

RULES FOR DIGITAL REVOLUTIONARIES



EMERGING GUIDELINES FOR FINANCIAL INSTITUTIONS
ON DIGITAL TECHNOLOGY AND INNOVATION



BNP PARIBAS



The bank for a changing world

Foreword

In setting up our Innovation & Digital Lab in the summer of 2016, one of our key objectives has been to help clients better navigate the ever-changing digital world. For financial services organisations in particular, the pace of digital change is vast and sometimes it is difficult to know how to embrace the topic.

Certainly there is no shortage of high-quality research that highlights the advantages of one technological solution over another, offers great examples of digital transformation from other industries, or posits solutions to the legacy technology issues large financial institutions face. In fact, it seems that there is a new – and well-argued – opinion published almost every week.

We asked the University of Surrey’s Centre for the Digital Economy (CoDE) to put into context the challenge that we in financial services face when considering the changing technology, and shine a light on the solutions that are already in our control. The report that follows has been written by Professor Alan Brown, CoDE’s Executive Director, and Dr. Ben Shenoy, Director of CoDE’s Business Insights Lab.

I am sure you will enjoy ‘Rules for Digital Revolutionaries’ and hope that it supports your own cultural – and only then technological – revolution.

Philippe Ruault
Chief Innovation and Digital Officer

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Executive summary

Volatility. Uncertainty. Complexity. Ambiguity. 'VUCA' is the touchstone of the Digital Economy.

A constant stream of emerging digital technologies, optimised production practices and flexible global delivery models has coalesced into a revolution in business models, consumer expectations and socioeconomic behaviours. Add to this mix changes in regulation and markets, and the future of financial services becomes virtually impossible to predict.

But digital, paradoxically, also provides us with the tools to rise to these challenges.

This report defines, interprets and helps you to navigate the digital landscape: from obstacles to opportunities; from new models to old truths; from disruption to new connections; from confusion to clarity and effective action – incumbents can respond productively and successfully to the fluidity the Digital Economy represents, finding solutions to an equation that is constantly in motion.

In the report, we explore some key themes:

- Reaching consensus on your digital aspirations;
- Letting go of the business techniques that are holding you back;
- Applying the discovery-driven methods that are designed for uncertainty;
- The challenges and rewards of Open Innovation;
- Fostering innovation in a corporate environment.

Designing effective organisations and institutions for the Digital Economy is the grand challenge for our time. Learn how to make the first step count.

Section 1

Responding to a VUCA world

VUCA – a term coined by the US military to describe extreme, fluid and confusing combat environments such as those in Afghanistan and Bosnia – increasingly resonates with business leaders wrestling to cope with turbulent times. The economic waves triggered by digital technology, coupled with changes in regulation and markets, are putting the financial services sector on a VUCA playing field. In terms of this sector, VUCA refers to:

- **Volatility:** financial market volatility and fluctuation in asset values;
- **Uncertainty:** inability to predict what will happen (e.g. which fintechs will succeed as disruptors? Which parts of the value chain will be most affected?);
- **Complexity:** the number and variety of financial instruments, changes in regulation and the array of technologies set to transform the industry;
- **Ambiguity:** the difficulty of interpreting the implications of this new context for how we operate, respond and compete.

Big changes are afoot, evidenced by continued high levels of fintech activity. Despite a drop of 49% in fintech funding in the second quarter of 2016, corporate participation in fintech deals rose to nearly one-third across all deals¹. Furthermore, three-fifths of the incumbent respondents to an Accenture banking & fintech survey stated that they were either ‘somewhat’ or ‘extensively’ open to sacrificing revenue in order to move to new business models².

The sheer volume and variety of predictions about how financial services will change is a source of confusion. In such a VUCA environment, it’s impossible to predict how the future will unfold, but there are ways for incumbents to respond productively in such a fluid situation.

In this report, we will be examining ‘rules for digital revolutionaries’, laying out the emerging guidelines for how financial institutions can make sense of what digital technology might mean for their businesses, and organise themselves to innovate appropriately, whilst maintaining ongoing smooth operations. We begin by outlining some of the obstacles confronting incumbents.

¹ KPMG, *The Pulse of Fintech*, Q2 2016, August 17, 2016.

² Julian Skan, James Dickerson, and Samad Masood, *The Future of Fintech and Banking: Digitally disrupted or reimaged?* Accenture, 2015.

Section 2

What's holding
incumbents back?

Confusion about 'digital' aspirations

The first challenge relates to the 'A' in VUCA – namely Ambiguity. There is often little shared understanding of what the terms 'digital' and 'digital innovation' mean within any given team, let alone a division or whole business. Depending on whom you talk to, 'digital innovation' could mean:

- Moving application systems to a hybrid cloud;
- Offering mobile apps to clients before the competition;
- Modern technology excluding core Information Technology (IT) systems;
- Integrating multiple client communication channels;
- Developing a working blockchain prototype; and/or
- Robotic wealth management advisors.

