

Data#3

THE
FUTURE
IN FOCUS

Insights from Data#3 on the future of technology, and how to prepare for what lies ahead.



INTRODUCTION

The unparalleled turbulence of 2020 and its resulting effects have been monumental. Driven by the global pandemic, mass changes to working structure and patterns, and a host of flow-on effects, the pace of change has been unrelenting.

Organisations have been forced to adapt, or be left behind.

The mass exodus from the office quickly illustrated those who were prepared for new ways of working, versus those who were not. Businesses caught unaware quickly experienced severe impacts to critical functions. Established connectivity, highly available data centre architecture, collaboration platforms, robust cybersecurity foundations and digital foundations swiftly emerged as the telling factors that set the frontrunners apart. Those with investments in their technology and people quickly transitioned to remote and hybrid working models, while those who had not taken such proactive stances were left scrambling.

While what lies ahead remains unclear, one thing is certain: regardless of industry, location, vertical or function, the integrated application of technology is the vehicle that will drive organisations into the future.

Technology continues to be utilised not just in the workplace but throughout all areas of our lives. With the acceleration driven by rapid evolution, there is no reason to expect this pace to abate.

While the specific applications and consequent outcomes from these emerging technologies are impossible to define, there is more focus than ever on the integrated application to determine business success.

Although there's no crystal ball to divine the future (after all, who could've forecasted a pandemic and the monumental shifts of 2020?), the learnings of the past will pave the way for the future. In this report, hear from professional technology specialists across the Data#3 business on the future of technology, and its impacts across the workplace, healthcare, education and life as we know it.

This report contains commentary from Data#3 leaders on tomorrow's challenges, with insight on how businesses can best position themselves for what lies ahead.

Introducing The Future in Focus, from Data#3.

**THE ROLE OF
TECHNOLOGY
AS AN ENABLER
FOR GROWTH
CANNOT BE
UNDERESTIMATED.**

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ABOUT DATA#3 LIMITED

With over 40 years of experience in the technology industry, Data#3 is no stranger to change and innovation. Built on a foundation grounded in experience, combined with world-leading vendor technologies, Data#3 delivers an integrated array of solutions spanning cloud, modern workplace, security, data & analytics and connectivity. These technology solutions are delivered by combining Data#3's services across consulting, procurement, project services, resourcing and managed services.

We partner with world-leading vendors, including [Microsoft](#), [Cisco](#), [HP](#) and [Dell Technologies](#), to drive powerful technology outcomes.

**OUR VISION IS
TO HARNESS
THE POWER OF
PEOPLE AND
TECHNOLOGY
FOR A BETTER
FUTURE**

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01

THE FUTURE OF ENTERPRISE TECHNOLOGY

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With the rapid changes and evolutions of 2020, technology has never been more innately critical to business operations. Across every aspect of the employee and customer experience, technology is now embedded into the face of the modern enterprise.

The role of technology as a facilitator, a conduit to successful business activity, spans across almost every enterprise organisation, including healthcare, education and government. While the applications of technology vary across industries, the benefits – when successfully implemented – are pervasive. Ultimately, organisations are faced with only two choices: adapt and maintain pace with the rate of change, or risk being left behind.

"TRANSFORMATION IS DIFFERENT. IT'S ABOUT DOING NEW THINGS IN NEW WAYS. IT'S ABOUT USING DIGITAL TO CHANGE THE GAME IN YOUR INDUSTRY AND CREATE NEW DIGITAL PRODUCTS AND NEW BUSINESS MODELS¹."

GARTNER

Technology: the Growth Quotient

Gone are the days when technology represented only a single component of innovation or progress. Today, technology and its capabilities are interwoven into every facet of an organisation, from foundation platforms to productivity software to AI. Intrinsicly tied to the future direction and success of an organisation, *"The successful use and application of technology will be at the forefront of business strategy,"* says Data#3 Chief Executive Officer & Managing Director, Laurence Baynham.

The growth benefits driven through technology differ across organisations: in general, scalable applications underpinned by sound network and connectivity architecture with software integration capability, sets the foundation needed. A focus on superior user experience, functionality and support ensures the technology is adopted and the business investment realised. When widespread adoption of the right tools is paired with innovation and new technologies such as PaaS and AI, a formula for growth is created. *"Technology is no longer just being viewed as the plumbing,"* says Peter Jarrett, Head of Operations for Business Aspect, a Data#3 company. Both Baynham and Jarrett emphasise that **technology very much comprises the fabric for any modern enterprise organisation.**

Regardless of location or sector, organisations that can effectively merge technology with their business priorities are the ones that will emerge as future frontrunners. However, to do this requires holistic evaluation of the tools and platforms available.

"This involves considering how technology will enable the entire business," says Brad Colledge, Executive General Manager for Data#3.

A shift is evident, as the focus continues to heighten on outcomes driven through technology rather than on the tools alone, says John Tan, General Manager - Infrastructure Solutions for Data#3. *"In our discussions with customers, we are very much seeing a shift from evaluating just the technology to asking 'What capability does this avail to my business? How are we differentiating and attaining further market advantage as a result?'"*

Speaking to the true needs of the customer, grounded in outcome-based deliverables, is where the market appetite lies, says Tan. *"The focus on outcomes is how partners like Data#3 are able to differentiate and influence results for our customers, throughout the customer's entire lifecycle."*

"Organisations need to be asking themselves, how will this technology support business processes, increase operational efficiency, and simultaneously deliver top-line growth?" says Colledge. *"To achieve all of these considerations in a secure, agile environment is critical to future business success."*

Part of the holistic evaluation, technology success and utilisation boils down not to the tool itself, but its linkage to business strategy, says Baynham.

