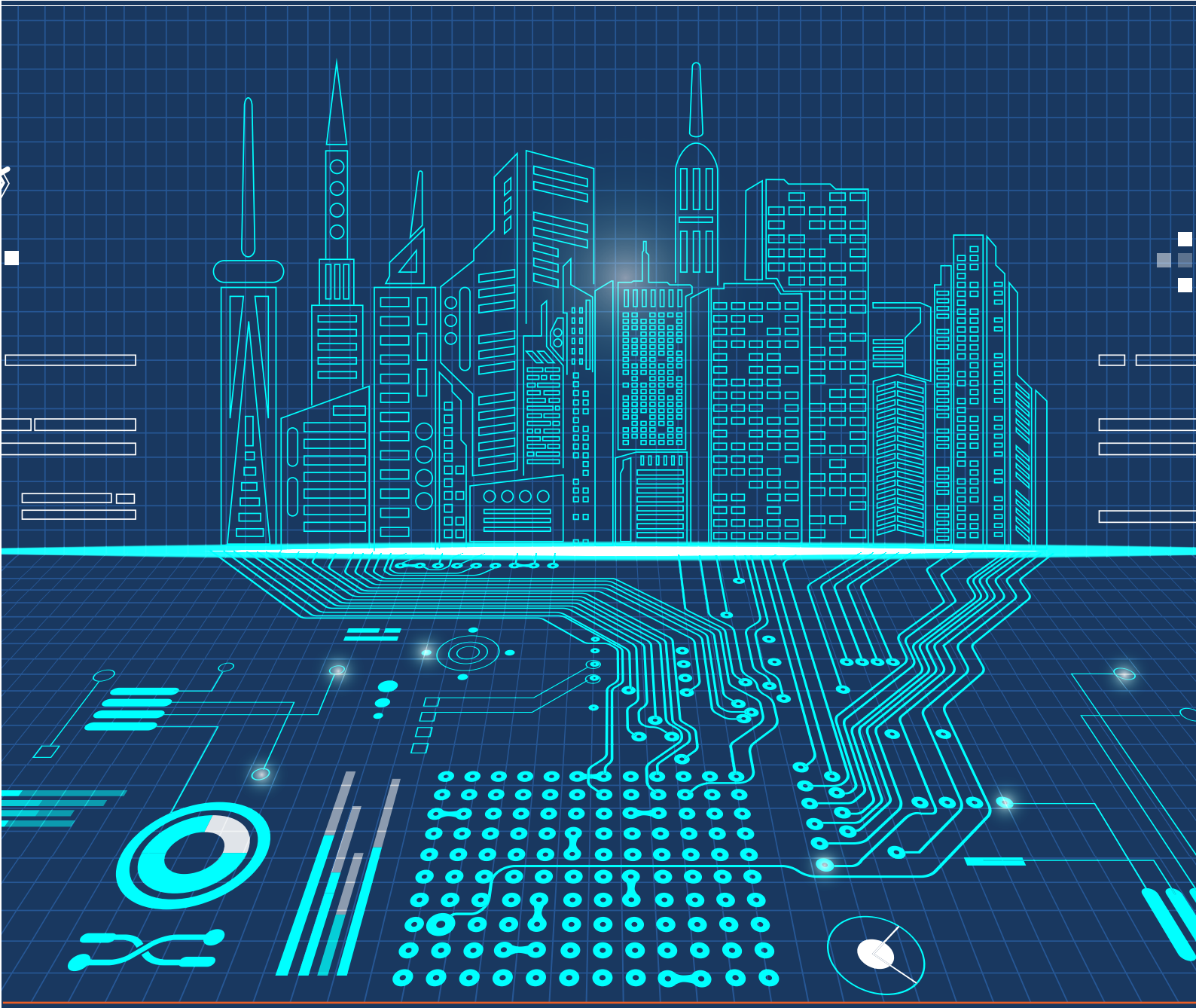


DIGITAL STRATEGY OF THE FUTURE

QUT pwc CHAIR IN DIGITAL ECONOMY

QUT pwc brisbane australia's new world city BRISBANE CITY Queensland Government

The authors

Michael Rosemann is the Executive Director, Corporate Engagement and a Professor at QUT.

