CXO
BY NTT DATA

Innovation without Boundaries

To survive this decade, organisations must innovate by taking risks and making fast decisions. The most successful will be those that can build strong, collaborative ties with their customers, partners, suppliers, and other stakeholders - and drive innovation across boundaries.

Hello.

Welcome to the second issue of NTT DATA's new magazine for executive leaders. Our theme for this issue is 'Innovation without Boundaries.'

As transformation programmes go into overdrive to prepare organisations for the post-pandemic world, this historic global disruption is creating a unique set of challenges and opportunities for industries and society. A rapid innovation capability has never been more critical to success. But too often, companies simply get in the way of their own attempts to innovate. It is paramount that organisations look at their entire ecosystem when it comes to innovation.

True innovation no longer takes place exclusively within an organisation's dedicated and often siloed internal R&D team. The talent and knowledge critical for successful innovation should not be limited by the boundaries of your business, but be sourced from across different industries and geographies, and from all types of possible partners. Organisations that set up open innovation alliances, networks and ecosystems are able to exploit global talent and data to create a bigger pool of ideas and solutions. The most successful companies will be those that can build strong, collaborative ties with their customers, partners, suppliers, and other stakeholders – including employees – to drive innovation across boundaries.

It is clear to me that to survive this decade, organisations will need to have the capacity to take risks and to make fast decisions – and be willing to remove the barriers to innovation that siloed internal thinking engenders.

The future growth of your company depends on getting innovation right, and we at NTT DATA are helping our clients across the world set up the innovation ecosystems and culture that will allow them to do just that.

Enjoy the read.

Simon

Simon Williams
CEO, NTT DATA UK

Issue 2 Contents

Beyond Borders: Innovating in an Interconnected World

By Simon Williams, CEO NTT DATA UK

As our business, social and natural environments adapt to the shockwaves of the Covid-19 pandemic, never-before-seen collaborations between organisations have brought forth incredible advances in medicine and technology. Such innovations wouldn't have been possible alone. Looking beyond the perimeter of the company to make strategic external connections is fundamental.

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Audio Read

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The melting pot of a collaborative ecosystem provides the best possible environment for great business and disruptive innovation to occur.

It's no secret that secrecy, when it comes to innovation, no longer makes business sense. Innovation doesn't happen in isolation.

When I'm asked what the single most useful bit of advice is for companies trying to innovate, my response is, simply, partnership. Make partnership and collaboration the foundation onto which you build your innovation strategy. Even enterprises with a strong internal culture that promote openness must also look outwards – to the vast array of insights available outside of the company.

It may seem natural for businesses to play their cards close to their chest in competitive markets. But what I always advocate, and what's at the core of NTT DATA's approach, is embodying business beyond borders. And what does that mean? That borders, be they geographic, organisational, cultural or industrial, must be broken down in order to get to the best result.

Creating the conditions for ideas to flourish

How do you establish an ecosystem that opens the door to free thinking and co-creation? Innovation does not manifest without the right conditions prevailing within an organisation. Our aim, as an innovation partner to our clients, is to help businesses create those conditions.

From global programmes designed to assemble the strongest industry partnerships to tackle the biggest challenges, to our 'Bento Box' partner programme here in the UK, we create the platform for transformative new ideas to emerge – and become real.

NTT DATA's Japanese heritage isn't only evident in our focus on partnerships; across all of our business units, we also consider the potential societal impact of the technologies and practices we're developing. In Italy, in late 2019, NTT DATA ran 'Harmonic Innovation Week', designed to provide the forum for different specialists to come together to tackle social and environmental problems, with priority areas including public services, energy, telco, banking and manufacturing, amongst others. It gave businesses the chance to participate in an innovation laboratory to cross-pollinate ideas and develop their concepts with other companies, academics and thought leaders.

Our senior VP and chief technology officer in Italy, Giorgio Scarpelli, explained it nicely when he described our goal as definitively "placing the human being at the centre", using our capabilities in technology to develop new ideas that benefit the wider society, and "favouring the meeting and collaboration between different subjects involved

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Businesses that can transcend borders are enterprises that will shape the future.

in the innovation chain to create a new, integrated ecosystem."

Intersection

Businesses that can transcend borders are enterprises that will shape the future. The Covid-19 pandemic has transformed both how we do things – with almost two thirds (65%) of businesses reprioritising R&D projects during the crisis, according to research from Innovate UK – and the very structure of our organisations. Moving into the future requires a business mindset that not only recognises but leverages the opportunities from the convergence of technology, culture, diversity and innovation; appreciating that the whole is much greater than the sum of the parts.

One challenge for businesses is the sheer amount of data available. With an overwhelming amount of insights, tools and trends, it can be hard to specify a goal, let alone a path to get there.

Bringing together the organisation-wide knowledge contained in pockets of the business and the latest thinking from industry leaders and pioneering researchers, NTT DATA helps its clients navigate the opportunities by acting as a central hub. We can see how the components intersect.

Shared benefits are a key element of the

innovation ecosystem. We refer to this as a 'triple win' approach: a win-win (great results for the client and us as the partner) plus the knock-on effects for the wider ecosystem, such as our clients' customers, our industry partners, and even public institutions. This is innovation with purpose: a sustainable future, for company and planet, adds a new dimension to the goals we are all working towards. It's not just about us.

Looking over the horizon

I believe this interconnected chain of value, from partner to service provider to individual consumer, will prove to be hugely important in business, technology and innovation. This model, known as B2B2X, focuses on creating new services, and new value, for service users and has been driven in large part by the NTT Group.

B2B2X, or business to business to end user, in essence, means 'helping our clients help their clients'. NTT DATA and its sister companies (the first B) provide new tools to our clients, the service providers (the second B), who – through cross-industry collaboration – create new, transformative services for both individual consumers and companies (the X), with the twin aims of enriching user experiences and resolving social issues.

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Developing the B2B2X model clearly revealed that collaboration with partners, often from unrelated industries, is how new ecosystems of innovation are created.

Developing the B2B2X model clearly revealed that collaboration with partners, often from unrelated industries, is how new ecosystems of innovation are created. This move away from traditional procurement supply routes, and towards an interconnected value chain of partners, is proving to be increasingly important across all sectors.

We already live in a connected world. Rapidly developing technologies, including 5G and IoT, will soon deliver pervasive (or ubiquitous) computing, that simply becomes a seamless part of our habitat. The idea that technology becomes subsumed into its environment, morphs into a component of an ecosystem, massively resonates with me.

It indicates how foresighted businesses can look inward to identify their needs, whilst being mature and open enough to look outward for partners and collaborators, in order to realise their ideas with world-class tangible products and services.

Our strapline is "trusted global innovator", because our clients trust that we have their best long-term interests at heart, and that we can help them make these vital new connections.

Simon Williams is CEO of NTT DATA UK, and loves working with brilliant people – clients, partners and NTT DATA's own employees – bringing them together to work towards a common goal. Successful businesses depend on people, unlocking the potential of staff and helping them become the best they can be. Being a consultant is a fantastic job. You are part of a team creating clients' success and it's incredibly satisfying to help them achieve something extraordinary. Simon has been lucky to perform at the Royal Opera House and represent England in Judo, but today he is more often in a vineyard or watching a game of rugby.

VIDEO

How to Succeed at Corporate Innovation

Interview with Peter Jackson, Director of Group Data Sciences at Legal & General

Peter talks to CXO about the challenges of creating the momentum for innovation within the corporation, why data is key to every successful innovation, and L&G's journey to becoming one of the UK's most innovative companies.

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Open Innovation & The Triple Win

By Tom Winstanley, CTO at NTT DATA UK

Innovating with impact increasingly means creating and delivering new products, services and solutions that go well beyond the boundary of just one organisation. This takes open partnerships and collaborative execution, focusing on the Triple Win.

Innovation used to be something that an organisation did to tick a box. Often, to the great detriment of its chances of success, it was done on the periphery of the organisation. Thankfully, this is no longer the case. Today, innovation is increasingly a holistic endeavour, with leaders championing collaboration not only within the business, but across and between multiple organisations and industries.

Opening up to the innovation ecosystem

This level of innovation sits at the heart of the business ecosystem and drives the corporate journey into uncharted territory, requiring disruptive development and radical outside-in thinking. This is the foundation upon which ideas are born, where they fail brilliantly or succeed spectacularly, and where fresh thinking defines organisation outlook and strategy.

It's this ability to spot the opportunities in the market, by being plugged into a broader ecosystem, that will allow you to mobilise the right teams at the right times through partnership and collaboration. Your organisation, though, must have the vehicles in place to execute and scale new products and services, requiring a readiness and willingness to test (for example using micro-experiments to show impacts in a commercial setting), learn and adapt.

Doing new things – balancing creativity and purposeful execution

Economist and Harvard professor Theodore Levitt's classic definition of innovation is useful when we consider the most common barriers to success: "Creativity thinks up new things. Innovation does new things. The difference speaks for itself. Yet the fluent advisers to business seldom make the distinction. They tend to rate ideas more by their novelty than by their practicability."

It is serendipity that delivers an idea into the hands of the organisation, but it is structure that ensures that the ideas make sense and meet real-world requirements. Innovation must be constrained by relevance. Is there a demonstrable need? Is someone willing to pay for this? These are the questions that focus the mind when setting up new initiatives, partnerships and ventures.

Innovation is ultimately about execution, and in building on ideas within intelligent constraints that allow for the business to focus on building relevant and successful solutions.

Lifting your gaze

As well as having the structures, both operational and cultural, in place to allow for employees to take the initiative with continuous improvements (a Kaizen, or incremental change for good, approach), it's important that the other aspects of business change – those that consider the mid and long term – are also kept in focus.

In Japanese, the terms Kaikaku (evolution) and Kakushin (revolution) frame the mid and long term horizons, with the former referring to radical changes of existing systems, and the latter to doing something completely new and different. Organisations must balance, and create the space to think about, each of these types of innovation.

To grasp the bigger picture, and be prepared for the challenges and opportunities of the future (both

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near and far), business leaders and teams need to lift their gaze up from their own organisation, and actively cultivate their partner ecosystem.

Building the ecosystem

There is no alternative but to embrace collaboration. It's disrupt or be disrupted; the time when any organisation, even the most powerful, can do everything has long since departed. What open innovation really means is that organisations have to become very comfortable with, and very effective at, partnering – quickly – with virtually anybody.

We have a number of initiatives at NTT DATA that enable and further these strategic connections, to support open innovation. Our R&D teams are actively engaged with academic organisations, from the MIT Media Labs in Boston to UCL in London and the Politecnico di Milano, to anticipate changes in the business environment and co-create solutions in a wide range of experimental fields of research. It's an open approach designed to ignite inventive thinking and planning not just with internal audiences, but with clients and other organisations.

With NTT DATA Origami Labs, inventive ideas are assessed against specific criteria with the concept of 'Product Market Fit' at its heart that determine the potential for the organisation, and validate its potential for our customers. This is how we test, learn and explore ideas within the constraints of market and product. In this testing and development space we break down the ideas to take out the risk.

Last but by no means least, we operate a number of partner programmes globally, including Bento Box, and its central tenet of the 'triple win' – benefits that ripple outwards, beyond the win-win of value for client and provider and onto the ecosystem partners. The Bento Box programme gives fledgling partnerships a toolset to explore and test their collaborations, all the while keeping the mutual benefit front and centre.

We are finding that the simple concept of the triple win is resonating in industry today. It is changing how organisations approach collaboration and innovation, particularly in telecommunications, financial services and media. It pulls the threads of innovation and impact through every part of the value chain, from business to business to customer and beyond. This approach allows for innovation to break the boundaries set by the limitations of the past, and to explore new ways of delivering value throughout the ecosystem.

With over 20 years of experience in consulting and programme delivery with a focus on the interface between business, customer experience and technology innovation in the telecommunications, financial service, retail and public sector, **Tom Winstanley** leads NTT DATA UK's New Ventures unit, working with clients and partners from startups to alliances to develop new business opportunities.

Redefining Audience Innovation

By Ruggero di Benedetto, Director Consulting (Media), NTT DATA Italy

There is a need for brands to shift their conversations with their audiences from the traditional passive to the empowering digital active. By transforming how people interact with media and platforms, businesses can redefine audience innovation.

The passive audience. This is the traditional user who watches a television series, consumes content and reads books. The individual that passively absorbs the entertainment delivered to them from multiple media, without stepping into the worlds and brands surrounding the content. This passive experience has its place, but for organisations looking to engage with brands and people, the interactive experience is the next generation of content consumption.

To create an active experience, we can embed active entertainment options into an ecosystem with multiple touchpoints. For example, experiences that ask the audience to watch a show and respond to it in real time, to take action. We can take the potential of converging media and digital capabilities and weave these into an interactive tapestry that redefines how audiences watch television, use devices, and access digital platforms.

Gaming is the key benchmark in defining the active audience. The Fortnitwe experience pulls the participants into a game and a world that interacts with them across multiple levels and media.

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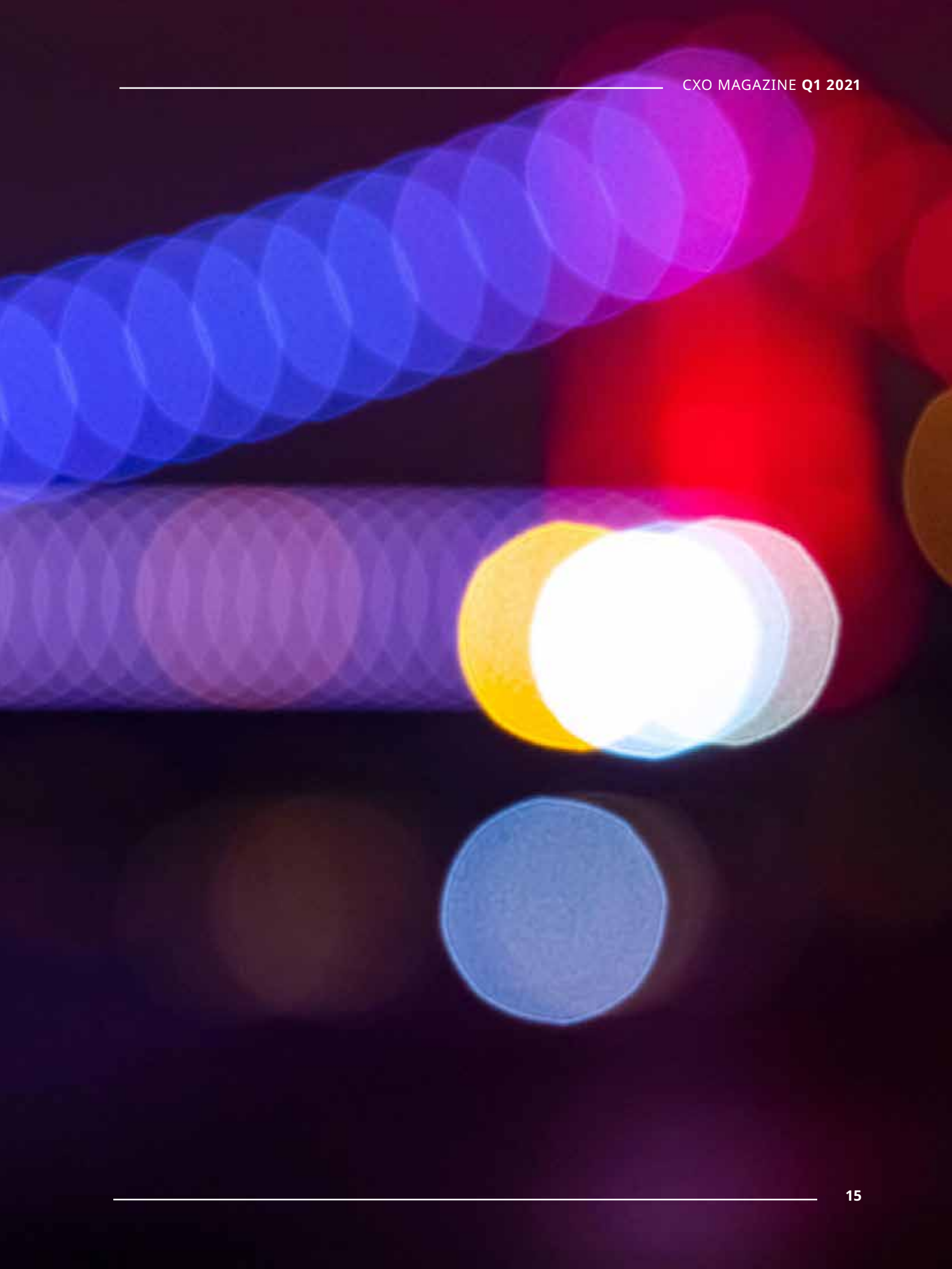
Gaming is the key benchmark in defining the active audience.

The interactivity spectrum

We can look at interactivity on a spectrum. The most basic level on the interactivity spectrum is the one that most people are used to: sit on the sofa, watch the movie and do little more. It is not expected that the audience will do anything to further the plot, change the dynamic or think beyond the story presented to them. This is content on a plate that's easy to digest.

On the second level of interactivity, you find more digital connections to the content. There are interactive guides that pull the user in, offer more information about the content, and serve up additional content ideas for the future. Platforms such as Amazon Prime and Netflix deliver on this premise superbly, introducing new layers to the content from actor profiles to recommended viewing. Consumers can do something more than just watch.

But this is not yet the active audience level, the one that will truly captivate the consumer. For this, very high levels of personalisation are required. At this level, people don't just want to watch the broadcast; they want to watch what they're interested in with personalised camera views and the option to move to the extreme interactive spectrum.

The extreme level of interaction is already present within the gaming sector. Platforms such as Twitch allow viewers to cheer on their favourite gamers, to personalise their experiences, and to engage with the games on a visual level.

Personalisation can be taken into the television space, for example, by connecting apps and services to the content. Viewers can use an integrated app or mobile interface to find out what music is playing in the show, find out more about a specific actor, or find out if there's a sequel. The value to the streaming platform or the music provider lies in the immediacy of the interaction. The action takes place on a single platform that integrates all these elements into a cohesive ecosystem.

This action re-engages the audience and keeps them coming back. The innovations that lie within this are borderless, especially now.

Fighting fit, for customer attention

The pandemic has stuck people in front of screens and immersed them in digital devices. Because of this, we've seen an evolution in customer behaviour, and we should now see the industry innovating on the edges of what customers want. What about a show that allows viewers to chat with one another while watching, giving them the option to vote for their favourite characters? This interaction takes ordinary shows out of the passive realm and into the active by allowing viewers to participate in the experience.

We can also use the interactive capabilities to find out valuable insights, such as which actors viewers prefer and what shows they like to watch. We can then branch these narratives outwards into content that will allow for even richer audience engagement.

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In the sports industry, live stream events are still a core part of the business model. These events are an incredible opportunity for broadcasters to kickstart active audience engagement. In Japan, broadcasters have already used carefully designed broadcasting and digital techniques to allow viewers to participate in live sporting events. Viewers can become part of a soccer game through an experimental fan voting system, complete with leaderboards, bonuses and cheering systems. The formula used to hook audiences for shows like Britain's Got Talent was repurposed for sporting events, allowing viewers to influence events. If the audience is in the game, then they can become a part of the game.

Architected content, broken traditions

Interactive concepts used in talent shows are becoming more widespread and interconnected. Viewers don't just push a button during the competition. They can use other tools to participate in environments and influence events. This interactivity means that brands can rebuild old content, leveraging it for further interactive engagement by connecting it with fresh content and interactive digital systems. Apps are also a critical part of the process. By creating app ecosystems you can expand the concept of interactivity within your platform and business model, allowing your audience to do more and experience more across multiple media.

This is where monetisation comes in. As the platforms expand and interconnect, and the experiences become richer and more personalised, so do monetisation opportunities.

Businesses can engage more closely with target audiences so they can curate the content they deliver, using virtual ads, dynamic ads, affiliate marketing and e-commerce click-throughs. In addition to improved audience engagement and enhanced brand loyalty, the active audience introduces greater room for financial benefit and growth.

What's even more exciting is that as the traditional ways of consuming content are broken down and enhanced, innovation and development will continue to find new ways of repurposing the content and its consumption. From augmented reality to the tap on the app to the personalised journey across multiple platforms, the active audience reality is here, and it is here to stay.

Ruggero di Benedetto is Director at NTT DATA Consulting, having accumulated more than 15 years of experience by supporting Telco and Media clients in digital transformation projects across Europe, UK and Middle East. Passionate about innovation in everything that is media, since 2019 he has been responsible for the Media, Entertainment and Sport advisory practice at NTT DATA Italia.

True Innovation through Digital Participation

By Tijen Onaran, entrepreneur, author, keynote speaker and podcaster

Study after study shows that a diverse workforce and diverse management teams are more creative, innovative and successful. But diversity is just part of the puzzle. For a company to be truly innovative, the platform for new ideas to emerge must be open and accessible to all.

We don't always know what is around the corner. Unforeseen events such as the current Coronavirus crisis can, and likely will, reoccur. The important question, and not only for companies, is therefore how best to prepare for such scenarios.

Although we cannot predict the future, we can do everything possible to ensure our survival now. A key factor here is innovation. Many companies are relying on digitisation and new technologies to generate more innovation. In doing so, they often overlook two central aspects: diversity and digital participation.

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The introduction of digital tools alone does not lead to more innovation – the corporate culture itself must become innovative. And this only happens by being diverse and inclusive.

