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Does your current IT Governance promote Digitisation?

The Agile approach to IT change for a Digital Enterprise

Supporting a digital enterprise requires a new digital Architecture and a digital enabled IT Governance.

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The whole ethos and modus operandi for digital technology is in the capability to create digital products and services at a far reduced time to market; as compared to the more traditional approaches to technology services introduction. Organisations need to become adept at digital product innovation that meets customer requirements, in a customer population which is much more demanding and much more technology aware. Innovation goes hand in hand with information, so organisations should use big data and advanced analytics to better understand customer behaviour. For example, gaining insight into customers' buying habits with their consent, of course can lead to an improved customer experience and increased sales through more effective cross-selling.

Organisations need to provide a seamless multichannel (digital and physical) experience so consumers can move effortlessly from one channel to another. They also need to improve their capabilities in automating operations and digitising business processes. This is important because it enables quicker response times to customers while cutting operating waste and costs.

All of the above pose a substantial challenge for IT. For example, many banking product lines, among them credit cards, investments, and checking and savings accounts, are managed in silos. This makes it difficult to get a comprehensive view of customers quickly, for example to assess their loan applications. What's more, channels are often managed and tracked independently, complicating matters for customers who wish to use multiple channels as they pursue a transaction. For instance, customers starting a loan application on their smartphones may find that they have to re-enter data when they switch to desktop computers to fill in the more detailed information required. Weak systems integration and slow database access times can prevent customers from enjoying a real-time shopping and purchasing experience. Analytics capabilities are especially difficult to integrate with operational process flows. Manual steps in these processes, such as rekeying and transferring information, present major obstacles to both analytics and automation of processes.

While a few players have overcome some of the above hurdles, it is a big challenge for many IT organisations to implement the necessary levers so customers can, for instance, purchase individually tailored products across multiple channels. One important reason is that the legacy IT architecture and organisation, for example, which runs the supply chain and operations systems responsible for executing online product orders, lacks the speed and flexibility needed in the digital marketplace. Indeed, the ability to offer new products on a timely basis has become an important competitive factor; this might require weekly software releases for an e-commerce platform. That kind of speed can only be achieved with an inherently error prone software development approach of testing, failing, learning, adapting, and iterating rapidly. It's hard to imagine that experimental approach applied to legacy systems. Nor would it be appropriate, because the demand for perfection is far higher in key back end legacy systems. Quality, measured by the

number of IT system errors, and resilience, measured by the availability and stability of IT infrastructure services, comes at slow speed but is critical for risk and regulatory-compliance management and for core transactional activities such as finance and online sales. In contrast, lower IT System quality and resilience can be acceptable in customer facing areas, e.g. when users participate in the testing of new software. For these reasons organisations need an IT governance which is agile and conducive to the development and marketing of services in the Digital space.

Before offering views on how the IT Governance should evolve to support digital services, let's create the framework by offering a definition of Digital. So, what is Digital?

The number of organisations that have questions about digital's impact on their business has increased vastly from the previous two years.

"Which products and which customer segments will be affected? What is the likely pace of adoption? Is there a benefit to pioneering a given product or is it better to be a fast follower?" etc. Organisations should start with an understanding of digital that makes sense for their institution. Work carried with financial institutions highlights that Digital means the ways that new technologies are changing the organisation:

- **Connecting:**
  This is probably the most familiar instance of digital: the websites, portals, apps, trading platforms and other sales and execution facilities that firms provide to their customers. But there is more here than many organisations realise. Digital techniques can bring expertise to more clients; for example, product specialists can connect with clients and relationship managers to deliver real-time knowledge assets. Digital tools can also help relationship managers sell better to clients by understanding their portfolios, creating custom pitch scripts and helping with initial product configuration. Furthermore, connecting is not only about customers; some leading banks have been able to drive greater productivity through their in-house social media networks and mobility programmes.

- **Automating:**
  Straight through processing (STP) has been an ambition for many firms, for years. Today, new digital technologies can help them realise that ambition – both by improving STP for customer processes end-to-end and also utilising new technology (applications and portals) to communicate and confirm transactions with customers in areas previously done via spreadsheets and email.