Marek Kowalkiewicz is a Professor and the PwC Chair in Digital Economy at QUT.

Paula Dootson, Research Fellow in the PwC Chair in Digital Economy team at QUT

Please cite the report as:
Rosemann, M., Kowalkiewicz, M., & Dootson, P. (2017). Digital Strategy of the Future. PwC Chair in Digital Economy.

© PwC Chair in Digital Economy 2017

Contents

Introduction **7**

Evolution of digital strategy **8**
- Stage 1: Full automation 8
- Stage 2: Digital channel design 8
- Stage 3: The corporate view 9
- Stage 4: Organisational agility 10

Five traits of successful digital strategies **12**
- Trait 1: Enabling proactive service delivery 12
- Trait 2: Enabling wider service scope 12
- Trait 3: Enabling frictionless service delivery 13
- Trait 4: Enabling new customers: Device-as-a-Customer 13
- Trait 5: Enabling revenue resilience 14

Science or fiction? How else could digital strategies evolve? **16**
- Strategy digitised: Strategy-as-a-Software 16
- Minimum Viable Strategies 16
- Emergence of SPI Economy 16
- Digital strategised 16

Conclusion **17**

DIGITAL STRATEGY OF THE FUTURE

"Digital strategies of the future will allow organisations to check every day whether they are 'on strategy course', tracking seamlessly toward goals, and achieving revenue resilience in the digital economy."

19% of the world's largest **2500** public companies have a **Chief Digital Officer**

Roughly 40% hold C-suite positions

32% of these CDOs have technology backgrounds

Brisbane **2nd** in the world to appoint city CDO

40% of CDOs in the Asia–Pacific region found in Australia

EVOLUTION OF DIGITAL STRATEGY

1 **Full Automation**
Focused on digitising all aspects of the organisation; owned by IT.

2 **Digital Channel Design**
Using digital to reach external stakeholders and customers through new digital channels.

3 **The Corporate View**
Whole-of-organisation approach to digitalisation inside and outside the organisation; owned by the CEO.

4 **Organisational Agility**
Adaptable, continuous process of strategy improvements achieving organisational resilience.

FIVE TRAITS OF SUCCESSFUL DIGITAL STRATEGIES

Enabling proactive service delivery

The digital strategy of the future enables analysis of digital signals from customers in order to deliver services proactively.

Enabling wider service scope

The digital strategy of the future re-imagines the organisation's role & its relationships with stakeholders to offer a wider scope of service.

Enabling frictionless service delivery

The digital strategy of the future identifies ways to make service delivery frictionless by designing barriers out.

Enabling new customers: Device-as-a-Customer (DaaC)

The digital strategy of the future includes devices as potential future customers increasing opportunities for new revenue streams.

Enabling revenue resilience

The digital strategy of the future optimises existing assets to generate new revenue streams.

Introduction

New, digital trends in business, technology, and society have resulted in a multitude of opportunities – and threats – for organisations of all sizes and from all industries. In response, most organisations now have some form of digital strategy. A digital strategy guides a whole-of-organisation response to digital technologies and changes in business models brought about by the digital economy.

New executive roles have arisen out of the need for a digital perspective on strategy design and the demand for increased digital capabilities in leadership. As of 2017, 19% of the world's largest 2500 public companies have a Chief Digital Officer (CDO) or equivalent (Strategy&, 2017), which is up from 6% in 2015 (Peladeau et al., 2017). Roughly 40% of the CDOs hold C-suite positions (Peladeau et al., 2017). However, it is not only corporations that are appointing CDOs. Brisbane, the headquarter of the PwC Chair in Digital Economy, was the second city in the world (after the City of New York) to appoint a CDO to guide its digital transformation.