Technology and tools alone do not enable innovation

The last few months have been a great challenge for all people and all companies and took everybody by surprise. But something else has also become apparent. This crisis is also a lesson in innovation because everyone had to adapt in the face of the pandemic. Many things became possible, which had long been considered impossible. New tools and infrastructures created the framework for digital work.

It became clear that this was far from being just about introducing new technologies. Working in a home office not only requires the ability to use new software and work at a different location, the digitalisation of the world of work also means more self-structuring and more personal responsibility. Other positive effects of virtual collaboration are faster decision-making processes and more freedom in shaping one's own everyday life.

But all these positive and welcome developments aside, something else became more apparent: digitisation is only the first step.

The introduction of digital tools alone does not lead to more innovation. To ensure the sustainability of companies, the corporate culture itself must become innovative. And this only happens by being diverse and inclusive.

The link between diversity and innovation

So, what is the key to innovation and creativity?

The short answer is diversity. The connection between diversity, innovative strength and economic success has been proven by numerous studies, all showing that a diverse workforce and diverse management teams are more creative, innovative and successful. Why is this so?

Working in a diverse team means more individual input. People with a different background will inevitably have a different worldview, so the greater diversity of social circles, ethnicity, gender, sexual orientation and ability/disability, the richer and more varied the experiences, knowledge and skills on which to draw. In this way, they bring diverse ways of thinking and different perspectives into the work. This leads to more confrontation, more contradiction, more questions and discussions – creating more new and innovative ideas. In other words, if a variety of people do not sit around the table together, it's much harder to create real innovation.

Diversity alone is not enough

Diversity is only one of the building blocks for innovation, albeit an especially important one. The current crisis has shown that there can be no diverse work culture without digital participation and inclusion.

This became apparent when considering older employees who weren't raised with digital media. The rapid introduction of new technologies by no means guaranteed equal participation in the new

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Nobody should feel excluded, if innovation is to be upheld and promoted through digitisation.

work processes, and it cannot be assumed that they will be able to use the new tools efficiently. Diversity and inclusion must, therefore, always go hand in hand.

Only digital participation creates the space for innovation

In addition to the digitisation of the world of work and diversity, digital participation plays a vital role in the innovative power of organisations.

This means companies must create spaces and freedom that enable employees to exchange new ideas. It is not enough to provide a new tool for this; it must be equally possible for everyone to actively and productively use them. Digital participation comes about through the enabling and empowerment of people.

This is precisely the point in the current crisis at which, in my experience, the most difficulties arose. Many organisations overlooked the fact that people need to be equipped with the expertise to use the new tools. If innovation is to be upheld and promoted through digitisation, nobody should feel excluded. Real innovation always needs both diversity and digital participation. In other words, without inclusion, there can be no true innovation.

Innovation, diversity and inclusion as the key to sustainability

The World Economic Forum recently published an overview of which skills will be essential in

the coming years. It is noteworthy that innovative capacity is the top priority. The ability to learn to use new technologies and cope with complex challenges and situations will also become increasingly important in the future. What does all this mean for the current situation and the sustainability of companies? First of all, it means that there will be no return to a world without digitalisation. Our current reality, taking shape at an accelerated pace, will inevitably become the 'new normal'.

For companies, this most unquestionably means focusing on diversity, empowering employees and equipping the workforce with all the necessary skills needed for an innovative work environment. Digitisation, diversity and inclusion must go hand in hand so that new tools and technologies can be used for their intended purpose: creativity and innovation.

Tijen Onaran is an entrepreneur, investor, best-selling author and speaker. She founded Global Digital Women – a company that is committed to connecting women in the digital industry and giving them more visibility. She also advises companies in terms of communication and diversity matters. The Manager Magazin ranks her among the 100 most influential women in the German economy.

The CXO Podcast

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The CXO Podcast

by NTT DATA

Episode 1
with Tom Winstanley & Elvin Turner

The Challenge of Innovation: Tom Winstanley & Elvin Turner

Nothing reaffirms the belief that close collaboration and communication are the foundations of a good relationship more than an international crisis. The panel discusses how to be trusted partners of our clients by utilising international connections to build insight, whilst demonstrating high levels of flexibility and agility to clients' changing priorities.

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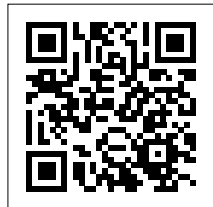
Society, Happiness & Innovation: Giorgio Scarpelli & Luigino Filice

CXO speaks to Giorgio Scarpelli, Chief Technology and Innovation Officer at NTT DATA Italy, and Luigino Filice, Professor of Manufacturing Technologies at Calabria University about how business must embrace innovation as a core principle both for the future of business and the good of society.

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The CXO Podcast

by NTT DATA

Episode 2
with Giorgio Scarpelli & Luigino Filice
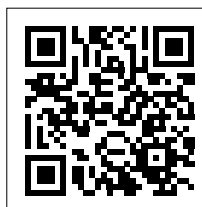
Play, Build, Innovate: How to Assemble the Future You and Your Customers Want

By Tim Bardell, Head of Consulting, NTT DATA UK

If creativity is the starting point for innovation, then play is the starting point for creativity. But without a connected ecosystem, both in and outside the organisation, great ideas will fail to come to fruition. Harnessing diversity of thought and empowering your workforce with curiosity, passion and collaboration, is how businesses need to behave if they want to become constant innovators.

Many businesses think about innovation as something that happens in a linear fashion: a goal is set, a roadmap developed, a team assigned and off you go on a project. But is this approach still relevant today?

I would argue that it's not. Businesses need to innovate *at speed*. Beyond a more flexible and agile approach to the process of innovation, it's critical we develop new ways to behave as organisations.

What if you had, at your fingertips, all the elements you needed to create and deliver a much-demanded product or service innovation? Imagine a toolbox of components, a set of building blocks, which can be configured into any shape; with such an abundance of possible combinations, very precise needs can be met (and quickly).

Think of these building blocks as pliable, able to adapt to whatever you need depending on what the situation requires. How you assemble these blocks is up to you: your R&D can suddenly become more agile and dynamic; your customer experiences, products and processes can be renewed.

Remember, though, that putting in the work early to understand exactly what building blocks you have in the business, is the only way to ensure you can
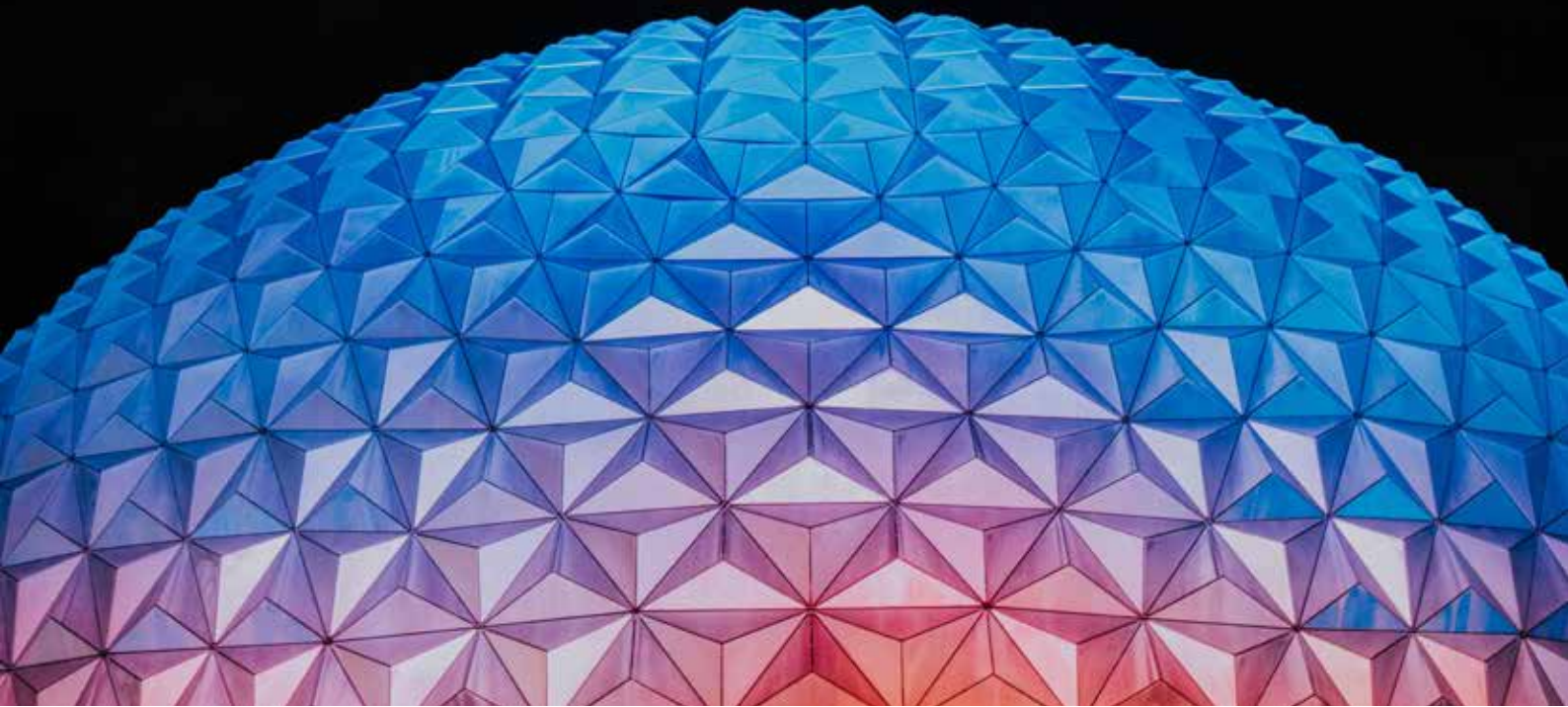
create the right combinations when you need to. As Thomas Edison said, brilliant inventions are "1% inspiration and 99% perspiration". By having done the legwork to thoroughly understand the assets at your disposal, when the moment of opportunity strikes, you'll be hitting the ground running.

Already, we're witnessing the advent of these changes in how businesses operate: enterprises are using cloud services to quickly scale elements of their business to meet the demand for online services. But this is just one aspect of how companies can transform by adopting a more modular approach to how they innovate.

Building blocks with infinite possibilities

When I talk to clients about how to create building blocks within their enterprises, inevitably, LEGO comes up. The Danish toy innovator enjoys unrivalled success, thanks to a simple but immensely powerful premise: with a little creativity, the possibilities are endless.

With a set of simple LEGO bricks, a myriad of exciting objects can be built, even with the basic original bricks that were designed 70 years ago. But then the LEGO system evolved, with a huge range of different bricks produced in the 1990s that, while each had a specific individual purpose, could all still be attached to any other brick with a standard connector. The clever bit, though, is the prodigious inventory of components that the LEGO innovators have at their disposal: they're able to re-use bricks for entirely new (and unintended) purposes.

In the LEGO inventory of your business, the bricks are your technology platforms, your people and your processes. They are your data. They are that capability that you brought in for a tactical reason but your team is telling you could be used for so much more. They are your partners, and startups with a really cool idea. They are your customers and their untapped (or as yet unknown) needs. They are anything that you could use as an asset to help you build your future.

Part of my role is to ensure that our clients have both the tools and the right culture to innovate. NTT DATA helps enterprises define new tools and business processes that can flex, be modified and be augmented as each new iteration of the business demands. Modifiable foundation tools, platforms and capabilities mean your teams have a rich and diverse toolset at their disposal. But without a robust

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Using your toolset of building blocks, and approaching every challenge with curiosity, passion and collaboration is where great ideas intersect to become disruptive new products.

approach to knowledge management (i.e. knowing what you've got to play with) and, crucially, an inclusive and collaborative environment, you won't get the most from this toolbox of tricks.

When play and exploration are encouraged in the workplace, innovation can flourish – but this does need direction. Rather than passively waiting for inspiration to strike, innovation is about understanding customer needs and proactively doing new things (or the same things in new ways) to address them – and recognising that the best ideas often come from those on the frontline with your customers. A diversity of thought is needed to generate new solutions that make use of the assets, or the building blocks, in the organisation. Most of the time, 'innovation' doesn't come from people with it in their job title.

The power of play

The business building blocks which make up an organisation's ability to innovate can, all too often, be disparate and isolated. The concept of interacting through play is rarely considered a business imperative. But I have seen first-hand the positive impact that a free and flexible approach to project development, when structured and defined like play, can have on the project outcomes.

When we play, three important things happen: we are curious, we find enjoyment and we realise that it's better when there are more people involved.

Curiosity is a powerful element of play, as this drives the desire to discover, create and innovate. All businesses should strive to create an ecosystem that has curiosity at its core. Without asking 'why' and 'how', world-class innovation won't take place.

We enjoy the experience of discovery, of finding

a solution to a problem, because passion is present. For us at NTT DATA, we're driven by the desire to have a positive impact on the lives of our clients, our colleagues, our partners and society. Passion is the fuel that curiosity uses to find answers. A passionate team has that extra, unwavering bit of motivation to keep going when a project's goals seem unattainable.

Play allows us to engage socially with others, in a pursuit which is purely for its own end – there is no further motive than to enjoy what you're doing. Whilst in a business setting there is, of course, another agenda, the similarity is that you are engaged in achieving something together. Teams and individuals must be free to collaborate, both internally and with partners outside the organisation. Really successful, truly innovative companies demonstrate a level of maturity and an enlightened view that a project will use whatever collaborative resources are available.

These three elements of play are, I believe, the cornerstones of innovation. Using your toolset of building blocks, and approaching every challenge with curiosity, passion and collaboration is where great ideas intersect to become disruptive new products or services.

The business leaders I speak to can find this a difficult change to apply. But those who embrace change, who challenge the status quo and the well-worn processes, are reaping the benefits. New ways of working, new products or services, or even whole new business models, can emerge from an environment of play.

Weaving innovation through the fabric of your business

Many of the clients I speak to want a definition of

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what an innovative business culture looks like; a template from which they can build their own. Here are some of the elements I believe are critical to nurturing a culture of collaborative innovation.

Thorough appreciation of customer needs (as opposed to wants). Using the data and insights your business already has, in order to define customer needs, is the foundation onto which your company can build a culture of innovation. Allowing your business to look at startups and other markets for potential innovation is also key: simply looking over your shoulder at what your direct competitors are doing won't deliver the level of innovation your business needs. The best ideas will almost certainly come from outside your existing industry and experience, making the need for curiosity and being open to new ideas essential.

The connected ecosystem. Working collaboratively means shared benefits, and at NTT DATA we refer to this ethos as 'triple win', where the focus is not just on great results for the client and for us as the partner (a win-win), but also for other suppliers, partners and startups. We look at how to improve our clients' business, how to improve our partners' reach and market opportunities, and how to increase our relevance to clients and open up new revenue streams.

Playful people. With your company's toolset of building blocks, and a culture that's welcoming of play and curiosity, your people are the last key component: they must be driving your transformation forward. Business transformation and getting your team to adopt change is about helping them to *choose to do things differently.* This underpins the NTT DATA approach to business agility and change. Teams need to be on the journey

with you, which means communicating, sharing and engaging them in not just the change, but the underlying business issues and strategic vision.

If the digital transformation of the last few years, and particularly the acceleration of that journey due to the Covid-19 pandemic, has taught us anything it's that rapid, seismic change can be achieved if more organisations pull together. With business irrevocably changed (90% of executives believe that, due to the pandemic, what made them successful historically may no longer be possible), having a strategic narrative that the whole organisation can get behind will be vital to withstand the transformation that will ensue in a post-Covid world.

How businesses innovate is transforming. Leaders are coming to understand that the traditional, linear approach to product and service design needs a revamp. They understand that through collaboration, the most game-changing ideas emerge, thanks to diversity of thought and fresh perspectives, not to mention shared data, knowledge – and passion.

As we navigate this brave new world, leaders will do well to remember that, together (and only together), we can build the future we want.

Tim Bardell is the Head of Consulting for NTT DATA UK and leads the design, technology, data and business consultancy practices, guiding client organisations through transformation and change to deliver business value. He's driven by the opportunity to make lasting change happen for our clients, their teams, their customers and the society in which we live. As such, he believes that putting people at the heart of business transformation is the key to success.

Go to the Edges of the Map

By Sam Conniff & Alex Barker, authors of the bestselling book *Be More Pirate*

Often, all we need to embrace the unorthodox is the permission to do so. The idea of 'the rebel pirate' can give rise to fertile, free-thinking environments, ripe for innovation. Fortune favours the bold, after all.

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We need to cultivate a willingness to confront silos and cross boundaries to find inspiration in more unexpected places. In the darkness of the unknown, there is treasure.

Most offsites or team away days aren't worth the PowerPoint deck they're written on, so it was with some reluctance that we first accepted an invitation to design a Be More Pirate workshop around innovation. In our experience, the annual promise of change is usually an exercise in platitudes where all and any momentum gained, dies shortly after.

However, after a couple of sessions, we began to think again. Across dozens of workshops with hundreds of participants, we managed to crack a method for mutiny, and once we began giving people permission to tell the truth, we realised how much of the corporate dance is a lie.

So, in early 2019 to verify our observations, we conducted a relatively small but statistically representative workforce survey.

One of the first questions was this: "Have you ever sat in meetings and agreed to verbally 'align' around an idea whilst internally disagreeing completely?" 85% answered that they had done this at least once.

The follow up asked whether "despite agreeing to support the idea, you took absolutely no follow up action, or even silently sabotaged it." A total of 55% agreed that their 'alignment' was verbal only, with 10% admitting to sabotage.

The only possible conclusion we could draw from this brief experiment is that conformity is fatal for business. People are saying yes when they really mean kill-me-now, and in this exists an uncomfortable paradox. In 2020, LinkedIn ranked creativity as the number one most valued soft skill by employers yet when you look closely at day-to-day practices, and as evidenced by our survey, individuals seem to be incentivised to conform.

Agreeing with peers, fitting in and adhering to long-established protocol is what reaps real-time rewards. We want out-of-the-box thinking, but very much in-the-box being. What we get is a dichotomy of dishonesty.

It is the job of a leader to not only create the conditions for resilient and agile tactical operations, but also to align them to the overall strategic goals. Whilst leaders must give their subordinates delegated authority to make decisions and the skills to adapt to changing circumstances they must also ensure that people across the organisation work harmoniously toward clearly stated goals and within the parameters of clearly defined ethical, legal and fiscal boundaries.

Permission to be a non-conformist

When Be More Pirate was published in 2018, it seemed to unlock in readers the spirit of permission to not just think differently, but to behave differently. From startups to Sony, NHS nurses to Nike, we received hundreds of messages describing how the avatar of 'pirate' offered renewed courage and a route out of conformity that felt convincing and purposeful.

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Creating genuinely new and unfamiliar ways of working together is usually deeply uncomfortable. It is the uncomfortable feelings that arise when direct questions are raised about identity, power, money and ethics, that stop us in our tracks.

Being more pirate is about adventure and exploration. For that reason, we avoid using the word innovation wherever possible because people tend to have a preconceived notion of what 'innovative' looks like in business. The word itself should always connotate discovery.

Instead, we refer to the edges of the map; the unchartered waters that lay outside of what is familiar. What is not being talked about? Which spaces are off-limits? What practices are taboo? We need to cultivate a willingness to confront silos and cross boundaries to find inspiration in more unexpected places. In the darkness of the unknown, there is treasure.

One of the first teams to seize pirates as a proxy for permission to venture into new territory came from Daimler's Mercedes-Benz vans division. Not a likely place for piracy, yet the automotive industry's inevitable disruption meant that uncertainty was coming regardless.

For decades, Daimler built its marketing and sales strategy around conventional broadcast methods such as television advertising, which reinforced the image of a distant, luxury brand. The head of marketing, Nicola Burnside, had a hunch this wouldn't work in the long-term. So rather than try and outpace their competitors on media spend, her team decided to try a networking approach instead, with a sharp focus on small businesses.

In an unusual move, they hit the road and went out to meet entrepreneurs and small business owners across the UK to see how the vans could better serve their needs. Instead of using agency data, they built up relationships and used these insights to allocate spend, knowing full well that the ROI would likely be slower and that this would be viewed as a risk.

Organised rebels

The inspiration for this strategy was derived from parts of Be More Pirate, which explain how 17th century pirate ships operated as autonomous but highly networked crews. Scale was achieved without growth for maximum protection. In shorthand, they had each other's backs.

Pirates could not rely on having new or sophisticated weapons at their disposal; their success was down to innovation around human behaviour. They created dynamic, transparent, democratic ways of working together that enabled quick decision-making and less infighting.

Dr Tammy Watchworn, an expert facilitator for virtual reality workspace QUBE, is another professional who's taken serious note of the pirates' approach. She has used QUBE extensively across the UK National Health Service to break down system silos and solve complex medical problems, and achieved outstanding results.

The key to success is not the space itself but how it's governed. Rather than simply handing

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> **Over time we become accustomed to different levels of transparency which gradually shifts culture so that eventually change isn't just a PowerPoint promise, but an opportunity for real transformation.**

over the technology to teams, there are clear behavioural rules. For example, everyone who joins a meeting may be instructed to write before they speak, resulting in a more reflective, considered conversation. "It worked in part because people were realising that innovation isn't about shiny gadgets but about people and how we work and behave."

If this is true, why aren't more businesses following suit? Why are we still so reliant on multi-layered command-and-control structures to get things done, and why do we have such strong deference to data when it comes to decision-making?

Our observation has been that human interventions often seem too small or unsophisticated to be prioritised, or there is a cavalier attitude that the human element of work will iron itself out naturally. But above and beyond this, creating genuinely new and unfamiliar ways of working together is usually deeply uncomfortable. It is the uncomfortable feelings that arise when direct questions are raised about identity, power, money and ethics, that stop us in our tracks.

