Do’s and Don’ts of Digital Transformation

Over 100 business leaders representing more than a dozen industry sectors, together with industry analysts explore digital transformation over ten roundtables held at the NTT Global Forum on July 2nd 2015. This exclusive report collection presents the key findings from these roundtables.
Solving the Digital Puzzle: Powerful insights from the real world

Organizations worldwide are trying to get a grip on the digital transformation process. We assembled the best minds in business to share their real world experiences and find practical answers.

“"We are not in a linear era anymore: Moore’s law applies.”
“"Today’s crazy idea will be the new normal tomorrow.”

These were just two of the messages given by David Rowan, Editor of Wired UK in his keynote “How to Disrupt Yourself” at the NTT Global Forum 2015 event, which explored the theme of Digital Transformation.

Moderated by a leading analyst from one of the three analyst firms Ovum, 451 Research and Current Analysis, and held under the Chatham House Rule, ten roundtables held at the event dealt with five carefully selected topics related to digital transformation. Each of the five reports in this collection presents the findings related to one topic and together the five roundtables bring out a clearer view of the digital transformation process.

We begin by tackling the definition of digitalization, what it means to an organization, and then delve into the drivers to an organization’s change. This is followed by a scrutiny of the opportunities and risks that digital transformation brings, which leads us to the role of cloud in all this change. We then discuss the best ways to handle the movement of applications to the cloud, which in turn shows us that organizations today must change the rules of their operational grammar and learn to function in several modes simultaneously.

The information shared by the participants in each of the ten sessions was rich, real and relevant. While it is impossible to mirror the experience of real-time exchange of information and stories, we have culled the best of these findings in this report. We hope you find this useful and that there will be many valuable takeaways for you that can be applied to your business.

David Molony, Principal Analyst, Enterprises Services, Ovum, and one of the moderators of the roundtables, wrote after the event, “"Many CIOs and procurement managers are forging ahead with transformation programs that tightly ally and associate ICT change with business change. This may be in terms of improved operational performance throughout the organization or in terms of market direction and positioning. A digital transformation program sounds daunting, but it can be made less so if the basic principles are worked out first within the business, kept simple, and then shared clearly with the managed services partner.”

NTT GLOBAL FORUM 2015

An exclusive invitation-only event for clients and partners of NTT Communications, held at RSA House, London, in July 2015

- 100+ Business Leaders
- 12+ Industry Sectors
- 5 Leading Analysts

Interactive seminars and ten roundtables covering five topics on digital transformation.
Generating new business models for the digital age

DEFINING WHAT DIGITAL TRANSFORMATION MEANS TO YOUR COMPANY

The term “Digital Transformation” has been used much in the last few years, yet its fundamentals still remain elusive, and the term itself seems to generate a raft of different definitions. And because every business is seeking the new business models promised by a digital world, the term ‘digital’ tends to get put in front of some activities that have been carried out for years.

So it is important to recognise that digital transformation is about innovation in all aspects of the business. It means using technology to do things a business has not done before. And it must involve measuring the customer experience and making radical improvements to that experience. Establishing what digital transformation means to that company is the starting point, which then leads to the ways and means of achieving that metamorphosis.

IDENTIFYING INTERNAL CHAMPIONS OF CHANGE

For some companies, the straightforward route to digital transformation is to appoint an Innovation Team. However Innovation Teams often create problems as well as solving them. To do digital transformation properly takes more than just a new layer of management. This team has to have access to the company’s strategic thinking and be able to understand the bigger picture of where the business is heading.

A company should look at its digital transformation programme and ask who owns it. This can be harder than it sounds. A series of internal business units each with their own management structure often have a stake in the plan. So identifying one individual who is responsible for the overall success of change is tough. The way around this is to create one champion whose role is to organize the programme.

Innovation Teams need people, so a company has to decide whether the team is recruited internally or hired in. While internal employees have a great grasp of the business itself, they are often expected to effect digital transformation while continuing to carry out their regular work. This undermines the effectiveness of such teams.

