

White Paper, August 2014

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The Digital Imperative

Abstract

The pervasiveness of digital technologies and their potential for reshaping the industry landscape dictates that organizations operating today have little choice but to incorporate digital technologies into their business strategies. Failure to do so will impede the business's viability, and may ultimately lead to business failure. However, for those organizations that successfully transition to digital business, unprecedented business opportunities exist for value creation and realization. However, transitioning to digital business involves a transforming and fundamental change to all aspects of an organization and its understanding of its place in the wider ecosystem.

This white paper contributes to the topical *digital imperative* discussion in what is termed the third era of the enterprise. It highlights the driving forces behind *digital business*, and the cultural mindset shifts and other adjustments involved in implementing digital change.

KEYWORDS: digital, digitalization, digital transformation, digital business

Introduction – Digitalization: the *third era of enterprise*

Digital is everywhere. Gartner's annual *CIO Agenda* report for 2014 describes digitalization as the "*third era of enterprise*" (Gartner, 2014c) (see Figure 1). Informed by the world's largest annual CIO survey, Gartner's report reveals that 51% of CIOs are concerned that digitalization is happening faster than they can cope with; while 42% believe that they do not have the right skills and capabilities to handle the changes.

This finding is echoed in other studies published by MIT Sloan and IVI patron members BCG and EY. EY's *Born to be Digital* report, for example, finds that any digital transformation will require "*a shift in the skills, approach and mindset of a traditional CIO*" (EY, 2014a). Similarly, research from MIT Sloan describes the concept of digital maturity as a combination of "*digital activity with strong leadership to turn technology into transformation*" (Westerman, Bonnet, & McAfee, 2014). It is this digital maturity that will differentiate between successful companies, enabling the best – the *Digirati* – to outperform their less digitally mature competition.

Whilst failure to adapt to the changing digital landscape could result in business failure and "*the relevance of the IT organization will almost certainly disappear*", there is massive potential for creating new value and "*a renewed role and greater credibility for the CIO and the IT organization*" (Gartner, 2014c) for those organizations that successfully transition to digital business.

"This intersection of customer power and rapidly advancing enabling technology is fostering a time of unprecedented opportunity and risk for companies"

Pat Hyek, Global Technology Industry Leader, EY
(EY, 2014b)

Digital business began in the early 1990s with the Internet allowing people and businesses to connect to information and each other in unprecedented ways. Since then, the evolving Internet and other technological and social changes have converged to give rise to completely new ways of communicating and connecting. Such increased interconnection, as well as new technological developments and possibilities, promise to continue to transform the way people live and work. 'Digital' therefore refers to the

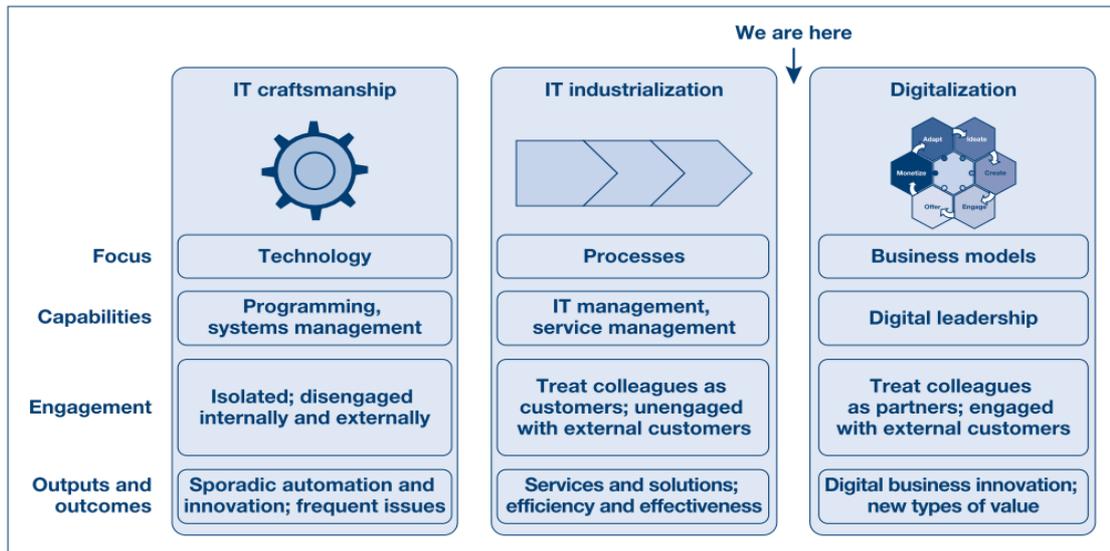


Figure 1: The third era of enterprise [Source: (Gartner, 2014c)]