This lack of a shared understanding means that it's almost impossible to arrive at a consensus about the implications of 'digital' for a business. Should digital initiatives be focused on product management & marketing, customer experience, trading or asset servicing? Should the purpose of such initiatives be cost efficiency, margin improvement or client retention?

Most organisations typically do not have a common framework for interpreting the welter of signals bombarding them, let alone deciding how to react. For example, how should a management team react – or not – to the following headlines:

- "Asset managers run risks in the rush into peer-to-peer loans³"
- "Shadow banks: Dark and stormy⁴"
- "Ask the algorithm: Human wealth advisers are going out of fashion⁵"
- "Blockchain offers banks the chance to rehabilitate their image⁶"
- "Tim Kunde's approach to peer-to-peer insurance⁷"

The lack of consensus about exactly what digital innovation is, and where it should be deployed, makes it hard to justify and initiate digital investment decisions through conventional mechanisms.

What has made us stronger could kill us⁸

The management structures and processes that have served financial institutions well for the last 50 years or so evolved to meet the needs of controlling operations at scale⁹. This need for control resulted in a numbers-based focus on measurement, monitoring and analysis, resulting in optimisation against 'best practices', which has served businesses well.

³ Aime Williams, "Asset managers run risks in the rush into peer-to-peer loans," *Financial Times*, July 17, 2016.

⁴ "Shadow Banks: Dark and Stormy", *The Economist*, May 7, 2016.

⁵ "Ask the algorithm: Human wealth advisers are going out of fashion," *The Economist*, May 9th, 2015.

⁶ Patrick Jenkins, "Blockchain offers banks the chance to rehabilitate their image," *Financial Times*, August 24, 2016.

⁷ Guy Chazan, "Tim Kunde's approach to peer-to-peer insurance," *Financial Times*, September 7, 2016.

⁸ A reversal of Nietzsche's quote "What doesn't kill you makes you stronger", from Friedrich Nietzsche, *Twilight of the Idols, Or, How to Philosophize with a Hammer*, trans. Duncan Large. New York: Oxford University Press, 2014.

⁹ Tim Lasserer, "Management in the Second Machine Age," *strategy+business*, May 12, 2014.

However, this emphasis on quantitative precision is ill-suited to the challenges of a VUCA environment posed by digital innovation. The fuzziness of potential digital initiatives means they are systematically undervalued in the Net Present Values of investment cases, because of the difficulty of estimating revenues, costs and discount rates¹⁰. Traditional management hierarchies struggle to strike a reasonable balance between centralised coordination of enterprise digitisation with a distributed, empowered approach that ‘lets a thousand flowers bloom’. And such hierarchies find it hard to get digital functions operating at two or more speeds to synchronise with each other¹¹.

Cultural ‘unreadiness’

The obstacles posed by an organisational ‘recipe’ that has served financial institutions well for decades go deeper than rigid structures and decision-making processes that cannot easily accommodate VUCA. It extends to more informal aspects of organisational life, such as culture, behavioural norms and the mind-sets of leaders and employees. The need for high repeatability and low variance, as few faults as possible and a sober assessment of operational risk do not sit well with the typical innovation mantras of “fail fast and often”, “don’t follow the crowd” and “power to the people”. Even if an organisation has a clear set of digital aspirations and has aligned its decision-making and work processes, without a corresponding shift in culture it is likely to fail. Or, as Peter Drucker¹² is said to have stated much more pithily, “Culture eats strategy for breakfast.”

The ‘Knowing-Doing’ gap

While it’s important for financial institutions to be clear on their digital aspirations and be prepared to execute on them, there is also a separate obstacle: the ‘knowing-doing’ gap¹³. This refers to a misalignment between ‘knowing’ what you want to do (e.g. clear intentions about digital innovation) and actually ‘doing’ it (having the organisational arrangements in place to implement those intentions).

While the role of technology is undeniably important in the ongoing digital revolution, what’s striking is that the hurdles confronting financial institutions are primarily organisational in nature. The VUCA environment is throwing up challenges that will force incumbents to adapt in some fundamental ways – triggered primarily by external forces relating to technology, shifts in client behaviour and the resultant migration of value across the ecosystem. However, it would be unwise to lose sight of some ‘timeless’ fundamentals, which relate to internal imperatives of strategy and organisation.

In the next section, we set out guidelines for how financial institutions need to modify how they operate in response to VUCA.

¹⁰ Clayton M. Christensen, Stephen P. Kaufman, and Willy C. Shih, “Innovation Killers: How Financial Tools Destroy Your Capacity to Do New Things,” *Harvard Business Review* 86 (2008).