Getting comfortable with being uncomfortable

The answer? Practice. Piracy is a practice. The first time you go off the edge of the map, it's intimidating, but you know to expect the uncomfortable scenarios the second and third time.

The need for practice is why we have embedded 'asking the difficult question' as a workshop activity. In the beginning, few people will be truly honest. Still, over time we become accustomed to different levels of transparency which gradually shifts culture so that eventually change isn't just a PowerPoint promise, but an opportunity for real transformation.

Piracy is about not accepting the empty end goal of traditional consultancy or outsourcing our imagination. It is a call to arms, a fight for honesty and human-centred decision-making that doesn't allow for one-size-fits-all or quick fixes. The hardest part of doing this work is not backtracking when things become awkward (and they will) but knowing that the treasure you seek, always belongs to the brave.

Sam Conniff is a lifelong advocate of business as unusual, operating at the intersection of brands, policy and social innovation. He is cofounder of award-winning youth marketing agency Livity, Don't Panic, Live magazine, Dubplate Drama and Digify Africa, and author of the International bestseller Be More Pirate.
Alex Barker is a freelance writer, consultant and speaker and she runs Be More Pirate as a network and movement. She is co-author of How to Be More Pirate, and works across the public and private sector on strategy, culture change and challenging the status quo.

CXO
BY NTT DATA

VIDEO

How the Startup Conquered the Mothership, and other Innovation Stories

Interview with Ernesto Ciorra, Chief Innovability Officer, Enel Group

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Ernesto talks to CXO about the incredible success of Enel, how it reduced the cost of renewables by 60% in 5 years through open innovation, and how meeting the founder of Pixar inspired Enel's now famous 'My Best Failure' project.

Does Crisis Create Lessons for Successful Business Change?

By Samantha Robertson, Principal Consultant, NTT DATA UK

We often display more resilience and inventiveness in times of crises than during business-as-usual. Can our response to pandemics and other devastating events provide us with lessons for change and innovation?

During my 10 years working for international NGOs, I was always amazed at the speed at which communities adapted and innovated during crises. Early in my career in 2005, I remember rushing to a briefing on the devastating 7.6 magnitude earthquake in Pakistan. As we listened to updates on the work of our emergency response teams, I was struck by the reports of local markets popping up in the rubble within hours of the quake striking.

Despite the devastation, people found ways to create an emergency economy that enabled communities to access much-needed goods as the relief effort got on its feet.

So, when Covid-19 hit this year, it wasn't a surprise to see people rapidly adapting to their new circumstances. From mask-wearing to banana bread-making, we changed our habits overnight to carry on with our lives. It wasn't easy for everyone, but we did what we had to do.

Yet what unfurled for businesses was even more remarkable. Organisations announced that they had accelerated transformation programmes at a speed they never thought possible – becoming 'virtual first' companies in days instead of years. Vodafone

prepared nearly all 2,300 call centre employees to work from home in less than a week. Trainline's CTO, Mark Holt, described how his team changed their project roadmap by 25% with very few issues because of the pandemic.

Yet outside of Covid, we often hear of the 'failure' of transformation programmes of this scale. Inherently, failure occurs when the business and its people struggle to realise the benefits of the change fully. Research from Edelman shows that nearly 50% of staff feel they can't keep up with the pace of change.

At the same time, Gartner reports that a typical organisation has undergone five major firm-wide changes in the last five years, of which 50% have failed.

Learning from adversity

Setting up a market in the aftermath of an earthquake, like any change or transformation, requires a combination of process, tools, technology, data and planning – the what, why and how of change – but the most vital aspect will always be the people. Without focusing on the people, we are effectively just playing out an intellectual exercise.

People are the least predictable component in the changing landscape, but also the most powerful.

So, what is it about people's actions in a crisis, such as a global pandemic, that can reveal lessons for driving successful change? And what could we choose to continue beyond the pandemic?

People: Get to know the whole person

Challenge: During major transformations, people feel they are an afterthought, with new systems and processes taking the limelight. Edelman's research shows that nearly 64% feel that their employer was not honest about the changes they would face in their last transformation programme.

Pandemic solution for a post-pandemic world: But when disaster strikes, it is all about people. We do what we can to provide safety and security as quickly as possible. In the case of Covid, businesses had to keep people safe, both physically and empathetically. A new intimacy developed between workforces, as we looked into each other's homes through video conferencing windows, and found innovative ways to socialise online through instant messaging, virtual socials and the dreaded

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Organisations accelerated transformation programmes at a speed they never thought possible – becoming 'virtual first' companies in days instead of years.

quizzes. This was intentional. More than a third (34%) of leaders who responded to the World Economic Forum's Future of Jobs survey said they were taking steps to create a sense of community among employees online. We now know more about our colleagues' 'whole person' because of Covid – and we have innovated new, accepted norms for collaboration. If regular virtual coffees with the leadership team in their living rooms are good enough during Covid, it should be good enough during major change programmes.

Purpose: Make use of a relatable vision and firm guardrails

Challenge: Another common barrier to successful change we so often speak of is that the desired transformation lacks a relatable vision. Edelman's research shows that 66% of staff felt their employer did not explain how their last workforce transformation aligned with their corporate purpose.

Pandemic solution for a post-pandemic world: With Covid, the imperative was clear: Keep people safe and keep business going. This rule created little room for employees to question their new working environments and resulted in quick and effective adoption. Even fears about reduced productivity have largely been erased; CIPD research shows that 66% of employers say remote working during the pandemic has had positive or no impact on productivity.

The constrained scope that Covid provided is worth interrogating. When researching this article, I spoke to the Head of Fundraising Innovation at the British Red Cross, Ben Cohen, to find out what he thought Covid has done for innovation. After pivoting his team's plans in March to respond to Covid, they had their best ever year of fundraising against the backdrop of dire results for other charities in the UK.

I asked whether the Red Cross's success during the Covid pandemic was 'forced innovation', or if it simply accelerated innovation that would have happened anyway. Ben's response indicated the need for a strong sense of purpose: "It's about guardrails. Innovation teams don't produce good work when they're given an open brief with no purpose. But when they're given clear, strict guardrails, they have the conditions to produce their best work."

As with innovation, we can reach better outcomes in business change when people are empowered by a relatable vision and firm guardrails to keep their focus on the direction ahead.

Psychological safety: Test and learn

Challenge: Asking people to adopt a change demands a great deal of trust and experimentation between the instigator and receiver of change. With a relentless focus on the end state, we often suppress the experimentation and demand the trust too quickly, reducing people's opportunity to provide

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valuable feedback that could shape the end state for the better.

Pandemic solution for a post-pandemic world: In the early days of Covid, there emerged a greater acceptance, need and freedom to experiment without (too great a) fear of failure or retribution, i.e., the conditions were in place for psychological safety. This need created the environment to maximise innovation. Organisations, government and health advisors had to make swift decisions, often with unknown partnerships, and be prepared to pivot or kill strategies when the insight told them it was not working. We generally accepted the uncharted ground and trusted that the leaders needed to experiment, and we forgave if they failed fast and learned lessons. These conditions of psychological safety, to both innovate and to speak up, were leveraged in many workplaces. Something that would be in everyone's interest to continue well beyond this pandemic.

Better business change

We often display more resilience and inventiveness in times of crises than during business-as-usual. While there's no question that running a business in 'crisis mode' is not sustainable (nor desirable), when disaster strikes, we have the opportunity to learn about ourselves and others.

The lessons I am taking from this crisis, and encouraging you to think about too, are: remember what is most important, set direction with

urgency and create the conditions for valuable feedback. With this focus on people, purpose, and psychological safety, businesses can embrace, accelerate, and embed change as a constant ally in the company's growth journey.

Samantha Robertson spent the first decade of her career working in the non-profit sector for both UK and international NGOs. She led a variety of initiatives focusing on improving the lives of children and young people; and came to specialise in strategy, digital transformation, organisational change and learning. After 11 years, she took the plunge and joined NTT DATA UK in her first consulting role and hasn't looked back. Sam is happiest when working collaboratively with purpose alongside diverse colleagues, clients and partners.

How Corporate R&D Makes Innovation Real

By Mark Masterson, Head of Research and Development at NTT DATA UK

Part of the challenge of innovation is dismantling the different ways in which the word is used, and how that comes to life in a business context. Leaders should focus on testing hypotheses through research and development rather than trying to 'do innovation.'

The term innovation has haunted my career for more than a decade. I have come to a definition, which thinks of the different manifestations of innovation as parts of speech: a noun, a verb and an adjective. In my experience, some of the confusion this word generates is derived from not paying attention to which of these three variants of the word is in use because they're often (wrongly) conflated.

Innovation as speech (nouns, verbs and adjectives)

Innovation can be used to describe things. When Elon Musk is standing on a stage pointing at some cool object behind him, singing its praises, this is the noun use of the word 'innovation'. The innovation is literally the thing on the stage. In a corporate context, we see this rear its head in the call for a 'pipeline of innovations' or similar. Anywhere you see the word pluralised, it's a strong clue that you're seeing someone use it as a noun. This is a valid sense for the word 'innovation', but overall is usually the least sensible or useful way to think about it.

Innovation can be used as a word to describe processes or techniques – ways of doing things. This is its use as a verb. When you encounter a

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This is a useful way to think about the concept; if the noun form of innovation is the 'what', then the verb form is the 'how'.

consultant, eager to show you heretofore secret ways to 'innovate', you encounter the word in this form. To innovate is the verb form of the word. This is a useful way to think about the concept; if the noun form of innovation is the 'what', then the verb form is the 'how'.

Finally, when we start to talk about the things that make one object, process, or group of people an innovation, we encounter the concept of it as an adjective. This is the word in the form of 'innovative', as in 'that object is more innovative than this one'. When applied to a group of people, we encounter the fact that some ways of organising and behaving – a group's culture – seem to be more strongly correlated with 'innovative' outcomes than others. To me, this is the most important of the three variants, because lurking subtly within it we also encounter, for the first time, the 'why' of things.

Innovation as a means to an end

The 'why' of innovation is the critical aspect about which we, as corporate leaders, should be thinking. The trap lurking within thinking about innovation as a noun or a verb is thinking about them as ends. This is never the case: innovation is a means to achieving some business objective, and it is this objective that we must always understand and be

seeking. Why are we doing this? Why are we not doing that instead? Unless these questions can be confidently answered by everyone on a team working on an 'innovation', there is a clear danger that they're wasting their time.

Make hypotheses, test them

So how do we avoid that danger? How can we ensure that people can confidently answer the 'why' question? Let me return to the 'innovation as a verb' variant for a moment – to the 'how' of being innovative.

The same simple set of concepts lurk at the core of the many different solutions available to you to 'do innovation'. Make a statement about something as a hypothesis. Design one or more tests. Run those tests. Validate or invalidate the hypothesis. Repeat.

This core approach, also otherwise known as the scientific method, is the beating heart of every lean, agile, or DevOps-ian process or methodology. The key to using it innovatively is learning how to move through its stages as quickly and cheaply as possible. This is what every Minimum Viable Something-or-Other Concept is trying to get you to understand. It sounds simple, but it's not.

What countless analyses have shown over decades is that individuals and teams that master the concepts and skills needed to draft good

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> **My strong belief is that this is what innovation is about: the skills and techniques needed to make and test hypotheses successfully and then execute on the results.**

hypotheses, to design good tests, and to analyse and interpret results accurately, are the ones that are most strongly associated with outcomes that are 'innovative'. Indeed, my strong belief is that this is what innovation is about: the skills and techniques needed to make and test hypotheses successfully and then execute on the results.

Research, then develop

How do we formulate our hypotheses so that they have the best odds of being testable? How do we design our tests to avoid false positives or negatives and understand how confident we can be in the results?

The answers to these questions blend skills in areas as diverse as research design, statistics, data science and others. Being confident in these answers is the key to also being confident in the 'why' question I mentioned earlier, the business objective. Once these skills are available to an organisation, it can use them in all facets of its work.

Critically, moving from a great idea to a market-ready deliverable value proposition can be accomplished simply by applying these skills and techniques appropriately. For example, how do we know that a given go-to-market plan is the best one? Or that the pricing model we've chosen is right for

our target customer? In each of these cases: design a test, validate the hypothesis.

Rather than focus on 'innovation' as a concept on its own, let's focus on this research and development work. Where teams and organisations have invested in building out these core competencies and learned how to leverage them across all aspects of the business, my experience is that we will find innovation is the successful result. And therefore, my advice is simple – don't 'do' innovation. That's a logical fallacy, a kind of trap. Instead, focus on being good at research and development. Do R&D.

Over the last 25 years, **Mark Masterson's** career has ranged from global multinationals to startup executive, mentor and advisor. Having held a series of senior global management and strategy roles at: Google, CSC (now DXC), Deutsche Bank, Zurich Financial Services and with Barclays Bank; he also worked in an advisory capacity to both US and UK Governments. Most recently, he has been a startup CTO, and worked at Google to help their customers manage digital transformations, become 'data driven' advertisers, and to grow startup ecosystems around the world. Currently, he leads Research and Development at NTT DATA in the UK, where his task is to transform the company by discovering and bringing to market new sources of revenue.

In Depth

NTT DATA takes a deeper look into critical areas of organisational change.

Agility in the Time of Covid

How is the Covid-19 pandemic different from other crises, and how can organisations build resilience? A well kept secret of the most successful companies across the globe is speed-to-learn. If you can learn quickly, you can change quickly, and if you can change quickly, you can capitalise on crises, extreme events, and the ever-shifting inclinations of consumers.

Changing behaviours: what companies can learn from the COVID-19 pandemic

The Covid-19 pandemic has had a considerable, unexpected impact on how humans, societies, and businesses function across the globe. As companies struggle to respond to the speed and scale of disruption, a key area of focus has been maintaining business continuity and, in particular, supporting distributed working. Rather than take a reactive stance, however, here we look briefly at the frequency of extreme events, their relative impact, and how the Covid-19 pandemic is different from other crises; we then turn to what we can learn from this disruption and how organisations can build resilience to extreme events as they recur.

The paper investigates:

- The impacts of global events, as the world becomes more financially, technologically and socially interconnected.
- Who has prospered as a result of the sudden

rush to remote delivery and digitisation (and who has floundered).

- Why organisations that can detect shifts in consumer behaviour and then, rapidly, change their product or service offering, will capitalise on them. But this requires:
  - Constant monitoring of the market, consumers, and their drivers; and,
  - A 'digital core' that can work at (nearly) the same speed as these feedback mechanisms.
- How too much change (like an extreme event) can cause serious damage to employee morale and commercial results; but driving incremental change, building champions, and using mistakes to course correct and successes to drive uptake, will ensure that organisations can change and adapt at the right pace.

Read on to find out what organisations can and must do to thrive in the 'new normal'. By understanding what's different about Covid-19

compared to other crises, disrupted businesses can reconfigure, becoming more agile in order to both detect opportunities and act on them.

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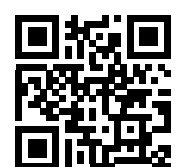
Forge New Norms: Ensō Foresight 2020

New norms are emerging. Social movements, such as Black Lives Matter or Fridays for Future, urge companies to position themselves politically; and new legal frameworks and standards such as GDPR push companies to rethink the ways they develop products and services. As the responsibilities of companies grow and change, making sure that ethics, diversity and inclusion, and sustainability are built into every process is essential for both consumer and company.

Smart homes, facial recognition software, self-driving cars – each of these and other emerging technologies bring unprecedented changes in the ways we live and work together. Since the Covid-19 pandemic, we have come to a better understanding of the significance of digitalisation and how both companies and consumers have

The paper investigates:

- How, at the same time that companies must keep up with the culture of innovation to stay competitive, they must also adopt new responsibilities in the areas of ethical standards, privacy, and the environment.
- How new norms can be translated into valuable business opportunities, for example through the emergence of new markets and on the unexplored terrain for digital products and services.
- A deeper dive into three of these new opportunities: ethics in artificial intelligence, diversity and inclusivity, and sustainable tech.

Read the white paper to find out to translate new norms into responsible products and services, by setting up ethical standards based on transparency, accountability, and accessibility; and rethinking innovations to make sure they contribute to a liveable future on this planet.

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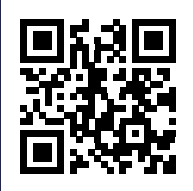
From Data to Knowledge: A New Approach to Smart Knowledge Management

Knowledge is not just about what you know, or knowing how to do something: it's also about who you know. An effective knowledge management solution, therefore, has to not only find and attach meaning to information wherever it's stored, but also identify the relationships between employees and classify their skills and expertise. Using the latest cognitive technologies to discover and analyse content, data lakes can be transformed to easily-searchable knowledge lakes, to galvanise your teams.

As the volume of data created in organisations grows exponentially, so does the challenge of ensuring employees can quickly find the information they need to do their jobs effectively.

Businesses have long sought to better exploit tacit and explicit knowledge as a way to achieve competitive advantage, but early knowledge management systems often failed to achieve this goal. What businesses need is a rapid and cost-effective way to transform the increasing amounts of structured and unstructured information, stored in their data lakes and databases, into knowledge that is relevant and useful to employees.

In 2020, it's estimated that over 6 petabytes of new data was created and captured by enterprises. The recent rapid growth in raw data creates additional challenges: it's stored in data lakes, which are not easily searchable for non-expert users. What businesses need is a way to turn their data lakes into knowledge lakes.

The paper investigates:
- How the knowledge management systems of the past are not fit (and perhaps never were) for our business needs.
- Why it's important to understand that information management is not knowledge management.
- The exciting developments in cognitive tech, giving rise to new solutions capable of equipping teams with a secret weapon – the right knowledge at their fingertips.

Read the white paper to find out how smart knowledge management can help turn overwhelming amounts of data into enviable amounts of knowledge.

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Creating Innovation within the Status Quo

By Tendayi Viki, corporate innovation expert and award-winning author of
Pirates in the Navy

How can the entrepreneurial spirit needed to truly innovate be fostered inside a system designed to maintain the status quo? This is a challenge faced by businesses across the globe. Leaders must break down the barriers in their organisations, to truly create space for innovation.

Corporate innovation is a paradox. Intrapreneurs have to innovate for the future, inside a machine designed to run the current business. This paradox often plays out in interesting ways, when innovation teams have to rely on leaders and key functions from the core business to help them scale their ideas in the market.

A few years ago, I worked with an innovation lab team in a large South African bank. They had been given their own building right across the street from the 'mothership'. It was a beautiful space with whiteboards, foosball tables, bean bags and a tonne of sticky notes! The team had also done fantastic work discovering several ideas that customers loved.

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Just because the company has given you an innovation space does not mean that you have been given space to innovate.

The challenge the team faced was that they did not have the resources to take their ideas to scale in the market alone. They needed buy-in from key executives and functions within the main business. They spent several months trying to garner support, and they drew a blank.

Even with evidence of customer excitement and traction, they could not get a single executive or key function to give them the support they needed.

Boxed-in innovation

Intrapreneurs are often excited when the company sets up an innovation lab for them to work in. They are even more excited if that innovation lab is a physical space located away from the core business. They feel free to work without hindrance from meddlesome middle managers. The physical spaces are often beautifully designed to inspire innovative behaviours.

There is nothing wrong with having an innovation lab, per se. However, innovation teams should not get too carried away with their imagined freedom. Just because the company has given you an innovation space does not mean that you have been given space to innovate. These are two separate things. Understanding the distinction will help innovation teams think beyond the boundary of their lab space.

Scaling for success

Innovation is different from creativity or invention. Having a breakthrough technology is not the same thing as having a great value proposition. Our breakthrough technologies have to be transformed into products or services that deliver value to customers. The Nintendo Wii was not the best in gaming technology. Its success was based on the fact that the value proposition resonated well with casual gamers.

Getting to a great value proposition is something most innovation teams working in a lab can achieve. This was indeed the case with the innovation team at the South African bank. But beyond that, isolated innovation teams begin to struggle.

It dawns on them that having a great value proposition does not automatically create a business model that's both profitable and scalable. It's entirely possible to create value for customers and lose money while doing it. I strongly believe that until an idea is launched and is succeeding at scale, it cannot be considered a successful innovation.

Achieving a profitable, scalable business model is not something that can be done within the innovation lab's boundaries. A successful business model requires you to figure out everything from the creation of the product or service, to delivery to customers and revenue models. For that, you

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Until an idea is launched and is succeeding at scale, it cannot be considered a successful innovation.

need cooperation from key functions such as sales, marketing, manufacturing, legal and finance. In my experience, it is also impossible to coordinate and drive the support from these key functions without the backing of senior executives.

This is when teams discover that, although they were given an innovation space, they had no real space within the company to realise these innovations.

Sadly, this can lead to organisations losing both engagement from the workforce and valuable talent; I have worked with several teams that are stuck in endless negotiations with the leaders in their company to allow their innovations to be scaled. I have also met a few innovation leaders who, having been frustrated in their efforts to scale their ideas, step down from their roles.

Innovation without boundaries

The problem with most innovation teams is that they get so excited about being in the lab that they view it as an opportunity to 'do their own thing'. This approach prevents them from building a bridge to the core business. They have a false belief that if they find something that resonates with customers, the mother company will embrace it. But this is far from the truth: research by PwC shows that 54%

of companies that invest in innovation struggle to bridge the gap between innovation strategy and business strategy.