technological foundations that enable people to connect to devices, information, and each other: in other words, *"how technology can transform the business"* (EY, 2014a). Digital business is not merely IT by another name: it is about using technology to enhance performance, rather than simply automating processes. It is fluid and rapidly evolving and *"will trip up CIOs who underestimate the changes in expertise and competence"* (Lopez, 2014).

"New workers. New devices. No more servers.
 Usually a single inflection point is hard to grapple with.
 Today's enterprises have three"
 Aaron Levie, HBR Blog Network
 (Levie, 2013)

Some organizations, like Facebook and Twitter, are *"born digital"* and naturally incorporate new technologies to release *"a wave of IT-led innovation...creating new revenue and cost-saving opportunities"* (EY, 2014a). For many other organizations, however, adapting to this new landscape will necessitate a digital transformation: a fundamental change to all aspects of an organization and its understanding of its place in the wider ecosystem. This will include how the organization views and connects with its people, customers, suppliers, and partners; how it conceptualizes its organizational structure and culture; the structure of its business and operating models, infrastructures, and processes; and, of course, the technology used to support all of these. Organizations need to achieve a fine balance between taking a strong position and examining their fundamental orientation to the market: *"Establish your place in the ecosystem. Re-evaluate strategies, market position and competitive strengths and consider making far-reaching changes to remain successful"* (EY, 2014b).

This third era of digitalization represents a shift from running IT as a business within a business to a highly integrated and innovative collaboration between business and IT, moving beyond process innovation, and exploiting the growing array of digital technology and information (Gartner, 2014c). One clear certainty in a fast-changing digital environment is that strategic positioning is short-lived (Grover & Kohli, 2013). The implications for organizations and IT departments are enormous: how do you plan for a future that is in a continual state of transformation and flux?

Digital Drivers

Cloud, mobile, social, and analytics are the four technologies powering digital change (see Figure 2). This Nexus of Forces combines *"to empower individuals as they interact with each other and their information through well-designed ubiquitous technology"* (Gartner, 2014d). Along with other technological developments, such as the Internet of Things, advanced analytical technologies, 3D printing, and future technological disruptions, the Nexus of Forces will enable and drive the enterprise in the digital era. Digitalization will continue to require increasingly sophisticated technology. Being sensitive to new technological developments and savvy in terms of integrating them will be what differentiates a digital enterprise in the new market.

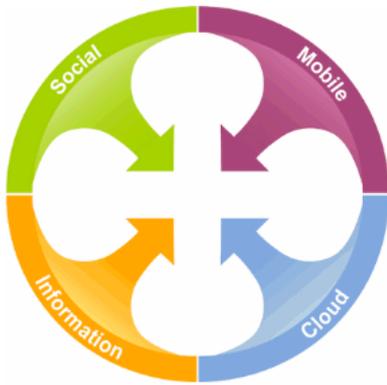


Figure 2: The Nexus of Forces
[Source: (Gartner, 2014d)]

Digital transformation also involves a significant cultural change, which should not be ignored or underestimated. Leading the new digital enterprise will require a deeper understanding of people and culture, both within and outside of organizations; how they interact with technology; and how they use technology to interact with each other. For organizations, the customer is the key social driver for change. Digital business can enable growth by combining digital technologies with information and business resources to create innovative customer experiences designed to meet the expectations of the digital world (Accenture, 2014). Echoing Peter Drucker's prescient call for a shift from an engineering to a customer-focused mindset, this change in orientation is central to today's digital transformation:

"What the customer... considers value, is decisive – it determines what a business is, what it produces, and whether it will prosper... the tool has to serve the work. The work does not exist for the sake of the tool; the tool exists for the sake of production"

(Drucker, 1986)

In the new digital enterprise, innovation is user- and customer-centric. This is characterized by establishing what EY describe as a "radical intimacy" to create a "virtuous cycle of customer engagement ... [built on] trusted, direct relationships" (EY, 2014b) and deep insight into customer preferences and behaviours.

