IT Operations Management
Digital is changing how IT is run and delivered

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CONTENTS

1. The Digital Era 4
   In the digital era, software and connectivity are eating the world 4
   Organizations recognize the importance of digital projects 5
   Digital demands strategic change in both business and IT 6

2. The Impact of Digital on IT Operation Management 7
   IT operation management’s alignment with business 7
   The important points to consider to achieve this alignment 8
   Last but not least: automation 10

3. The Technology Strategy 11
   The next gen IT operations platform 11
   Main guidelines for the platform 12
   Key attributes of the platform 12

FIGURES

Figure 1: Infographic, digital statistics 4
Figure 2: PAC’s CxO survey 5
Figure 3: PAC’s digital approach 6
Figure 4: The digital platform 11
1. THE DIGITAL ERA

In the digital era, software and connectivity are eating the world

The megatrend of digital is changing priorities and leading companies to focus their strategic agenda on innovation and the customer experience.

First and foremost, all enterprises and public institutions — as well as their ecosystems of partners and clients — are now interconnected and must have a highly agile and extended digital reach. This, of course, is true within organizations as well as across their ecosystems, as the idea of an impermeable barrier between “inside” and “outside” is fading away.

At the same time and as a result of this megatrend, many industries are becoming software-defined, which is forcing a radical move away from traditional products and toward digital environments.

Industries (such as automotive) that have long been focused on mechanical engineering are being taken by storm by companies that are pushing the envelope for software-defined cars (such as Tesla and Google). Similarly, companies in other sectors are rushing to convert their business from traditional to digital. Media, hospitality, transportation and retail companies were among the first to embrace this digitalization, but it is spreading quickly to other industries such as finance, utilities and healthcare. Digital is how business will be run and done in the future.

![Figure 1: Infographic, digital statistics](Image)
Organizations recognize the importance of digital projects

According to PAC’s survey “CxO Investment Priorities: Digital Transformation,” which interviewed close to 1,800 business and IT decision-makers at worldwide level:

- 67% of respondents recognized digital as a key enabler in improving customer understanding.
- 59% of the audience considered digital important and very important in improving the digital customer experience.
- 52% of respondents considered digital important and very important in building new business models.

![Figure 2: PAC’s CxO survey](image-url)
Digital demands strategic change in both business and IT

In pure digital environments, organizations can no longer afford to take their IT systems offline for maintenance, to introduce new product features or to make system modifications. Pure consumer cloud companies have changed the paradigm and consumers expect their digital products and services to be updated on the fly in the background, while services remain available 24/7.

To deliver fluid, always-on digital services, organizations need a radical change in business architecture and processes, including a redesign of underlying communication flows between the business, legacy IT and emerging technologies. Such a reshaping of the business (external digital transformation) and processes (internal digital transformation) would enable organizations to automate and industrialize their digital operations in a similar manner to the way in which manufacturing companies have robotized their production lines.

To achieve this goal, companies have to integrate digital infrastructures, based on hyper-converged infrastructures, where each node is a full computing environment that allows full linear scalability. There are also architectures that enable real automated and API-based service composition, which is the cornerstone of the digital transformation. Ultimately, the foundations of any business digital strategy can be found in its technology strategy, as illustrated in the figure below.

Figure 3: PAC’s digital approach
Digital is changing how IT is run and delivered

Digital is gradually changing the IT management landscape:

- IT processes are the core of digital processes, and must be supervised and liable.
- By pressuring organizations to become more agile, more mobile and leaner, digital changes the way in which IT is produced and run. IT must be aligned with business processes as it is a critical part of the added value of the business.
- As a result of these two reasons, IT is the main optimization factor.

"Digital means the full automation of our IT production chain, from top floor to shop floor. It also means that our IT is critical. Each discontinuity of services cost us hundred thousands euros per hour"

Gilles Membrard, Referent Supervision Area, Maaf

2. THE IMPACT OF DIGITAL ON IT OPERATIONS MANAGEMENT

IT operation management’s alignment with business

The digital agenda is changing IT operations management, which has become closer than ever before to business issues. These changes are a prerequisite for digital transformation.

Over the past decades, IT has won a strategic place as a support function aimed at facilitating organizations to run their core business. However, calibrating a better alignment between line-of-business and IT is no longer enough to ensure the success of organizations.

