Reimagine digital: Digital–first for growth
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New world dynamics
Adapting to new permanent shifts

Accelerated transformation across industries has resulted in a new business environment fraught with unprecedented challenges. Organisations need to respond fast to the changing market, customer and stakeholder expectations, and accordingly redefine the way they optimise data, manage increased digital and cyber risks, as well as empower the workforce of the future.

Digital – evolution to revolution

PwC’s CEO Panel Survey underpins the acceleration in adoption of new technologies and the new ways of working beyond the pandemic. With an increasing share of remote and contingent workers, CEOs plan to develop a more digital, flexible and employee-oriented workforce, with enhanced focus on employee health, safety and wellness programmes.

Digitally empowered ‘human’ leadership

It’s important for business leaders to bring the best of human qualities into greater focus. Developing the right digital and leadership skills is essential to enhance virtual team cultures for new workforce models. How business leaders respond to this crisis now will enable a new focus on future human capital development and build resilient organisations for the years ahead.
The key questions on the minds of CEOs today:

- How to remodel business strategies whilst adapting capabilities?
- How to transform cost structures and enhance productivity?
- How to reorganise and capture new revenue growth opportunities?

In the new world, we believe the ways in which organisations reimagine digital today is potentially key to charting out a new and more adaptive course in building resilience and emerging stronger.

Understand how your organisation is set to respond to changing consumer expectations and align strategic plans accordingly

Ensure your digital transformation is fit for success in the new world, creating a Connected Digital Enterprise powered by intelligent automation is potentially the new way to go

Ensure agility in data usage in more meaningful ways to transform lives

Know the gamut of new digital world risks that businesses are exposed to, anticipating potential future risk scenarios and strengthening ability to manage these risks

Importantly, prepare the workforce of the future while keeping in mind future skills, new work delivery parameters and managing employer and employee expectations

This publication aims to shine the spotlight on each of these constituents of the reimagine digital vision for a more resilient tomorrow.

Throughout the COVID-19 crisis, Singapore has stayed anchored to its ‘Smart Nation’ vision. The Government has continued to encourage the development of world class infrastructure and digital adoption by organisations as well as the wider society.

As we continue to work with the Government and help businesses secure their future in the new digital world, we believe the key enablers to realise Singapore’s longer-term ‘Smart Nation’ ambitions include:

- Developing further e-government services for citizens and businesses alike
- Strengthening digital policy, regulations and technology adoption support for businesses and society
- Developing and enhancing digital and data platforms for sharing, collaboration and innovation
- Encouraging operationally resilient, reliable and secure systems
- Enhancing broader digital capabilities and encouraging entrepreneurship

It’s vital for Singapore to retain its leadership as a regional hub, more so at a time when the World Bank expects the global economy to shrink by 5.2% during the year, representing the deepest recession since the Second World War. Singapore’s economy contracted by 6.7% in the first half of this year and shrunk 13.2% in the second quarter against the same periods last year, as the country entered into its worst recession since independence.
Reimagine digital: Digital–first for growth in the new world
The majority of business leaders worldwide are prioritising the digitisation of core business operations and processes aside from getting more virtual, by adding digital products and services.

As we rewire, re-organise, remodel and reboot to position in the new world, we believe the ways in which businesses reimagine digital today is potentially key to charting out a new and more adaptive course in emerging stronger.

1. Respond to changing consumer expectations

For companies catering to the end consumers, the future is here way before anyone had imagined, accentuating the digital trends that had already been transforming consumer behaviour. If businesses are to actively reinvent their own future, they must understand how the new world affects all their customer touch points, how to respond to the changing consumer expectations and align strategic plans accordingly.

PwC’s Global Consumer Insights Survey shows the COVID-19 situation has deeply affected urban consumers’ views on spending. Before the outbreak, consumer confidence was sky-high, with almost half (46%) of them expecting to spend more over the next 12 months. But, after the outbreak had begun, 40% reported a decrease in income as a result of job loss or redundancy. The percentage of people expecting to spend less in the next few months almost doubled, and the people anticipating higher spending dropped by over 10 percentage points.