Alignment between technology investment and overall business strategy is integral to this complete view. *"A key success factor of any tech in an enterprise is the ability of the organisation to adopt and evolve it. This applies to either their internal systems or their business offerings,"* says Michael Bowser, Executive General Manager for Data#3.

This alignment requirement extends beyond the enterprise, and into institutions such as healthcare and education.

"What we continue to observe in many schools and institutions is a lack of alignment between the investment in technology, and the broader business and learning objectives," says David Wain, National Sales Manager - Education for Data#3.

Conversely, institutions with mature, robust ICT strategic planning processes in place typically have a much higher return on their technology investments. Says Wain, *"There is a significant opportunity for leaders to become more involved in the technology planning process to ensure that investment is inextricably linked to business and learning goals."*

With the current velocity of change, an integrated, layered approach should be applied to the future strategic direction, supported by technology enablement and sound governance, says Jarrett.

“If you don’t know where you’re going, how can you effectively govern what you’re doing? If governance is applied without considering future scenarios, it’s simply applying governance to the status quo.”

Adoption and Change Management

While it may sound simplistic, further extending this linkage to human interaction is all too often neglected by organisations. *“The technology alone is never the solution in and of itself: how does it meet the human or organisational need?”* says Baynham.

Lack of adoption and failure to implement adequate change management can cost organisations millions: **Approximately 70% of business and healthcare initiatives fail to achieve what has been promised on time and to specification².**

“We’ve seen, especially through recent events, how technology has taken centre stage, across all facets of our lives. Technology is now more relevant in work and everyday life than ever before,” says Tan. *“Driving adoption of the evolving capabilities in this space should be one of the most important priorities for all business leaders.”*

Organisations well-versed in successful adoption and change management were identified through the early days of the pandemic. Those with strong collaboration processes and maturity in adoption management were at the forefront of the transition, and in most cases were able to migrate and maintain operations with ease. Extending even beyond business continuity, this strong ability to adapt quickly also increases the return on technology investment.

Tan maintains that the success of technology is rooted in enablement: *“It’s about speed and flexibility. It’s never only about the tech, it’s how we enable it and support it throughout a customer’s organisation.”*

In the future, organisations will take an active position on maximising technology and platform capabilities in full. With budgets shifting and the heightened expectation to maximise investment value, the challenge will be balancing cost while delivering performance to stakeholders. To maximise return, ensuring alignment of business requirements, the technology and adoption across the entire organisation will become simply too important to ignore.

Full-Circle (Managed) Service

As technology rapidly evolves, business needs are transforming in front of our eyes.

Customers are increasingly seeking partners who can assist with supporting and managing their business technology, throughout the entirety of the journey.

With such a volume of technology and applications available, the complexity has increased in tandem. *“We now have more tools, with less available expertise,”* says Garrett MacDonald, Chief Marketing Officer for Data#3. With simplification and automation being the key headline of technology, ensuring the right skillsets are applied is necessary to realise those benefits.

“As the pace of change accelerates, our customers need trusted partners who have the depth of expertise to help transform and manage their business. Across consulting, adoption, and managed services, we are increasingly finding that customers are seeking end-to-end assistance and guidance,” says Baynham.

“Customers are looking to simplify, to reduce administrative costs and improve business outcomes. As a result, they are increasingly looking for both depth and breadth of expertise. Where Data#3 meets that need is through our spectrum of offerings; combining technology from world-class vendors with deep internal knowledge to assist our customers in solving their challenges, at all stages,” says Baynham.

MacDonald adds that this rings true for Data#3’s position over time: *“Consistently, where our business has exceeded expectations is the value that we’ve been able to add to customers when they invest in technology. “Our premise has always been, and remains grounded in, assisting the customer in extracting the most value from their technology solutions.”*

The shifting paradigm is reflected in demand for managed services offerings: support services such as Enterprise Managed Services, Cloud Management and Managed Security Services are all on the rise. In 2020, Data#3 joined the ranks of only four Australian partners to achieve the [Microsoft Azure Expert Managed Services Provider distinction](#).

“Our customers are seeking assistance in making sense of what’s available to them” says MacDonald. *“With such an enormous volume of information to meet any given need, customers are looking for a partner who can assist them with making sense of that information- an honest translation of the tool or solution in a context that works for their business.”*

With the velocity of information at no risk of slowing, the need for holistic servicing, lifecycle-based assistance and managed services will continue to grow. Time-poor and resource-constrained organisations will require professional expertise at all stages of their journey. Says Baynham, *“The norms are shifting – what customers now expect from their providers does not look at all like it did yesterday.”*

Data and AI

“Ultimately, data and customer experience strategy lie at the heart of the future advancements,” says Tan. Jarrett agrees, echoing that most organisations are yet to see the true power of their collective data sets.

“Once the foundational elements – connectivity, security, data management and governance – are well and truly in place, it’s then that the opportunities emerge to leverage data to its fullest,” Jarrett says.

Big data is not a new concept, however the path to efficiently and effectively maximising its use is still one that many are trying to navigate. Data and analytics are the key accelerant of an organisation’s digital and transformation efforts. Yet, in 2019 Gartner found that **fewer than 50% of documented corporate strategies mention data and analytics as fundamental components for delivering enterprise value⁹.**

“The rate of current change means that the existing skills gap will continue to widen,” says Graham Robinson, Group Practice Manager for Data#3. *“Combined with the staggering amount of data that is being produced across current and impending technologies, organisations are grappling with the challenge of how to understand and best leverage the data within their environments.”*

The benefit of amplified data and analytics is a window to new and emerging opportunities, says Jarrett. From automation to artificial intelligence, new customer offerings, solutions and products, data must have a seat at the table to guide long-term decisions.