Australia is leading the way for CDOs in the Asia–Pacific region, with 40% found Down Under (Peladeau et al., 2017). CDOs are responsible for driving and implementing the digital strategies of their organisations, and we are seeing these strategies mature rapidly. But what is a digital strategy? What are the different stages of digital strategies? And what do digital strategies of the future look like?

We argue it is time to truly benefit from the opportunities of "digital", and time for the digital strategies that we know today to evolve. Many strategies are presently arrived at via a costly, largely manual process that leads to document capture by way of narratives, strategy maps, goals, and action plans. However, strategies are often not truly integrated holistically with the rest of the organisation.

In today's interconnected digital environments, organisations need to move toward strategies that are truly digital, adaptive artefacts: software-like, context-aware, and integrated with and responsive to signals from inside and outside the organisation. We envisage digital strategies that can quickly sense new developments programmatically, like an algorithm, and self-adjust. As an outcome, these strategies should influence key decisions, KPIs, and process variables within the organisation and beyond.

Digital strategies of the future will allow organisations to check every day whether they are "on strategy course", tracking seamlessly toward goals, and achieving revenue resilience in the digital economy. We imagine using digital strategies for scenario-planning, and "feeding" the strategies with real-time data to visualise progress.

We also expect a closer cross-organisational integration of strategies. While we have seen the emergence of digital supply chains, distribution networks, marketplaces and innovation ecosystems, digital strategies still remain largely company-specific and without obvious integration points. We forecast that digital strategies will increasingly become multi-stakeholder initiatives covering entire digital ecosystems. We imagine digital strategies communicating and exchanging data with each other to ensure holistic alignment. This future is not far away. In fact, we already see the first examples of digital strategies approaching that vision.

In this report, we explore how digital strategies are emerging and evolving, and how they will continue to evolve. We identify how critical trends in the digital economy are going to develop and execute the digital strategies of the future. We explore potential future forms of digital strategies and, finally, help organisations create effective strategies themselves via five traits of a successful digital strategy.

Evolution of digital strategy

The concept of digital strategy has been imagined and re-imagined multiple times. Debate continues about what a digital strategy truly is. In our analysis of digital strategies, we examine how the concept of digital strategy has been evolving. We capture this evolution in four stages, with the third stage as the current one, and the fourth representing our expectation of the future of digital strategies.

Stage 1: Full automation

Not long ago, the word "digital" was synonymous with "Information Technology" (Puthiyamadam, 2017). Digital strategies were the domain of IT departments, and digital strategies were seen as a natural extension of IT strategies. The first digitisation in organisations focused on the transition of non-IT organisational assets and artefacts, such as documents and processes, into IT systems. Then new digital strategies reached beyond traditional IT strategies to recognise that everything in the organisation could be digitised, not just back-end systems like databases and enterprise resource planning (ERP) systems.

This was largely an extended automation of the firm that led to substantial efficiency gains. As such, it enabled corporate strategies that were focused on standardisation and cost-effectiveness. Insurance companies, for example, made implementing a single claims-handling engine a corporate priority; global mining companies rolled out ERP templates around the world in an attempt to gain competitive cost positions; and banks focused on straight-through processing.

This first stage of digital strategies was largely a reactive, analysis-intensive, and incremental approach that led to streamlined, automated versions of existing operating models. These strategies were more about optimising existing corporate strategies via digitally enabled execution and economies of scale than they were about creating new business models or new strategic options. They were also internally focused, although they included in part the first B2B value chains (e.g., efficient consumer response; supply chain management). Such first-wave digital strategies are still in high demand, and the current interest in deploying robotic workflow solutions is a compelling example of how organisations strive to squeeze further operational gains out of their value chains via meaningful full automation.

Soon, however, it became clear that the "digital edge", the competitive advantage enabled by digitalisation, goes far beyond the digital automation that is effectively achieved by such stage 1 digital strategies (McDonald, 2012). Organisations were increasingly interested not just in saving hours in their business processes but in re-investing these savings in new value-adding processes and services. This prompted the emergence of stage 2 digital strategies.