Let's take the perspective of a division head inside a large organisation. At the beginning of the year, she would have agreed on her goals with the CEO. She may have also spent weeks planning the roadmap with her team. She knows exactly what she needs to accomplish to hit her goals and get her bonus.

Then one day, while she is minding her own business, some person she hardly knows from the innovation lab turns up with a new product or service that he thinks should be taken to scale by her division. It is not that difficult to understand why she would be less than enthusiastic: she has no reason to gamble her career and outcomes for the year on this new idea from the lab. Intrapreneurs might find this behaviour frustrating, but if the roles were reversed they would respond similarly.

The key to successful innovation is to transcend the boundaries and start working with leaders and teams in the core business early.

In the book *Driving Innovation From Within*, Kaihan Krippendorff conducts an interview with Hoby Darling, an executive who led Nike+, the business unit behind the Nike Fuelband. In

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> ## Transcend the boundaries and start working with leaders and teams in the core business early.

that interview, Darling argues that part of doing innovation in a large organisation is spending a lot of time 'lining up the cannons'. He also notes that the great thing about working in a large company is that if you succeed in lining up all those key functions, the cannons will 'go off with a big bang'.

The innovation team that I worked with in South Africa instituted a new policy after I started working with them. The rule was that they would not work on any innovation project that didn't have at least one key executive as a sponsor. Their job as a team was to keep this sponsor updated on the progress of the project. The role of the sponsor was to open doors for key conversations within the company. This new approach resulted in much more engagement from the core business.

Just because you are working in the innovation lab does not mean that you can do whatever you want. Part of the job is to ensure that you are working on projects that matter to the larger organisation. At the very least, you need to ensure that you have some strategic alignment with the company's leaders. This requires going beyond the boundaries of your innovation team and collaborating with other colleagues within the organisation: it's the only way to achieve authentic, successful innovation and be fit for the future.

Tendayi Viki helps companies innovate for the future, while running their core business. He is the author of Pirates In The Navy and The Corporate Startup, a book that won the 2018 CMI Award for Management Book Of The Year In Innovation and Entrepreneurship.

Ethics in Innovation

By Diana Hauser, Innovation Lab Manager & Head of Lean Innovation at NTT DATA DACH

Businesses strive to create new technologies, products and services that reshape or even disrupt their markets. Yet businesses also need to understand they must innovate sustainably and ethically. With pressure to innovate quickly, bias, ethics and discrimination can easily be forgotten.

It's a given that enterprises (if they wish to survive) must shift, grow and embrace new ideas – they must continually innovate. Currently many enterprises are investigating how technologies such as AI can not only speed up the development process for new products and services, but help them define novel solutions totally tailored to the individual.

In industries such as automotive with the advent of autonomous vehicles, the ethical implications of AI are front and centre: if a vehicle must swerve to avoid a person but in doing so hits another person, how can the decision be made as to which life should be saved?

These ethical dilemmas have moved out of the realm of the theoretical, with a recent report from the European Parliament noting, "within the last 5 years AI ethics has shifted from an academic concern to a matter for political as well as public debate." Issues such as racial and gender biases, deepfakes and errors in facial recognition are already transpiring, impacting both individuals and organisations.

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Businesses can see the vast potential that AI can offer them. Many enterprises are moving forward and implementing these systems, but often with less-than-adequate forethought for how they will be set up.

As businesses, we not only have a social responsibility to create and continually refine systems that do everything possible to promote equality, but also a duty to customers to explain how decisions made by AIs are reached. The challenge is establishing systems that do not carry with them the biases of the people creating them.

Demystifying AI

Businesses want to innovate and can see the vast potential that AI can offer them. Many enterprises are moving forward and implementing these systems, but often with less-than-adequate forethought for how they will be set up and by whom, how the outputs will be overseen, and how the systems will evolve over time.

The starting point must be establishing ethics guidelines for the business; ethical questions, complex and nuanced as they are, cannot be thought of as having absolute answers. But with guiding principles, for example using the EU's guidance for trustworthy AI as a basis, which are followed throughout the whole service/product lifecycle, businesses will have the mechanisms in place to catch, and then eliminate, as many prejudices as possible.

AI systems are often seen as an impenetrable black box. At Ensō, NTT Group's first innovation and co-creation space in Europe, we demystify the process. 'Explainable AI' gives insights into the black box of machine learning, and the rationale for its deductions.

Understanding why the AI delivered any given outcome or directive is essential to quantify if the system is trustworthy (indeed, whether it's trusted by the users is a key success factor). An overall detailed understanding of how the system is set up, and a clear view of the advocacy of the data being used, are the foundation of trust.

Every person using the AI system to influence their work must trust the data that the system is delivering to them. Trust is based upon a clearly defined set of parameters that the system has been initially set up to follow, and which are properly maintained and updated throughout the system's lifecycle. The challenge is to ensure those parameters are ethical and have the lowest level of bias and discrimination possible; and to remember that discrimination is not only along single dimensions (like gender or race), but particularly at intersections (for example women of colour). You can evaluate your parameters by making sure the data used to train the AI model follows both ethical and sustainable data guidelines.

Our clients, particularly those with a more technical background, are excited about using AI – but that enthusiasm does need to be tempered with

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What many business leaders struggle with is understanding the level of nuance involved in designing their AI systems, and how their decisions can profoundly impact the outputs they gain.

an understanding that these systems are not like other business applications. For explainable outputs to be gained and to ensure those outputs are ethical and free from bias, a deeper understanding of how these systems operate, and then arrive at their decisions, is at the core of using these systems for ethical innovation.

Innovation without bias

Ethics and diversity are essential components of innovation, especially when using AI. At Ensō, we use workshops to explore these ideas with clients. 'Ethics by Design' helps to unravel these challenges, clarifying that although technology itself may be considered neutral, it's the application of that technology that must be thought about.

What many business leaders struggle with is understanding the level of nuance involved in designing their AI systems, and how their decisions can profoundly impact the outputs they gain. This discussion – about ethics, discrimination and bias, within a framework of technology – can be very new to them. But despite how alien it might feel to discuss philosophical issues, for a machine learning system to be accurate and deliver the tangible results the business wants, these discussions must be had.

In particular, AI and machine learning have many components, all of which impact each

other. Unintentional consequences that could be discriminatory and opaque to the viewer are a real risk. We spend some time helping our clients to counteract, for example, unintentional race or socioeconomic biases.

Is the data that a machine learning system is based upon sustainable, i.e. is the data up-to-date, correct, accessible, controlled and free from bias as well as discrimination? We often use synthetic data to test the advocacy of an AI system. We then use client data and compare the outputs. These will usually be very different, illustrating the dangers of using machine learning, for instance, without complete datasets. This is often surprising to many of our clients and underlines the importance of using data that has been quantified and analysed before using the machine learning tool.

An ethical tomorrow

Ultimately, for a business to design, implement and then innovate using new tools such as machine learning, the enterprise itself has to change.

People create and analyse the data these systems will use. It's critical to understand how changes to business culture will have a practical impact on the outputs of the AI system being used.

It is also useful to have an outside view of how a machine learning system is being set up. As we

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Ethical standards should be in the DNA of a company to ensure every step taken on the road to innovation is taken thoughtfully... These changes are fundamental to every business that wants to continue to innovate.

have already mentioned, businesses can often be too close to the datasets they create and can't see the unintentional bias that could be present.

We understand that businesses have masses of historical data and continue to collect vast quantities of new data about their clients, customers, competitors and commercial partners. We need to ensure a detailed understanding is present to remove or minimise any bias or discrimination that data may have. That begins with educating a business's workforce – who are, after all, working with the data the AI tool will eventually use to help them innovate.

Ethical standards should be in the DNA of a company to ensure every step taken on the road to innovation is taken thoughtfully, to ensure high sustainability levels. These changes are fundamental to every business that wants to continue to innovate.

Success by design

Businesses strive to create new technologies, products and services that reshape or even disrupt their markets. Yet businesses also need to understand they must innovate sustainably and ethically.

Equitable design can be product or service focused, but to be truly innovative, companies need to look to the broader society they and their customers are part of. The tools businesses use to achieve that goal are advancing. The insights these new tools are unlocking will be profound. Having a deep understanding of the impact they have on a cultural level pays massive dividends as design and innovation positively impact people's lives.

Diana Hauser heads Lean Innovation at NTT DATA in Germany, Austria and Switzerland. Starting out as a software developer, Diana led the development of the first generation of browser-based car configurations for premium automotive brands. Today she is cofounder and manager of NTT's first innovation and co-creation space in Europe. With her team she makes innovation tangible and supports NTT's clients in their digital transformation and towards new business models in desirable futures. In 2018, Diana was honoured as 'IT Woman of the Year' for Business Innovation.

Unlocking Potential to become an Organisational da Vinci

By Peter Fisk, global thought leader, professor and author of
Gamechangers: Creating Innovative Strategies for Business and Brands

One of the biggest challenges faced by leaders is connecting the diverse perspectives and skills inside, and outside, the organisation in order to focus innovation efforts. Peter Fisk takes us through what we can learn from Microsoft's renaissance under Satya Nadella.

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Organisations rarely have a Leonardo da Vinci in their midst. Yet collectively, most organisations have at least his diversity of perspectives and skills.

Leonardo da Vinci described innovation as "making unusual connections". As a polymath, he championed a diverse portfolio of passions from anatomy to sculpture, art to hydrodynamics. The 1490 Vitruvian Man drawing showcased his ability to combine his interest in art and mathematics. His portraits were enhanced by understanding the human body; his engineering designs fused ideas from nature and skeletal mechanics.

Today, organisations rarely have a Leonardo da Vinci in their midst, and indeed most cultures would probably eject such talents and ideas. Yet collectively, most organisations have at least his diversity of perspectives and skills, and probably much more. The challenge is to embrace and connect such talents inside and outside the organisation.

I spent much of the year before last working with Microsoft as an innovation advisor to their leadership teams. Arriving at their Redmond campus just outside Seattle, I detoured to take in Bill Gates's old office. But on the way, the signs for various hackathons and huge tents erected on the cricket pitches signalled a very different leader and a different approach to innovation.

How a new leader changed Microsoft's purpose

Five years ago Satya Nadella stepped up to lead the business after 22 years as a technologist. Since Gates's days, Microsoft had declined under the product-pushing and sales-driving obsession of Steve Ballmer. Nadella changed two things: the business's purpose and its cultural model. He transformed the organisation and its business performance.

Since the change, Microsoft has been re-energised, a $1.6 trillion business, that seeks to "make customers cool, not itself" with a mission to "empower every individual and business to achieve their potential". Innovation and growth are the principal, customer-centric words, not technology or products. Partners, including the likes of Amazon and Apple, enhance the organisation's potential to achieve more. Yes, they even welcome MacBooks!

No longer is the focus on software subscriptions, but on solving real problems. Cross-functional account teams sit down with clients to create a new growth roadmap. They bring together their own and partner technologies – from AI to cloud computing – to plot business transformations and enable the smallest stores to achieve global ambitions.

Nadella promotes a 'growth mindset' that encourages constant experimentation, failure and learning. It rejects the old attitudes of seeking to optimise what exists. It has deliberately eliminated hierarchies and functions, to create liquid teams. Indeed, over 80% of employees work on projects, rather than in roles, eliminating former product

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Nadella promotes a 'growth mindset' that encourages constant experimentation, failure and learning. It rejects the old attitudes of seeking to optimise what exists. It has deliberately eliminated hierarchies and functions, to create liquid teams.

obsessions, competitive internal boundaries, and limiting job descriptions.

Unlocking potential to become an organisational da Vinci

While the focus on customers is critical, the focus on employees is Nadella's passion. He describes the organisation as a platform for each individual to unlock their potential. It's a place where the most diverse teams of people, with various backgrounds, experiences and talents, can achieve even more together.

What can we learn from Satya Nadella's reimagined business and Microsoft becoming the technology era's organisational da Vinci?

1. **Markets are complex and dynamic**, requiring more innovative, customised and adaptive responses, developed collaboratively and multi-functionally.
2. **Innovation is rarely about individual products or services** but about holistic business models that transform markets and customer experiences.
3. **Organisations are shifting dramatically** from closed systems to open ecosystems, and within that from stifling hierarchies to fluid, living structures.
4. **Culturally, an inspiring purpose** shared across the organisation encourages

collaboration and experimentation, energising people to do more together.
5. **Ecosystems,** whether as market platforms or innovative partnerships, enable organisations to be more agile, achieve more, reach further, and act faster.
6. **Transformation is not about technology,** but about finding innovative ways to create and shape markets, sustainable and networked, growth and progress.
7. **Leaders are the coaches and connectors,** instead of commanders and controllers; they create the context for people to thrive individually and together.

What do innovative leaders have in common?

Microsoft is not unique. What struck me is how common many of the activities driving its transformation are. Look across the world, and we see old and new organisations seeking to embrace many of these factors.

Cemex, the Mexican-owned global leader in cement, uses the UN's 17 sustainable development goals as its framework for innovation, bringing its people together across functions and markets to create more positive social impact, profitably.

Danone, the French dairy business, has reimagined itself as a health business, bringing

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Leaders are the coaches and connectors, instead of commanders and controllers – they create the context for people to thrive individually and together.

teams together to redefine how its brands contribute to healthier living and working with everyone from farmers to retailers to evaluate its entire ecosystem.

DBS, the Singapore-based "world's most innovative bank", used a customer-centric transformation as a starting point to rethink how to embrace technologies usefully, leading to more human innovations, rather than automating old processes.

Glossier, the world's fastest-growing beauty business, started as a community of people passionate about sharing beauty tips. It's now a C2C business thriving on co-created ideas and innovations, social influence and relationships.

Haier, the Chinese global leader in home appliances, eliminated its middle management and created 10,000 entrepreneurial microbusinesses. They have the freedom to innovate with niche markets while benefiting from the Haier network.

SpaceX thrives on bringing together teams of individuals from eclectic backgrounds who can think the unthinkable, to move forwards, bonded by a solid future-focused culture of storytelling, on a mission to Mars.

The leaders of these innovative companies – Fernando Gonzales, Emmanuel Faber, Piyush Gupta, Emily Weiss, Zhang Ruimin and Elon Musk – all recognise that they can't achieve their dreams alone. But they can accomplish steps toward it through innovation that works across boundaries. As leaders, they succeed by bringing great people together as winning teams, creating a context that is enlightened and energising, and shaping the space and support for people to thrive.

Peter Fisk is a global thought leader, CEO of London-based strategic accelerator GeniusWorks, and a professor of leadership, strategy and innovation at IE Business School in Madrid. His 30 years in business spans superconductivity physics, supersonic travel brands and digital startups. He is author of 9 books in 35 languages, including "Creative Genius: An innovation guide for business leaders", "Gamechangers: Innovation strategies for business and brands" and just published "Business Recoded: Have the courage to create a better future for yourself and your business".

CXO
BY NTT DATA

VIDEO

How Diversity & Inclusion Drive Innovation

Interview with Stefanie K Johnson, Professor of Management at Colorado University and author of the bestselling book *Inclusify*

Stefanie talks to CXO about the research proving game-changing innovations come mostly from diverse teams, how similar people compound each other's biases and failures without noticing, and how the frozen middle of corporations can kill change.

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Lessons in Co-Creation from the Automotive Industry

By Ralf Malter, Managing Director NTT DATA DACH

Businesses can't innovate at speed if they work alone. In a post-Covid business landscape, agile companies innovate by embracing co-creation and the transparent exchange of ideas. Collaborations in the auto industry offer an inspiring example of how these strategic relationships can change the world.

As businesses must now innovate at speed, one decisive way to accelerate change and open new potential markets for products and services is collaboration. For decades, enterprises have practised isolationism to protect their IP. But today, open partnerships and co-created products, often with competitors, is how enlightened business leaders now approach their strategic innovation.

Businesses understand that the knowledge and experience their workforce contains is one of their most precious assets. However, in a globally competitive market, enterprises struggle to locate and retain the skilled staff they need. Partnering with one or more businesses that have the intellectual and practical skills required to complete a project is the core advice we give to clients.

Co-creation, and the high levels of transparency that successful co-creation projects demand, can be a difficult transition for many businesses to make; but to remain competitive, it's a change they must embrace.

We live in a connected world. Our vehicles and cities are becoming smart. Enterprises that can develop next-generation products and services

need to innovate within these connected spaces. Co-creation and the free exchange of ideas, data, insights, and skills are the foundation for businesses to build new products and services.

In it together

No discussion of co-creation innovation can be complete without acknowledging the upheaval Covid-19 has brought to every business sector. The post-pandemic landscape will be different, as enterprises have re-made their digital transformation plans. It's imperative these new strategic initiatives contain a co-creation element.

As all governments stated at the beginning of the pandemic, we are all in this together. Something similar can also be said about how businesses will change and evolve post-Covid. The pandemic has brought communities closer together. I firmly believe the same is also true for companies that can make lasting change through innovation if they work closely together.

The uncertainty of what lies ahead can be brought into focus and illuminated, but only when businesses don't attempt to define their futures

alone. Future-focused enterprises are enlightened businesses that understand and actively pursue innovation with a diverse array of partners.

Sum of the parts

A great example of how collaboration can result in massive benefits is in the automotive industry. Known for fierce competition between manufacturers, forward-thinking businesses are actively seeking to forge close commercial relationships with multiple companies and across the educational sector to collaborate on disruptive world-class innovations.

Business leaders have watched as the timescale for their product design and delivery continues to shorten. In my time as Chief Operating Officer and Managing Director of Digital Business Solutions, Automotive & Manufacturing for NTT DATA Germany, I've observed as several industries have experienced similar shortening of their product and development cycles. Innovating alone is now not a viable option for most enterprises. We advise a more open stance that can protect IP, yet allow a level of transparency and collaboration that results

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As development cycles rapidly shorten, agile businesses can use this acceleration to their advantage – if they're open to being open.

in partnerships that would not have otherwise been actively pursued.

For example, since 2017 NTT DATA, Toyota, and Maxar Technologies, collaborated on new technologies for connected cars. This collaboration explores how in-vehicle AI applications, IoT networks, and 5G can be leveraged and breaks new ground in the field of HD maps for autonomous vehicles. The advances we have made would not have been possible had we not done it together; none of the companies could handle such a complex project alone.

Business leaders have looked into their short-term future and realised they must actively use co-creation to survive and prosper.

The digitisation of the consumer and business spaces are converging. The emergence of fast data connectivity thanks to 5G, the potentially transformative impact that edge networks will have, and the emergence of a connected world as IoT matures, delivers a space ripe for innovation. Innovative Optical and Wireless Networks is another area that will be defined by co-creation initiatives.

Can a company work alone and hope to make a lasting impact on these developments? We don't believe that it can; we advocate an open approach. It

has worked for us. Think about how your company needs to innovate. It's likely your company can't achieve its goals alone.

With well-chosen partners, these goals can be met and even exceeded. We often see projects that began with clearly defined parameters grow out of all recognition, as partners offer their unique perspectives. These new insights often lead to unexpected and potentially highly lucrative changes to the service or product development. This change is only possible if your company embraces co-creation.

4 big wins

Moving to a co-creation model for innovation can deliver several key advantages to any company that embraces this enlightened way of working:

- New ideas and perspectives are the literal product of collaboration. What's more, the ensuing digitisation enables businesses and other groups to work together efficiently.
- The value chain a business has access to can grow exponentially with co-creation. Collaboration needs new ways of working to be developed. These new systems, processes, and communications channels all combine to

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Co-creation and the free exchange of ideas, data, insights and skills is the foundation onto which businesses will build new products and services.

deliver value.

- Cost reduction is a by-product of collaboration and not the core driver behind co-creation initiatives. It's essential to understand transparency and honesty with partners will always result in high-quality innovation.
- Creativity at speed has sometimes been thought of as a contradiction: great ideas and the products and services they spawn need time to evolve and mature. Today that notion has been dispelled, as the innovation cycle can now be massively shortened thanks to collaboration.

The businesses that grasp co-creation and use its ideals to drive their innovation strategies are clearly enterprises that will dominate their sector. Businesses within the automotive industry are a great example. Their ambition is moving through enormous upheavals as the world transitions to autonomous electric vehicles. This industry understands that co-creation will define their future prosperity – prosperity they can't create alone.

To prosper, businesses must increasingly become agile innovators. As development cycles rapidly shorten, agile businesses can use this acceleration to their advantage, if they're open to being open.

Agility, coupled with co-creation, is a powerful partnership all businesses can develop. If your company is not refining its dexterity and has no strategic plan to foster more collaboration with other enterprises or educators, you'll find yourself at a distinct disadvantage. The evidence is clear: the whole is greater than the sum of the parts. To succeed, we must work together.

Ralf Malter is Managing Director and Chief Operating Officer of NTT DATA DACH, managing all service lines of NTT DATA and pushing the positioning as a business innovation and transformation partner. With over 20 years of experience in IT consulting, Ralf supports the consistent further development of innovative and digital topics and services to further the growth of NTT DATA. After studying mathematics at the University of Tübingen, Ralf Malter worked at IBM Global Business Solutions, where he was responsible for Application Management Services (Sales) in Germany as a partner and executive.

Why Diffusion is a Critical Component of the Innovation Value Chain

By Patrick Scanlon, Principal Consultant, Telco Media at NTT DATA UK

In the stages of the innovation value chain, from generating ideas to converting them into deliverable activities and finally diffusing them throughout the organisation, it is often this last piece where companies fall down. What can we learn from others' mistakes, to help drive adoption of good new ideas?