In the future, *“Data and analytics will become the centrepiece of enterprise strategy, focus and investment⁹.”* Organisations must ensure that data is cleaned, measured, safeguarded, mined for insight, and harnessed appropriately. Extending far beyond the remit of a CIO or CTO, harnessing the power of data is a mandate for the entirety of today’s modern organisation.

**"DATA AND
ANALYTICS
WILL BECOME
THE CENTREPIECE
OF ENTERPRISE
STRATEGY, FOCUS
AND INVESTMENT."**

GARTNER

A large blue '02' logo is positioned on the left side of the page. The background is a dark blue gradient with a grid of binary code (0s and 1s) and a glowing robotic hand reaching from the right side. The overall aesthetic is futuristic and tech-oriented.

02

THE FUTURE OF CUSTOMER EXPERIENCE

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Propelled by technology and the digital buying experience, customer expectations are rapidly evolving. With the lines between the digital and physical becoming increasingly blurred, customer experience is the new frontier.

“The paradigm is shifting,” says MacDonald. “What customers expect is increasingly digitally focused.”

In the future, says MacDonald, the approach to sales and marketing will continue to evolve, but will always be centred around the needs of the customer and how the customer wants to engage.

The Future of Customer Experience

“Increasingly, we are seeing more B2C expectations entering the B2B environment,” says MacDonald. The digital distinction between these spheres is increasingly obscured.

“Digital has allowed us to deliver the ‘right message, in the right place, at the right time’ for a while now,” says MacDonald. What lies ahead is translating that into a consumer’s experience, and assisting them in translating that message into actionable, tangible information that meets their needs. [Research tells us that over 11 individuals are involved in an average technology buying activity](#); it’s still a complex buying conversation with a B2B customer.”

This is echoed by Robinson, who adds, *“Buying is becoming more experience-driven. Experiences are evolving. Consumer expectations around the experience, and the buying model itself, are all rapidly shifting.”*

Despite this, organisations will continue to buy in a manner that matches their businesses’ preferences and acquisition models. *“Ultimately, we are still driven by people (throughout the business) making decisions,”* MacDonald says.

Regardless of the particulars around customer buying preferences, one mandate rings true across the board, says MacDonald. *“Simplify, simplify, simplify.”*

MacDonald charges organisations to build engagement models based on simplicity and ease of use. *“Products and models need to be easy to engage with: easy to find, even intuitive. If it doesn’t meet this criteria, B2B organisations are missing the B2C elements that customers want represented in these interactions.”*

Further, failure to simplify across the full spectrum of the customer journey will render organisations ineffective in delivering the customer experience, now inbuilt into consumer expectations.

“It comes back to seamless virtual engagement,” Jarrett says. “How can you streamline the engagement for the customer? How seamless is your funnel, how smooth is the journey, for example, during customer onboarding? How best can customers be serviced virtually?”

Mapping the customer journey to the genuine experience is critical, says MacDonald, whereas many organisations stumble by mapping customer experience to their own business.

“We can easily fall into the trap of building customer journeys as they align to our models and business structure,” MacDonald says. *“No customer journey model is complete without input from our customers. Understanding their key pain points and engagement needs is vital to obtain that true picture and examine the experience you’re providing.”*

In the future, marketing will continue to become more personalised and tailored. Says Colledge, *“The fundamental mandate is to deliver the right information based on their business needs and where they are in their buying journey.”*

THE GARTNER FUTURE OF SALES 2025 REPORT REVEALS THAT 60% OF B2B SALES ORGANISATIONS WILL TRANSITION FROM EXPERIENCE AND INTUITION-BASED SELLING TO DATA-DRIVEN SELLING BY 2025 ⁴.

The Shift to Consumption-Based

As Software as a Service solutions continue to emerge in availability, customers are increasingly aware of these new functional capabilities. However, to truly realise the value, customers require technology partners who understand how to unlock the application's potential through servicing, guidance and assistance at every step. This will be achieved through adoption, servicing, solutions management and true lifecycle-based services.

"Customer expectations around consumption and servicing are changing," says Robinson. *"Products and interactions are becoming more experience-driven, with an emphasis on products delivered as a service."*

Increasingly, customers are seeking solutions that do not require long-term commitment or significant upfront investment. Further, organisations with fluctuating workforce models and seasonal demand are seeking scalable solutions to allow for rapid changes in scale. Consumption-based models are key to this, allowing customers to plan and budget accordingly for new tools.

"It wasn't that long ago that customers had to buy physical assets, manage, provision and maintain them—regardless of the seasonality of their requirements," says MacDonald. *"As a Service' offerings are changing that: businesses who do the majority of their volume at specific times are using consumption-based models to quickly scale up or down, depending on their needs."*

With flexibility and agility now cemented as modern-day requirements, consumption-based offerings are a tool for organisations to best manage both their highs and lows.

The market is ripe for this shift – one only needs to consider the growth in subscription-based services such as Spotify and Netflix to understand the popularity around consumption-based or subscription models.

"Device as a Service, in particular, is an area poised for growth," says Baynham. *"This is one that's been hovering on the outskirts for a few years now, and when it does land it'll likely be much faster than anticipated."*

"There is a definite shift occurring; we've seen this even accelerate even further during the last six months" says Tan. *"Customers are very much moving from a hardware or infrastructure discussion to a preference for 'as a Service' offerings."*

"Offerings like [HPE's GreenLake](#), [Dell's Flex on Demand](#), and of course Cisco's shift to Enterprise Agreements all reflect this changing landscape in traditional infrastructure spending patterns. We're seeing a maturity starting to build around the offerings, and how they are constructed. We are constantly shaping the future of these offers with our vendors. Customers are seeking flexibility, visibility, and scalability—especially amidst so much uncertainty," says Tan.