CORE ISSUES

- Defining what digital transformation means to your company
- Identifying internal champions of change
- Choosing suitable external partners
- Rethinking what you produce - recipe for disruption

KEY TAKE-AWAYS

- Create an innovation team
- Review the IT estate
- Develop a strategic plan
- Consider the impact on the customer
In order to win at digital transformation a business should change the way it views what it produces. The automotive industry is a good example of this. Car manufacturers are looking at the models in their range not as vehicles but as devices that are full of digital equipment which can be used to generate revenue. Whatever sector a company operates in, it should be prepared to import bright ideas from other industries.

However it is true that brand-new businesses find the whole digital model much easier to implement. Uber is an example of a business that has taken a radically different approach to running taxi services. It was able to do this because it started life as an app, not an operator of a fleet of cars. Likewise Netflix succeeded from a clean sheet, and also because it focused on the user experience.

Industrial behemoths such as US giant GE talk about digital transformation but they are handicapped by having to keep the existing business running at the same time as changing it. This brings the argument back to the reasons why an external team is often the best resort. They will not be preoccupied with their regular work and can operate at a much faster pace.

Ownership is absolutely crucial to the success of a digital transformation plan. This perceived failure by consultancies has created a window of opportunity for telecoms groups such as NTT.
INTRODUCTION

Most organizations recognize the importance of digital transformation if they want to prosper in a fast-changing world where customers and market disrupters now dictate the terms of business.

Some companies have already advanced on this journey; others are still dabbling. These roundtables represented a good cross-section with participants hailing from financial services, retail, automotive manufacturing and government.

WHAT DRIVES DIGITAL TRANSFORMATION

Removing friction is a driving force behind many digital transformation initiatives. Participants referred to a video shown in an earlier session, which highlighted the frustration of online consumers who have to jump through all sorts of administrative and security hoops to complete the simplest transactions. This need to be repeatedly re-authenticated is mirrored in the corporate world, interrupting workflow.

Mobile devices could be the key to alleviating these frustrations. It is already possible for organizations to recognize individuals in a particular location or context via their personal devices and build a profile from their behavior, triggering certain actions or content.

BARRIERS TO SUCCESSFUL TRANSFORMATION

It became clear that successful digital transformation means getting everyone on board and not being able to do this can be a barrier. Within an organization, it offers to empower everyone (not just white-collar workers) with access to the knowledge they need to remove friction from everyday processes.

Indeed, employees are now actively driving technology use because of the faster pace of development of consumer devices, apps and services.

The infrastructure architects in the roundtable pointed out the inevitable restrictions of legacy systems and security requirements, but conceded that preoccupation with risk can hamper progress – when employees simply want to do their job more efficiently, aided by tools they use freely at home.

KEY TAKE-AWAYS

- A flexible, long-term vision is important but also focus on constant incremental improvements
- Remove friction to empower employees; harness internal entrepreneurs
- Context is everything. People’s preferences vary by time, place and circumstance
- Don’t get hung up on risk containment.
THE OPPORTUNITIES THAT COME WITH TRANSFORMATION

Digital transformation offers a chance for service innovation. The retail sector is among the most advanced users of technology here, as rival organizations strive to impress customers with an ever more convenient and differentiated experience.

Here, digital transformation is as much about transforming the bricks-and-mortar shopping environment as it is about making online purchasing slicker. This could be by replacing cash desks with mobile payments. More ambitiously, it might involve using augmented reality so customers can, for example, see themselves wearing the same garment in different colors without having to try them all on.

A step up from this might be ‘transferred augmentation’ – the option to share that augmented representation with someone else.

In manufacturing, digital transformation offers new opportunities to extend customer relationships beyond the point of sale. One of the promises of the Internet of Things is that goods will be able to communicate information about their status and environment once in use - not only to the consumer but also to the product creator (or their service partner).

This paves the way for new revenue streams derived from after-sales services - or pay-as-you-go models whereby cars, washing machines and coffee makers are consumed as utilities rather than products with a finite lifespan.