¹¹ Tom McCall, “How to Innovate with Bimodal IT,” *Gartner*, February 18, 2015, <http://www.gartner.com/smarterwithgartner/how-to-innovate-with-bimodal-it/>

¹² Attributed to Peter Drucker, by Mark Fields, now President and CEO of Ford Motor Company, in the midst of Ford’s turnaround in 2006.

¹³ Jeffrey Pfeffer and Robert I. Sutton, *The Knowing-Doing Gap: How Smart Companies Turn Knowledge into Action*, Boston, MA: Harvard Business School Press, 1999.

Section 3

What's changed? The need for more exploration of a confusing environment

Figuring out how to ‘navigate the fog’

When the conventional management practices that have addressed the challenges of running operations reliably at scale so well are applied to an increasingly VUCA environment, they give rise to a planning dilemma: namely, how do we organise and manage ourselves when we don’t know what we’re aiming for?

In this shifting, unsteady scenario, business (and digital) strategy looks more like the managerial equivalent of a set of rapidly evolving hypotheses^{14,15}. Managers need to develop hypotheses – guesses – about what might work, and then test them. The threats facing financial institutions now, such as novel competitors attacking laterally and unexpectedly, and business models mutating at ever increasing velocity, do not lend themselves to traditional analysis. Instead of examining the past, these hypotheses have to be applied to an uncooperative and confusing reality.

Luckily methods for coping with such a high degree of the unknown have emerged across a number of disciplines: Design Thinking in the world of product management¹⁶, Lean Startup in the domain of entrepreneurship¹⁷ and Agile in the field of software engineering¹⁸. The principles common to all these discovery-driven¹⁹ methods are (a) absorb ideas from a wide range of sources about a particular topic – including, but not restricted to, past experience; (b) brainstorm some (untested) guesses about a new product or service addressing that topic; (c) design and conduct tests to flush out key unknowns or validate critical assumptions; and (d) keep iterating until you’ve reduced the unknowns to a level you can tolerate.

So what might these unknowns and assumptions be in the context of digital innovation in the financial services sector?

- Industry ‘stacks’ will be the new blueprint for banking²⁰;
- Asset management distribution will be redrawn, with regional and global platforms dominating²¹; and
- Early-stage fintech innovators need the infrastructural support of large established banks as much as those large organisations need the start-ups’ new ideas and energy²².

The nature of the tests to be conducted depends on the hypotheses – from scenario planning exercises, through testing different versions of website or app mockups to full simulations of prototype concepts.

Venturing deeper into the open innovation landscape

Another way in which financial institutions are exploring the new environment is by increasing the degree to which they collaborate with external parties, both individually (e.g. fintechs) and collectively (e.g. collections of partners).

Fintechs provide rapid deployment of cutting-edge technical expertise, enabling them to reinvent incumbents’ core systems rapidly and cheaply, as well as offering advanced marketing and customer experience skills. In exchange, they gain access to the business infrastructure required to operate reliably at scale and handle complex functions related to regulatory compliance and fraud prevention. This need will grow in importance as the fintechs come under the growing scrutiny of regulators, and will therefore become potentially subject to the usual industry constraints (e.g. compliance systems, licences and bank charters) that incumbents have acclimatised to over many years. The fintechs also stand to benefit from incumbents’ long-standing customer relationships and the ability to mine data warehouses containing customer profile and transaction data.

¹⁴ C Lasseter, “Second Machine Age.”

¹⁵ Clayton M. Christensen and Michael E. Raynor, “Why Hard-Nosed Executives Should Care about Management Theory,” *Harvard Business Review*, 89(1), 2003.

¹⁶ Jeanne Liedtka, *Designing for Growth: A Design Thinking Tool Kit for Managers*, New York: Columbia University Press, 2011.

¹⁷ Eric Ries. *The Lean Startup: How Constant Innovation Creates Radically Successful Businesses*, London: Portfolio Penguin, 2011.

¹⁸ Jim Highsmith, “History: The Agile Manifesto,” 2001, <http://agilemanifesto.org/history.html>

¹⁹ Simon Haslam and Ben Shenoy, *Strategic Decision Making: A Discovery-Led Approach to Critical Choices in Turbulent Times*, London: Kogan Page, 2017 (forthcoming).

²⁰ Thorsten Brackert, Gustav Gotteberg, Philip Evans, and Jesper Damm, “Will Industry Stacks be the New Blueprint for Banking?” *BCG Perspectives*, June 16, 2016.

²¹ PwC, *Asset Management 2020: A Brave New World*, 2014.

²² Skan et al., *Future of Fintech*.

