuitive health and fitness devices, immediate access to context based educational and retail information. IoT is therefore allowing previously individual processes to be connected to wider systems, making the transfer of information easier, and allowing users to utilise smarter more intuitive interconnected systems.



*“Social collaboration, mobility, information and cloud forces are converging to create a consumer-driven ecosystem filled with emerging business opportunities and paradigm shifts. Driven by consumerization and the ubiquity of connected smart devices – and shifts in people’s behavior – this convergence of forces is happening in a way that is rendering existing architectures obsolete.”*

## Forces driving these trends

According to Gartner, in 1980, spending on technology was 0.8% of disposable household income. In 2011, on a global average, this rose to 3% and will reach 3.5% by 2015. This increased consumer spending on technology will continue to drive down price points of the emerging technologies. Consumers are also the accelerator. Their insatiable appetite for technology and better information is accelerating the speed of change and need for business to deliver innovation.

The base of information control has shifted from large enterprise and government, to the hands of users. The consumerisation of technology highlights the impact consumer devices and applications have on how IT is both acquired and used by the enterprise. For example, during non-work hours people tend to have the resources, time, and impetus to find the newest, most innovative technology. Consumers now expect more; they need information and technology to be easier, faster more integrated and more mobile. Employees now demand access to technological tools that allow them to perform and interact as effectively as they do on their personal devices outside the workplace. This is an example of how the consumerisation of technology has impacted the today’s landscape.

Businesses can use this change to their advantage by encouraging greater productivity and collaboration. For example, installing enterprise-ready mobile capabilities and web apps that are built into their backend systems can require less user support to existing internal resources, maximise workplace efficiencies and offer the business more value. Furthermore, sophisticated data capture technologies that integrate it into pre-existing information management systems, can enrich customer database and produce long term business value in return. Next generation businesses are able to recognise that there is a race to not only better harness the productivity and efficiency of their employees through technology, but also to manage data more innovatively.

Although the technological trends have up until recently developed in relative isolation to each other, Gartner recognises that we are now experiencing a convergence described as ‘The Nexus of Forces’ 2.

The convergence of these forces is necessitating the creation of deeper, more powerful ecosystems; an ongoing quest for more compelling experiences that engage internal and external users.

The challenge for businesses will be to accommodate the way people want to work and build a flexible system that supports them , especially in an environment where resources are limited or contracting.

Legacy and long-standing IT infrastructure or systems will be the main barriers to businesses achieving flexibility. This will accelerate the take up of cloud services as enterprises come to the realisation they no longer dictate the device platform and they need to invest in systems and workflows that work on heterogeneous operating systems.

The Nexus of Forces is a model of opportunity to create and oblige sophisticated users of technology. It is also a model where forward-thinking organisations can better manage information systems and exploit new competitive advantages based on emerging technologies.



## Reposition your organisation for change

Amid all the technological changes that shape businesses today, more and more organisations are going beyond just responding to these changes. These organisations not only recognise the benefits that come with identifying and responding early to new technologies and innovation, but go further by reinforcing a culture that embraces change and flexibility.

As an entity that operates cross functionally across the entire organisation, the IT department and the infrastructure it provides has the capacity to affect the everyday lives of employees and reinforce specific cultural values.

By eradicating poor performing, inefficient information management systems and replacing them with more innovative, efficient and effective systems the IT department can begin impacting the cultural fabric of their organisation with IT infrastructure that now permeates throughout all corners of the modern organisation.

Gartner advises that the technology budget should extend way beyond the IT department because technology is becoming more embedded in almost every facet of an organisation's operations.

"Twelve years ago, technology spending outside the IT budget envelope was on average only 20% of the IT budget... As we move into 2018 and further into the decade, the spending outside the IT budget envelope will reach almost 90% of the IT budget spending". Gartner therefore highlights the IT department's growing influence within the modern organisation and its opportunity to evoke change within it.

Internally, organisations can better position themselves for change by being more aware of change itself. Company Intranets and Social Media channels play active roles in engendering a culture of change among key internal stakeholders. Internal champions across divisions can be instrumental in communicating new technologies and change opportunities, not only within their teams but also to wider external audiences, such as customers, suppliers and industry.

Digital forums like LinkedIn, Company Blogs and Twitter are popular vehicles for remaining informed and developing a culture that embraces change.

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It is only the business leaders who recognise emerging technological trends that can take advantage of the opportunities they offer. These leaders also have the unique opportunity to lead a positive culture within their organisation that can unlock new business value, leapfrog their competitors and better position themselves for the future.

(1) Unless cited otherwise, all Gartner references are attributed to Top 10 Strategic Technology Trends for 2013 (Gartner) [www.gartner.com/it/page.jsp?id=2209615](http://www.gartner.com/it/page.jsp?id=2209615)

(2) Agenda Overview for the Nexus of Forces, 2013, Gartner (published: 10 January 2013)