While often considered taboo, acknowledging and understanding failure is essential if we are to learn from mistakes. To confront this taboo head-on, let's examine three failures that illustrate fundamental failure modes for innovation:

1) In the early days of the internet, Netscape's Navigator dominated the web browser market with approximately 90% of the share, propelling their market capitalisation to $3.6 billion just 20 months after the company was founded in 1994. However, after Microsoft overtook its share of the browser market, Netscape could not **generate** any further creative product ideas, and the company ultimately disbanded in 2003.

2) Whilst at university in the late '00s, my brother read online that popcorn had a higher profit margin than cocaine. Keen to get in on the action, he came up with the idea of selling flavoured popcorn, but being a student, he never followed through. A few years later, several brands emerged that had "copied his idea". My brother's failure to **convert**

> " The process of innovation involves three key stages: idea generation, conversion through to delivery, and diffusion throughout the organisation and its partners. While failing in any one of these value chain steps can be terminal for innovation, the one most commonly overlooked is the diffusion stage.

the concept into reality meant that his dreams of becoming the Pablo Escobar of popcorn had vanished. However, our mum was happy with his backup career as an engineer.

3) One of the most well-known examples of failed innovation comes from Kodak. The brand famously invented the first digital cameras but decided not to pursue it further due to fears of cannibalising their film sales. This failure to **diffuse** the innovation within their organisation or license it to others ultimately led to their dramatic decline.

The innovation value chain posits that the process of innovation involves three key stages: idea generation, conversion through to delivery, and diffusion throughout the organisation and its partners. While failing in any one of these value chain steps can be terminal for innovation, the one most commonly overlooked is the diffusion stage. The tendency to neglect this stage is particularly tragic as it means a reduced reward for the hard work of delivering a creative idea.

Why is it so difficult to get people to adopt good ideas?

Even with evidence of an innovation's value, people may resist introducing it in their organisation or department. Academic research proposes that three key categories influence the degree to which innovation will diffuse:

- **Innovation:** Who benefits from the innovation? How do these benefits compare to the costs?
- **Innovator:** How influential are the individuals who are driving adoption? How much risk appetite does the organisation have?
- **Environment:** How close are others who have adopted the innovation? What do societal norms say about the acceptability of the innovation?

These factors and their relative importance will vary depending on the exact situation. A fascinating case study with a complex environment is UK law enforcement. The body comprises 43 regional forces plus numerous other agencies, each with complex, inter-related governance including chief constables, police authorities, and the Home Office. My MBA research in this area used the above factors to show that:

- The key features of an innovation that determine its rate of diffusion are the proven benefits of the innovation relative to its cost;
- Barriers to achieving innovation and diffusion are higher within the law enforcement community where appetite for risk is more carefully controlled;
- The reputation of organisations designed to promote diffusion in a given environment is important; if a diffusion agent is not trusted, then the innovation is unlikely to diffuse.

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How influential are the individuals who are driving adoption? How much risk appetite does the organisation have?

How can we help encourage people to take up valuable innovations?

There is no silver bullet to improve the likelihood of diffusion, but there are many interventions that can help. In the case of UK law enforcement, these could include:

- Consistently documenting clear, transparent evidence of the success of an innovation in a given environment. Documentation can make the business case for adoption by others more straightforward.
- An explicit innovation strategy to help clarify the types of innovation that each organisation is looking to pursue.
- A greater willingness to share, underpinned by an environment of trusted partnerships and networks. Collaboration can reduce the 'distance' between like-minded innovators, and thus help diffusion.

Finding the right glue to stick it all together

The law enforcement case study illustrates the complexity of achieving effective innovation diffusion. But it also provides hope that the problem is not impossible to solve.

A story from 3M vividly illustrates the prize on offer from ensuring effective innovation diffusion. While researching new adhesives, a researcher discovered a new glue initially thought to be too weak to have any practical use. Recognising that this could be useful for others in the future, the discovery was documented and shared across the company. Years later, an employee came across this glue and incorporated it into their new product. That product is now known as the Post-It Note. By 2003, the average professional was receiving an estimated 11 messages on these Post-It Notes each day.

Patrick Scanlon is a Senior Principal Business Consultant at NTT DATA UK. Alongside work, he recently completed a distance learning MBA. Before that, he used his spare time to volunteer as a Special Constable with the Metropolitan Police.

VIDEO

The Challenge of Corporate Innovation

(& Why Collaboration is the Answer)

A film by NTT DATA

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Tech for Good

NTT DATA uses its technology and innovation capabilities to help its communities and clients.

VIDEO

Las Vegas improves its downtown public safety with smart city technology from NTT and Dell Technologies

Using a smart edge network of high-definition optical sensors, sound sensors, IoT devices and micro data centres, the City of Las Vegas is improving its public safety. Together with Dell Technologies, NTT is driving the city of the future forward.

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VIDEO

Connected North and NTT work together to bring quality education to remote communities

Advanced video conferencing is connecting remote indigenous communities in Canada with relevant education that incorporates their culture and language. Working in partnership with Connected North and Cisco, NTT hopes that with this solution and others like it, technology will be not just the great enabler, but the great equaliser.

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The Innovator's Best Friend

By Michael Bayler, Author of *The Liquid Enterprise – How The Network is Changing Value*

The customer value proposition is the beating heart of effective innovation. Today more than ever, to ignore this critical strategic anchor is to put both effective investment and business growth at risk.

The measurement of performance in innovation is, naturally, a vague and moving target. However, a broadly accepted statistic published by BCG puts the success rate at around 5% or one in twenty.

Suppose innovation lands only when it achieves a reasonable degree of acceptance in its chosen market. In that case, it makes sense to focus hard, at every stage of development, on the nature and dynamics of customer value.

Some years ago, Sun Microsystems invited me to lecture a group of young tech entrepreneurs on the importance and impact of brand and marketing.

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> **All three of these dynamics – invention, innovation and exploitation – must be present, balanced and well-executed, for new product or service development programmes to deliver real returns to the firm consistently.**

Unsurprisingly, most of the audience clearly felt that this subject was far from an immediate concern, polite interest and engagement notwithstanding.

The lecture mainly revolved around the basic principles of strategic, 'Big M', marketing. I emphasised throughout, as I continue to do today, the critical role of customer value in any programme of innovation.

As I was leaving, a smiling young man collared me. "I just wanted to let you know that I followed most of the rules you were talking about. And before we'd written a single line of code, we had all our funding in place."

Ten good reasons

The customer value proposition (CVP) deserves a lot more care and attention than it commonly receives. When thought through and well-articulated, the CVP becomes a powerful lens through which many things can be clarified and agreed.

Here are 10 examples where the CVP can have an influence:

1. Determining the commercial viability of an innovation
2. Developing the internal business case required for investment
3. Identifying and prioritising key benefits
4. Identifying features that deliver key benefits
5. The choice and segmentation of a market and positioning within that market
6. Defining a true competitor set
7. Gaining insight into the innovation's strengths and weaknesses relative to competitors
8. Guidance on pricing, linking back to the costs required for the business case
9. Briefing inputs for brand development and realisation
10. Guidelines for go-to-market, brand communications and messaging strategies.

The CVP has an enormous impact for a wide range of stakeholders and beneficiaries. And yet it's remarkable how infrequently, even inadequately, a value proposition is properly bottomed-out. Why is this?

Unpacking innovation

The most stubborn blocks are often cultural. Engineers, for example, tend to see an invention as the innovation itself. They often struggle to step through the looking glass to view their brainchild as a customer might see it. There is still a stubborn antipathy in the engineering community to anything that looks like marketing.

But the value of the invention can't be confused with the value of the innovation. The invention is typically based around an original solution to a functional problem. The innovation is what moves the invention forward, to become a marketable solution to a customer problem.

What we commonly refer to as 'innovation' unpacks

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> **The deliberate and careful application of value proposition work is crucial to turning fresh invention into customer value, and customer value into revenue.**

into three distinct and necessary phases. It's useful to differentiate 'Innovation' (big I) from innovation (little i). Innovation (big I) is the process, and invention and innovation are steps within the process.

The third dynamic in Innovation is exploitation. Exploitation, in this case, means combining impactful go-to-market and sustained realisation of commercial value.

All three of these dynamics – invention, innovation and exploitation – must be present, balanced and well-executed, for new product or service development programmes to deliver real returns to the firm consistently.

'Little i' innovation is thus the crucial bridge that links the functional solution of the invention to the marketing and income generation achieved in successful exploitation. It's precisely on this bridge, where a promising invention meets a potentially lucrative customer problem, that the majority of the CVP work is focused.

The deliberate and careful application of value proposition work is crucial to turning fresh invention into customer value, and customer value into revenue.

Too little, too soon
While all this may form a powerful argument, there remain deeper attitudes underlying the

prevalent resistance to formal, disciplined value proposition work.

Foremost among these is a widespread pressure to take new products and services to market as rapidly as possible. And despite declared commitments to so-called customer-centricity, there is also a pervasive low level of interest in directly engaging with customer value.

Underlying the latter issue is an old school, industrially-based belief, that the job of a firm is to sell stuff to people, and the job of marketing and sales is to do things to people to make them buy our stuff.

Ultimately, these beliefs cause firms to take to market suboptimal innovations too quickly, with key benefits and features omitted, wrongly-prioritised or poorly-articulated, or all of the above. As a result, brand positioning and communications are imprecise and uncompelling, requiring a disproportionate spend on sales and advertising to compensate for these weaknesses.

In other words, an awful lot of money gets left on the table. The job of the CVP is to ensure that such common failures are minimised from the start.

Framing and claiming value
The simplest and most powerful approach to framing a customer value proposition is, "You know this? Well, that."

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With key benefits and features omitted, wrongly-prioritised or poorly-articulated ...brand positioning and communications are imprecise and uncompelling, requiring a disproportionate spend on sales and advertising to compensate. The job of the CVP is to ensure that such common failures are minimised from the start.

'This', in context, refers to a thoroughly explored and understood problem that we believe a viable customer segment needs to be resolved. Or, of course, an opportunity they'd like to unlock. 'That' is a precise and corresponding account of our proposed solution.

We need to firmly resist simply comparing our offering with the feature sets and pricing of our real or imagined competition. A key CVP rule is to look for competition after, not before, we have formed both the contextual customer narrative and our response to it.

Our competitors are not the people who 'do what we do'. They are the firms that occupy the same or similar space in the mind of our customer.

The 'this' that the well-formed CVP lays out is a distillation and definition of the primary contexts within which an offering would represent maximum value for the customer, and the corresponding usages of the product or service that we want the customer to understand. It's a kind of staging, where the product or service and the customer are cast together in a little drama which shows the way to value.

Of course, great advertising is almost always built around emotionally evocative dramatisations of these idealised encounters between customer and brand.

The CVP's job is to 'frame and claim' value. The framing, the 'this', is entirely critical to the impact of the claiming, the 'that'.

What's not to like?

The outputs of this work form the basis on which fresh value, which otherwise would remain generic and vague, becomes clearly relevant and meaningful to a customer. The resulting impact on the effectiveness and efficiency of both marketing and sales (not to mention their greatly improved alignment) is striking.

After all, when we're able to communicate clearly, the need to shout and repeat ourselves is entirely removed.

All of these benefits unfold from the minimal time and investment required to develop a robust customer value proposition. It's a low-cost, high-impact tool, a strategic gift that keeps on giving.

Michael Bayler is a renowned marketing strategist, advisor and mentor to leadership, and published author. His work is dedicated to igniting and guiding transformation and innovation through a relentless focus on customer value.

Sounding Out the New Way of Doing Business in Society 5.0

By Cantemir Mihu, CTO at NTT DATA Romania

Societal shifts and new technologies go hand in hand: as we develop innovative new ways to connect, our behaviour changes too. The evolution of the music industry offers a useful backdrop against which to consider what we can do now to prepare for what's likely to happen next – in technology, business and society.

As technology advances, we see business models rise, fall and pivot. To proactively adapt to the disruptive shifts that technology prepares for us, we need to foreshadow how the newest tech capabilities will influence society and the direction in which society is heading.

Here, it is useful to consider the paradigm shifts in industry, from agricultural to industrial to the information age. We refer to our current business environment as Industry 4.0, the fourth industrial revolution born from digital technology.

This is taken a step further with the Japanese concept Society 5.0, which encapsulates the idea of addressing societal problems – inequalities, ageing population – with advanced digital technology. In essence, a super-smart society.

It is natural to consider then, what will the next version of society look like?

The journey of the music industry: an analogy

The music industry offers a rich example of how seismic shifts occur in conjunction with the latest tech innovations. Let's take a brief journey

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The music industry offers a rich example of how seismic shifts occur in conjunction with the latest tech innovations.

through the analogue-to-digital evolution that happened in music.

The 1970s

This was the analogue age when music is recorded mono, on compact cassette tape, and distributed manually through physical agents (record shops).

The 1980s

Early digital, when music is recorded stereo on CDs and still distributed manually through record shops.

The 1990s to 2008

The full shift to digital, when music is recorded by a mix of very expensive analogue hardware and limited software. Publishing is 20% online.

2009-2019: Versioning Up

- Thinking about this time in the music industry in terms of the Industry 4.0 model, we can see the incremental iterations that bridge the gap from the digital 4.0 to 'the new digital' 5.0. For example:
- 4.1: Digital transition starts incapacitating the conventional music distribution business models: buying hard-copy albums vs playing them on iPods. E-stores and wearables emerge.
- 4.2: Affordable production software and hardware are now available. Music production becomes accessible outside professional, expensive studios.

- 4.3: E-commerce expert services become available for a slightly broader audience: smaller artists willing to invest in their own distribution.
- 4.4 to 4.7: Production software works on any software and e-commerce websites become available to anyone with a small budget. Online music sales surpass 60% of music publishing.
- 4.8: Rise of YouTube starts the shift from online stores to streaming-based monetisation.
- 4.9: Large subscription-based streaming platforms like Spotify make this shift complete, and wide user adoption renders the e-shops model inactive.

2020: The New Digital

As we move into Society (and Industry) 5.0, how does this look for music artists and distributors? Now, production software is cloud-based, and most plugins are online and subscription-based: anybody can make a hit song with a laptop. Online streaming platforms have billions of users, making these the main platforms for marketing and distribution. And highly intelligent web-wide systems can automatically detect copyright infringements on tunes and songs.

From the impact technology has had on the music industry and its conventional business models, we

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> **This is the most beautiful thing about technology: as it emerges, it creates new industries, which give rise to new skills, business models and ways to connect.**

can extrapolate to generally conclude three main cultural trends, driven by the evolution of technology:

1. Agent monopoly shifts toward general access.
2. Services replace products.
3. Innovation based on new cultural needs drives new revenue models.

This timeline clearly shows an overall tendency for society to connect in a network-based but decentralised manner. And as music and culture are so strongly connected, the odyssey of this specific industry is ideal for observing the shifting needs of a growing society.

Chicken or egg?

So which came first, the tendency towards a networked ecosystem or the technology that allowed it? In a way, both are true: as technology evolved, so did new business models. We needed simpler, smarter solutions for old needs. But equally, more advanced technology made us 'dare to dream', so to speak.

The most interesting thing to be observed in the music/society analogy is how all three actors of this business triangle (artists, label companies and listeners) behaved in this shift, created by the rise of new technology:

*   **Artists gained independence** through producing, managing, and distributing their

own music with minimal costs; the needs of software production created a new industry.

*   **Label companies lost a lot of leverage** and monopoly in the digital tide, but those who partnered with streaming platforms and engaged more services held their offline influence.
*   **Listeners got more freedom** and choice and developed new needs and service standards based on new possible features (subscription streaming, music taste-detecting mechanisms and so on).

Each of the three personas developed new needs. Every new need created a new industry. This is the most beautiful thing about technology: as it emerges, it creates new industries, which give rise to new skills, business models and ways to connect.

Seeing what is around the corner

A CEO's job is to foresee these emerging industries by analysing today's new needs against the technology of tomorrow.

What can the analogy of the music industry tell us about where society's culture is headed?

Like the artists, **entrepreneurs** now have more-affordable-than-ever technology to start businesses and innovate based on new needs. They will need smart tools to analyse large amounts of data and

> " **Like the label companies, corporations and governments have lost monopoly as the markets became more fragmented, and are now obliged to offer more citizen-centred services.**

formulate valuable conclusions quickly based on behaviour patterns.

Like the label companies, **corporations and governments** have lost monopoly as the markets became more fragmented, and are now obliged to offer more citizen-centred services.

Like the listeners, **consumers** have more to choose from and thus have higher standards than ever. Their new needs require new technologies to replace conventional ones with better, simpler solutions.

A glimpse of the future

Observing these tendencies, either by industry or over society's general cultural direction, a glimpse of the next version of society, Society 6.0, emerges.

In the music industry example, label companies who did not shift their business models from online shops to streaming lost a lot of money after 2010. They were obliged to immediately make the change because consumer demand meant no other viable alternative for business continuity. The winners were the ones who could see in the early 2000s that the model would shift from stores to streaming and prepared ahead. This example teaches us that organisations can prepare for Society 6.0 by investing in 5.0 more. After all, there's only one way to go.

As society evolves from our current cultural

experience to that of Society 5.0 in the near future, so do our needs. Innovation in this new context means accurately identifying behavioural and social needs that accompany, precede or follow emergent technologies.

Conventional technologies can only go so far. R&D departments must now cleverly combine the use of cutting-edge technologies and customer insight to solve the new needs arising from using today's tech, or replace them with better alternatives.

Cantemir Mihu focuses on delivering tech and innovation disruption, whilst creating the right, scalable framework for deployment inside and outside the organisation. Cantemir has worked in IT and digital for 20 years, and now leads NTT DATA Romania's overall innovation agenda, building new business models and market-driven value propositions to support their customers' goals and long-term growth strategies. He's currently studying for his PhD in Management at the Lucian Blaga University in Sibiu.

The Age of Unlearning

By Duane Holland, Innovator-in-Residence at UCL

As the world resets from a period of rapid change, business leaders must break legacy thinking or die. The unlearning curve is steep, but standing still and assuming tomorrow will look like today is a fallacy. The fastest to unlearn will win. Innovation alliances and ecosystems help business leaders to see themselves through others. At the dawn of the great reset, now is the time to let things go. If not now, when?

> " Given the gravity of change recently, it's easy to revert back to what we know, and see learning as our saviour... But as every new piece of information and experience builds upon the last to form an unconscious bias, does this paralyse our decisions rather than liberate them?

"I make a point of constantly trying to forget and get things out of my mind." — *Brian Eno*

Learning is an addiction. We're told that "the day we stop learning is the day we stop living". But what happens when the world stops? When global forces call for a reset, and the realisation hits home that what brought success yesterday is unlikely to bring success tomorrow? We must now appreciate that what we learned before may not just be irrelevant; it may be destructive.

Given the gravity of change recently, it's easy to revert back to what we know, and see learning as our saviour. Last year, the number of MBA applications rose by 57% following a five-year decline. The fear of being left behind triggered our human instinct to consume more knowledge. But as every new piece of information and experience builds upon the last to form an unconscious bias, does this paralyse our decisions rather than liberate them?

Biases are mental shortcuts looking for "tried and tested" models to make faster decisions and eliminate risk. However, they limit critical thinking, creativity and cognitive agility – the World Economic Foundation's most desired skills by 2030. These learned biases are the surest and fastest way to get to the wrong answer. They are the enemy of innovation and disruptive times call for disruptive measures.

Learn to survive: unlearn to thrive

Welcome to the Age of Unlearning: a post-modern era criticising long-held beliefs regarding objective reality, value systems, human nature, and social progress, among other things.

In the 20th century, perfection and idealism were dominant codes, but in the turbulent twenties, a new reflective mindset takes centre-stage. Unlearning is the process of realising something we learned earlier is incorrect, ineffective, or obsolete. It breaks down the origins of our thoughts, attitudes, behaviours, feelings and biases. This is where we grow, not in the shadow of our past, but in the opportunity of our future.

Learning organisations overly reliant on building upon past knowledge are no longer fit for purpose. Amidst uncertainty, it's unlearning organisations that will pivot with relevance.

Questioning legacy thinking and outdated models is the norm. It's a transformational journey that takes guts but is crucial to lay solid foundations for growth.

Alliances accelerate unlearning and innovation

Recognising when tough market conditions call for a reconditioned mindset, or spotting unconscious biases in ourselves, is notoriously difficult.

Unlike VCs and startups (which are born agile),

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Unlearning is the process of realising something we learned earlier is incorrect, ineffective, or obsolete. It breaks down the origins of our thoughts, attitudes, behaviours, feelings and biases. This is where we grow.

larger enterprises accumulate 'organisational memory' over a company's history. What's more, if memories aren't established as part of a pre-planned 'unlearning curve', they can negatively impact the conditions that stimulate innovativeness.

Take Peloton, a legacy-free innovator rethinking community fitness that witnessed a 172% revenue boost in the past 12 months, compared to DW Sports, which operates 75 gyms and 75 stores in the UK having to call in administrators. Although DW Sports was only 11 years old, it missed the subscription model memo through blinkered commercial vision and biased memories.

At a time when responsiveness is everything, how can businesses avoid the gravitational pull from ingrained thinking? It can't be done alone. It requires outside-in inspiration, intervention and collaboration. Alliances have always been a weapon in a CEO's arsenal, with 70% admitting that they are more open to new collaborations than at any previous point in their careers. Consider how Tesla shaped a new paradigm in the automobile industry, shifting the traditional value creation model with Intellectual Property (IP) to open production. The maverick maker gave away patents for free, relying heavily on a partner ecosystem to accelerate advanced technologies and make established players obsolete in the process.