As in other sectors – companies working on autonomous cars include Apple, Baidu, Google, Microsoft, Nvidia and Uber; none of which would be classified as a conventional car manufacturer – external collaboration is likely to extend beyond financial services to those in different industries, who may identify novel ways of creating value by offering completely different perspectives. One way for incumbents to mitigate the risk of engaging in a series of wild goose chases, trying to second-guess an industry in flux, is to locate themselves at potentially valuable positions within the emerging ecosystems that comprise a blend of incumbents and fintechns. This shifts the balance of effort and cost away from in-house research & development to externalised experimentation & scaling on stable technology platforms²³. While such an approach has clear benefits, it also has profound implications for incumbents' identity & culture – their organisational 'DNA' – that we will return to later.

Credit Suisse

Urs Rohner, Chairman of Credit Suisse Group, argues that digital disruption is more likely to open up new segments for partnerships between start-ups and incumbents than to usher in an era of head-to-head competition²⁴. He believes that incumbents' and fintechns' willingness and ability to collaborate will largely determine both parties' longer-term success.

The outlook for incumbents is straightforward. In a number of areas, such as mobile points of sale and crowd-based financing, many startups are developing solutions that are forcing incumbents – under pressure from tech providers competing for market dominance – to face considerable uncertainty as to which technologies to invest in.

Fintechns are confronted with multiple challenges of their own. Some stem from the tough market environment; others stem from advantages that might morph into liabilities (e.g. owning a banking licence). For instance, the current absence of legislation against money laundering of virtual currencies reduces the likelihood that money laundering and terrorist financing will be identified and reported. When regulation in this area is eventually rectified, it will saddle fintechns with hurdles they have so far managed to sidestep.

Mr. Rohner believes innovators and incumbents can help each other with their respective challenges by continuing to compete with each other in some areas, while collaborating in others. In the longer term, he believes that collaboration will ultimately prove an extremely promising proposition, allowing existing financial services institutions to reduce mounting cost pressures and increase operating efficiency, while addressing fintechns' need to survive in the long term.

²³ Michael Schrage, "R&D, Meet E&S (Experiment & Scale)," *MIT Sloan Management Review*, May 11, 2016.

²⁴ Urs Rohner, "Why partnerships are appealing," *McKinsey Quarterly*, April 2016.

‘Conscious coupling’: finding a way to coordinate innovation & operation

The ideas outlined above are somewhat at odds with the traditional, hierarchical structures that still dominate most of the sector. Leaders will need to consider how they can apply such approaches to innovation so they can be integrated with core operations.

“We advocate a ‘conscious coupling’ of innovation and operation, recognising that different functions have conflicting needs and therefore have to be managed according to different operating models.”

How tight the linkage is between the elements of these ‘ambidextrous organisations’^{25,26} depends on how the digital innovations being developed might affect the core business. There are a variety of organisational structures for managing innovation-operation ambidexterity:

- **Centralised:** digital initiatives are coordinated – and possibly consolidated – by a central unit. This ensures a higher level of control (e.g. appropriate governance over digital spend), and a more direct link to corporate strategy, aligning the work of divisions. The central digital unit can scan the external environment and seed ideas that launch projects within divisions. The resultant efficiency comes at the expense of creativity and a lack of sensitivity to weak signals in the marketplace.
- **Decentralised:** in this model, digital initiatives are controlled by divisions, typically with a focus on local front-office activities (e.g. digital marketing, online sales channels, support for field staff) with deliberately minimal impact on back-office systems. The greater speed and responsiveness of this approach can come at the cost of reduced coordination across the portfolio of digital activities, the risk of duplication and investment in silos – possibly due to the lack of a clearly articulated digital strategy.
- **Catalyst:** this approach tries to strike a balance between the centralised and decentralised models. It assumes a coherent and clearly articulated digital strategy, which is communicated locally to divisions through ambassadors sometimes called ‘digital catalysts’²⁷. The role of these catalysts is to share knowledge and transmit learning about digital innovation. For these linkage roles to function effectively requires openness and trust, as well as a penchant for internal collaboration, which implies a set of leadership behaviours that signal the importance of these cultural norms to all concerned.
- **Dispersed:** in this extreme version of the decentralised model, there is no specific focus on all things digital. Digital initiatives, processes, resources and skills are fully integrated into the normal operating model, because the need for ambidexterity has disappeared, or in fact never existed; the organisation has not required a dual focus since its inception. Whilst this approach is common in ‘digitally native’ organisations, we do not anticipate that it will be suitable for most financial services incumbents in the medium term.

It is clear that the organisational choices listed above reflect a trade-off between the efficiency of ‘top-down’ models and the responsiveness and sensitivity of their ‘middle-out’ counterparts.