Beyond price sensitivity, consumers today are seeking a diversified digital experience rooted in safety and accessibility. To make them longtime advocates of products and services, businesses will need to prioritise care and well-being beyond innovation. So, as business leaders reimagine digital in cutting out power strategies to win today’s consumers, they need to see through the new digital world consumer trends.

The way forward

Consumer engagement, going direct to consumer
Consumers today are expecting personalised and convenient contact with companies. Businesses need to consider enhanced customer relationship management tools to strengthen loyalty. Direct-to-consumer business models may generate more revenue and increase profitability by removing third-party distribution. The model also provides access to customer data and more control over brand marketing, albeit challenges include supply chain infrastructure and last-mile costs.

Derive value with data
Data, analytics, and predictive modelling can generate value and differentiation. The value comes from using data to identify shifts in preferences, build supply chain flexibility, and guide product design, marketing and pricing decisions. Businesses need to invest in building in-house teams, acquiring capabilities, and partnering with analytic firms.

Rising competition and disruption
Disruptors are leveraging technology and focusing on social and environmental issues. Technology is pressuring incumbents to invest across the value chain and focus on both process and product innovations. Increasing venture capital investments is worth considering.

Fuel enterprise agility and strategic fitness
Companies need to drive enterprise flexibility and agility by leveraging data and technology to automate and optimise business, for instance, using artificial intelligence (AI) and predictive analytics to respond to consumer demand. Shifting decision-making and resource deployment to local operations to become more flexible and agile is worth considering.
Many organisations are struggling to achieve the expected benefits from their digital transformation efforts. In fact, 75% of digital transformations fail to generate returns or expected value exceeding the original investment. Around 70% of organisations fail due to a lack of user adoption and behavioural change.

The key questions businesses should consider are:

- How to ensure its digital transformation is fit for success in the new world?
- How to achieve a truly intelligent digital enterprise for the future?
- How to unlock the full potential of their digital transformation initiative using citizen-led transformation?

One way is to adopt a Connected Digital Enterprise (CDE) approach. It’s a new approach towards digital transformation, bringing together people, processes, and automation through a digital platform to deliver a multiplier effect on digital transformation outcomes.

Having a CDE approach serves to address issues in the process of intelligent decision making and achieving agility at scale. It helps create increased organisational flexibility and better cost control while promoting significant increase in team productivity, employee engagement and operational resilience. It connects the enterprise through front to back digitalisation and enables real time decision making with AI. Businesses also need to consider improving their employees’ digital IQ and workplace culture.

Even prior to the COVID-19 crisis, over 80% of Singapore CEOs were planning ‘operational efficiencies’ to drive revenue growth, as only one out of four local business leaders were ‘very confident’ about revenue prospects in the coming year.

### The way forward

- **Accelerate performance**
  Embed new ways of working across teams to reduce variability in how activities are performed. Effectively manage and redistribute capacity and facilitate the adoption of new processes and technologies.

- **Streamline processes**
  Orchestrate and effectively manage processes by creating an interface layer that connects disparate systems, eliminates time spent re-keying information, and provides much better visibility of end-to-end process performance.

- **Orchestrate workflow**
  Streamline processes to minimise waste and maximise flow by eliminating unnecessary activities and handoffs, reducing rework and driving consistency in how the process is performed.

- **Deploy digital workers**
  Deploy cognitive and non-cognitive digital workers to automate more straightforward activities, accelerate process lead times, and augment capabilities of the human workforce, supporting their re-orientation towards more value-adding activities.

- **Enhance delivery models**
  Enhance the delivery model and structure of the combined human and digital workforce in line with redesigned processes, including sourcing and shoring options.