"Executives are digitally transforming three key areas of their enterprises: customer experience, operational processes and business models"

(Westerman, Bonnet, & McAfee, 2014)

Implementing Digital Change

It is neither practical, nor desirable, to completely overhaul the existing foundational IT infrastructure. Instead, BCG advocates a *two-speed IT*: one to focus on "the company's digital efforts and capable of operating at digital speed", while the other ensures continuing operational support for the business (BCG, 2012b) (see Figure 3). Similarly, Gartner recognizes the need to develop a *bimodal capability* – maintaining a steady core IT and developing an agile digital capability – led by "powerful digital leadership" (Gartner, 2014c).

There are significant differences between the industrial and digital IT functions in terms of orientation, demands, and the capabilities and skills required to fulfil their various requirements (BCG, 2012b). Digital IT will be highly collaborative, involving users and even external customers; it will be iterative, promoting the use of agile methodologies and tools; and will typically involve short cycle times (Gartner, 2014c).

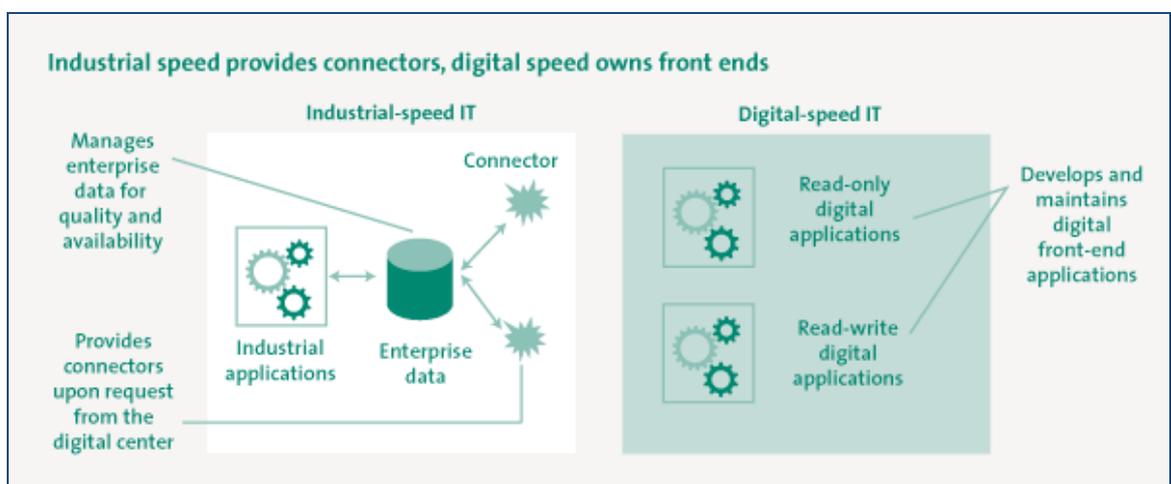


Figure 3: Two-Speed IT [Source: (BCG, 2012b)]

Existing IT departments will form the foundation of the new digital enterprise and a steady structure on which to build and pilot innovative digital programmes. CIOs will need to prepare for the wave of new technologies that will need to be integrated into the organization, and IT departments will need to adjust their support models to adapt to these changes (BCG, 2012b). Additionally, changing information architectures and infrastructures – such as mobile, and public and private clouds – present opportunities to create and develop capabilities to exploit Big Data and include more innovative sourcing strategies like partnering with smaller enterprises (Gartner, 2014c).