- **Decision Making:**
  Digital technologies can assist financial services organisations make personalised offers of high-conversion products to customers; for example, excess cash in corporate accounts can trigger a prompt to corporate treasurers- through the organisation's iPad app – to customise offering of liquidity products. In addition, digital capabilities can enable finance houses to improve the control and management environment – enabling rules-based filters

for amendments and exceptions- to truly understand and identify real control issues versus ‘noise in the system’.

- **Innovating:**
  This is another familiar dimension of digital for financial services companies – though regrettably for them, it is mostly familiar through the work of digital start-ups. Some high street banks are also finding success by commissioning modern websites, to monetise legacy products, or to advance mobile sales tools well beyond the merely transactional abilities offered by most banks. Cash management, for example, can be delivered on an app with multi-currency investment options.

Definitions and interpretations of the Digital phenomenon vary by industry and organisational maturity, but what is commonly accepted is the speed at which digital offerings have to be brought to market, particularly products which are aimed towards consumer satisfaction, customer engagement and retention. To this end companies with active intentions and digital roadmaps are fast realising that the success of their investments is highly reliant on their ability to deliver at the correct pace on a technology which is fit for purpose within a governance which supports deviations from the ‘acceptable’ norm, in terms of development approaches IT change control, testing, release cycles and QA.

So, back to IT Governance…

Digital enterprise technology environments need to accommodate the following:

- **Dual speed Change Control**
  This implies a fast-speed release cycle for customer-centric front end and a more traditional release cycle for transaction focussed legacy back end. The software release and deployment cycles for the customer-facing component should be modular, to enable quick deployment of new software by avoiding time-consuming integration.

- **Instant cross-channel deployment of functionality**
  New microservices defining only a small amount of functionality, such as lookup of the next product a consumer would most likely purchase, should be deployable in an hour rather than in several weeks. Such microservices should also be available across all channels. Ideally, it should be possible to develop these services in multiple programming languages rather than being locked into a single development framework.
  This approach contrasts massively with the currently accepted ‘best practises’ for software development and release.

- **Real time data analytics**
  Customers generate data with every move they make within an app. The ability to analyse that information in real time can make analytics an integral part of operational processes and not just a stand-alone capability. For example, one retailer analyses customers’ purchases automatically when they pay with their credit cards; along with the receipt, the business provides a savings coupon for a product the customer will probably be interested in buying

the next time he or she shops at the store. In Financial services the same concept applies. Analysing a consumer's spending pattern could lead to offering of new products, such as insurance, savings products, FX etc.

- **Zero downtime**
  In digital operations, days-long maintenance windows are no longer an option. Upgrade systems affecting the consumer's experience should be seamless, using a concept that allows the deployment of a new software or service in parallel with the old version. First, only a very small percentage of the user traffic is routed to the new version. Only when the new version fulfils a set of key performance criteria will all traffic be routed to the new version. Moreover, in daily operations, there should be fall-back mechanisms in place so that issues arising in one service do not impact overall operation. If, for instance, a retailer's personalised recommendation service is unavailable, a random recommendation in a relevant category would be displayed rather than an annoying web error page.

- **Easy process configuration**
  Business users themselves should be able to change automated processes. This would allow them, for example, to eliminate unnecessary process steps without requiring time consuming coding by an IT developer.

- **Product factory**
  Industries that provide digital products, such as banking and telecommunications, need to decouple the products from the processes. A bank, for example, would implement one sales process and reuse it for all products, such as accounts and cards

- **Automated scaling of IT platforms**
  In a digital business, workloads expand and become harder to predict. Ideally, this load would be balanced across private- and public cloud environments, with mechanisms in place to ensure that when one provider has an outage, others can take over the workload.

- **Secure architecture**
  In a digital business model, cyber security must be an integral part of the overall application. Not only does the company have more valuable data to protect, making it more attractive to hackers, but the digital strategy also opens new interfaces to customers, suppliers, and partners—interfaces that can be exploited by hackers.

Rapid decision making is critical in a dynamic digital environment. Twelve-month product-release cycles are a relic and a thing of the past. Organisations need to move to a cycle of continuous delivery and improvement, adopting methods such as agile development and "live beta", supported by "Smart" data analytics, to increase the pace of innovation. Continuous improvement requires continuous experimentation, along with a process for quickly responding to bits of information.