For a multitude of reasons, consumption-based models will continue to be in demand for customers seeking a flexible and adjustable solution to business needs.



THE FUTURE OF CYBERSECURITY

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While cybersecurity is an established business priority for most modern, digital organisations, its key role in maintaining business continuity has become significantly amplified.

Through the upheaval of the pandemic, phishing attempts, malware and ransomware attacks have forced the issue to centre stage.

Further, the transition to remote working has further exposed organisations who were not adequately prepared, with up to 20% of organisations experiencing a security breach when the staff were off-network⁵.

In the future, cybersecurity will only grow in its fundamental, imperative importance for organisations' continuity and security postures – with the results proving perilous for those who underestimate the requirements.

Rise of the Threat Actor

The rapid digitisation of industries, and huge acceleration of the rate at which data is produced, has created a prime environment for the most pressing challenge in cybersecurity: the rise of the cyber threat actor. Whether state-based, cyber criminals, hackers, or thrill seekers, the digital criminal landscape runs deep and wide.

Further exacerbated by the transition to remote working with vulnerabilities exposed in an expanded security perimeter, the threat of cyberattack is very real for most organisations.

Richard Dornhart, National Practice Manager - Security for Data#3, comments *"There are entire industries dedicated to black-market data trading – these aren't a few individuals wearing balaclavas hacking servers from a basement. We know that there are sophisticated, cutting-edge threat actors whose entire operations are dedicated to uncovering and exploiting vulnerabilities."*

"FROM JANUARY TO JUNE 2020, THE NUMBER OF DATA BREACH NOTIFICATIONS ATTRIBUTED TO RANSOMWARE ATTACKS INCREASED BY MORE THAN 150% COMPARED TO THE PREVIOUS SIX MONTHS – INCREASING FROM 13 TO 336."

OFFICE OF THE AUSTRALIAN INFORMATION COMMISSIONER

No organisation is immune, adds Dornhart. Governments, healthcare, and education have all experienced increased targeted malicious activity in the last twelve months.

"While attacks to steal financial information such as credit cards and bank details are still popular, we are seeing an increased focus on sensitive data theft such as corporate and personal data."

Steve Nahuysen, National Healthcare Specialist for Data#3 echoes this, adding that cybersecurity considerations must be a priority in healthcare digital systems. *"Healthcare records are prized information for illicit actors- the digital systems utilised by healthcare organisations must have solid cybersecurity policies in place, without limiting or restricting legitimate access for clinicians."*

Education institutions are also being targeted, through the increased reliance on digital platforms and technologies to support operations, teaching and learning.

According to Microsoft, **the education sector reported the third highest number of notifiable data breaches after the healthcare and finance sectors in the last 12 months⁷.**

Education institutions are data-rich environments for cybercriminals, with student and employee records, health information and sensitive financial information at stake.

"Data security and implementing the appropriate governance controls across people, process and technology continue to be a significant challenge for the education sector," says Wain.

"What we see across the entire industry is that the basics are continually letting us down," says Dornhart. *"With most of the scenarios I've seen where a breach has occurred, it's not always a sophisticated method of attack... it's often that the basic protocols have somehow lapsed- a system that's not been appropriately patched, a credential that's been compromised."*

"Even in the rise of cases in the last 12 months, it's often been the ground layer, the foundation of the cybersecurity stance that's compromised the customer," Dornhart concludes.

Robinson echoes that customers must shift their focus to honing the defence and response mechanisms: “Many customers are still relying on traditional approaches to security in what is a changing tide of cloud-based AI-enhanced threats,” says Robinson. “Without using global tech intelligence services, these customers are relying on sporadic firewall updates or manual patching; using human-driven interactions to solve for AI-driven threats. It’s like bringing a knife to a gun fight.”

Perhaps most sobering for at-risk organisations is the gain posed for malicious actors in successful exploitation: “Those who create the threats have the biggest financial rewards to make increasingly better threats,” Robinson continues. “The attempts will follow that logic. The money continues to flow to those attacking—not those defending.”

An emphatic, organisation-wide emphasis on strong security foundations is desperately needed, says Dornhart. “Organisations need to be asking themselves—are our teams appropriately educated? Do our systems have the appropriate security wrapped around them? What are the crown jewels, and do we have a protection strategy?”

Additionally, the future focus on cybersecurity will only continue to intensify, for both protection of the organisation but also to avoid infringement on the legislative and government oversight that is developing. With more of a spotlight than ever before, cybersecurity governance is not far behind, says Nicole Bakewell, Security Sales Specialist for Data#3.

“Cybersecurity is one area where organisations simply cannot afford to be caught off-guard,” says Dornhart. “Quite possibly, the future of the organisation will depend on it.”

Security as a Differentiator

With the intense focus on cybersecurity to protect business operations, security protection measures in and of themselves will become a key business differentiator.

The recent transition of the workforce has changed the face of the security perimeter, Dornhart says. “We’re no longer dealing with one single perimeter: it’s expanded to multiple perimeters. To secure that, our entire approach has to be different.”

Dornhart contends that the approach needs to be firstly access-focused, and secondly location-focused. A static, single firewall approach will no longer suffice, he says.

“COVID has taught us that security has become a huge enabler for a business to operate efficiently and effectively. Security enables a business to operate regardless of customer or employee location,” says Bakewell.

This point is echoed by Colledge, who maintains that security should be the top priority for leaders throughout a business. “We’ve got remote workforces we’ve never had before. How are we keeping them connected to the business?”

For customers and their data, security is also front of mind. “From a marketing perspective, security matters now more than ever,” says MacDonald. “Customers now have a pretty strong understanding of their privacy and data rights. With more state-based attacks and data harvesting, people are becoming more cautious around where they input their data, who has ownership and even where it’s located.”