Breaking legacy thinking at breakneck speed

Through extensive experience in developing strategic partnerships, most recently with PETRAS National Centre of Excellence for IoT Systems Cybersecurity, I have identified three key ways innovation alliances and ecosystems can help businesses accelerate unlearning for transformative outcomes.

i. Unlearn deep memories through deep exploration

Amazon's famous "Day 1" philosophy is a company-wide reminder to fear complacency. For many large companies with organisational memories, always being in Day 1 mode is easier said than done. However, in all sectors, businesses are subject to today's tailwinds becoming tomorrow's headwinds. Overcoming deep-seated memories requires a shock to the system that forces new behaviour. Alliances create capacity for deep exploration and blue skies research – the essence of breakthrough thinking. New and non-conflicting R&D workstreams can facilitate more ambitious endeavours, placing 'moonshot' bets to drive new shareholder, stakeholder and societal value.

ii. Unlearn corporate efficiency through cultural exchange

Organisations are made to be operationally efficient, but over time this leads to natural selection, heritable traits and replication. Although processes are needed, it soon becomes an invisible progress

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In all sectors, businesses are subject to today's tailwinds becoming tomorrow's headwinds. Overcoming deep-seated memories requires a shock to the system that forces new behaviour. Alliances create capacity for deep exploration and blue skies research – the essence of breakthrough thinking.

killer. In addition to acquiring adjacent capabilities or speed-to-market, alliances offer an enormous, often sidelined, cultural exchange opportunity. Every alliance is a unique opportunity to see inside another corporate machine and gain invaluable insight: how it works, how people are organised, how problems are solved and how big ideas are formed. Cultural intelligence can enlighten leaders to see their faults and default responses compared to others, leaving a lasting impression beyond the alliance itself.

iii. Unlearn fierce independence through fluid interdependence

Fierce independence in an interconnected world creates chaos. Business leaders can no longer continue to ignore obvious connections between their actions, nature, humanity and society. Alliance ecosystems uniting industry, academic and government organisations build a collective intelligence and resilience. Greater awareness of unknown interdependencies creates fluidity between silos where once there were gaps. The intersection is where new ideas are formed and broadens internal perspectives to spot opportunities between the gaps.

   Historically, facing uncomfortable truths isn't a business strength. The unlearning curve is steep, but

standing still and assuming tomorrow will look like today is a fallacy. The fastest to unlearn will win. Innovation alliances and ecosystems help business leaders to see themselves through others. At the dawn of the great reset, now is the time to let things go. If not now, when?
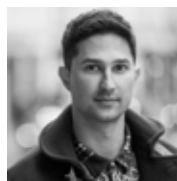
Duane Holland specialises in integrating knowledge and applying methods from different disciplines, whether it's urban anthropology and neuroscience or spatial design and transhumanism. He has worked with Fortune 500 companies and sits on the BIMA Tech Advisory Council and acts as Innovator-in-Residence for Government-funded centres (PETRAS); mentors at the East London Inclusive Enterprise Zone (ELIEZ); and was named twice in the BIMA 100 of UK digital influencers.

CXO
BY NTT DATA

VIDEO

Avoiding Magical Thinking through Purposeful R&D

Interview with Mark Masterson, Head Of Research and Development at NTT DATA UK

Mark talks to CXO about how the choice of words to describe innovation can change how you approach it, why research and development is the real legwork that leads to successful innovation, and why R&D doesn't mean wearing a lab coat.

Scan the QR code with your smartphone camera

Thwarting the Effects of Black Swan Events with Data

By Alessandro Santi, Head of Data Intelligence Consulting, NTT DATA Italy

In a world where uncertainty is the only thing that is certain, data quality and data semantics have the potential to minimise the impact of unexpected events. Data intelligence can add value, optimise business processes, and help build stable foundations that can hold the organisation steady when it hits the next unpredictable event.

The ideas of author and mathematician Nassim Nicholas Taleb centre on the imperative to change the way we do business, and the way we live, in a networked world. During a recent conversation I had with him, he asked: "Could the pandemic have been predicted? Why do we continue to plan the future based on our presumed knowledge when the unknown always modifies our lives?"

The reason we try to plan for events beyond our control is, simply, human nature. We want to focus on what we know, to prepare for what we understand, and we often ignore what we cannot predict or expect. However, today unpredictability

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There is no way to predict the next Black Swan event: the earthquake, flood, or pandemic that will next shake the foundations of the global market. But it is possible to ensure that your organisation is capable of being more reactive and agile – to be able to minimise the effects of the event on both operations and customers – by using a robust data strategy.

and uncertainty are perhaps the only constants.

Change and disruption are certain. They are also the foundation of Black Swans – a term coined by Taleb in his 2007 book about highly improbable (but hugely impactful) unforeseen events.

We ignored the signs and the warnings because the idea of a global pandemic was so distant that it seemed to be only the remit of board games and disaster movies. Yet, as the world moves into a new way of operating, adjusting to the virus's impact, we need to find intelligent ways of preparing the business for the next unplanned event. And the answer to this lies in the data.

Data has to be considered an asset to the company; one that is managed as a tangible resource and that is recognised to be of value. For many companies, data is an amorphous, ill-defined concept, but this has to change.

There is no way to predict the next Black Swan event: the earthquake, flood, or pandemic that will next shake the foundations of the global market. But it is possible to ensure that your organisation is capable of being more reactive and agile, of being able to minimise the effects of the event on both operations and customers, by using a robust data strategy.

Unlocking the value of your business intelligence

Through an effective data strategy, you can leverage the intelligence locked within the lakes and pools of information in the business, and bring value to the organisation. It may be hard to calculate this value, but in the long term, the right strategy will turn data into an asset, insights into decision-making tools, and uncertain events into an opportunity.

This strategy can also transform data from a stolid jumble of information into insights that can ignite innovation, moving beyond the boundaries of what the business thinks it understands into new opportunities and understandings.

For physical assets, working out the value is easy as it is represented by the difference between the purchase and sale cost. Valuing data is a much more involved process as there is no standard for associated costs and benefits.

To create value from the data, the business has to start with a data governance programme based on the continuous improvement of data quality. This is critical: good data quality can be used to reduce operating costs, improve understanding of customer behaviour, and create improved customer services.

Conversely, poor quality data can significantly

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In the long term the right strategy will turn data into an asset, insights into decision-making tools, and uncertain events into an opportunity.

limit insights and potentially lead to risky business decisions. What we need right now is the kind of data that can optimise business processes, transform architecture, reshape innovation, and develop models that are capable of mitigating risk.

The pragmatic approach to data strategy

A pragmatic approach to data strategy makes it possible to manage the impact of an unknown or unpredictable event. It allows the business to identify different impacts and related economic consequences. It also hands us the tools we need to dig down into customer behaviour, unpack the value of specific products and services, and achieve specific strategic objectives. Even the European Commission has embarked on its own ambitious data strategy programme to build a single market that can be used to promote cross-sector interoperability.

At NTT DATA we approach data holistically. This way, we can leverage it intelligently to counter and mitigate the risks of any uncertain event. Our model follows four iterative phases that can be applied to any business and used to increase the value of its data.

- The first phase is to **consolidate** existing data to define the information ecosystem's foundations. This takes both IT and business needs into account and ensures that the existing data

system is designed, improved and stabilised to meet preferences and allocate resources correctly.
- The second phase is to **qualify** the data so that it becomes meaningful for the business. Here we work to increase information quality and develop a glossary that can be interpreted by all business lines.

After these two phases are finished, we can focus on developing targeted actions for specific business clusters. These can be specific customers or markets that would be more seriously affected by a Black Swan event. The next two phases are more strategic as they focus on empowering the business to make faster and more targeted actions.

- Using the qualified data from the first two phases, **assess** what business processes need to be optimised, and if there are any organisational, compliance and technological constraints.
- Then, in the final phase, we take an iterative approach that allows you to **monetise** the data and measure the costs and benefits of data as an asset. This also gives you the ability to define new service models to manage unexpected events and develop predictive KPIs that translate data into actionable insights.

In a context of high uncertainty and low

> **Adapt. This is perhaps the most important word for any organisation right now. Adapt to change, adapt data to deliver strategically, and adapt the business to a new way of thinking.**

predictability, the way we manage data allows you to counter and mitigate the risks induced by Black Swan phenomena, enabling you to monitor and control the exponential impacts generated by these events.

Using data to innovate without boundaries

Adapt. This is perhaps the most important word for any organisation right now. Adapt to change, adapt data to deliver strategically, and adapt the business to a new way of thinking.

This flexibility and agility can ironically be found within the rigorous management of data, allowing for innovative thinking, free from the traditional boundaries imposed by the business and its limited market understanding.

We believe that any organisation can pull immense value from the data and minimise the impact of an unpredictable event. Here are five key takeaways that will help you adapt your data strategy for the future:

1. Identify and isolate critical data,
2. Ensure that your data is cleaned properly (reliable and of high quality),
3. Ensure the metadata is complete and consistent, to get strategic value,
4. Adopt a data approach that suits your business needs, but focus on a more medium-to-long term approach for the best possible results, and
5. Monitor your indicators to ensure your data is correct, ensuring a return on your investment and improved decision-making.

Data, done with strategic intent, frees the business from the expected by allowing it to see the unexpected and the potential that lies within.

Alessandro Santi is responsible for the Advisory Data Intelligence practice at NTT DATA Consulting Italia, and has over 16 years experience in Data Science, Business Development and complex Project Management. With deep knowledge of data, processes, models and technologies thanks to continual investment in research, innovation and the utilisation of key market technologies, Alessandro works at the customer's side to understand and resolve business needs in the shortest time possible, using the most innovative approach and technologies.

How Diversity & Inclusion Drive Innovation

By , Professor of Management at Colorado University and author
of the bestselling book *Inclusify*

Diverse perspectives help teams to see things in new ways, not only driving the creation of better products but also helping businesses reach a broader customer base. But to go from good to great, innovative teams must prioritise inclusion – making employees feel safe to express their unique perspectives.

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If you increased the gender and racial diversity of your company by only 1%, you would increase sales by 3% and 9% respectively.

Whether it is gender diversity in R&D teams or cultural diversity in organisations, study after study shows that diversity improves innovation. Having a variety of thought and perspective helps teams see things in new ways, translating into radical innovations. Something that most businesses need right now. One study quantified the difference, demonstrating that the companies with various diversity programmes, from disability to gender to race to LGBTQ status, created an average of two additional products in any given year compared to companies that did not have those diversity programmes.

Diversity also helps companies reach a broader customer base when it comes to sales. Diverse companies are 70% more likely to capture a new market than homogenous companies. Moreover, a company that increases its gender and racial diversity by only 1% can increase sales by 3% and 9%, respectively. As the world gets smaller, and country populations become more diversified, the benefits of organisational diversity will continue to grow.

The easiest way to benefit from diversity is to hire people with diverse backgrounds. Apart from overhauling recruitment policies, organisations can also implement another strategy immediately.

Companies can capitalise on the diversity already within the organisation by increasing inclusion.

Diverse teams indeed make better decisions, but diverse teams with high inclusion make the best decisions. According to a study, decision-making with diverse, high-inclusion teams can improve by as much as 60%.

Inclusion reduces conflict, negative emotions and turnover. Companies that increase the number of employees on their teams who feel included by only 10% can improve work attendance by one day per year per employee. When you add all of the benefits of inclusion together, teams with higher inclusion outperform others by 8 to 1.

So how exactly is inclusion achieved?

How to be more inclusive

Let's start by dispelling the myths that inclusion is about letting women, women of colour, people of colour or other underrepresented groups in the door. That is diversity. Inclusion is about letting people know that they are an essential member of the team who is valued for their unique perspective.

How that translates into actions depends on a leader's personal style. Ultimately, it comes down to ensuring people know that they can be themselves and also be accepted.

I have found that many leaders are great at understanding 'belonging' by building cohesive teams. However, they are only practising real inclusion if every team member feels they belong.

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Inclusion is about letting people know that they are an essential member of the team who is valued for the unique perspective they bring. It is about valuing uniqueness and belonging.

For this reason, organisations must focus on ways to support uniqueness.

Here are three things organisations can do to support uniqueness and 'Inclusify' their teams to increase innovation.

Make it safe

For many, speaking up in meetings can be intimidating. Are your ideas good enough? How can you get a word in? One study showed that only 38% of professionals feel comfortable speaking up in meetings. Organisations are therefore missing out on valuable employee contributions.

Leaders need to create an environment where people feel seen and heard so that they can speak up. This environment is vital for everyone, but it might be particularly important for women and people of colour. These groups are more likely to experience microaggressions, like being spoken over or having their ideas hijacked by others.

One aspect of daily work life that has dramatically changed recently is the team meeting. Virtual meetings can result in people being left out of the conversation, especially if it's a chaotic mess of voices speaking over each other. But, it can also result in more equitable discussions if done well.

Take these three steps to design more equitable meetings that can improve team decision-making:

- First, send out the meeting questions and topics in advance.
- Second, ask people to return their thoughts and ideas, either on a shared document or email.
- Third, go through the different ideas allowing people to contribute one at a time when called on.

Often, it can help just to remind yourself that it could be anyone on the team who has the best solution to offer, to address the problem at hand – and it may well be not who you would expect.

With that approach, team members feel included, and innovation is far more liking to surface.

Culture creation

While fixing meetings might support unique perspectives, belonging is also essential. Belonging can be a real challenge with much of the population working remotely. The old ways we used to bond at work (hallway chat, happy hours, golf outings, holiday parties) are unlikely to happen again any time soon.

So, it is time for leaders to find new ways of connecting with teams. It can be simple, such as a one-on-one phone call or Zoom call, but there are more creative options, like team quizzes and socials. We can use technology by creating social media engagement like having team members make short

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We need to adapt to a virtual world, but we should reflect on the way we socialised in the past to do so effectively.

videos about themselves, or share a little factoid about themselves along with a selfie. Seeing into each other's lives can help increase empathy. Other ideas include virtual book clubs, recipe kits, or team workouts on Zoom. You can even watch movies or have a coffee hour together.

We need to adapt to a virtual world, but we should reflect on the way we socialised in the past to do so effectively. For most offices, the traditional practices of socialising were not wholly inclusive. For example, happy hours can exclude people for health reasons, religious reasons, and the timing is not always great for those who have young children at home. Creating virtual team building activities allows us to design events that are more inclusive from the start.

Make it fair

Consider all of the tasks that need to get done over the next few weeks or months. Put those assignments into a spreadsheet and categorise them as good (career building) opportunities, bad promotion potential tasks (such as admin or office housework), or somewhere in between. Then consider how you are dividing those tasks among your team.

The reality is that most managers put some thought into dividing the good opportunities fairly, but few think about how they dole out the administrative tasks that keep the company running smoothly. Women and women of colour tend to get saddled with most of the office housework. Awareness of this is important, particularly right now. Many organisations face uncertainty and stress, and we tend to rely on our prototypes more heavily during these times. That can translate into greater inequity for those who are so busy with administrative tasks that they miss the opportunity to achieve their goals.

It might seem like a pain to put together this spreadsheet, but it can also help everyone get perspective on all that you are doing and accomplishing as a team.

Innovation is key to success – now, more than ever. If we want the most innovative ideas from our team members, we need to ensure that work meetings feel safe, that we have some fun, and we always keep fairness in mind so everyone can feel like an essential, valued member of the team.

Stefanie K Johnson is Professor of Management at Colorado University and author of the bestselling book, *Inclusify*.

CXO
BY NTT DATA

VIDEO

Creating Innovation within the Corporate Status Quo

Interview with Tendayi Viki, award-winning author of *Pirates in the Navy*

Scan the QR code with your smartphone camera

Tendayi talks to CXO about the many myths surrounding corporate innovation, why Innovation Labs can work, and how the intrapreneur's super power is the ability to plug their ideas back into the mothership.

The Right Kind of Innovation

By Anca Moldovan, IP & Product Manager, NTT DATA Romania

Looking out at the current business landscape, it's evident that the established order is disassembling everywhere we turn: the pace of change makes innovation a priority for every organisation.
But prioritising ideas, evaluating what to invest in and quantifying impact is still a stumbling block for many businesses.

Innovation can be difficult to pin down. It can be applied in many different ways, and the term is often confused, or misused. The word is of Greek origin, used as far back as the 5th century BC. In the hands of ancient philosophers and writers, innovation (καινοτομία; kainotomia) meant 'introducing change to the established order'.

In his influential book *Innovation and Entrepreneurship*, Peter Drucker defines the concept as a continuous change that always provides the new and the different opportunity, saying that innovation consists of "the purposeful and organised search for changes, and in the systematic analysis of the opportunities such changes might offer."

The overwhelming majority of successful innovations exploit change. All internal changes, whether in a commercial setting, public institution, industry or service sector, are because of:

- The unexpected: unexpected success, unexpected failure, unexpected outside event;
- Incongruity: between reality as it actually is, and reality as it is assumed to be or 'ought to be';

- Innovation based on process improvement or designing need;
- Changes in the industry structure or market structure that catches everyone unprepared.

Innovating in 2021

We are now in Drucker's 'outside' scenario, where external changes – such as in demographics, perception, mood, meaning and new knowledge – influence the direction we're going.

We thought we wouldn't survive staying in the house. We thought employees wouldn't be able to deliver results if not under direct supervision. We thought we could not do business remotely. We thought many things before a global pandemic showed us otherwise.

Our perceptions and predictions are now changing fundamentally.

The year 2020 was a stop-rethink-restart cycle, and many businesses will need to change their business models radically or risk failure.

69% of businesses expected to end 2020 in decline. In comparison, 54% of businesses expressed a need for continued support from the government, primarily in the form of improved tax conditions or deferral of tax payments.

Similar to post-war periods, the economy has changed completely. Leaders worldwide expect a fundamental rethink of businesses and strategies. Up to 90% of leaders expect changes in consumer behaviour established during the pandemic will persist post-crisis.

Indeed, it would be fair to say that no recession to date has brought consumer change of this magnitude.

We are now in the middle of a low-touch economy, and even more so in a low-touch society. Some of the behavioural and social trends that have recently surfaced, and will likely be around beyond 2021, are:

- Declining trust in the hygiene of people and products
- Food delivery/takeaway services becoming the norm
- Limited contact with older generations
- Increasing recognition of the value of 'certified immune' consumers
- Increasing levels of isolation and loneliness
- Extended restrictions on travel

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The year 2020 was a stop-rethink-restart cycle, and many businesses will need to change their business models radically or risk failure.

- Optimised work-from-home setups
- A shift to a more humanised and holistic identity (our identity is more than our job)
- Unprecedented levels of global unemployment
- Increasing levels of stress, pressure and tension.

This list illustrates our current reality and our working hypothesis. What do we do with it?

We must change, adapt. We must innovate.

The right kind of innovation

A recurring question about innovation is: how can we be sure of our innovation's success? Or in other words, how can we increase the chance of it being profitable?

New product development within a company is similar to getting a startup off the ground. Behind all the heavy corporate structures, the funding decision is based on the business plan's persuasiveness and how well innovation can be executed.

It's well-known that 90% of startups fail. Most of them do so because of the lack of in-depth validation of their idea, firstly, and secondly, for

not following it through.

For the past 15 years, while focusing on new product and service development within the IT&C, Telecoms and FMCG markets as well as non-governmental organisations, I've noticed that people tend to create a fantasy around innovation. Most creators see innovation as non-repeatable and incontrovertible works of art, or as a unique invention that will revolutionise the business or society. And the simple fact that they present it out loud should be enough to make it fly. What I've learnt in these years is that this kind of innovation is like the kiwi bird: you might spot one, but it won't fly.

To peel back the layers, it's important to clearly understand the differences between ideation, invention, innovation and renovation. How I define these terms is:

- Ideation is brainstorming, a discussion, maybe a debate.
- Invention is a 'eureka' moment of defining the new idea.

Innovation DNA Model

Driver

#Needs & opportunities
#Understand
#Filter
with clients and users

Market
Insight & trends

Client Engagement
& Intelligence

StartUps &
Hackathons

Renovating
existing solutions

Internal
Ideation Contest

Monetize
Internal Investment

Rethink cost structure /
value propositions

Technology
trends & trials

Need to Check

Resources & time available
Technology available
Costing Model

Concept
Strategy

Company Strategy
Intellectual property
Marketing & Sales Strategy

After-effects

Freeze Not compatible in current situation	**On Hold** Temporarily hold development	**Pursue** Move with PROTOYPE development

- Innovation is the process of transforming ideas into reality, and the final result of this process (a new product, a new technology or a new service).
- Renovation is doing this process at the next level: not only do you have a unique value proposition for the market, but you are also able to improve it.

Still, the question remains of how to choose the right innovation. The main challenge many companies face when dealing with innovation is prioritising the budget.

How do you decide what deserves investment? In cutting-edge technology and inventions to gain differentiation? In new organisational structures to increase operational agility? In new customer experience to increase sales and loyalty, or in employee experience to maintain your resources?

Around 47% of finance leaders expect a revenue decline of over 10% this year, which will significantly impact all revenue streams. CFOs are pursuing changes across many dimensions to capture growth, with most (63%) prioritising

changes to products or service offerings, whether new or repurposed. Pricing strategies will also play an important role, with 41% of CFOs citing their importance to revenue growth.

In NTT DATA Romania, we face the same challenges: reshaping our portfolio to deliver best-in-class value for our clients, while not losing focus on our revenue streams and cost structures.

Innovation's contribution to the portfolio is a strategic objective for us. Nevertheless, without a structure and strategy, ideas stay ideas. We must make innovation real. This is the main challenge companies face besides creating a solid innovation framework, obtaining support from the management team, and driving adoption.