²⁵ R. B. Duncan, “The ambidextrous organization: Designing dual structures for innovation,” in *The Management of Organization*, Vol. 1, ed. R.H. Kilman, L.R. Pondy and D. Slevin, New York: North-Holland, 1976, 167-188.

²⁶ Michael Tushman and Charles A. O’Reilly III, “Ambidextrous organizations,” *California Management Review*, 38 (4), 1996.

²⁷ Scott Anthony, “The New Corporate Garage,” *Harvard Business Review*, 90(9), 2012.

BBVA

Francisco González, the chairman and CEO of BBVA, has adopted a striking stance – for an incumbent – towards the impact of digital on financial services. He has declared that “banks need to take on Amazon and Google or die²⁸,” and that “BBVA will be a software company in the future²⁹.”

BBVA embarked on its ‘digital journey’ nine years ago, with its model for ‘conscious coupling’ between operation and innovation maturing over time³⁰. At first, management of digital initiatives was centralised within IT. The model decentralised as a number of digital centres of excellence emerged to address strategic priorities, such as big data and mobile banking. The pendulum swung back towards centralisation, with responsibility for digital being consolidated into a digital banking unit, reporting to the CEO, with a mandate to lead the digital agenda across the whole organisation. Most recently, there has been a transition towards a catalyst model, with digital being dispersed back into the business. For example, a new unit leads global development of end-to-end customer experience, with an innovation lab conducting live customer trials.

By now, many senior executives have considerable digital experience, having risen through the ranks internally or been recruited from external digitally native companies. This has been instrumental in triggering a major change in BBVA’s organisational DNA in relation to digital.

²⁸ Francisco González, “Banks need to take on Amazon and Google or die,” *Financial Times*, December 2, 2013.

²⁹ “In the future, BBVA will be a software company – Francisco González,” *Finextra*, March 5, 2015.

³⁰ Elizabeth Kaufman, Allison Bailey, Kilian Berz, Stephanie Choo, Martin Danoesastro, Christophe Duthoit, Mark Greenberg, Roman Regelman, and Victoria Roig, “The Power of People in Digital Banking Transformation: The Digital Financial Institution,” *BCG Perspectives*, November 5, 2015.

Section 4

What has remained constant? The timeless fundamentals of translating knowing into doing

Figuring out exactly what ‘digital’ means – for *your* business

The problem of poorly articulated digital aspirations we described earlier is closely linked to what has been termed ‘bad strategy’³¹, which arises when tough choices are avoided and management teams are either unwilling or unable to define and explain the nature of the strategic challenges – digital or otherwise – facing the organisation.

Good strategy, in contrast, is characterised by the diagnosis of a situation facing an organisation that captures the essence of a strategic challenge together with a few key insights into how to tackle it, coupled with a set of *coherent* actions aimed at converting these insights into reality.

What does this concept of ‘good strategy’ mean in the context of digital innovation in financial services? We believe it amounts to some hard thinking, supported by relevant conceptual frameworks, amongst the key digital decision-makers and about a few important questions:

- What are the fault lines in your existing value chain that are potential areas for disruption?
- How mature are the disruptive forces across your value chain?
- Who might your future competitors be? Would your customers agree?
- Which technologies might mitigate threats or offer opportunities for your business, and where would they be applied to your value chain?

The intention is to end up with a reasonably simple but insightful ‘map’ that links technologies, the business activities they would affect and the potential consequences they would have (e.g. efficiency, margin, volume). Executive consensus around this map would give shape to the portfolio of initiatives for the organisation to formulate a meaningful response to VUCA.

³¹ Richard P. Rumelt, *Good Strategy, Bad Strategy: The Difference and Why It Matters*, New York: Crown Business, 2011.