“As more applications and infrastructure get moved to the cloud, IT leaders whose main job is to keep the lights on will be fewer and farther between”

Tom Velema, EMEA IT Advisory Leader, EY (EY, 2014b)

Identifying and securing the appropriate skills to lead and support IT in the digital-era enterprise represents a major challenge. While two-thirds of IT and business decision-makers surveyed by IBM across 13 countries believe that mobile, analytics, cloud, and social technologies are strategically important, 25% of them reported major skills gaps in each area, and 60% reported moderate to major shortfalls (IBM Centre for Applied Insights, 2012). This well-documented global crisis relating to insufficient IT and digital leadership and practitioner skills has been a central theme in IVI’s e-Skills research agenda (McLaughlin, Sherry, Carcary, & O’Brien, 2012; Veling, Murnane, O’Brien, & et al., 2013; Doherty, Carcary, Thornley, & et al., 2014).

A Cultural Shift

In the digital enterprise, development processes allow for *thoughtful experimentation*, in which leaders foster teamwork and “*encourage everyone on the team – including designers, developers, and content producers – to consider deliverables through to execution*” (Hewitt, 2013). Experimental innovations are customer- and user-centric, conceived by understanding and collaborating with those at the *edge*. Innovations are designed and developed in a lean and agile way, launched quickly, and tested in the market. Learnings are then incorporated into the next iteration and re-launched. It is a fast, yet systematic, and multi-disciplinary approach.

“Today technology innovation is more likely to come from the edge than from the core, bottom up rather than top down. Still, to complete the loop, to scale, and to monetize, eventually the top and the bottom must connect”

(Moore, 2002)

The digital transformation means a cultural shift for the entire organization and this must be driven by the enterprise leadership team. The role of leadership in effectively implementing digital strategy was a key theme in MIS Quarterly’s recent special issue on digital business strategy (Bharadwaj, El Sawy, Pavlou, & Venkatraman, 2013). Senior organizational leadership must change its mindset – and possibly even the leadership team – in order to respond to the unpredictability of today’s environment (BCG, 2012a). Digital business can fundamentally change the lives of senior executives, primarily due to the growing ubiquity of information, information access levels, and resultant information transparency (Bharadwaj A., El Sawy, Pavlou, & Venkatraman, 2013b). Without a clear awareness among leaders of the power of digital technologies and what they enable in terms of, for example, understanding their environment and impact on their relationships with stakeholders, they may be left behind (Bennis, 2013). Effective digital leadership needs to be learned through embracing transparency and fostering qualities such as adaptive capacity, resilience (rebounding from difficulty or adversity), openness to new things and learning from past failures/mistakes (Bennis, 2013). Further, digital leaders require a skill set that promotes a customer-centric focus, has significant business and team management expertise, and a firm understanding of social technologies (Dumeresque, 2014).

For the new digital enterprise, change is not an isolated event, but a constantly evolving way of being. Leaders must embed a capability to adapt and react to change within their organizational fabric, including cultures, business models and strategies, value propositions, processes, and, crucially, their internal and external communication strategies and channels. The concept of *organizational liquidity* captures the sense of an organization that is ready and able to dynamically exploit *business moments* or transient opportunities. Such organizations have developed “*a change-aware culture that enables the organization to detect subtle shifts and continuously adapt*” (Gartner, 2014b).

Such disruptive changes will affect the whole organization: appropriate corporate governance structures must be put in place to deal with the impact of these new technologies on the organization itself, and on the organization's relationship with its wider ecosystem of customers, partners, and suppliers. Disruptive technologies and radical changes to how organizations store, use, and control data will significantly influence how organizations protect their systems and their customers' information. This will require compliance with new legislative demands as well as presenting new challenges for reporting IT to the Board of Directors. Risk assessments will also need to be integrated into corporate performance measures (Gartner, 2014a).

IT will require an enterprise-view of value delivery. Digital-speed projects will require a different kind of governance that will enable fluidity, including more flexible budgeting and resource-allocation processes, and more agile development methodologies (BCG, 2012b). A clearly articulated, communicated, and widely practiced organizational culture that fosters and rewards multi-disciplinarity, collaboration, responsiveness, and openness is a fundamental basis for building a strong digital business strategy.

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This white paper was edited by Tom Keogan, TeKcomm Technical Writing.

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