- **Develop people and capability**
  Develop people by effectively engaging, empowering, and coaching them to build the right combination of soft, technical, and digital skills.
3. Enabling AI adoption by powering data

Most industries, particularly those that are consumer-facing, have a perfect storm forming for a seismic shift towards AI adoption, fuelled by:

- Prolific increases in data with the surge in number of connected consumer devices
- Growing prevalence of open source ecosystems allowing for secure data sharing by individuals to enrich customer profiles and more data supply for analytics
- Advancements in cognitive technologies allowing for improved customer onboarding experience, and ability to advise on medical wellness and lifestyle matters
- Evolving customer needs accelerated by COVID-19, causing fundamental shifts in distribution models, emphasising the need for data and AI driven digital interactions

According to PwC’s 23rd Annual Global CEO survey – prior to COVID-19, 85% of CEOs believed that AI would significantly change the way they do business in the next five years. Today, in the post COVID-19 new world, the acceleration of digital delivery models led by profound changes in the ways we shop, travel or consume content, is bringing those predictions forward. But the reality is that nearly half (44%) the Singapore companies are yet not making any use of AI, just about 8% view themselves as highly competitive in terms of AI usage.

Key reasons why so many organisations are still struggling to adopt AI include:

Data inadequacy
Most organisations don’t even know what data they have or where it all sits. More often than not, data suffers from issues with respect to its completeness, accuracy, consistency, as a result the data quality and remediation remains a challenge. Given the challenges with data, technology and capabilities - and the inability to identify, prioritise, value and fund the appropriate use cases, businesses fail in using data to inform and improve decision-making, and adoption of AI remains very low.

Fear of the data swamp
While the cloud offers a cost-effective and scalable means for organisations to get the most out of their data, poor data management often turns a brand new data lake into a data swamp. Unless an organisation first realises the value of its data and is willing to put the controls in place to ensure its quality, the promise of AI will remain out of grasp.

Big data, small business impact
Most organisations remain unclear about AI applications for their organisations. Many business leaders, while appreciating the theoretical possibilities for AI, are unable to translate these into tangible opportunities for increased revenue or cost optimisation. This is often reinforced after investing in ill-designed or inappropriate AI proof-of-concepts that fail to translate into bottom line impact.

(Ir)responsible AI
As AI is embedded into an organisation, human decision makers are augmented or replaced by autonomous ones. This creates a new type of risk - that of an algorithm making unethical, biased or non-transparent decisions on a company’s behalf. With the right tools and processes in place this can be avoided. However, most companies are not confident in their organisation’s ability to detect and shut down a malfunctioning AI before any serious problems were caused.

A question of culture
Finally, the adoption of AI is as much a result of cultural change as it is a technology or capability upgrade. For AI to meaningfully add value to an organisation, its employees need to become comfortable with the increased role of data in operational and strategic decision-making. Most instances of AI experimentation fail to realise value because fear of the unknown requires the new process to be run in parallel to (rather than embedded in) existing operations.
The way forward

Tightly couple data strategy with business strategy
With data strategy at the centre of your operating model - comprising people, processes, systems and culture, drive the value levers across de-risking operations, optimising cost structure, managing revenue mix, uplifting customer experience and developing a talent pool.

Exercise control over data management
To derive long term benefits from data, it’s important to have the right data management strategy, principles and roadmap, to propel informed decision making. First, standardise the data models to eliminate ambiguity and provide common understanding and less reworking during consolidation. Second, have a single platform for multi-tenants to reduce maintenance efforts and data transfer needs. Third, share costs across business entities and countries for infrastructure software and support. Fourth, formalise data governance functions to drive data trust through transparency and quality.

Understand new tools and new ways of working, with a robust culture-change plan
Becoming a data–driven enterprise requires a commitment to driving sustainable change through people. First and foremost, clearly define roles and responsibilities so that employees across various levels do not face challenges in identifying use case for data analytics and operationalising them. Set the operating models to effectively leverage data, while ensuring good data governance. Uniformly embed the utilisation of digital tools and software into existing business processes to ensure consistencies in data management, quality, accuracy and “source of truth” varied across different systems. Leaders must be aligned and accountable for becoming a data-driven company.