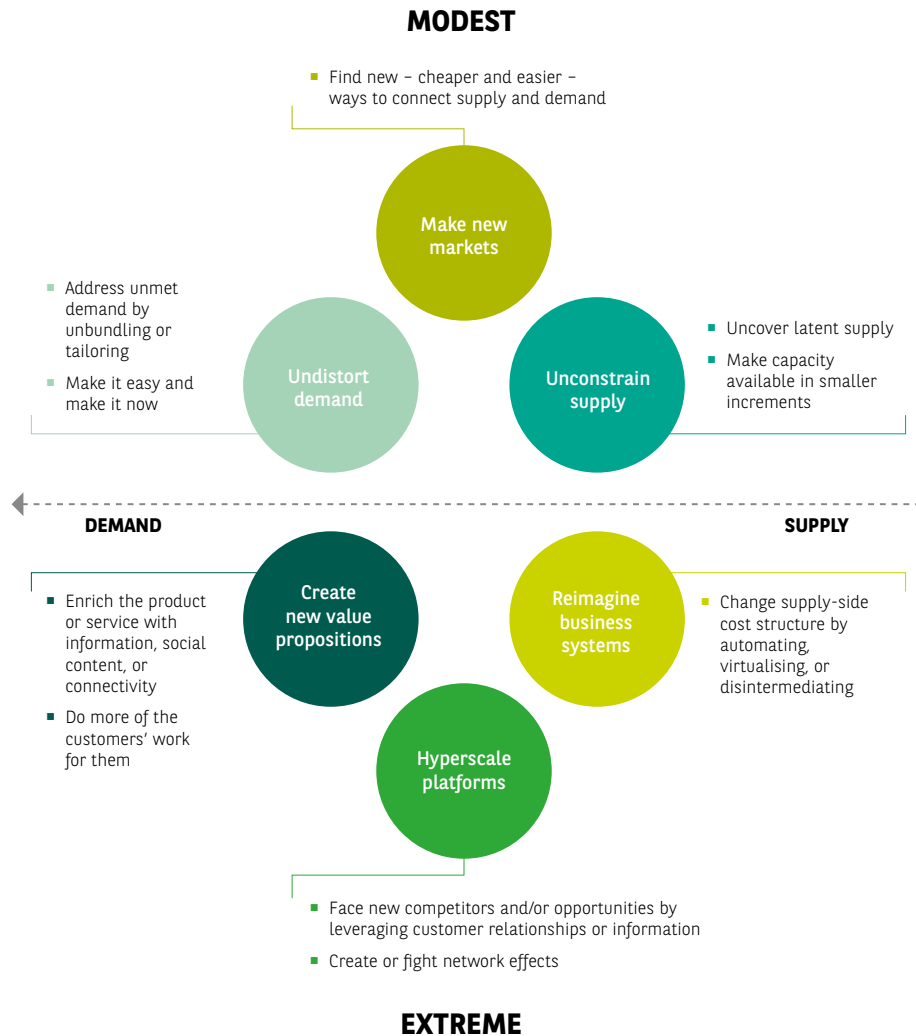
Frameworks for understanding the implications of 'digital'

Here are a couple of examples that illustrate how frameworks can be used to support an exercise of constructing a 'map' that links technologies, business activities and potential activities to shape a coherent portfolio of activity. While such frameworks can be invaluable in supporting meaningful dialogue, it's important not to fall into the seductive trap of using tools like these as a substitute for hard thinking about what digital really means for the business.

McKinsey's digital strategy framework³² aims to frame sources of digital disruption in terms of changes in the economic fundamentals supply and demand. This approach posits two main sources of digital disruption: namely, the appearance of new product or service markets and changes due to hyperscaling platforms.

Figure 1: Digitisation can disrupt industries when it changes the nature of supply, demand, or both.