Stage 2: Digital channel design

While organisations were executing their stage 1 digital strategies, and whatever could become digitised did become so, the search for a new realm, a higher-value proposition of digitisation, started. In seeking the digital edge, many organisations realised that although their IT-driven improvement strategies might allow cost-grounded corporate strategies, they did not open entire new customer-facing business models.

This is when marketing departments took ownership of the concept of digital strategy, bringing in the second wave of digitisation and shifting the focus from operations to marketing. Digital strategy became a marketing strategy of the digital age. These digital strategies recognised that the next frontier was to digitise interactions with the ecosystem, but also – importantly – to identify opportunities, especially new ways of reaching out to customers. Thus, the rise of e-commerce and the design of entire new digital channels emerged. Such digital strategies required stronger customer engagement and only became possible with correspondingly increased digital literacy within the customer base.

Stage 2 digital strategies required a much higher connectedness with the external environment. While stage 1 digital strategies were largely within the territory of automated business partners, stage 2 digital strategies benefited from the increased digitisation of our society and lives. In a macro sense, this was the beginning of the economy of people and it allowed organisations to build digital channels with previously (un-automated) stakeholders, that is, their customers. While the first wave of digital strategies largely reduced processing time within the organisation, this second wave of digital strategies provided competitive advantages by reducing service latency – the time from demand occurrence to demand fulfillment.

Or, in other words, the second wave of digital strategies targeted the "last mile" in the customer interaction by getting closer and closer to customers, and their data and life events. No surprise then that this wave of digital strategies saw the birth of design-led approaches, an appreciation of customer journey maps, and co-creation of value chains as essential strategic enablers.

Furthermore, and very different to stage 1 digital strategies, these digital strategies create choice by offering customers numerous co-existing digital channels. Previously, digital channels were focused on reducing and standardising processes.

In this process, however, the digital strategy began to evolve past the walls of marketing departments and customer interactions. It became Increasingly clear that digital strategies had a much larger design potential and, as such, "digital" became a topic in the boardroom as opposed to being the topic within a silo such as operations (stage 1) or marketing (stage 2). Thus, the third stage of digital strategy emerged.

Stage 3: The corporate view

While we can argue that the digital literacy of customers facilitated stage 2 digital strategies, it is from increased digital competence among the leaders of organisations that stage 3 digital strategies are emerging.

Today, 32% of CDOs in the top 2500 publicly listed companies have technology backgrounds, an increase from 14% in 2015 (Peladeau et al., 2017). This demonstrates a shift away from CDOs having primary backgrounds in marketing, sales, and customer service (Riccio, 2017); however, this shift still does not go far enough.

Digital strategies with a company-wide ambition require a CDO with a strong, comprehensive business background. The CDO of today needs to seamlessly navigate the worlds of technology and business to help ensure the revenue resilience of their organisation. We need to adapt our language, and start talking about "digitisation" and "digitalisation" as two separate concepts – the former transforming business through technology, the latter transforming business through re-imagining it (Prause, 2016).

This current, third wave of digital strategies elevates siloed sub-strategies to the top. While stage 1 digital strategies were about the (internal) operating model and stage 2 digital strategies about the distribution and customer interaction (delivery) model, stage 3 strategies require a consideration of the entire business model without any bias toward any of its elements. No longer the domain of a Chief Information Officer (CIO) responsible for

full automation of the organisation, nor of a Chief Marketing Officer (CMO) responsible for connecting the organisation digitally with its customers, in this third evolution, the digital strategy becomes the responsibility of the Chief Executive Officer (CEO), the entire group of senior executives, and the board.

Thus, this third stage of digital strategy is enabled by the capacity of business models. Note that while most organisations have still not institutionalised business models with an enabling capacity, some have leapfrogged into this stage of digital strategy – and stage 3 digital strategies are the entry point for most digital start-ups and are at the core of all digital unicorns.