UNDERSTANDING THE IMPORTANCE OF CONTEXT

First, organizations need to get the basics right. One obvious area is integrating channels more seamlessly so that customers can start a process online and complete it in person.

It’s also important to understand the importance of context, as people’s preferences change depending on what they’re trying to do, when, and where they are at the time.

Take the trend towards ‘interstitial consumption’ of content – the need to absorb information quickly in bite-sized chunks, say while travelling or waiting for an appointment. This doesn’t replace the need for in-depth analysis.

Mobile news is great for a quick hit, but people still like to take their time over in-depth reports when they have more time. Similarly business users will always need to be able to drill down to the detail behind any key report findings.

There is also a time for self service, and a time for personal attention.

Recognizing generational differences is crucial too. Digital natives are learning in different ways, for example instinctively turning to YouTube for a quick video on how to do something, rather than picking up a manual. These diverging consumption patterns demand new ways of packaging content, and new business models to protect revenues. Persuading consumers to pay for value-added content might require education to counteract the growing expectation that digital content should be free.

CONCLUSIONS

- Starting now is critical. The longer it takes to begin, the larger the gap to cover
- Transformation brings opportunities to innovate
- Generational differences affect consumption patterns
- Internal process change triggers need for new skills and cultural adjustments.

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Embracing disruption to manage risk

CORE ISSUES
- The Digital Transformation journey
- Quantifying risk
- How to mitigate risk
- The role of the cloud

THE DIGITAL TRANSFORMATION JOURNEY

Organizations found themselves at different stages in the digital transformation journey. One company was just starting a move into the cloud, using a mix of public and private environments, while others were more advanced, and one was cloud-based from the outset.

Generally, there was a desire to hasten the journey but legacy infrastructure and risk act as brakes on progress, so the speed of disruption varies but is increasing. While one company said it was able to move at its own pace, a software company found that at one point customers changed their behaviour so quickly that within a couple of years, the organization needed to conduct a massive effort to re-architect all its products for new platforms.

Another company found the prospect of digital transformation ‘scary’ at first but found that a risk assessment brought matters into perspective, with a transparent approach to the process being key to achieving buy-in.

QUANTIFYING RISK

Security is still perceived as a risk on the digital transformation journey, although the digital economy is driving change in appetites for risk. Consequently, there is strong support for the view that risk can be outsourced, so that the service provider shoulders most of it, although there is recognition that the buck ultimately stops with the CIO.

There was agreement that certification plays a big role in risk mitigation by ensuring – by inspection if necessary – that a partner is qualified to deliver high quality levels of security, processes and management. The risk of non-compliance remains a key issue for financial services and other highly regulated industries and here, as in other areas, certification of service partners plays a big role. For others, it means ensuring that geographically sensitive data remains local, and in one case, that no foreign organizations could access that data.

The risks associated with shadow IT also need to be mitigated, again with support from top management, although this view was tempered by the recognition that many top managers are users of unofficial IT services – the security team needs to highlight the riskiness of such behaviour. Risk awareness needs to be higher throughout the organization.

KEY TAKE-AWAYS

- Cloud computing services and technologies are key to digital transformation
- Trust in infrastructure and service provider partners is key to reducing risk
- Disruption will happen anyway, so risks need to be managed
- The role of IT in the organization is undergoing massive change.
The view was expressed that disruption is essential, as the risk of not undertaking a digital transformation is that the competition may act first, although if this occurs, at least there may be lessons to be gleaned from the first mover.

**HOW TO MITIGATE RISK**

Risk mitigation measures are key, starting with the acceptance of risk as a fact. For example, IT equipment, - hardware and software - does fail, so risk mitigation means planning for the event. This in turn means risk acceptance needs to go to the top of the decision-making tree, not least because it is common practice for potential customers to conduct inspections as part of their due diligence. At the same time, the security or IT organization needs to be seen as a business enabler, not as the group that likes to say “No.”

A discussion around risk mitigation saw disaster recovery in its broadest sense as a key solution, including using more than one cloud provider, while accepting that cloud’s attributes include management overhead as well as elasticity, flexibility and lower cost.