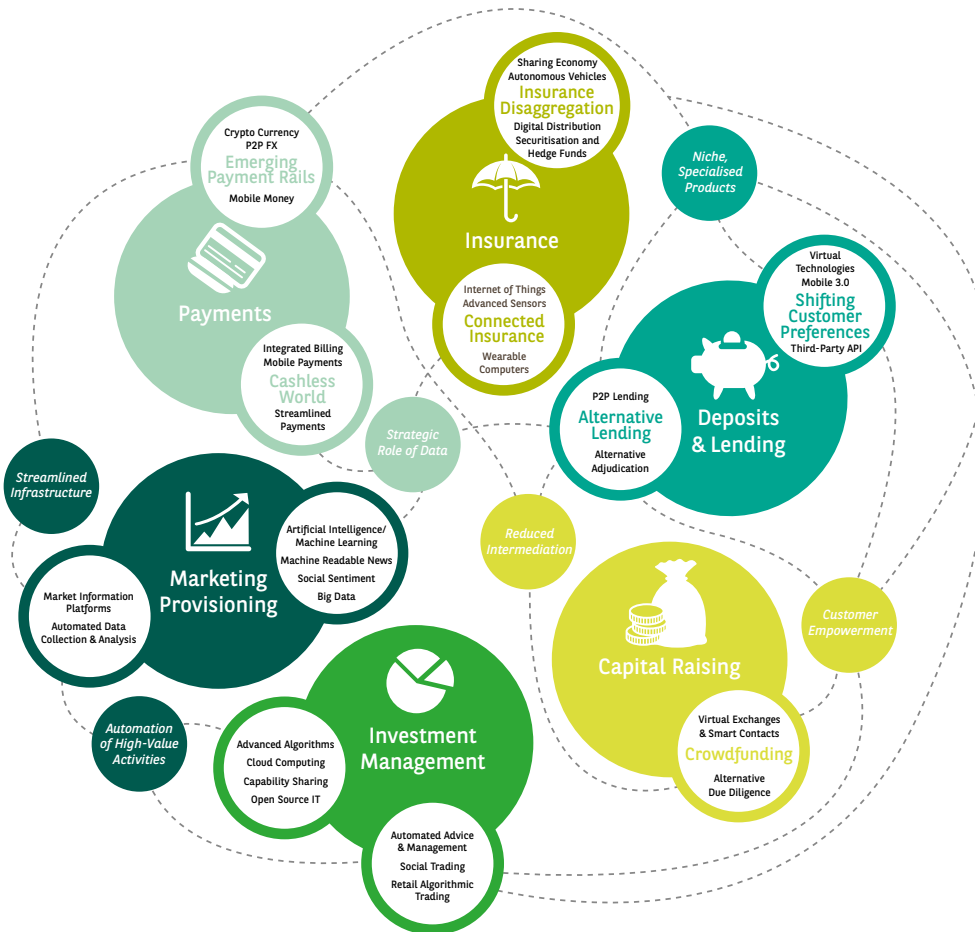
DEGREE OF CHANGE IN THE NATURE OF SUPPLY AND DEMAND



³² Angus Dawson, Martin Hirt, and Jay Scanlan, "The economic essentials of digital strategy," *McKinsey Quarterly*, March 2016.

The World Economic Forum has published a consolidated taxonomy hypothesising how disruptive innovation could affect different functions of financial services (e.g. payments, investment management) and categorises anticipated dislocations into clusters of innovation³³.

Figure 2: Consolidated taxonomy for disruptive innovation in financial services.



Frameworks like those above can help incumbents figure out where their business models are most vulnerable to digital dislocations, and which technologies and players pose the greatest threats and opportunities.

³³ World Economic Forum, *The Future of Financial Services: How disruptive innovations are reshaping the way financial services are structured, provisioned and consumed*, June 2015.

Matching capabilities to the digital aspiration

The next ‘timeless fundamental’ relates to closing the knowing-doing gap by ensuring that the organisation’s digital ambitions are supported by complementary capabilities. Given what has made financial institutions perform so well over the last few decades, it should probably come as little surprise that there is such a large & growing mismatch in most such organisations between what they wish to achieve in the digital arena and their current capabilities – specifically in relation to talent and skills. One clear consequence is the need to align the digital strategy with the talent strategy, and monitor and manage the talent pool continually as conditions change.

By now it should also be clear that, over time, digital savvy cannot reside in a few individual ‘transplants’, because digital will eventually need to permeate the entire organisation. Management of digital cannot reside solely in the technology group; making sense of digital, and formulating and executing appropriate

The focus on skills needs to extend beyond knowledge of specific technologies to the ability to execute specific practices, such as agile prototyping, external collaboration with fintechs and working within distributed delivery models.

responses must become integral to general management discussions. Nontechnology executives will need to become more comfortable with digital than is currently the norm across the sector.

Such a matching exercise is a two-way street: an organisation’s existing strengths should also shape its digital strategy. For example, incumbents

should figure out ways to exploit their existing expertise in, for example, assessing credit exposure, managing counterparty risks or executing and settling financial transactions. They can use these strengths in negotiating collaborative arrangements with partners such as fintechs, giving them access to rapid, relatively low-cost innovation. These unique capabilities also extend to intangible assets, such as incumbents’ position of trust with their customers, their access to customer data, and their knowledge of the regulatory environment.

Lloyds Banking Group

Speed of change has long been a focus in software development organisations as they adopt more agile delivery practices throughout their teams. However, scaling agile techniques successfully in complex organisations requires an approach that moves well beyond technology. It requires a style of problem solving that embraces experimentation, and supports fast learning cycles driven by a management approach guided by achieving clear outcomes³⁴. But agility cannot mean chaos. The energy and fast delivery cycles must be coordinated and managed.

Tony Grout, Head of Digital and Non-Digital Agile Transformation at Lloyds Banking Group describes this as “moving the needle”³⁵. Even in adopting agile techniques, his focus for managing risk is to establish agreed outcomes for each project, with project members aimed at clear metrics and achievable increments against established baselines. He sees the situation as follows: “The problem is that an agile organisation needs to think and act differently, and agile methods are only part of the story. Each organisation is different and any change on this scale is going to have to adapt to emerging conditions.” He believes his role is defined by the need to adopt an “agile culture” across more than 23,000 people that deliver IT and business services across the Group.

³⁴ Alan W. Brown, Scott Ambler, Walker Royce, “Agile at Scale: Economic Governance, Measured Improvement, and Disciplined Delivery”, *Proceedings of the 35th International Conference on Software Engineering*, IEEE, May 2013.

³⁵ Tony Grout, telephone interview, September 16, 2016.