Stage 3 strategies are differentiated by enabling entire new qualities of products and services to emerge from the holistic consideration of digital opportunities and then leveraging them within the components of a business model. Competence in the design and execution of such stage 3 digital strategies requires a willingness to cannabilise existing revenue streams and an ability to execute experimental strategies that may co-exist alongside established corporate strategies dedicated to "milking the existing cash cows".

The three waves of digital strategy provide new pathways to execute established strategy goals; respectively, operating costs (stage 1); time-to-serve/service latency (stage 2); or quality of products/services (stage 3). However, we see an entire new strategic value proposition on the horizon, namely, transformational abilities as a competitive advantage. This is the merit of stage 4 digital strategies.

Stage 4: Organisational agility

Unlike most of the transactional processes of an organisation (e.g., procurement, manufacturing, sales), transformational processes have largely been out of the scope of digitisation (Rosemann 2017). The most transformational process of all, the strategy process, is no exception.

Currently, most developing of strategy and translating of it into action is still largely manual. As a consequence, the costs incurred and time taken for strategising are high and the reliability (i.e., the extent to which it depends on the people involved) is often low. This is why we see strategies mostly updated annually or even less frequently.

We expect that the digital strategies of the future, rather than being static descriptions of an intended future state, will be prescriptive mechanisms that provide continuous information about intended future states of the organisation by recognising and adapting to change.

An adaptable digital strategy is one which will focus on solving human problems, and which also recognises the need for technology but does not pursue it for its own sake. It will be holistic, focusing just as much on building the infrastructure within the organisation to support the activities that will realise its goals as it focuses on externally facing digital technologies. A digital strategy of the future will not be a discrete document gathering dust on a shelf. While it may be expressed in writing for convenience, its form will be similar to an algorithm, allowing for a programmatic approach – for instance, to automatically assess the fit of operational activities with strategic plans.

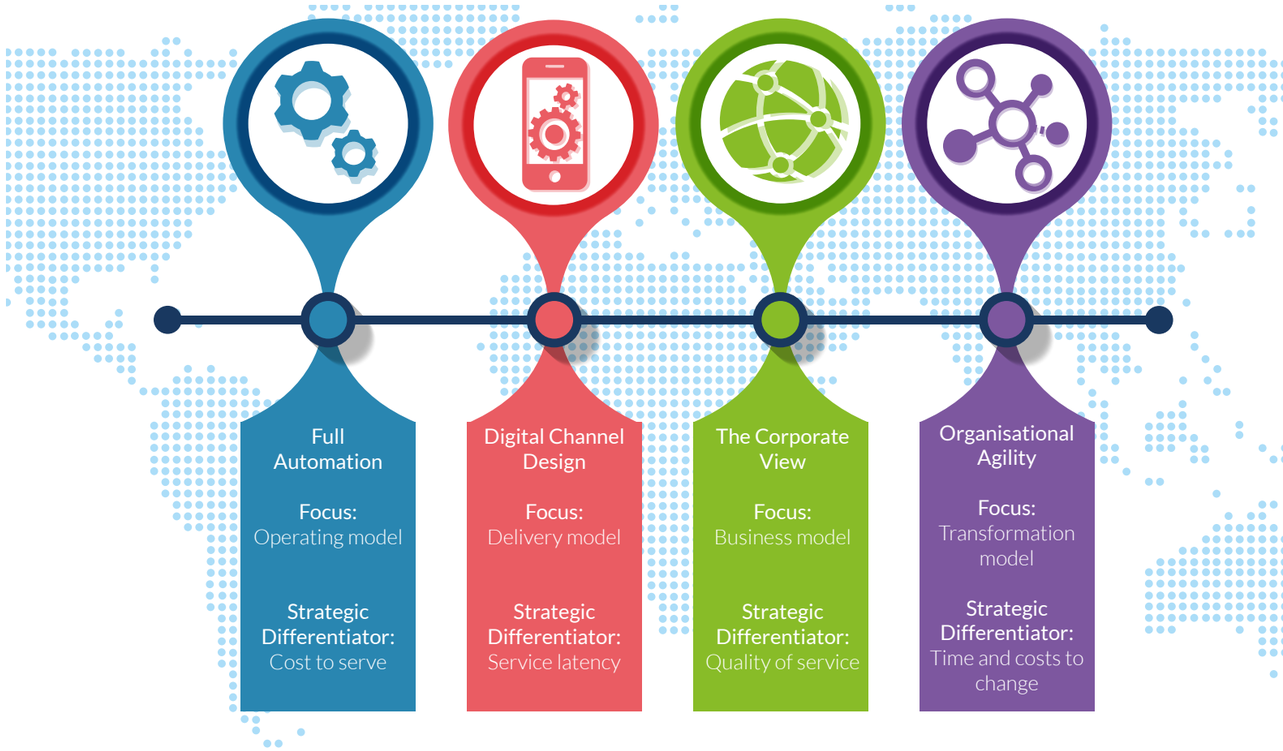
Such stage 4 digital strategies will be adaptable and also resilient. There is merit to such strategies having a significant lifespan and stability, as they will provide long-lasting direction to the organisation. However, the digital age provides an opportunity-rich environment and a plethora of possible new products, services, business models, and customer experiences. This offers on the one hand new strategic choices, but on the other, if a strategy is taken for granted, the danger that the assumptions underlying the strategy will be eroded by digital disruption.