Digital compels organizations to embrace a continuous delivery/continuous deployment approach that integrates the business and IT together under a unified operating platform and a common culture.

For instance, in the manufacturing industry, the Internet of Things is leading to IT being embedded in production machinery and, subsequently, in the most basic business processes, leading to a paradigm shift in the business model in which operations are being digitally connected from top to bottom.
The important points to consider to achieve this alignment

Control

Organizations need to have strong IT governance and control mechanisms in place to ensure a functioning model. The IT complexities arising from managing internal IT, partner-derived IT and externalized/outsourced IT require a control tower approach whereby organizations are empowered with an adequate set of tools to regulate, monitor and orchestrate their IT streams. Without governance and control, agility may turn into enterprise disarray. Furthermore, control towers need to ensure that IT operations are run securely and enable organizations to e-route and intervene in IT flows in real time.

This is especially important considering that cloud and mobile requirements demand that organizations operate well beyond their traditional walled garden and react more quickly in external environments. In addition, digital omni-channels connect the organization to the outside world in an unprecedented way, requiring a control policy that can be imposed across both internal and external environments.

Control also brings increased accountability for individuals, departments and partners enabling organizations to spot and address performance issues at a more granular level.

Agility

According to PAC’s “CxO Investment Priorities: Digital Transformation” survey, 47% of respondents recognized agility and innovation as a big challenge in adapting to rapidly changing market conditions.

There is rising pressure to clock faster product/service development cycles in order to cut time to market. Agility to move back and forth as well as across functional teams becomes critical, in order to shorten release cycles. However, traditional IT faces challenges in adapting to this operating model due to the constraints of legacy
technology and waterfall design, where development is sequential and tightly regimented. Rethinking agility at the platform level is important in order to exploit the full potential of agile methodologies within digital environments.

**Convergence**

Keeping business functions (sales, production, HR, etc.), application development and IT operations siloed within their own towers is not going to produce a lean digital organization. These common company silos need to be broken down.

As organizations are increasingly defined by the digital value delivered to their customers, intertwining business functions, application development and IT operations management is key in achieving a lean digital model. A good reference model is the organizational structure seen in companies in the gaming industry, where business, development and production are working as one.

Architecting a foundational IT management platform to host the business and the design, development, testing and production units is now essential to ensure that all teams are interwoven and work at the same rhythm.

For such organizational changes to succeed, it is important to ensure that all parties follow the same reference points, and understand the same business metrics and language both within and outside the organization and including partners and clients.

"It certainly would have been easier for us to manage a more homogeneous environment, but fortunately we have Axway Automator to automatically run diverse applications across the fourteen different platforms running various operating systems."

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The Metropolitan Borough of Wirral
**Last but not least: automation**

Very often, IT departments are log-jammed by the need to manually address routine service assignments and IT tickets. Similarly, IT performance and activity monitoring has been locking up valuable IT resources that could otherwise be relegated to strategic projects.

Digital — through the cloud, mobile and social — accelerates the cadence of application development while fine-graining IT and exposing it to the open web. Without deeper automation to monitor and resolve recurrent incidents, the scale of complexities and the volume of repeatable workload resulting from the emergence of digital may be too much for the IT department to absorb.

In the digital age, in order to eliminate manual labor and automate IT operations management in a meaningful way, organizations need to take a foundational approach to the modernization of their IT platforms. Similar to industries such as manufacturing, where robot infrastructure has liberated production companies from human intervention, IT management needs comparable automation platforms to free up IT resources, which could be geared instead towards value creation projects.
3. THE TECHNOLOGY STRATEGY

The next gen IT operations platform

A company’s digital strategy not only has to be based on a next-generation technology platform designed for the digital enterprise, but it also needs to successfully converge with the company’s legacy systems.

As with the fourth generation of manufacturing — Industry 4.0 — whereby robots and connected machinery are digitizing production processes, the next generation of IT management will be defined by digital prerequisites.

Figure 4: The digital platform
Key guidelines for a next gen platform

- **Digital** — Automated, controlled, agile and converged — it may seem evident, but pure IT management platforms have trouble addressing business needs. A next gen platform must be able to cope with the fragmentation of IT resulting from the spiraling growth in mobile app development, consumerization of IT, the increasing pressure from lines-of-business (marketing, channels, HR, field services, procurement, etc.) to build apps that will connect the company to its customers, employees and partners, both up and downstream in the digital ecosystem.