The Technology Governance for a Digital Enterprise

Unlike enterprises that are born digital, traditional companies don't have the luxury of starting with a clean slate; they must build an architecture designed for the digital enterprise on a legacy foundation and supported by a 'legacy governance process'. What's more, while most companies would have been comfortable in the past going through a three to five-year transformation and not implementing new features in the meantime, today's highly competitive markets no longer allow players to alter architecture and business models sequentially. It is therefore important to realise that the transformation toward digital is a continuous process of delivering new functionality. Successful digital transformations focus on the following aspects.

Manage a hybrid target architecture
Digital target architectures are heterogeneous, with transactional platforms managed for scalability and resilience coexisting alongside other systems optimised for customer experience and a reduced time to market. The transformation can be sustained only if a high level target architecture and standards in critical areas such as cyber security are clearly described from the beginning. Without them, the transformation can be slowed down by the complexity of legacy and new hardware and application provisioning.

Ongoing software delivery with a mix of methodologies
There is no time to develop software by using a waterfall model and then separating the transformation into several long phases, as in traditional multiyear IT transformations. Nor is the solution to migrate all delivery to agile methodologies.

The answer is to do both but blend the benefits of agile (iterative development, continuous delivery) into the waterfall model. Now, the software solution for each business challenge has to be constantly developed, tested, and implemented in an integrated fashion. This requires clear segregation of platforms into domains managed for fast iterative delivery (for example, for customer-experience applications) or for transactional integrity (for back-end transactional systems). This dichotomy of approaches requires a re-think of the traditional IT governance, particularly, Change control, testing and release management. The governance process applied today in most IT organisations, which necessitate formal workflows for signoff and release are not conducive to the fast digital product development approach and need to be re-architected.

Develop the low-speed architecture also
It's important to establish a clear distinction between the two IT models from the beginning and not only focus on the fast-speed part but also develop the transactional back-end architecture. Those systems of record require rigorous development and testing methodologies and must be managed for resilience and scalability, with no compromises. The two approach need not only to co-exist but to be complementary; effectively cohabiting in a symbiotic IT governance framework.

Build a new organization model
In the digital enterprise, business and IT work together in a new and integrated way, where boundaries between the two start to blur. This partnership has to be established during the transformation. However, the integration needs to be carefully orchestrated.

Integrating digital operations directly into current business structures can create additional value, but it can be hard to attract and retain digital talent in a traditional culture; turf wars between the leaders of the digital and the main functions is commonplace. In addition, different teams may have clashing views on how to design and implement a digital IT services environment. One way to address this, is to create a digital centre of excellence populated by digital specialists who provide advice and help develop tools. The digital team can be integrated into the mainstream eventually, but not until they have enjoyed a number of successes and helped to change the mind-set across the IT organisation.

Change mind-sets
By transforming the architecture, technology can become a key factor for a company's competitiveness. Such a development requires increased management attention and usually a place on the IT Executive agenda. While IT efficiency clearly remains important, spending levels may well rise as companies transform IT from largely being a necessary expense to being a true business enabler. As such, expenses are managed as investments rather than just costs; this will often require a substantial mind-set shift for the organization. Success is evidenced when IT helps to set the business strategy rather than just support it.

Run waves of change parallel streams
In a two-speed transformation, it makes sense to have an implementation plan that runs in three parallel streams. The *digital-transformation* stream builds new functionality for the business, supported by the results of a *short-term optimisation* stream that develops solutions that might not always be compliant with the target architecture (for example, using noncompliant interfaces). To ease the development of short-term measures and create a sustainable IT infrastructure, an architecture-transformation stream is the third necessary component.

The industry is in the midst of a transition that occurs once every 50 years. To stay ahead of the unfolding trends and disruption, leaders across industries will need to challenge their assumptions and pressure-test their strategies. Digitisation often lowers the entry barriers, causing long-established boundaries between sectors to tumble. New market entrants often scale rapidly at much lower cost than legacy players. Digital capabilities increasingly will determine which companies create or lose value.