In such a volatile environment, organisations need to establish more frequent, if not continuous, processes of strategy improvement. A strategy receptive to digital developments needs to be agile enough to accommodate new options. Strategy resilience and agility can be achieved in two ways.

First, organisations have to find a balance between those elements within their strategy that are resilient to digital developments and those that are agile by design. This requires hybrid or ambidextrous strategies. The stable, long-lasting part of a strategy is separated from digital developments and aligns with vision, mission, and purpose, all of them independent of digital trends.

Second, this long-lasting part of the strategy needs to be complemented by strategies that are receptive to change. They might be experimental strategies, that is, the organisation recognises that executing them requires new skills, means entering new territory and as a consequence have a higher risk exposure. They tend to have a high level of digital dependence. In such a case, ongoing environmental sensing will ensure the continuing relevance of such strategies.

The image below summarises the four development stages of digital strategy.



Enabling proactive service delivery

Enabling wider service scope

Enabling frictionless service delivery

Enabling new customers: Device-as-a-Customer (DaaC)

Enabling revenue resilience

Five traits of successful digital strategies

We have identified five traits that we believe are important to consider when creating digital strategies. The traits apply in particular to stage 3 and stage 4 strategies. In the sections below we show the suggested inputs and their outcomes. The figure below summarises the five traits.

Trait 1: Enabling proactive service delivery

The digital strategy of the future enables analysis of digital signals from customers in order to deliver services proactively.

Proactive organisations (Kowalkiewicz et al., 2016) are those able to offer products and services the moment the customer needs them, often even before the customer realises they have a need. Relying on ever-increasing computing power, organisations have the ability to leverage real-time data analytics to proactively recommend products and services, respond to requests for products and services, or to automatically deliver them.

By accessing numerous data sources, the digital strategy of the future uses digital signals – data traces available to the organization - to determine whether to proactively pivot in response to environmental sensing of forthcoming socio-environmental, legal, or technological disruptors.

Trait 1 question: For the digital strategy of the future to execute successfully, what digital signals does it need access to?

Trait 2: Enabling wider service scope

The digital strategy of the future re-imagines the organisation's role and its relationships with stakeholders to offer a wider scope of service delivery.

Organisations have the opportunity to re-imagine their role and redefine their relationships with other stakeholders to better deliver on the aspirations of the strategy. Organisations should no longer consider themselves just a provider of products or services but also as partners with customers, citizens, and complementary businesses. The digital strategy of the future asks: Why not partner with another organisation? Why not advocate for an organisation or start-up doing it better than you are? Why not partially fund a start-up with a great idea that benefits your organisation?