There is still significant maturity to be gained in this area, says MacDonald. Customers are now asking “Who has my data, and how is it being used? Where and how is it being held? How many people inside an organisation can access it? And what can they do with it?”

“The reality is there is a lot more governance to come around individual, account-based data within organisations,” MacDonald continues. “Security policies will need a lot more work before we collectively arrive at that level of governance.”

In the future, organisations with the strongest and most proactive approaches to cybersecurity will take the lead, due to core protection abilities as well as the capacity to protect remote workforces, maintaining business operations in evolving situations.

"EXTERNAL RISK IS TOP OF MIND FOR SECURITY AND RISK MANAGEMENT LEADERS – COVID-19 HAS PROVED HOW DRASTICALLY SUCH RISKS CAN CHANGE⁷."

GARTNER

AUSTRALIA FACES A LOOMING SKILL SHORTAGE WITH AN ESTIMATED 18,000 ADDITIONAL CYBERSECURITY PROFESSIONALS REQUIRED TO ENSURE AUSTRALIA'S DIGITAL SECURITY BY 2026⁹.

RMIT

The People Factor: Culture and Skills Gap

A contributing factor in the race against threat actors is the global skills shortage within the cybersecurity industry. **44% of Australian organisations cited “access to skills” as a key challenge in their execution of a cybersecurity strategy⁹.**

Despite a host of government and industry initiatives introduced to fill this gap, the furious pace of change is rapidly outstripping the availability of talent to combat the evolving threat landscape.

For organisations with vulnerabilities, the lack of access to skills compounds the risk of exposure: the evolution of threats and capacity of the threat actors continues to grow as organisations struggle to maintain aging or inadequate security postures.

One way to shift this tide is to rely not just on people, but to use technology to our advantage, says Dornhart. In the future, AI will become an avenue through which this vulnerability is strengthened. *“AI is starting to be built into various security capabilities,”* says Dornhart. *“Technology will begin to lean more on AI and machine learning to combat the increased threat landscape. This then helps to compensate for the skills gap.”*

An additional avenue to combat the skills gap is through Managed Services offerings. *“The changing threat landscape is exactly why Managed Services can be so invaluable to organisations,”* says Dornhart. *“Managed Services allow an organisation to bring in a level of expertise that they can’t obtain internally.”*

Outside of specialist assistance, embedding a security culture from top-to-bottom is an element of a security strategy that cannot be missed, says Bakewell. In regularly conducted security assessments, organisations often have varied stances to security.

“The cultural attitude to a solution can often be the determining factor for success.” Pushing the security culture is a major component to ensuring a strong stance. *“The rise in these cyberattacks illustrates exactly why we need to be concerned about educating our people,”* says Dornhart.

Promoting a culture of security is an organisation-wide imperative, from the top down. *“I often see organisations fail to create a company culture of understanding. It’s so important that an organisation and its people are aware of the importance of the need to be secure, even if it’s just sharing a document over email,”* says Bakewell.

“It is important to remember that your people and their behaviour are your best first line of defence,” Bakewell says.

In the future, as countries globally race to fill the cybersecurity skills gap, a strong culture of digital safety will continue to be emphasised by organisations. Regardless, the human element as a primary defence to maintaining strong practices cannot be underestimated.



THE FUTURE OF THE WORKFORCE

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Driven by the pandemic, the changes forced by a rapid workplace exodus have been far-reaching and transformative.

Where most organisations previously operated in traditional office spaces, the change driven through remote and hybrid working environments has introduced a raft of benefits and possibilities previously unheard of.

"THE WORLD IS A SMALLER PLACE TODAY DUE TO TECHNOLOGY."

JOHN TAN, GENERAL MANAGER, INFRASTRUCTURE SOLUTIONS

The Hybrid Workforce

The 'anywhere workplace' is not a new concept, says MacDonald. "We've been aware of the potential benefits for years." With the pandemic serving as a catalyst, remote working was quickly implemented, where usually more extended testing would have taken place. "Organisations across the world jumped in headfirst – we had to!" says MacDonald. "It was sink or swim."

"Now that the dust has somewhat settled, we need to consider how the culture element is reflected," MacDonald continues. "In some cases, the technology solutions will need to be fine-tuned so that they align with and reflect the working style of the business and indeed its culture."

"I think the goalposts really haven't shifted so much as they've disappeared," says Tash Macknish, Group Manager – Organisational Development and Human Resources for Data#3.

"The parameters around ways of working- whether time, location or model - have and will continue to shift. For leaders, creating the change in a format that works within their organisations requires maintaining an element of flexibility for the foreseeable future," Macknish continued.

With flexible working extending to avail further location options to staff, the expanded periphery will serve organisations well. "Provided the necessary foundations are in place, an agile productive workforce that can access their systems from anywhere at any time will provide the flexibility and power to get the job done – while maintaining a work-life balance," says Colledge.

However, Macknish cautions a total reliance on a remote working culture: "I think we need to be careful to get the balance of technology and human connection right. While technology allows us to work effectively and efficiently from anywhere at any time, the human element is one that our people still crave," she says.

As the face of the workplace and working environments continues to evolve, the hybrid models now in place

will require more transparency from leaders than ever before. "Businesses will need to build a leadership culture to enable honest discussion, psychological safety, a willingness to respectfully challenge, and hone the ability to pivot," says Macknish. These changes aren't limited in duration; as new working models continue to emerge, organisations also need to finesse their transition and change management abilities. "What works today might not work tomorrow."

Of course, the changes in location will drive changes to company cultures: "Cultural shifts are inevitable, with changes such as increased diversity, evolving role types, changes in location and working models all happening simultaneously—the indicators of these factors and their related impacts were already there," says Janelle Phillips, General Manager- People Solutions at Data#3. "COVID-19 was just the catalyst."