- **Performance** — IT owns the main processes in digital businesses, which means these processes can only perform well if IT is also performing well. This issue is very easy to demonstrate: according to Akamai’s own statistics, 74% of people leave a website if response time is over 5 seconds.

- **Lean** — Digital practices are causing IT complexities in the organization to grow exponentially and, with them, a greater potential for inefficiencies and waste, including the risk of productivity erosion and production bottlenecks. Under a lean architecture, organizations should be able to audit IT operations easily and identify and eliminate redundancies in the IT value production chain, bringing about a reduction in the length of development cycles and acceleration of application versioning.

- **Six Sigma-driven** — Speed in execution needs to be coupled with a quality management system that is comparable to the Six Sigma methodology. In digital environments, the penalty for faulty releases, process failures and service problems can be very pricey. For example, rapidly launched but buggy mobile apps cause consumers to heavily penalize application ratings in public stores, leading to weak or no application adoption.

- **Innovative but controlled** — Innovation in a digital world needs IT at its most fundamental level and requires IT to become inventive in relation to how elastic, ingenious and responsive the function for the business. However, organizations also need to ensure that there is structure, discipline, governance and control in place to manage their IT operations.

Nonetheless, applying these digital strategy guidelines to real-life IT management is difficult with traditional IT capabilities, leading to IT entanglement and complexities that are hard for an organization to reconcile on its own. Arranging all the components in the adequate order and building a compact, have-it-all IT operations management model demands a new platform approach.

Key attributes of the platform

Such a platform should include the following key attributes:

- **Solve the inherent complexity** of managing heterogeneous and disparate operations and teams, each of them with their own functional assignment, project agenda, set of priorities, and digital requirements. Scanning through the convoluted graph of enterprise operations, the architecture of a capable platform would understand and determine organizational relationships and define rule engines.
- **Connect the different stakeholders** of the digital transformation layout. Interlinking the various parties within the digital framework should be an elementary feature in order to ensure that digital collaboration actually works. Besides enabling interconnections, the platform should give the various stakeholders the visibility needed to monitor relevant digital metrics.

- **Enable composition/de-composition and orchestration** of business operations at process level by deconstructing IT. The capability of the platform to componentize as opposed to traditionally monolithic IT would enable IT production cycles to be automated and permit granular control over work streams.

- **Measure and assess performance** of IT operations. A qualified platform should capture and record a broad set of metrics such as IT activity, digital throughput, IT responsiveness, etc. This capture should facilitate the analysis of IT operations management across the organization, and its impact on the business.

- **Improve IT management** on the go. Besides the tools to measure and analyze IT management, a platform becomes intelligent if it can interpret production data, detect potential productivity gaps and subsequently recommend adjustments to existing set-ups.
ABOUT AXWAY

Axway (Euronext: AXW.PA), a market leader in governing the flow of data that enables digital business, is a global software company with more than 11,000 public- and private-sector customers in 100 countries. For more than a decade, Axway has empowered leading organizations around the world with proven solutions that help manage business-critical interactions through the exchange of data flowing across the enterprise, among B2B communities, cloud and mobile devices. Our award-winning solutions span business-to-business integration, managed file transfer, operational intelligence, API and identity management, IT operations management, and email security — offered on premise and in the cloud with professional and managed services. Axway is registered in France with headquarters in the United States and offices in 19 countries.

ABOUT PAC

Founded in 1976, Pierre Audoin Consultants (PAC) is part of the CXP Group, the leading independent European research and consulting firm for the software, IT services and digital transformation industry.

The CXP Group offers its customers comprehensive support services for the evaluation, selection and optimization of their software solutions and for the evaluation and selection of IT services providers, and accompanies them in optimizing their sourcing and investment strategies. As such, the CXP Group supports ICT decision makers in their digital transformation journey.

Further, the CXP Group assists software and IT services providers in optimizing their strategies and go-to-market approaches with quantitative and qualitative analyses as well as consulting services. Public organizations and institutions equally base the development of their IT policies on our reports.

Capitalizing on 40 years of experience, based in 8 countries (with 17 offices worldwide) and with 140 employees, the CXP Group provides its expertise every year to more than 1,500 ICT decision makers and the operational divisions of large enterprises as well as mid-market companies and their providers. The CXP Group consists of three branches: Le CXP, BARC (Business Application Research Center) and Pierre Audoin Consultants (PAC).

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