To take this approach, organisations must appreciate that the digital strategies of today are merely push documents – capable only of pushing out information. No mechanism allows a strategy to pull in critical pieces of information, such as: Someone in your network is doing it better so instead of reinventing the wheel, why not partner with them to achieve your strategy goals? In this scenario, the organisation can realise the potential of the overarching values of the digital strategy of the future by playing alternative roles in projects.

Trait 2 question: What role does your organisation play in delivering on its purpose: funder, advocate, partner, provider, regulator, facilitator?

Trait 3: Enabling frictionless service delivery

The digital strategy of the future identifies ways to make service delivery frictionless by designing barriers out.

Often, organisations understand where the biggest challenges lie when it comes to delivering services. However, in most cases, their improvements focus on optimising existing internal processes. While some improvements are achievable with such an approach, in many cases the processes themselves are the biggest limitation and act to prevent dramatic improvements. A relevant question therefore is: How can an organisation offer innovative initiatives when its internal processes are archaic?

Digitalisation can enable radically new approaches to delivering value. A digital strategy of the future should focus on identifying opportunities to design frictions out.

Trait 3 question: What are the points of friction in the delivery of products and services? Can the digital strategy help overcome them?

Trait 4: Enabling new customers: Device-as-a-Customer (DaaC)

The digital strategy of the future encourages including devices as potential future customers, redefining the traditional customer base, and increasing opportunities for new revenue streams.

Device-as-a-Customer (DaaC) is a game-changer in the digital economy. With DaaC, organisations are no longer doing business just with humans (B2C, B2B) but also with devices (B2D); and devices can be not just customers but also suppliers. A significant challenge in the marketplace now is: Who is going to be the first to successfully advertise and market products/services from one device to another without human intervention?

Another challenge in the digital economy is the rise of the robot employee. A critical question for the digital strategy of the future is, therefore: How does the strategy address the fact that we live in a world where it is not just humans who make business decisions? What happens when devices are buying and selling goods between themselves?

Understanding who the strategy is targeting gives direction to the organisation about what types and sources of data to acquire to ensure optimal service delivery for its unique position in the market. If environmental sensing suggests the market is shifting from humans to humans and technology, the organisation can proactively decide to adapt its service offerings and build employee capabilities around these new technologies. The increasing fluidity between humans and technology means human-centred design for digital transformation must also consider device-centred design. To embrace this trend in the digital economy in your digital strategy of the future, consider the following question.

Trait 4 question: Who does the strategy target as its end-users? Consider Device-as-a-Customer and Device-as-a-Citizen, where technology (i.e., AI, robots, IoTs) will be end-users alongside humans.

Trait 5: Enabling revenue resilience

The digital strategy of the future optimises existing assets to generate new revenue streams, while also identifying when an organisation needs to build new systems to achieve revenue resilience.

It is important to remember that a digital strategy of the future is not centred around adopting and using a specific technology. A successful organisation does not apply technology for technology's sake. Yes, it is true that some technologies will change the way in which an organisation does business (e.g., AI or IoT: Press, G., 2015), but using a technology to drive, or underpin, a digital strategy is risky. The strategy will likely be outdated by the time it is launched – because technology has moved on.

However, a common dilemma for managers is: Build new or optimise existing? A digital strategy of the future is focused on all revenue possibilities: new revenue streams (i.e., Can some processes be automated for greater benefit to the organisation?) and revenue streams using existing resources (i.e., Is there an idle asset that could be generating revenue?). If new revenue streams are found in idle assets, then optimisation is key. If no amount of pivoting or re-imagining the existing resources is possible, then it may be necessary to build anew. However, the answer always comes back to the purpose and role of the organisation's digital strategy, and who is involved in helping to deliver on it. To figure out when to make your own product, consider the following question.