Have a clear operating model cutting across regions and departments
This is key for a sustainable data programme rollout. Have an overarching conceptual model that defines the key components of the operating model including the main functions required, how responsibilities are allocated/organised. Then, define the high-level designs for each of the key components of the model, including people, process, organisation, information, and technology, ensuring alignment between them.
4. Risk–proofing in the digital world

The resilience of any business model today depends on four key imperatives including:

- Digitisation to ensure seamless work processes and minimum physical contact with clients
- Workforce flexibility and safety
- Supply chain transformations
- Resource optimisation

Organisations need to reanalyse cybersecurity priorities across each of these imperatives to cement their position in the new world. To get there, they must first understand the threats their organisations are facing today or are likely to face in the future. Based on our experience, the top three cybersecurity incidents in Asia Pacific over the past two years include:

1. Business email compromise (42%),
2. Ransomware (38%), and
3. Advanced persistent threats (18%).

Organisations also need to analyse the future direction businesses are taking in the new world with the expansion of ecosystem models and adoption of Cloud and new technologies such as augmented reality, virtual operations and AI. To enhance the security maturity and adjust to the future, a robust cybersecurity strategy must be built around three fundamental parameters: building trust, promoting resilience and enabling business processes.
The way forward

**Optimise cybersecurity investments**
First and foremost, businesses need to optimise security technology by evaluating incumbent network security architecture and casting off non-essential/redundant security tools. Consider open source/commercially competitive security products in the network. Transform the on-premise security solutions landscape and move to cloud-based solutions (e.g. cloud firewall, privileged identity management [PIM]). The next steps are to redesign organisation security structure, institutionalise virtual security team on shared-model basis, and drive governance, security approval, and regulatory compliances through virtual collaboration. Automate security processes (e.g. DevSecOps, user management), incident detection and response (e.g. security orchestration, automation and response [SOAR]), and evaluate solutions to drive efficiency in a cost-effective manner.

**Create perimeter-less workforce security**
Employees have become the new perimeter for security, and protection from opportunistic threat actors has become critical. Create a zero-trust architecture by securing access to resources regardless of location. Secure all end points with updated work from home (WFH) policies and other guidelines around bring your own device (BYOD) security and mobile device management (MDM). Perform a threat analysis to discover compromise indicators, including strategic threat intelligence or dark web monitoring to identify compromise. Create a ready-to-integrate managed detection and response infrastructure. Building a secure culture with awareness trainings and campaigns is equally important.

**User behaviour monitoring**
Use advanced data and behaviour analytics to create base lining and risk scores to detect anomalous behaviours, and enable near real-time detection for compromised accounts, insider threats and data breaches. Defend your organisation by leveraging advanced AI and ML to filter billions of actions on a network into a list of prioritised threats. Use security analytics to bypass manual processes and spend time investigating risk-based prioritised alerts. Businesses must be able to detect threat at speed with contextualised alerts in relation to users, devices and events. Intelligent incident response is key. Businesses must be in a position to launch accelerated investigations by correlating disjointed events and providing analysts with all relevant information in a single user interface.

**Next–generation threat management**
The focus is on providing a complete view of the risk landscape and proactively responding to emerging risks. Automated intelligent remediation including unified robotic process automation (RPA) based solution integrating different technologies/processes (e.g. scan engine, asset database, incident management tool, threat feed) must be in place. The security teams must be able to have a single click view across the threat landscape and the agility to embrace newer processes on a continuous basis.

**Intelligent identity and access management**
Managing identities on-the-go will become a prerogative for businesses to govern a complex ecosystem of stakeholders operating anywhere and anytime. Comprehensive, automated and streamlined identity management solutions will help businesses drive process automations, efficient compliance fulfilment and other requirements.
5. Preparing workforce for the new world

An undeniable universal truth is that people must always be at the centre of corporate strategies, both when economies are strong and when they are under threat. What’s also true is that the keys to unlocking an organisation’s value lie in its culture, in building and maintaining trust, and in harnessing the right skills.