Traditional risk management measures such as firewalls and SLAs remain useful but in limited circumstances.

**THE ROLE OF THE CLOUD**

While moving to the cloud is seen as an essential element of digital transformation, it is clear that the journey is not simple. Cloud’s benefits of speed of provisioning, flexibility and cost are all clearly recognized but legacy infrastructure and services remain and need to be amortised and/or integrated. One less-recognized benefit of the cloud is the ability to learn from the provider about best practices from others in the same and other verticals. Cloud service brokers may have a role to play here.

Cloud adoption will change the role of IT from keeping the lights on – ‘server-hugging’ as one participant put it – to a focus on the business, entailing a change in IT’s internal business model. In future, IT staff need strong collaborative skills, and the ability to work with partners to build a strong relationship and a commitment to openness. While the transformative journey’s outcome may require fewer staff, one company supported the re-training of surplus IT staff, following which all found jobs with cloud service providers.

One participant pointed out that before the advent of cloud, the flashing green and amber lights on servers were a physical proof for IT managers of things going right or wrong respectively. In the brave new world of cloud, in the absence of direct physical proof, Cloud Service Providers must be able to assure their clients that there are no amber lights. It is a question of visibility and trust between the service provider and the client.

**CONCLUSIONS**

- Digital disruption is essential, not optional
- Speed is now more important than risk mitigation
- The need for risk mitigation needs buy-in from the top
- The development of a trust relationship with partners is key to risk mitigation.

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WHAT TO CONSIDER WHEN MOVING APPLICATIONS TO THE CLOUD

Businesses understand that moving applications to the cloud is a complex decision and many considerations decide what the approach to the move will be – a big bang or a phased one.

Examining the business reasons is a key part of any migration. “We see enterprises who move to the cloud because they want to add new functionality, or new ways to access core assets and core capabilities from a different working profile. It’s not about, “I want to move the applications to the cloud because that’s a cool thing to do,” a roundtable member observed.

In some cases, cloud migration might mean moving to a new application, such as Salesforce CRM, Microsoft Office 365, or SAP S/4 HANA, a cloud-deployable version of the SAP business suite. This means that the application is already cloud-based, but the business processes have to change.

One consideration is that cloud platforms are virtualized environments, and the trend now is for applications themselves to be virtualized in containers, bundling all their dependencies into a single package and isolating them from the operating system. “Is your application virtualizable? Does it run in the cloud?” asked one participant. “How about performance? Is it disk intensive? Does it have enough bandwidth? Some applications may need re-engineering. And don’t forget security.”

Cloud migration is not just a matter of where applications reside, but how they are engineered. Organizations can prepare by making changes while still running on-premises. “We see customers moving into virtualization and/or containerization of what they’ve got now, and then running it in the cloud. There will be a migration process over a number of months set up in parallel to the existing estate, then there will be a switchover,” said a roundtable member.

WHY AN INCREMENTAL APPROACH WORKS

“Despite the increasing speed of cloud adoption I don’t see evidence of organizations scrapping all their legacy deployments all in one go,” said one ICT decision maker during discussion with other industry leaders. This caution is justified. “In a previous job, we decided to go all of a sudden. It was a huge failure,” said another.

KEY TAKE-AWAYS

• Understanding the business reasons to move to cloud is key
• An incremental move to cloud works in most cases as data and security are best managed in a phased approach
• The “black box” idea cloud makes a big bang approach to cloud feasible
• Not moving to the cloud is the biggest risk of all.
“The problem with big bang is the amount of data that has to be moved around and the amount of people that need to be told what needs to be done. It is just not feasible. You have to have a phased programme,” the room heard.

Besides, many applications are not cloud ready. “There are not yet enough true web-scale based applications that are at a business-critical level. I think we will see an accelerated shift over the next three-to-five years of more readily available applications, without a dependency on any particular network provider,” said a participant.

Consideration of security and compliance is essential. “You flip your entire security policy around, and move to dynamic policies around data and not so much the application,” said a participant. “It changes your siloed infrastructures to be very much more open and policy-driven.”