Diversity and Inclusion

"Gartner research finds that in a diverse workforce performance improves by 12%, and intent to stay by 20%¹¹."

The benefits of diversity in the workplace are clear and verified, with research pointing to employee engagement, individual effort, and team collaboration all improving within diverse working environments¹⁰.

Accelerated social, political and cultural change have caused organisations to further focus on their workforce makeup and diversity. However, the results unilaterally speak for themselves. According to a Boston Consulting Group study, "diversity is good for the bottom line²⁰."

"Data#3 understands that business performance and productivity are enhanced by a diverse workforce and is committed to promoting a culture where diversity is embraced," says Baynham.

“At Data#3, our focus is on harnessing the innate diversity present within our workforce and utilising that to drive collaboration across the business, driving diversity of thought,” says Macknish.

“Moving forward, we will be encouraging our people to identify their differences and gaps in their thinking, which opens up opportunities to close those gaps and create more alignment.”

A benefit of a diverse workforce is evidenced through the way organisations engage with their customers, their people and even in how they extend their offerings to market, says MacDonald. *“Diversity isn’t just contained within an organisation, it’s reflected externally through the way that a business operates. To remain current and relevant, it’s critical to have that diversity, the differences in thinking and approach, throughout an organisation.”*

The evolving face of the workplace also creates opportunities to further increase diversity, with further candidate and staffing options available to employers due to reduced limitations around location.

In the future, beyond diversity efforts, the emphasis on inclusion will expand through measures such as unconscious bias training and mental health first aid, with further inroads being made through an emphasis on gender, cultural and racial diversity in the workplace. As companies with a diverse workforce continue to demonstrate success, performance and retention, the case for diversity is strong and will continue to be emphasised.

The Skills Gap: a Widening Divide

A known challenge for digital industries, the skills gap continues to widen as the pace of change accelerates. With data analytics, cybersecurity, and cloud computing among the areas most critically seeking qualified talent, the future success of these technologies is very much dependent on those with the ability to execute them.

“The rate of change, coupled with a lack of graduates, will see the tech skills gaps continue to grow,” says Robinson.

“Organisations are already finding themselves in the position where they’re trying to manage new types of technology without understanding them. Cloud-managed services may automate some of the management, but businesses will still need the skills to analyse the data to support their decisions.”

“You will see a shift in roles moving forward,” says Phillips. *“The evolution of digital workforces and digital activity in corporate environments necessitates that the roles evolve along with that. Digitally focused roles that didn’t exist five or ten years ago are now in high demand.”*

“Data analysts, cybersecurity experts, AI-focused roles, even customer success roles- all are now extremely sought-after.”

Further to the evolution of roles is the volume and pace at which this occurs. As more organisations become digitally-focused, the amount of resources required will expand exponentially. *“The volume of tech within the enterprise is driving huge demand for specialist skills,”* says MacDonald. Existing tech teams, often already limited by systems and resourcing, will find it increasingly difficult to deliver and manage future technologies.

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THE FUTURE OF HEALTHCARE

Contributor:

Steve Nahuysen, *National Healthcare Specialist*

While the ‘Do No Harm’ oath is one taken specifically by practicing clinicians, it’s a principle that institutions as a whole endeavour to emulate across every facet of patient interactions. Unfortunately, for medical institutions still transitioning from paper-based processes, this may not always be the case.

Disparate and incompatible technology systems — a reality faced by many institutions operating legacy technology or custom-built tools — fail to provide a “whole-patient-view,” contributing to care that can sometimes become fragmented, or at worst, harmful to the patient.

According to Gartner, CIOs and IT leaders should adopt a “digital-health-first” mindset, with the best healthcare companies responding to disruption with digital and innovation initiatives that enable new business models and address the challenges of increasing demand and escalating costs¹².

GARTNER RATES ONLY 22% OF HEALTHCARE ORGANISATIONS AS BEING FIT TO FACE DIGITAL DISRUPTION, LEAVING AN ALARMING 78% IN THE ‘FRAGILE’ AND ‘UNPREPARED’ CATEGORIES.

“Healthcare- perhaps like no other industry- will be a massive beneficiary of the use of technology to drive accelerated advancements in treatment and patient care,” says Steve Nahuysen, National Healthcare Specialist for Data#3.

Across countless aspects of patient care, technology can assist in driving a unified patient experience and preventative measures, enabling more holistic and well-rounded patient outcomes.

Unified Patient Care

Preventable deaths within the healthcare system are an incredibly tragic occurrence, and still rank within the tens of thousands annually - in Australia alone.

In 2016, there were around 27,000 preventable deaths in Australia¹³ - a statistic that’s tragically magnified worldwide, and one that technology can play a vital role in eliminating.

Of the total number of deaths in Australia in 2017, the AIHW cites up to 50% of these as having been potentially preventable, recommending individualised care, or treatment through existing primary care or hospital care as potentially mitigating measures.

Technology’s role in connecting disparate systems to break down silos in healthcare is a huge opportunity for the industry, in moving to a single source of truth and a more comprehensive, holistic patient view.

Additionally, the data provided to clinicians through more connected system solutions is of a richer, more granular quality, providing a fuller view of the patient and their needs. The algorithmic capabilities of some systems can serve as safeguard measures, for example, issuing alerts based on potentially contradictory medication types, helping to allay some aspects of preventable deaths.