Ensuring the ‘organisational DNA’ doesn’t reject digital

The preceding ‘rules’ have clear, and profound, implications for the changes required in aspects of incumbents’ ‘organisational DNA’: their culture, mindsets and behavioural norms. For example:

- The need for collaboration – both externally and internally – contrasts with a historical focus on specialisation of tasks that has resulted over time in silos;
- The call for greater experimentation, and embracing associated failure as learning, is at odds with a justifiable sensitivity to excessive risk – especially after the financial crisis; and
- A more democratic, ‘middle-out’ perspective on nurturing innovation can conflict with a traditional top-down approach geared to maintaining tight control in a highly regulated environment.

Ultimately, this is a leadership challenge about balancing the need for organisational transformation whilst not losing the strengths of the core operation’s DNA – ‘what made us strong’. This implies that leaders themselves need to be ‘ambidextrous’³⁶, adapting the signals they give colleagues – about what is encouraged and what is not – based on the nature of the ‘job’ a particular part of the organisation is performing.

How can leaders go about changing their organisations’ DNA to accept digital? Over the past twenty years, behavioural science³⁷ has uncovered some key principles that differ significantly from classic approaches to the management of change³⁸. Some of the insights into individual behaviour that have emerged include:

- What might appear to be resistance to change may actually be a lack of clarity about what’s required and why, often arising out of a communication failure;
- What might appear to be a lack of effort invested in attempting to change might simply be mental exhaustion; and
- Changing people’s long-term behaviour requires changing their day-to-day habits – by replacing old habits with new ones.

Some of the key findings about aggregating individual behaviour to change an organisation’s DNA include:

- ‘Wicked’ problems are typically solved by sequences of relatively small initiatives that cascade to create a ‘tipping point’, rather than by large-scale solutions completely planned out in advance;
- Successful changes often occur ‘middle out’ (i.e. they start in a number of local places and then ‘infect’ the rest of the organisation) rather than emanating from the top; and
- Once triggered, intended changes in behaviour and belief can be reinforced by changing aspects of organisational context – both formal (e.g. structures, measures and incentives) as well as informal (values, behavioural norms and social networks).

These insights pose management challenges for leaders trying to instigate change in their organisations’ DNA.

³⁶ Tushman et al, “Ambidextrous organizations.”

³⁷ For example, see Chip Heath and Dan Heath, *Switch: How to Change Things When Change Is Hard*, London: Random House Business Books, 2011.

³⁸ John P. Kotter, *Leading Change*, Boston: Harvard Business School Press, 1996.

Danske Bank

In line with many organisations, over the past few years Danske Bank has been undergoing significant redesign of its IT operations. Key to that transformation has been the adoption of agile software delivery techniques aimed at speeding up response times to user demands, and accelerating time to value from project initiation through to completion. In its initial phases, Danske Bank's agile software delivery practices pushed software project delivery times from an average of 14 months to under 9 months, with associated improvements in quality and efficiency of the delivery cycle.

More importantly for Danske Bank, however, has been the shift in mind-set that has accompanied the move to more agile approaches³⁹. Volatility in the banking industry has demanded new approaches to IT delivery that recognise the importance of closer stakeholder involvement in IT projects, a more integrated team approach to problem resolution, and greater transparency into project progress and outcomes. The results, according to Peter Rasmussen, Senior Vice President, IT Development Processes & Tools, Danske Bank is that "the business units experience closer co-operation with the IT department and a direct prioritisation of the tasks – and thus a higher degree of certainty that the right developments are taking place." Risk management is improved through agile software delivery practices that change the rhythm of project delivery to more closely match the needs of business in the digital economy.

³⁹ Alan W. Brown, *Enterprise Software Delivery: Bringing agility and efficiency to the global software supply chain*, London: Addison Wesley, 2012.

Section 5

Rules for digital revolutionaries

Digital technology is causing ructions across the financial services sector, and its onset is clearly changing some of the rules of the game. The greater need to interpret and comprehend what's happening outside organisations is driving a shift toward more fluid and distributed approaches to defining and implementing projects, more external collaboration with fintechs and other partners, and the need to synchronise digital innovation efforts with the core operational activities.

As incumbents struggle to clarify their digital aspirations and ready themselves to respond appropriately, what's striking is how much we need to focus on issues that are primarily organisational – and some of which are almost quaint in their timelessness. There is still a strong need to avoid the classic traps of formulating bad strategy (digital or otherwise), to match digital aspirations with organisational capabilities and for leaders to mutate their organisations' DNA to accept the ways of working demanded by the evolving digital world.

Incumbents need to adapt how they make sense of signals in their environment, both weak and strong. But it's worth bearing in mind that in the face of all the digital hype, the fundamental principles of doing sound business and bridging the 'knowing-doing' gap haven't disappeared – no matter how different the landscape appears.

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