Realising innovation: a framework

There are many reasons to inspire, engage and support ideation:

- Pivoting from a corporate, reactive mindset to a more proactive, entrepreneurial one,

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New product development within a company is similar to getting a startup off the ground. Behind all the heavy corporate structures, the funding decision is based on the business plan's persuasiveness and how well innovation can be executed.
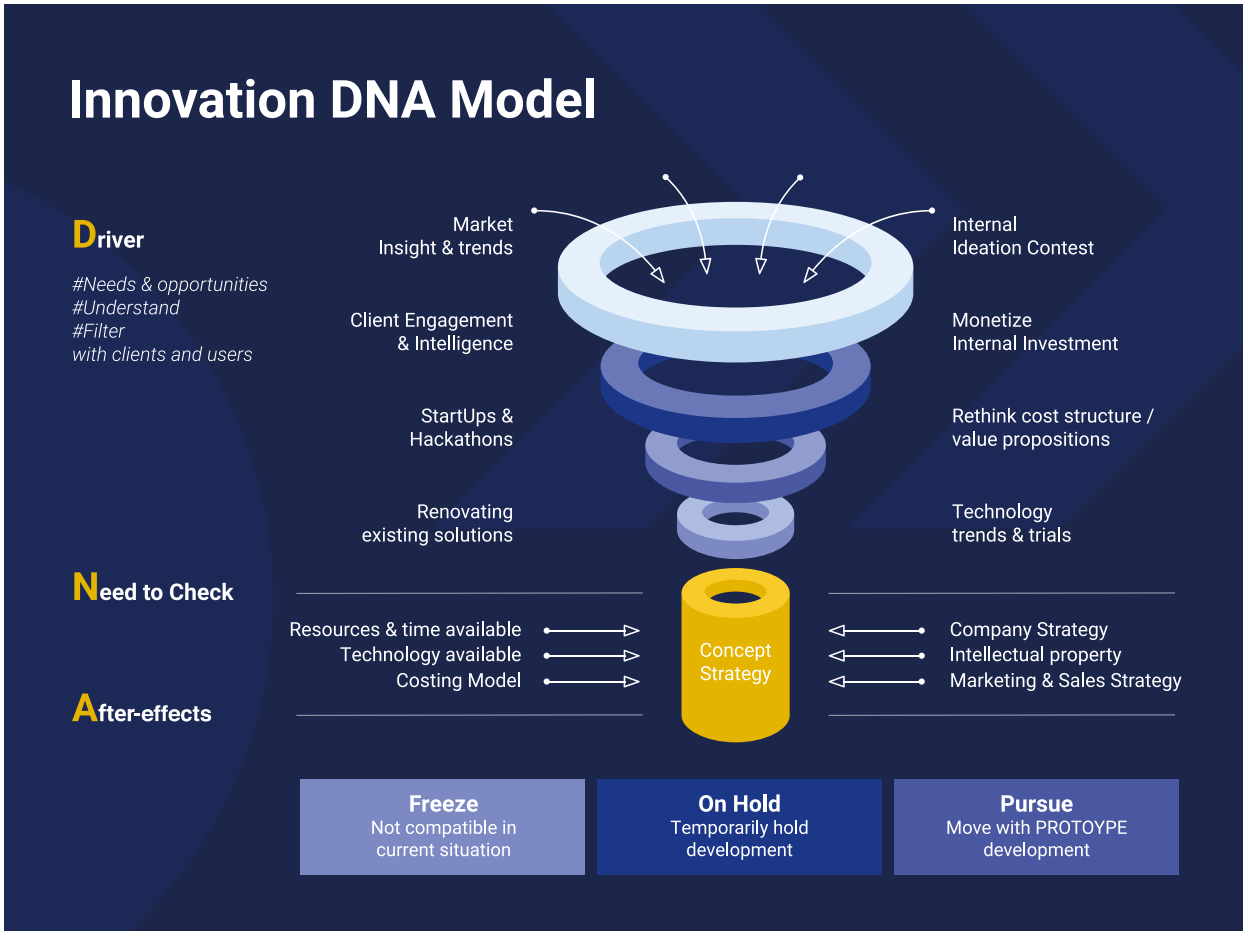
- Empowering people to take risks and responsibilities,
- Pushing for sustainable results,
- Obtaining incremental revenue streams,
- Disseminating risk within your portfolio mix.

We use a DNA model (so called because of its main elements of **driver, need**-to-check and **after-effects**) to funnel experimental ideation to viable propositions, facilitate the idea-to-market process, and make investment decisions.

But more than just an acronym, we believe this innovation framework is rooted in the DNA of a company. It goes beyond the organisational framework to deep down within the atomic structure, where culture and mindset resides.

Drivers include needs and opportunities, which are understood and filtered together with clients and end users. Market insights, client engagement and technology trends are some of the things that feed into this first part of the framework. Drivers stand behind any innovation project and have the role of fuelling and centring the process in a clear objective.

Need-to-check refers to assessing the resources, time and technology available and checking against the company strategy. Essentially this element consists of mandatory checkboxes which enable and guide the implementation process.

After-effects relate to the next step for the innovation. This might be to pursue, and move to prototype development; or, if it's not compatible with the current situation, to put on hold or freeze. This is the stage where the outcomes of a qualified product or service are decided.

To put this innovation framework in place requires an agile, 'ambidextrous' organisation, one which can harmonise culture and sales. On the one hand, a dedicated innovation budget will be the decisive factor if your products sell or stay in-house. This is because a sales-oriented department must own the responsibility for driving the product with a direct target on P&L efficiency. On the other hand, maintaining an innovative cultural balance can be tricky because it requires weighing up the creative with the procedural: ideation vs process.

It basically means, more or less, to manage disciplined chaos.

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> **Innovation's contribution to the portfolio is a strategic objective for us. Nevertheless, without a structure and strategy, ideas stay ideas.**

Bottom line: what's the cost?

The answer is quite blunt. The cost of not innovating is the difference between existence and nonexistence. Companies can't afford not to innovate.

In NTT DATA we invest €3.6bn worldwide in R&D. The cost of innovation is very hard to estimate, especially when it is a built-in feature of the company. Every week someone in NTT DATA launches a new solution, every second someone writes an improved line of code, every millisecond an idea comes up in the mind of one of the 133,000 employees around the world. There's no magic bullet or holy grail for innovation, but in my personal view, the precondition is trust. Persevere and believe that you can do better, that you can do more, that you can do it again.

Change is all around us, but by actively searching for the opportunities in the changing world, businesses can be positioned for innovation success: by encapsulating expertise in high-value products and services, and using the proper framework to facilitate the transition from idea and experiment to scalable and repeatable sales. In sum, by funnelling experimental ideation to viable propositions, facilitating the idea-to-market process, and investing in R&D, leaders can supercharge the relevance and profitability of their innovation efforts.

Anca Moldovan is a passionate, resourceful product manager and innovator with focus on building the right innovation framework in order to nurture profitable ideas, build and sustain powerful brands and product portfolios. Empathy for customer needs, consumer behaviour profiling and deep understanding of market landscape represent the fundament for acting as a facilitator between customer experience, technology and brand perception, aiming for best-in-class mix of value.

Innovation for Pragmatists

By Elvin Turner, author of the global best seller on innovation, Be Less Zombie

When leaders are committed to innovation, the issues that undermine its efforts – lack of time, risk aversion and a certainty-driven culture – can be overcome. Covid-19 showed us that it's time to get serious about innovation. Here's how to get started.

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Our over-commitment to today's business model means that anything other than incremental innovation is seen as dangerous or indulgent. And if a "dating" mindset backs innovation, bolder ideas are always pushed aside in favour of something more urgent or predictable.

There's a strong chance that you're one of the 94% of leaders who are frustrated with their organisation's innovation performance.

It turns out that the root of perpetual executive dissatisfaction is rarely the amount of innovation happening; it's the type of innovation. Incremental, continuous improvements are everywhere. Bolder, more transformational ideas that could deliver substantial returns and deep competitive advantage are usually in short supply.

So how do the world's most prolific innovators, the likes of Netflix, Spotify, 3M, Phillips and Google keep a balanced flow of incremental and transformational ideas moving through their organisations? And what pragmatic lessons can organisations apply to stop innovation slipping through its fingers?

That's the question I set out to answer in my recent book, "Be Less Zombie: How great companies create dynamic innovation, fearless leadership and passionate people". Designed to be a practical leadership field guide for turning on innovation in any organisational context, it's based on 10 years of research behind the scenes at some of the world's most innovative organisations.

In a moment, I'll share some advice on three of the most significant issues that can amplify your innovation performance. But first, there's a rarely discussed, yet fundamental, foundation that leaders must confront if they are to see innovation levels increase.

'Dating' innovation

Pick a company with a strong track record in innovation, and you'll usually trace their performance shift back to a single decision that most organisations don't make: a choice to switch from simply 'dating' innovation to committing to innovation. The choice is huge yet rarely discussed.

What do I mean? Dating is casual, not too serious, convenient. Few companies would survive if that mindset governed their day-to-day operations. Yet that's the mindset we slip into when it comes to innovation. We tend to hope it will show up if we tell people they have permission to innovate. In my experience, no one moves.

Our over-commitment to today's business model means that anything other than incremental innovation is seen as dangerous or indulgent. And if a "dating" mindset backs innovation, bolder ideas are always pushed aside in favour of something

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It requires deliberate and delicate governance. But with the right targets, resources and metrics in place, this dual-focus approach to innovation ensures that incremental and disruptive ideas can show up with the right balance.

more urgent or predictable.

Great innovators strike a better balance. They are strategically committed to executing today whilst exploring tomorrow. What's more, they enable the processes, capabilities, resources, culture and leadership needed for operations and innovation to thrive together.

When leaders align innovation with strategy and are accountable for its results, it's much easier to address three of the key issues that undermine innovation performance in most organisations: lack of time, risk aversion and a certainty-driven culture.

I'm too busy to innovate

When someone says that they're too busy to innovate, there's usually a deeper issue at play. Perhaps management hasn't clearly defined where different types of innovation should happen, and who should resource it.

The result? We expect people to 'magic-up' breakthrough ideas whilst hitting the demanding KPIs of their day jobs. This line of expectation rarely works. At best, we get average ideas from frazzled employees who take on this additional workload once the kids are asleep.

And when ideas do make it into the system, they are continually delayed as a series of urgent fires land on people's desks. It's a well-documented, steady slide into commercial irrelevance and often leads to a reliance on discounting to stay competitive.

Great innovators, on the other hand, are intentional about who works on what kinds of innovation. There are several approaches that can work, but in broad terms, operational teams should limit their focus to continuous improvement innovation. These are low-risk, efficiency-focused innovations that are relatively simple to implement and often make the team's day job more manageable. With this approach, there's clear alignment between strategy, innovation and personal motivation.

On the other hand, more transformational ideas fare better in a dedicated team, or 'lab', that is strategically aligned to the central business but free to explore beyond the borders of today's operations and business models.

It requires deliberate and delicate governance. But with the right targets, resources and metrics in place, this dual-focus approach to innovation ensures that incremental and disruptive ideas can

> **Run small, fast, cheap experiments. The aim is to test the biggest assumptions behind bold ideas before spending any money developing them.**

show up with the right balance.

    Takeaway: Do incremental innovation in teams, and exponential exploration in labs.

Overcoming risk aversion

The majority of people never share the best idea they ever had. Why? The personal stakes usually feel too high to share genuinely original ideas. When the personal vulnerability to propose original ideas is lacking, the organisation's future commercial vulnerability increases. We're unintentionally starving tomorrow's innovation pipeline.

    The solution is to lower the stakes. Make it safer and more comfortable to take the first meaningful step towards exploring a bold idea.

    Great innovators do this by equipping their people to run small, fast, cheap experiments. The aim is to test the biggest assumptions behind bold ideas before spending any money developing them. Don't spend $50,000 building a prototype, spend $500 testing the hypothesis that anyone cares about the problem you're trying to solve. By the way, that untested assumption is the single largest reason that startups fail.

    By running minimum viable product (MVP)

experiments, the stakes of failure become so low that suddenly everyone is comfortable taking the first step in exploring an idea that wouldn't otherwise make it off the whiteboard. And innovation gets democratised.

    And there's a huge upside for leaders: instead of being brought 'pet' ideas or hunches to invest in, teams come with real data that increases the chances of making good investment decisions.

    "Experiments changed everything," says Pernod Ricard UK's former Managing Director Denis O' Flynn. "We stopped asking for ideas and instead asked for experiments that came with data to help take the guesswork out of decision-making."

    Takeaway: Teach people to run low-stakes experiments that free them to dream big, start small, and learn fast.

Evolving a certainty-driven culture

Few employees believe that their company culture truly enables innovation. Often that's based on personal experience of seeing big ideas being paralysed by politics.

    Culture and behaviours are shaped by what leaders really value. With that knowledge, the best

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The future fortunes of the company are held hostage by today's fears of failure.

innovation leaders make two important decisions about themselves: they drop the craving for absolute certainty in innovation decision-making (experimentation data helps here), and they dissolve their need to be seen as the ultimate expert in a particular field. Why do these things matter so much to culture?

Original ideas aren't predictable. If underlying anxieties cause leaders to reject anything other than sure bets, we have a stewardship crisis on our hands. The future fortunes of the company are held hostage by today's fears of failure.

But a combination of smart rewards, metrics and executive coaching can help.

3M uses a 'financial renewal' metric that creates leadership accountability for delivering the levels of innovation that will help the company show up healthy in the future: 30% of revenues must come from products that didn't exist five years ago.

That creates a chain reaction of innovation across the organisation, both in terms of the boldness of product ideas that it generates, and the kind of leadership needed for them to emerge and thrive.

Takeaway: List the innovation behaviours that your future strategy depends upon. What would

need to be true for those behaviours to show up? What must leaders value and reward to motivate those behaviours?

Innovation only thrives when leaders deliberately commit to it. There's no black art; it is entirely practical and measurable. Start small and learn your way forward. It's how most of today's great innovators began.

Elvin Turner is an innovation advisor and associate professor of innovation, entrepreneurship and creativity for MBA and executive education programmes. He is also the author of *Be Less Zombie: How great companies create dynamic innovation, fearless leadership and passionate people.*

Collaborating Through Adversity

By Eddie Copeland, Director of the London Office of Technology and Innovation

The London Office of Technology and Innovation (LOTI) connects London's 33 boroughs and during the pandemic has focused on three key areas of collaboration to help London: sharing knowledge, collaborating on new ideas and mitigating the risk of innovation.

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In this climate, it's tempting for organisations to want to go it alone and take control of as much as they can. I'd like to propose they do the opposite: work together. Collaboration is always important, and never more so than in a crisis.

Innovation can be hard. Really hard. Turning new ideas into something of practical value often takes place against a backdrop of time and financial pressures, organisational inertia and fear of failure.

For the past eight years, I've worked in the field of government innovation. First, as a policy specialist proposing ideas for governments on digital transformation. Next, as an innovation champion, running practical experiments to help governments make smarter use of people, technology and data. Most recently, I find myself leading the London Office of Technology and Innovation (LOTI), an organisation that helps boroughs work together to bring the best of digital, data and innovation to improve public services for Londoners.

Technology has been a common strand in all my roles, but I'm no tech evangelist. Technology represents one very powerful set of tools with which to innovate. But I care most about the ends to which technology is used: making real changes in real people's lives.

Those ends have rarely been more important than right now.

Like businesses, governments face huge challenges in the face of 2020's Covid-19 pandemic. How do we make sense of what's going on when circumstances are changing so rapidly? How do we

sustain our services when needs are escalating? How do we know when to double down on our existing approach, or when something wholly new is needed?

In this climate, it's tempting for organisations to want to go it alone and take control of as much as they can. I'd like to propose they do the opposite: work together. Collaboration is always important, and never more so than in a crisis.

Let me outline three areas where we've found collaboration to be the most effective strategy at LOTI.

Collaborating with data

London is split into 33 different boroughs, each with its own council. That diversity brings great strength: councils have deep knowledge about their local communities. However, it also creates a jigsaw problem: each council has their piece of the data puzzle on any given issue, but no one can put the pieces together, take a step back and see the whole picture.

This fragmentation is problematic for a number of reasons.

Issues like Covid have no respect for borough boundaries. How are councils meant to have productive conversations with each other about

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By sharing what we know, everyone is better off.

what's going on, and what they can do about it, if they're blind to the level of demand on the other side of the street? If we want to coordinate the actions of different agencies to support specific families, how do we do that if intelligence isn't shared? And how can we carry out advanced processes, like predictive modelling, if we can't bring together the data sets?

It's for these reasons that LOTI has been working to tackle barriers to data sharing, from technical standards to information governance. Yet ultimately, the real barrier is when senior leaders fail to demand data to inform their decisions. To those leaders, I say this: your staff are only as effective as the information on which they base their actions. Does all that data really sit solely within your organisation? In the case of London's local government, the answer is 'no'.

During the pandemic, London has used commercial data from the likes of O2 and Mastercard to understand the level of economic activity across the capital in close to real time. Separately, we've been pursuing better data sharing between councils and commercial providers of Electric Vehicle (EV) charge points. EV charge points are vital infrastructure for a greener London. But it's impossible for operators or councils to make

informed decisions about where further investment is needed when they lack the full map of locations, usage and future demand. By sharing what we know, everyone is better off.

Knowledge and ideas

Many organisations are protective about the information they hold even though we live in the digital age, when information is mostly free. It's the implementation of the data where value is created. Organisations can share and be competitive at the same time. And given that many of the best people, knowledge and ideas sit outside your organisation, why not tap into them?

At LOTI we help boroughs create and share knowledge together in three main ways. The first is enabling the sharing of tools, case studies and lessons. Every organisation has finite resources. Why waste them on replicating what's already known?

The second is crowdsourcing. To give a specific example, we wanted to develop some common contract wording that boroughs could use to ensure their technology suppliers give them full and free access to their data. We didn't know what the wording should be, so we asked on Twitter, freely crowdsourcing suggestions from industry, academia and government to create our final wording. This

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It can sometimes be prohibitive for any one organisation to take on the full risk of trialling a new approach alone. In the taxpayer-funded and cash-strapped public sector, this is especially true. That's why we use collaboration to share the experiment.

wording is now used across London's government.

Sometimes incentives work better, and so we also use challenge prizes. For example, each year the Mayor's Civic Innovation Challenge offers an opportunity for startups to work together with leading corporates and public organisations to tackle some of London's most pressing problems, from congestion to extremist online content.

De-risking innovation

When being truly innovative, inevitably, things don't always work out. That being the case, it can sometimes be prohibitive for any one organisation to take on the full risk of trailling a new approach alone. In the taxpayer-funded and cash-strapped public sector, this is especially true. That's why we use collaboration to share the risks and rewards of the experiment.

Where a new innovation is needed, we aim to involve several boroughs, with each taking on a different part of the problem or trialling a different version of the solution. That way, we accelerate our learning and reduce the associated costs and risks. We're currently pursuing this route in the use of assistive technologies, such as digital devices like Amazon's Alexa, that can help people with certain

conditions live more independently. Different boroughs are trialling a variety of technologies and sharing their results to boost the whole community's collective knowledge.

Parting thought

Adopting collaborative approaches like these doesn't take away all the pain and difficulty of bringing new ideas to life. But by sharing data, knowledge and experiments, we can all do better. In a complex, uncertain and interdependent world, I don't think there's any other way.

Eddie Copeland is Director of the London Office of Technology and Innovation (LOTI), an organisation that helps boroughs work together, bringing the best of digital, data and innovation to improve public services for Londoners. He is also a member of the Smart London Board, a group that advises the Mayor of London.
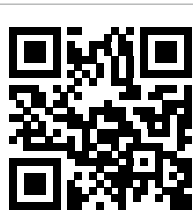
Gartner Innovation Case Study Spotlight: A Look Inside NTT DATA's Commitment to Innovation

By Hiroshi Tomiyasu, Senior Vice President and Head of Technology and Innovation, NTT DATA Corporation

Read more about NTT DATA's own innovation strategies

Scan the QR code with your smartphone camera to visit the Gartner Innovation Case Study

Everyone seems to have a different formula for innovation success. Recently, NTT DATA Corporation's Senior VP and Head of Technology and Innovation, Hiroshi Tomiyasu, had the chance to discuss the approach that NTT DATA takes, when interviewed by Gartner for its Innovation Case Study Spotlight Series. Our three go-to ingredients for success are prioritisation based on customer needs, fostering the right culture, and nurturing talent. What's your formula?

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Some organisations have succeeded by opening up innovation to a wide range of activities, with varying degrees of relevancy (and success) to their core business focus. At NTT DATA we concentrate more directly on one key attribute – developments that support our customers' own innovation strategies.

What's your secret formula for innovation? Experts continue to debate the subject, and everybody seems to have a different answer. Steven Johnson, whose book "Where Good Ideas Come From" chronicles the history of innovation, says it all "comes from creating environments where … ideas can connect." Others, like Stanford professor Tina Seelig, see innovation as a more complex blend of elements. Her "Innovation Engine" idea incorporates six internal and external factors: knowledge, imagination, attitude, resources, habitat and culture.

Here at NTT DATA, we have our own formula. I had the chance to discuss it recently when industry-leading research firm Gartner interviewed me for an entry in its Innovation Case Study Spotlight Series.

The spotlight report goes into more detail, but, boiled down, our formula is based on three best practices and go-to techniques.

- Define innovation priorities based on customer needs
- Foster a culture of innovation
- Develop and sustain the talent that's needed to deliver optimal levels of innovation.