“In the future, the siloed system-based approach of the past will start to be phased out and we will start to see more integrated systems throughout healthcare,” says Nahuysen. *“For many Australian healthcare organisations, this is already the case. Organisations are recognising the power of their collective data and are taking measures to harness this to drive beneficial patient outcomes.”*

Telehealth and IoT

Driven further into the mainstream by the pandemic and severe measures to restrict contagion, telehealth is a developing capability that will only become more widely used. Spanning telephone, video or web-based calls, the applications of telehealth are vast, with a few key players ([Microsoft Teams](#) and [Cisco Webex](#)) emerging as the mainstay platforms.

A contactless clinical experience, technology-enabled workflows, remote monitoring and automated communication are just a few of the benefits, with the full advantages of telehealth still a distant realisation.

“Outside of the digital-specific benefits, telehealth has also enabled medical providers to reduce physical headcount in bricks and mortar spaces, driving down costs for patients,” says Nahuysen.

Remote monitoring will allow health services to be delivered into a patient’s home through connected devices. From blood pressure monitoring to connected inhalers, or even the simplified delivery of cancer treatments by monitoring via Bluetooth-connected devices, **telehealth and the Internet of Things (IoT) will continue to drastically advance the patient experience¹⁴.**

Many consults and outpatient services are now provided via a combined telehealth and IoT model, which is of particular benefit for at-risk populations.

Eliminating Silos

However, the ability to deliver effective telehealth and digitally-led services is underpinned by a unified digital strategy and linked online systems, says Nahuysen.

“Ultimately, there are still many organisations struggling get these foundational elements right.”

“The alignment of their digital platforms to business strategy is still something that organisations are navigating their way through,” he says.

This applies not only to the systems themselves, but the way they are introduced, often with a lack of consideration for organisational change management serving as a critical indicator for project failure. *“The human element is where these things begin and end,”* says Nahuysen, *“If not effectively introduced or positioned for maximum adoption, even the best-placed solution will fail to deliver on its potential for better patient outcomes.”*

This rings true within the healthcare industry in particular, due to the breadth of audiences and stakeholders within. The requirement to deliver a system relevant to both clinicians and administrative workers is a unique hurdle.

“If the digital strategic foundation isn’t suited to the organisation, the digital execution will fall apart,” explains Nahuysen. *“Without the foundational elements such as good Wi-Fi, secure systems, connectivity, and cybersecurity, nothing else will work. These systems need to work seamlessly for both administrative staff and clinicians, who have vastly different user requirements due to the nature of their roles.”*

Genomics and Population Health Care

Genomic tools, or technologies used to analyse genetic sequences and information, are rapidly on the rise for healthcare application. Allowing for more personalised, tailored treatment plans, the field of genomics provides new information to healthcare professionals on the role of genetics in health, disease and treatment.

“The ability to personalise a patient’s treatment based on genetic factors will ensure better patient outcomes, versus a median or one-size-fits-all approach,” says Nahuysen.

Increasingly, the emphasis on tailored patient care is shifting to incorporate a more preventative view, Nahuysen says. While the definition of population health care itself is widely contested, its application involves a whole-of-environment approach to a patient or population’s health outcomes. Incorporating social, physical, environmental and individual behaviours, and genetic makeup factors, the emphasis on population health is leading to a comprehensive focus on integrated care.

Advances in data, analytics, and the continued breakdowns in medical data silos will allow for communities to better gain a holistic patient view, ultimately improving the outcomes and care provided¹⁵.

“HEALTHCARE – PERHAPS LIKE NO OTHER INDUSTRY – WILL BE A MASSIVE BENEFICIARY OF TECHNOLOGY TO DRIVE ACCELERATED ADVANCEMENTS IN TREATMENT AND PATIENT CARE.”

STEVE NAHUYSEN



THE FUTURE OF EDUCATION

Contributors:

Garrett MacDonald, *Chief Marketing Officer*

David Wain, *National Sales Manager - Education*

Learning institutions and environments have evolved tremendously throughout the digital age, and this shows no sign of diminishing. From remote learning to interactive technology tools, education institutions stand to gain just as much as commercial organisations through the effective adoption of digital environments and the appropriate tools. Considering the beneficiaries of such adoption- the youth of today and global workforce of tomorrow - the stakes for effective digitisation and adoption within schools are high.

The challenges of 2020 have clearly demonstrated which schools were prepared to manage mass upheaval and transition. Early adopters and frontrunners quickly emerged, with those constrained by inadequate technology tools or limited technology skills soon illustrated due to the quality of remote learning they could provide.

Into the future, the digitisation of learning and instruction will only continue to accelerate. While the pandemic was the catalyst for some, many organisations had already embarked on the process of harnessing technology to drive powerful learning outcomes.

Remote and Hybrid Learning

“Technology is playing a vital role in addressing some of the biggest challenges faced by the sector as well as supporting the rapid change in how teaching and learning are delivered,” says Wain.

While the pandemic served as a catalyst for many schools in the transition to remote or hybrid learning models, the platforms and premise are here to stay. The impacts of remote learning are far-reaching, creating previously unheard-of opportunities for remote communities, as well as immunocompromised children or those with disabilities who may be unable to venture daily into the four walls of the traditional institution.

Collaboration platforms such as [Microsoft Teams](#) and [Cisco Webex](#) quickly pivoted to heighten the offering for educators. *“These platforms no longer just provide video calling, they can now offer a comprehensive, integrated remote learning environment for teachers and students,”* says Wain.

“What many found is that the investment is not just limited to the technology itself; long-term support for the professional development of staff is critical. Online education can be an excellent catalyst for identifying weaknesses in learning, and teaching more generally,” says Wain.

This identification ability is a powerful tool, enabling institutions to further hone their offerings and deliver not only a more equitable education offering, but one of an even heightened quality as well.