THE OPTION OF “NO CLOUD”:

Others at the event challenged the idea that businesses will ever move entirely to the cloud. New applications may live in the cloud, while existing ones may remain on-premises. A recent NTT Com survey, Cloud Reality Check, found that 10% of applications will never move to the cloud.

“The core applications may or may not go to the cloud,” said a participant.

“It is important to assess the risk. For example, a company with a custom application that is central to their business, they don’t want to touch that,” said another attendee. On the other hand, some level of cloud migration may be essential to the future of a business. “Moving to cloud gives better flexibility. Businesses have to transform otherwise new players will come who have access to those capabilities. The cloud is the only way you can get the agility to compete with new players,” the room heard.

There are many reasons for caution and many reasons to migrate to the cloud at a careful pace, but the risk of not migrating may be the highest of all.

THE CASE FOR A BIG BANG MOVE:

Despite general agreement that cloud migration should be gradual, there is a case for a certain kind of big bang approach, argued one member of the roundtable. “Instead of migrating applications at a granular level you can move them as a black box into the cloud, and once they are in the cloud begin transforming them into cloud-native applications,” the room heard.

The idea of the “black box” is that you shift your servers and network infrastructure as-is, so that instead of running on-premises they run in the virtualized cloud environment. “This makes sense in cases where there are a lot of dependencies between applications. It can be very difficult to isolate some applications to move them one by one to the cloud. After a black box move to the cloud we have a single perimeter security environment in which we have full control, then step by step we begin transforming them into cloud native applications.”

CONCLUSIONS

- Cloud is not another cool tool but a considered tactic
- Cloud migration is not about location of apps but about how they are engineered
- Some apps may never move to the cloud
- A shift towards greater availability of applications that are cloud-ready is imminent.

“Gartner says that by 2017 the CMO will have more IT spend that the CIO. The data center is probably not moving to the cloud but it is all this new stuff, social media, social sentiment analysis, all these tertiary pieces.
DEFINING BIMODAL IT AND ITS VARIANTS

Coined by Gartner in 2014, bimodal IT refers to having two different modes of ICT in operation at once: one mode focused on maintenance, stability and efficiency, while another, non-sequential mode that is an experimental and agile operation, optimized for speed of delivery than for stability. Gartner believes bimodal IT is essential to thrive in a changing business landscape.

Yet, does Gartner’s definition match the outlook of leading technology decision makers? And, more importantly, are they working in bimodal organizations already? The answer to both questions is broadly yes; the sentiment expressed in Gartner’s definition certainly resonates with industry leaders and many of them admit that two speeds of IT exist within their organization. There are, however, some important nuances in the way that bimodal operations are defined and have manifested themselves within different types of organizations.

One interpretation of bimodal IT broadly identifies Mode 1 as ‘legacy technologies and processes that need to be overhauled’ and Mode 2 as the ‘digital products that are delivered to market by DevOps teams to enhance the customer experience’. Other ICT decision-makers have described bimodal in terms of internal operational systems versus external consumer-facing platforms, back office versus front office operations, and the old versus the new.

The reason when exploring why organizations had started to exhibit symptoms of bimodal IT operation, many ICT decision-makers view the growing number of end-users and departmental heads purchasing their own, generally cloud-based, ICT services with a corporate credit card, as a key indicator.

By contrast, others argue that businesses have always operated in a bimodal fashion – the old is trusted and reliable, the new is exciting and unknown. This is a model that enables innovation to continually take place.

UNDERSTANDING THE BIMODAL BATTLE WITHIN ORGANIZATIONS

However one chooses to interpret the term, ICT decision-makers agree that bimodal IT can become a real source of tension within the IT function.

The banking sector is a very good exemplar of the challenges that bimodal organizations face. The sector is highly regulated, so the protection and integrity of core systems is absolutely fundamental.