Trait 5 question: What are all possible revenue streams for the organisation? How can the digital strategy of the future catalyse them? Look to existing resources and idle assets for inspiration.

Science or fiction? How else could digital strategies evolve?

Stage four of digital strategies – where strategies become truly digitalised – brings about a new way of thinking. We believe the following four trends will emerge and truly reshape digital strategies as we know them.

Strategy digitised: Strategy-as-a-Software (StraaS)

If strategies are supposed to prescribe the best course of action for organisations, they could also be represented as algorithms. Why not implement the algorithms? Digital strategies of the future could become software that is deployed along enterprise systems and aligns with business applications, accessing data and modifying it. Digitised strategy could power the boardrooms of the future (SAP Events, 2015), becoming a tool that supports strategic and operational decisions in a truly seamless way.

The rise of Strategy-as-a-Software (StraaS) will foster new ways of thinking about digital strategies, moving from annually created documents to ones that are continuously refined, just like software applications.

Minimum Viable Strategies

StraaS will lead to a shift in thinking about creating strategies – from strategies created in months to strategies created in days, or even hours. Organisations will create Minimum Viable Strategies (MVS), and – like Minimum Viable Products (MVP) – test and improve them continuously (rather than annually).

The rise of MVS, implemented as StraaS, will create demand for a new way of communicating strategies between organisations. Instead of publishing strategies every year, organisations will open them up programmatically. MVS will also mean that such experimental strategies have a potentially higher failure rate, and might be funded and resourced differently. They would be stage one of a strategy lifecycle and could undergo phases such as incubation and acceleration before being launched and scaled up.

Emergence of SPI Economy

Organisations do not operate in a vacuum. In order to achieve greatest synergies, they are advised to align their strategies. This is especially important in the case of digital strategies, where decisions about technology and the use of particular standards may be made. Organisations recognise that using incompatible standards or misaligning goals will lead to frictions in the execution of strategy. Strategies implemented as StraaS will be able to be communicated with other strategies, similar to Application Programming Interface (API) approaches. Just as APIs gave rise to the API Economy (Columbus, 2017), we envision a rise of Strategy Propagation Interfaces (SPIs) and an SPI Economy.

Digital strategised

"Should we start accepting bitcoin payments?" "How can drones help us get more customers?"
One of the challenges organisations face is a lack of criteria for efficiently strategising digital technologies. Does a particular piece of technology help a business thrive, or will it distract it from its core business and cause more harm than good? Digital strategies of the future should make it very easy to identify the right opportunities. If implemented as StraaS, a digital strategy of the future will be able to continuously scan the environment for new trends and alert the organisation to any worthy of its attention. This will lead to a rise in proactive strategies.

Conclusion

Many exciting opportunities lie ahead for organisations meeting the changing demands of business processes and digital technologies. Organisations large and small must rise to meet these innovation challenges or risk being left behind.

Digital strategies are no longer an option, but an essential artefact to position the organisation, its decisions and planned actions in the context of the digital economy.

We differentiated four stages of digital strategies, but like to highlight that these co-exist and do not replace each other. Therefore, the impact and importance of digital strategies continues to expand. From an initial focus on operational efficiency gains (stage 1) to the design of new digital engagement opportunities (stage 2) to entire new business models resting in digital capabilities (stage 4), we arrived at the vision of strategies ultimately becoming digital. We see providers using latest digital technologies (e.g., AI) to improve the resilience and reduce the current latency of strategies.

The digital strategy of the future is now.

PwC CHAIR IN DIGITAL ECONOMY

QUT PwC Chair in Digital Economy
2 George Street, BRISBANE Q 4000
www.chairdigitaleconomy.com.au
@ChairDigEconomy

CRICOS 00213J

The PwC Chair in Digital Economy is a joint initative of QUT, PwC, Brisbane Marketing and the Queensland Government

QUT

pwc

BRISBANE MARKETING
ECONOMIC DEVELOPMENT BOARD

Queensland Government