A key future challenge for schools will be the delivery of a blended remote and classroom experience. Bridging the gap between the virtual and the physical will become the next frontier, to extend the benefits of virtual learning for many families and communities. Virtual, mixed and augmented reality will each have a role to play in delivering a blended, hybrid experience beyond the classroom.

Digital Equity

Of course, any advancement is not without side effects, and the emergence of digital technologies in learning environments is no exception.

With any advancement comes flow-on impacts, and within the education sector one such example is the topic of “Digital equity”, otherwise known as the “Digital divide.”

In the 2019 Alice Springs (Mparntwe) Education Declaration, the Australian Government committed to ensuring all young Australians are given the opportunity to reach their full potential, becoming successful lifelong learners, confident and creative individuals, and active and informed members of the community.

Despite this, a recent report from Victoria University shows that while systems are working well for many young Australians, **young people from poorer families, those living in rural and remote Australia, and Indigenous Australians are being left behind**¹⁷.

The issue of Digital Equity is illustrated in instances where schools, communities or families struggle to provide adequate devices or software to enable strong student learning outcomes. For example, in families where a device is shared across multiple individuals, the ability for each individual to spend adequate time on new learning platforms in digital environments is compromised. With devices becoming an intrinsic part of classroom learning and education access, the responsibility to ensure access and supply has become more complex.

“Digital is now such a key differentiator for institutions,” says MacDonald. *“For today’s schools, if you’re lagging in digital adoption, it’s now a struggle to even stay in the game.”*

The pandemic clearly illustrated which schools were prepared to transition to digitally-based learning. MacDonald asserts that this differentiation is not limited to private and tertiary institutions, it is becoming a requirement for public schools as well.

On a broader level, Digital Equity is reflective of the digital citizenry skills gleaned by students to ultimately prepare them for the workforce and primarily technology-driven environments. Indeed, the impacts are far-reaching.

Recent events have further highlighted the inequity across our education systems, with many students lacking appropriate access to technology to support learning from home.

“Participatory citizenship in the digital era involves the right to access and participate in higher education. Indeed, it is a key civil rights issue of the modern world.” – Australasian Journal of Education Technology¹⁸

In the future, institutions will need to consider how device policies and provision are intrinsically related to student learning outcomes. Bridging the digital divide will continue to emerge as a key priority for educators and institutions seeking to provide their students with the best possible future opportunities.

Student Wellbeing and Mental Health

Prior to the pandemic, student mental health was already a key topic in the minds of educators. *“When I speak with school administrators and officials, it’s a topic that each of them encounter on a daily basis,”* says Wain.

Ultimately, learning outcomes can only be as effective as a student’s state of mind allows. Even with the best technology tools and supportive environments, if a student is threatened, in distress, or feels unsafe, learning outcomes will inevitably be compromised. Educators recognise that solutions that monitor or assist with the maintenance of a student’s mental health are critical to driving effective learning outcomes.

Unfortunately, the pandemic has only amplified the existing landscape for student mental health, with technology often presenting significant challenges in monitoring and managing student safety.

“This issue continues to be a challenge for educators,” says Wain. Traditional web filtering and monitoring tools are no longer sufficient. More visibility and control are required across an increasingly complex array of applications and collaboration environments.

In 2020, Australian mental health experts examined the impact of the pandemic on young people’s mental health, wellbeing and rates of suicide, with research modelling suggesting up to a 25% increase in suicides¹⁹.

Of particular concern is the rising level of student mental health issues and associated behaviours such as cyberbullying and harassment. However, technology can also play a role in identifying these behaviours when digital platforms are used in appropriately governed environments.

In 2020, **Data#3 announced a ground-breaking partnership with Gaggle**, a US-based technology provider delivering solutions designed to enhance student safety and wellbeing. Designed to support the rising mental health needs of primary and secondary school students, Data#3 has exclusive rights to provide the Gaggle solution to Australian schools.

“Supporting student mental health needs is vital, now more so than ever. We look forward to delivering this solution to the Australian market and further supporting our customers and their students,” says Baynham.

“INSTITUTIONS LOOKING TO THRIVE IN THE EXPANDING EDUCATION ECOSYSTEM MUST LEVERAGE TECHNOLOGY EARLY ON THAT ENABLES THEM TO BECOME MORE INNOVATIVE.”

GARTNER¹⁵

In the future, the education sector will see:

The “Anywhere Classroom” will become the norm:

The concept of anywhere, anytime learning has been discussed for years. COVID-19 has accelerated the transition.

Adaptive Learning Technologies will make their mark:

As more learning applications are delivered in SaaS or cloud models, adaptive learning technologies will deliver new opportunities for personalised learning.

The Higher Education Sector will embrace new, blended learning delivery models: Universities will embrace blended learning models with less lectures, more remote collaboration and smaller student groups. Integrated collaboration technologies will be key to effective delivery.

Virtual, Augmented and Mixed Reality, will be a key driver for industry collaboration:

The rapid advances and plummeting costs of mixed and virtual reality hardware and software presents an enormous learning and skills opportunity. It will also underpin many industry partnerships as business looks to these collaborations as a driver of innovation and future skills pipeline.

CONCLUSION

Across the entire enterprise and innovation landscape, well-adopted technology, holistically applied in line with business strategy, is key to unlocking future success and growth.

Organisations on the path to embracing change and driving innovation through technology are already on the way to achieving future success.

While the roadmap differs across industries and organisations, ensuring the appropriate **stances, processes, protocols and people** are driving an organisation's technology adoption are all key ingredients in the formula for growth.

As a leading Australian business with decades of proven experience in the successful application of technology, Data#3 helps organisations chart their path to the future. Our vision, to harness the power of people and technology for a better future, is evidenced across our breadth of offerings and delivery expertise.

To learn more about Data#3's solutions and services to guide your organisation into the future, visit data3.com

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