KEY TAKE-AWAYS

- Bimodal IT is as much a new trend as it is the age-old push pull between new and old
- The bimodal battle is fought on two fronts – technical and cultural
- Technical upskilling and training are vital to combat tension
- Partners and carriers can help by easing transition between legacy and new technologies.
At the same time, most banks are fiercely competing with one another for customers: digital capabilities like mobile payments and banking are seen as means of encouraging customer loyalty – yet they depend on the core banking systems in order to function. When core banking systems were first conceived they didn’t factor in the now needed functionality and processes that enable flexible consumer facing operations. Front office teams don’t like to rely on legacy systems to drive the speed of innovation – this, understandably, causes tension.

Within any type of organization, the battle between forms of bimodal appears to be being fought on two fronts. On the one hand, there are technical issues in the way that two distinct technology sets are configured, the interface between the two and the skills required to integrate different technologies. The other is cultural - the conflict springs from the very different ways the two teams operate and are managed.

ALleviate Bimodal IT Pain Points

What can organizations do to alleviate these pain points and make bimodal strategies work for them? ICT decision-makers are ambivalent on the effectiveness of HR-led initiatives like job swaps and collaborative activities between employees working in either mode. Technical upskilling and training, on the other hand, are seen as vital.

ICT decision-makers attach greater importance to instilling an appreciation and an understanding of the role each side of the IT function plays within the business. One way of achieving this is to appoint a single individual (or a small team) with responsibility for managing communication channels and negotiating between the different groups.

Some ICT decision-makers take the view that both sides of the bimodal IT divide could find common cause in focusing on the needs of the end user. Putting the customer at the heart of every discussion, and connecting those talking to customers to everyone responsible for delivering services, ICT leaders believe, would leave organizations better-placed to succeed in a customer led digital world. Technologies such as big data and the Internet of Things give businesses even more opportunity to get closer to their customers, which means core systems at the backend must provide the flexibility the frontend needs to exploit them to their optimum.

ROLE OF CARRIERS

Based on ICT decision-makers experience, carriers have an important role to play. Many ICT decision-makers indicated that their move to a bimodal strategy is something they would seek a partner to help them with. Carriers are able to:

- Reduce complexity of IT operations and ease the transition between legacy and new technologies
- Provide a secure and reliable platform, with flexible resources for DevOps teams
- Help organizations speed up the pace of innovation, by enabling development teams to take new applications out of the sandbox into production faster
- Deliver an available platform with a great response time to ensure the performance of online products.

CONCLUSIONS

- Bimodal IT is an enabler of continuous innovation but comes with its challenges
- Focusing on the end user can help to sync the twin operational modes of Bimodal IT
- Regulated sectors can find the tension between modes aggravated by factors such as legacy systems
- Taking the help of partners can both ease and speed up the change.

“Putting the customer at the heart of every discussion, and connecting those talking to customers to everyone responsible for delivering services, ICT leaders believe, would leave organizations better-placed to succeed in a customer led digital world.”
Conclusions from the NTT Global Forum

Navigating the digital maze with a powerful compass - the shared knowledge from human stories

From the findings of the roundtables it is clear that the issue of digital transformation is an intricate one - from its fragmented definition to the numerous ways to navigate it, there isn’t a one-size-fits-all answer.

When participants were asked to choose what digital transformation is about, the majority of the attendees chose ‘people’ over ‘technology’ or ‘culture’. One of the key findings of the roundtables is that digital transformation is about innovation in all aspects of business – about rethinking the way business is done. What these findings tell us is that the key to understand that digital transformation is about people driving innovation. Digital technologies such as cloud and mobile are powerful tools in the hands of people that can aid or derail the process of driving innovation.

Every organization’s story of transformation can be unique to it. However recurrent themes run through many of them. Identifying these themes, sharing them and learning from one another is one of the fundamental and human ways through which to navigate the digital journey.

Iain Hatherall, Solutions Director for Northern Europe, NTT Europe, said “Digital is too complex for any one individual to arrive at a magic solution. We need more and more stories that can add layers and layers of meaning and clarity to the problem. What we must all become adept at, is learning from these stories, from each other. That is the secret sauce.”

The NTT Global Forum brought the ingredients of the secret sauce together. The result is a condensed collection of anecdotes shared, lessons learnt and myths shattered.

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