While other companies likely deploy variations on these themes, the focus we've put on them for many years have engrained these practices into our DNA.

And the results we've realised are significant.

A good example of our innovation in action can be found in the spotlight report. Partnering with customer Narita International Airport in Tokyo, NTT DATA delivered a high-precision airport navigation app leveraging radio frequency and geomagnetism to determine one's position. Users can view a 3D map on their smartphones to help guide them toward preferred destinations. It's the first app of its kind to be used in an airport in Japan.

Defining innovation priorities

Throughout history some organisations have succeeded by opening up innovation to a wide range of activities, with varying degrees of relevancy (and success) to their core business focus. At NTT DATA we concentrate more directly on one key attribute – developments that support our customers' own innovation strategies. Initiatives could focus on one or more of the following aspects:

- Automating and optimising business processes
- Integrating supplier, partner and customer ecosystems
- Reinventing the customer and employee experience
- Providing new digital products and services
- Creating new, disruptive business models.

Gathering customer needs for innovation is done

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> **Our focus has always been on developing our own talent in-house to become creative and innovative.**

a number of ways. We take a proactive stance by leveraging a planned portfolio of techniques including open innovation contests, global hackathons, digital bootcamps, customer visits, virtual labs, academia collaborations and centres of excellence demos. Based on current customer demand, our areas of focus these days include data and intelligence, intelligent automation, customer experience, Internet of Things (IoT), IT optimisation and cybersecurity.

Fostering a culture of innovation

To build a culture of innovation, first you need to create a structure that nurtures innovation. NTT DATA currently operates several global centres of excellence (CoEs), each focused on a specific domain. These CoEs act as innovation and business accelerators. They've provided digital competency in artificial intelligence (AI), agile/DevOps, blockchain and digital design, and starting this past year, intelligent automation, software engineering automation and IoT.

The CoEs are run by a technology and innovation steering committee (TISC). The TISC oversees corporatewide technology and innovation activities, and regional technology and innovation initiatives are aligned to the corporate direction. TISC coordinates virtually all aspects of innovation projects – including innovation identification, acquisition, partnering, building intellectual property, and go-to-market and deployment/operational plans.

NTT DATA also founded an innovation school in Spain to train employees in the finer points of innovative thinking. The school, known internally as innCub3, provides a crash course in innovation. It conducts consulting, training and awareness programmes to assess and increase innovation mindsets and learn innovation techniques. This also enables group learning via open laboratories and co-creation workshops on how to think in a customer-centric manner.

The innovation school encourages employees to generate and test creative ideas. Getting experience in real, challenging situations gives them the ability to generate "quick wins" and develop confidence as they pursue other innovation activities.

Developing and sustaining an innovation-focused talent base

Innovation initiatives won't get far without a strong, skilled talent base. The question is, how do you build one? One way is to recruit creative and innovative talent externally from startups, corporations that are advanced in digital technology and/or management consulting firms. That's expensive and

uncertain. Our focus has always been on developing our own talent in-house to become creative and innovative, via collaboration with the CoE and working on customer projects.

Through the CoE, NTT DATA is targeting 5,000 employees to be trained in the selected digital competency. Professionals in AI (800), Agile/DevOps (300), blockchain (300), and digital design (550) have been trained while they worked on customer projects in these specific domains. We expect this number to increase, and in 2020, we added three new domains — intelligent automation, software engineering automation and IoT.

The innCub3 school plays an important role in the selection of top performers. The open labs inside the school help detect early adopters and elevate those curious about innovating. After initial sets of training activities, participants can request mentoring from innovation coaches to start practising their creativity and innovation techniques with their respective teams.

Even though NTT DATA tries to focus innovation projects on customer-related issues, we do open up an avenue for some freelance thinking. Each employee in the Tokyo headquarters, for example, can pursue 50 hours of self-directed innovation time per year. They use this time to develop their own innovation ideas, collaborate with others and explore new areas of innovation.

Innovation formulas vary from company to company. The important thing is to commit to the practice and come up with your own tactics.

What's your formula?

Hiroshi Tomiyasu is responsible for formulating R&D strategy, developing new technological offerings and applying its IT assets to support the company and its clients globally. Before his current position, Mr. Tomiyasu served as Head of System Engineering Department. His experience and expertise in software engineering and development of platform technologies to optimise system development extends over 20 years, through which he led teams to deliver high-value outcomes and help clients transform their businesses. Mr. Tomiyasu holds a bachelor's degree in engineering at the University of Tsukuba and started his career in 1990 at NTT DATA Corporation. In his early days, he was engaged in research and development in image analytics.

Opinion

Opinion pieces from NTT DATA's subject matter experts across EMEA.

Open Innovation: The Virtuous Collaboration Between Companies, Universities and Startups

By Giorgio Scarpelli
Senior VP, Chief Technology & Innovation Officer
NTT DATA Italy

In the processes of conceiving and applying technological transformations, partnerships between universities and the business world have proved to be indispensable says Giorgio Scarpelli, Senior VP, Chief Technology & Innovation Officer at NTT DATA Italy.

Unpreparedness in the face of a technological revolution has often proved fatal for many companies: loss of competitiveness, market share, customers and vision are the classic indicators of a lack of innovation. NTT DATA's role is to govern new scenarios, transform possible crises into opportunities and study the most suitable technology for customers, depending on their sector and business type. The Japanese matrix of NTT DATA always combines economic growth with the desire to restore to society the harmony it deserves through technology. It pursues a model of sustainable development, at the centre of which it places the human being.

During these years, NTT DATA has developed a **Transform to Innovation** programme, divided into four phases:
1. Identification of a business or service technological trend.
2. Experimentation of possible solutions in shared laboratories with strategic partners to identify their potential.
3. Development of models based on the data collected to understand the scope and sector of application of potential technologies.
4. Realisation of ideas with the achievement of the expected benefits for the company, respecting social and environmental sustainability.

The main difficulty of a company interested in experimenting with new technologies is understanding that everyone must be on board: not only the exquisitely technical structures but also the legal offices, the commercial sector and so on. Every single employee must feel part of this change.

Leaving the comfort zone is neither obvious nor simple. For this reason, changes can be introduced in different ways depending on the moment and the company demand: in an emergency situation, drastic measures are urgently needed, structured according to the Japanese concept of **Kaikaku.** A sudden revolution, therefore, which leads the staff and the company structure to the maturation of a new awareness. In other cases, softer approaches are envisaged, in which changes are introduced gradually.

In the processes of conceiving and applying technological transformations, partnerships with universities and the business world have proved

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> **Innovation succeeds best when conceived within a logic of open collaboration and sharing of knowledge, ideas and resources.**

to be fundamental. Innovation succeeds best when conceived within a logic of **open collaboration** and sharing of knowledge, ideas and resources. The academic ecosystem is often capable of translating innovation proposals into concrete expressions; startups channel the energy, creativity and passion of many young people by offering solutions that meet the needs of customers. Turning to startups means drawing on an ever-growing wealth of solutions and ideas that are integrated into the offer portfolio.

This is why, in a logic of open innovation, NTT DATA has decided to support, promote and accompany startups in their growth process, pursuing a very simple idea: creation from a beneficial ecosystem, a bridge between startups and large corporations. This system is powered by NTT DATA Discovery,

a web platform that allows you to manage the creation of a database of startups, currently about 600, looking for promotion, funds and challenges. The database is highly qualified by virtue of the selection of registration questions. The founders are interviewed, the documentation and ideas of the startups in question are examined by expert analysts, and the company itself is evaluated according to a scoring criterion.

Another service offered allows you to search the database for the most suitable startup for the needs of companies and potential investors. NTT DATA Discovery is able to understand the questions expressed in natural language that aim to identify the young company, therefore the solution sought.

Another service is the management of challenges: a problem, or a challenge that can emerge from an internal evaluation or from a customer

proposal as a business need. The registered startups can take action to find a solution to solve the challenge in question, thus combining their potential with the demand raised by the market.

These services are part of a ten-year socioeconomic transformation plan, which on the basis of new technological paradigms aims to place innovation at the service of man, through increasingly transparent interfaces. The challenge that NTT DATA faces is to devise new technologies and apply them to a series of problems that represent the limit of today's capabilities, aiming at a harmonious growth of the business and of the whole society, respecting the environment and for the wellbeing of each individual.

Five Lessons Learned from the Covid-19 Crisis Shaping Our Approach to Citizen Service Delivery

By Vicki Chauhan
Head of Public Sector, NTT DATA UK

Crises are usually accompanied by a host of challenges to overcome. Vicki Chauhan, Head of Public Sector at NTT DATA UK, is focusing on opportunities for improvement born out of the recent global pandemic.

Albert Einstein and Marilyn Monroe. Not two names that are typically associated.

Yet both Einstein and Monroe shared a common belief that in every crisis lies opportunity. The same is true for the Covid-19 pandemic that has proven how, despite challenges and difficulties, there are still opportunities to achieve meaningful change.

For the Public Sector, Covid-19 has meant reassessing the art of the possible. As Microsoft CEO Satya Nadella recently said, there has been "two years' worth of digital transformation in two months", and that certainly rings true for our NTT DATA business. For HM Treasury we successfully transitioned 2,000 of its people from on-site to remote working in a matter of days. At the University Hospital of Leicester, one of the biggest and busiest NHS Trusts in the UK, we acted in under 24 hours to help establish sterile,

standalone "wards in a cage" – complete with fully functioning IT.

That is not to say that the last few months have been straightforward. New human factors – including a lack of physical interaction, blurred boundaries between work and family life and homeschooling –all became a reality with little warning.

So what can we learn from this experience, to improve how we operate across the Public Sector and make a positive impact on UK society?

1 – Don't let ways of the past limit future thinking

The Covid-19 lockdown forced us to be creative, problem-solving to find ways around the challenges of delivering citizen services during a pandemic. The sense of urgency forced us to overcome historical barriers in procurements, supply-chains and technical constraints.

Maintaining that pace and creativity is an opportunity to grasp – large-scale change programmes needn't take months and years to implement, days and weeks is the goal.

2 – Innovation can come from the most unlikely places

Pre-Covid-19, the connection between Formula 1 drivers and surgeons in an operating theatre was non-existent. Yet, it turned out that the headset microphone systems used by F1 drivers on the racetrack are an excellent solution for helping surgeons communicate with one another through their bulky personal protection equipment (PPE) in the operating theatre. Cross-industry knowledge sharing like this can make a big difference in the ability of frontline staff to do their jobs.

3 – Flexible working does not mean compromising on efficiency

There will always be exceptions, but Covid-19 has demonstrated that giving people freedom on how, when and where they

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Cross-industry knowledge sharing can make a big difference in the ability of frontline staff to do their jobs.

work, does not materially impact an individual's ability to get their job done. In fact, allowing people to find their own working rhythms is key to employee wellbeing and productivity. The trick is to ensure that individuals communicate their preferred routine with the people with whom they work. In my case, my team knew that during lockdown, for an hour over lunch, I was eating with my family and homeschooling – it was blocked out in my diary. Because my team knew and understood this aspect of my schedule, we were able to maintain team cohesiveness, despite different working patterns.

As we slowly start to return to the office, we will be dealing with the combination of people working remotely and "onsite". That will present a challenge to maintaining the level playing field that we have enjoyed during lockdown where everyone (in

the main) has been at home. New rules of engagement for technology use and meeting etiquette will be required.

4 – Digital citizen services are key to protecting the most vulnerable in society
During a pandemic, the vulnerable in our society need public services the most. We are supporting the Insolvency Service with creating a new digital service in response to recent policy changes that will provide citizens with 60-days of 'breathing space' from creditors and potential bailiff action.

Conducting medical appointments over video conferences, especially for those who may be vulnerable or shielding, is another Covid-19 induced solution that demonstrates how the shift to digital is so vital to protecting the most vulnerable in our society.

5 – Humanising work is good for us all
Having children, pets, spouses and housemates interrupting calls or wandering into shot in the background of a live video call shows the reality of home life – which I think is a good thing. Getting a glimpse into a colleague's or client's personal life like this can directly improve our empathy towards those who we work with. Humanising ourselves in the way we work can only bolster the quality of the relationships we have with others.

As we emerge from the initial depths of the pandemic, it is important to remember that the barriers we thought were holding us back from delivering real change in public services are not barriers at all. At NTT DATA UK, we exist to support public sector organisations to transform their citizen and employee experiences.

Distant, But Close: A New Way to Experience Spaces in the "Liquid" Office

By Pietro Scarpino
Head of the Internet of Things Service Line, Artificial Intelligence and Virtual Reality, NTT DATA Italy

The experience of the past months has been an opportunity to reflect on the office of the future. Here's how we imagined it.

Covid-19 has revolutionised our lives, forcing us to change the way we live everyday life, work and do business.

Even if we have left the lockdown behind us, at this moment it is not possible to think of returning to life as before, but we need to design a new everyday life, a 'new normal'. In this, technology can be an important ally. In fact, in recent months we have seen how the adoption of digital services has spread rapidly, driven by the need to maintain social distancing: from meetings to lessons, from shopping to sport.

Now, with the return to the offices, technology also helps us to create a new way of living in spaces and working, with innovative solutions that can be sustainable over time.

How to return to the office while ensuring the safety of our people?
This question gave us an opportunity to rethink our relationship with workspaces thanks to technology. The goal is to humanise the spaces, creating a responsive environment capable of adapting to the needs and activities of people, through multimedia contents that change according to the subject of a meeting, a workshop or a client.

The realisation of this concept began with the development of Sobos, a system that allows all employees to book their place in the office via a mobile app and see how many seats are actually available in the offices, at any given time. Through the app, in fact, it is possible to see the map of each office and the areas where there are desks available,

so that everyone can choose in which area to work based on the activities they have to carry out.

This system is not only a practical way to find a desk, it benefits the entire organisation. For example, those who deal with the facility are able to monitor how many desks are actually used and can collect data on the actual occupation of the spaces.

Sobos is already integrated with our IoT HOT-SPOT platform (Hub Of Things-Smart Platform Of Things) based on sensors and stereoscopic cameras, which allow to monitor the occupation of spaces in real time and to create a more sustainable office, for example by adapting lighting and air conditioning to the number of people present in the room.

The office of the future is already here
From this first

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The goal is to humanise the spaces, creating a responsive environment capable of adapting to the needs and activities of people.

experimentation, various scenarios for the future open up, which point towards the creation of a real 'liquid' office, which people can access via an app or facial recognition and which adapts to the people connected at any given time. A truly touchless experience, in which badges become superfluous: this is made possible by solutions such as the smart locks that NTT DATA is developing together with the startup Sofia, made intelligent by IVE (Intelligent Virtual Entity) technology and the Blue virtual assistant.

Further evolutions of the facial recognition system will allow, for example, to recognise

the people who access the spaces and to know instantly if they are employees or visitors. Based on this distinction, and thanks to Artificial Intelligence it is possible to readjust spaces, showing different information.

An avatar will go to the office for you
Technology can also help in reducing the stress and isolation that some people have experienced while working remotely, due to the difficulty of managing numerous calls and the lack of a direct relationship with colleagues.

In the future, we will be able to have a virtual avatar through which to communicate with

colleagues as if everyone were in the same room. Thanks to AI, in fact, such a system will also be able to show documents and information in real-time related to the theme of the meeting and facilitate communication between international teams with simultaneous translation of conversations.

Science fiction? In reality, the office of the future is closer than we imagine.

Pandemic Response Unlocks Unprecedented Innovation

By Flann Horgan
VP Healthcare NTT DATA UK

They say that necessity is the mother of invention, and that has certainly proved to be the case in the NHS pandemic response.

No one can doubt the scale of the catastrophe unfolding in the UK because of the Covid-19 pandemic. Each Covid-related death is a personal tragedy, and the repercussions will reverberate across the NHS for some time after the virus is defeated, thanks to a growing backlog of deferred treatments and delayed diagnoses.

Frontline medics and carers are rightly praised for rising to the challenge, but they can only succeed with effective support systems to back them up. IT has played a critical part in optimising the NHS pandemic response, and the irony is that the current adversity has helped to brew up a fantastic cauldron of innovation. In many cases, new solutions that might otherwise have taken years to establish have been rolled out in a matter of weeks.

Stimulating ideas
As the pressure mounts, there

is a natural tendency to aim for solutions that 'fix it first' and iron out the details later. Obviously, this approach can only go so far in the highly regulated context of healthcare, where the safety of patients and staff is sacrosanct and patient data must be safeguarded. Even so, healthcare services have made massive strides with new technologies.

NTT DATA has been privileged to support some of these efforts with our key healthcare customers. Working with these customers, we have:

- Rolled out Microsoft Teams over a single weekend to all staff at the UK healthcare regulator, MHRA, to support their work on medicines and ventilator approvals as well as Covid-19 vaccines and testing.
- Investigated the use of advanced AI to support radiologists interpret chest X-Rays to diagnose Covid-19.
- Helped one of the largest NHS

Trusts innovate at pace in response to the deluge of Covid-19 patients.

It has been exhausting, exhilarating and humbling in equal measure supporting these frontline teams.

It is already plain to see that some of these innovations will permanently change the way we run our health services. With support from NHS England, hospitals and GP practices have embraced video-based patient consultations. Developments like these are shifting people's perceptions around how they can expect to access medical care in the long term.

Solutions for the clinical frontline
Covid-19 has been a significant incremental burden on the NHS. While large NHS Trust hospitals have been dealing with the onslaught of Covid-19 patients, the normal business of the acute hospitals has not stopped. Patients are still presenting in A&E (albeit in lower numbers) with heart attacks, strokes and other traumas. The combined volume of clinical activity along with the reduction in staffing

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Isolation adds to the misery for many Covid-19 patients and their loved ones, so one of our first priorities was to enable effective video communication... We repurposed more than 300 iPads to provide this vital function, allowing relatives to communicate securely with loved ones being treated in ICUs. This is a poignant example of how simple solutions, deployed rapidly, can make an extraordinary difference.

levels caused by doctors and nurses themselves needing to self-isolate and the need to segregate Covid-19 from other critical non-Covid patients has meant that the command structures of hospitals have had to adapt quickly. NTT DATA has worked with our customers to deploy advanced command-and-control support to help the NHS operations teams orchestrate the frenetic activity across the hospital group.

The University Hospitals of Leicester (UHL) NHS Trust is one of NTT DATA's key customers, where we run all the core infrastructure and services across three major hospitals and eight other locations. In all the NTT DATA team supports 18,000 clinical and non-clinical users across the three acute hospitals and eight other clinics. UHL's response to the pandemic has led to a number of exciting

innovations in recent weeks.

Better communication was the central pillar in several of the new solutions. Patients, relatives, and in many cases, clinicians were thrown into a quite alien environment, where the use of Personal Protective Equipment (PPE) created a barrier to normal engagement. Patients or relatives, dealing with an already stressful situation, had to engage with a clinical team unrecognisably shrouded in gowns, face masks and goggles. Clinicians across the NHS came up with beautifully simple, low-tech but effective solutions. Many took to printing out laminated 'This is me'v photos of themselves to attach to their gowns to help create that all-important human connection between clinicians, relatives and patients.

Isolation adds to the misery for many Covid-19 patients and their loved ones, so one of our first priorities was to enable effective video communication between patients in the infection control 'red zones' and their visiting families. NTT DATA repurposed more than 300 iPads to provide this vital function, allowing relatives to communicate securely with loved ones being treated in ICUs. This is a poignant example of how simple solutions, deployed rapidly, can make an extraordinary difference to the experience of Covid-19 patients and their relatives.

And now, my favourite example of a collaborative response in the face of Covid-19: accelerated innovation delivered by a multidisciplinary team of medics and technology experts, including some of the best engineers from Formula 1.

The project started when UHL's head of emergency medicine, Professor Tim Coats, and Digital Innovation Lead & Consultant in Emergency Medicine Ben Teasdale, realised that their colleagues had experienced several medical near misses – known in the NHS as 'never events' – because they were unable to make themselves understood when issuing important clinical instructions whilst wearing PPE. They asked NTT DATA to help find a solution.

NTT DATA leveraged its worldwide team to look for candidate technologies. Any solution had to be relatively comfortable when worn for long shifts, easy to control while wearing gloves and gowns, as well as being infection control safe. Perhaps the systems used by Australian firefighters might

work? Or those favoured by military special forces? Much experimentation and whiteboard design sessions followed, with wiring diagrams and proofs-of-concept built quickly.

In the end, with the support of a group of Formula 1 teams working together as part of "Project Pitlane", technicians from Renault F1 and Red Bull F1 helped design a novel solution using neck mics, air tube earpieces and a customised control box with a speaker worn under the clinician's gown. The system is now being deployed at UHL and will hopefully benefit the rest of the NHS in due course.

A better model for the future
While no one would seek to downplay the dreadful consequences of Covid-19, there is no doubt that it has driven the NHS

to deliver a level of innovation that would be worthy of celebration under other circumstances.

There will be many lessons to learn once the current crisis is over. One of those must surely be that the NHS is far more capable of delivering an agile response and cutting-edge solutions than anyone gave it credit for. We have a tremendous opportunity to move forward to an innovative new normal in healthcare, rather than returning to the previous slow-paced status quo. We must not squander that chance.

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To discuss the CXO Magazine, or NTT DATA services across EMEA, please contact one of the leadership team below.

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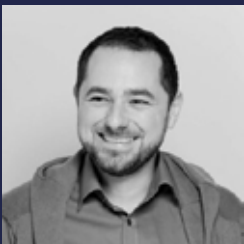Head of Consulting,
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