But the sheer speed and scope of technological changes and digital disruptions have been fast widening the discrepancy between skills people have and those needed for jobs in the digital world. Although the majority of business leaders have been concerned about the availability of key skills, just about 18% of them have made “significant progress” in establishing an upskilling programme.3

Some of the most pressing challenges around delivering upskilling programmes have been holding on to the upskilled talent, identifying most essential future skills, building an inspirational upskilling culture, and most importantly allocating resources to deliver the upskilling programmes.

And then, even before we could find ways to start addressing these problems, the COVID-19 pandemic sank the world into a global health crisis, bringing to the fore an entirely new set of issues, including but not limited to:

- a new work delivery model / process
- new ways of working and its ensuing impact on real estate and physical workplaces
- office of the future
- workplace health and safety requirements

Today, businesses need to reimagine future office spaces and leverage new technologies to create a better and more flexible working experience for their digital workforce.

The way forward

Human Resources (HR) and business functions must partner in rethinking workforce and reconfiguring office space

The pandemic may have disrupted the way we think about work but has also created opportunities for bolder decisions. Business leaders and HR need to come together to address pressing matters such as: optimally engaging people while working from home, maintaining and growing internal and external networks while working remotely, creating a balance between working from the office and working from anywhere, measuring and monitoring productivity, and identifying roles that can be fulfilled permanently away from the office. Accordingly, reconfiguring physical workspace and redesigning facilities is highly critical. Against the shift towards remote working, office spaces must be optimised, while also enabling safe distancing between employees. Mechanisms must be in place to avoid overcrowding in reduced workspaces via skeleton workforce, staggered work shifts, and rotating teams. Invest in tools and infrastructure that securely enable the new work environment, and boost it with a conducive work culture.

Understand required organisation capabilities and skills

The pandemic has further amplified the critical problems around jobs and skills mismatch and the need for upskilling and reskilling, as workers continue to be retrenched across many sectors. As you develop scenarios on what your business will look like in the future, keeping in mind the rapid shift in customer demands, new and innovative offerings and new world business models, it’s important to define the skills required to realise your evolving strategies. Ask yourself, what are the signature capabilities that will provide a competitive advantage in a complex and uncertain environment? When and where do we need these?
Define your upskilling and reskilling strategy
Even in today’s uncertain world, articulating your upskilling and reskilling strategy is a no-regret move. The pandemic will drive further digitisation of businesses and services and with a global recession looming, jobs will continue to be at risk. Redeployment will become the new employment and will require everyone to continuously adapt and think about new and relevant skills to master to enhance one’s employability. Singapore government is investing heavily in reskilling and redeployment programs and so should every organisation.

Create learning in the flow of working
Many of our clients have indicated a significant increase in the adoption of learning by their employees as they worked from home during the pandemic. Clearly the flexibility employees have gained while working from home has allowed them to pick up learning (formal or informal) as and when it suited them. This is an important lesson for a lot of business leaders - how can we create an environment (whether remote or in office) wherein people can learn in the flow of working. To this effect, we see a strong uptake of digital learning solutions, such as Learning Experience Platforms, that can cater for short, bite-sized and relevant content curation - at one’s own convenience.

Reflect on your cultural attributes to emerge stronger
As the new ways of working evolve, so should our core values and behaviours. Questions to reflect on as business leaders are: how do we maintain and establish trust in an environment where we’re not physically together? How to establish psychological safety in virtual meetings? How do we show care and compassion in an environment where we can’t take each other out for coffee or lunch? How do we cultivate new ways of learning from the office?

Invest in leadership development
The construct for what it takes to be a successful leader today needs to be reviewed and updated urgently. The New World of Work needs leaders who can create long-lasting impact and drive positive force with the decisions they take and actions they catalyse. This requires development of our leaders and strengthening muscles such as their ability to deal with ambiguity, leading teams and people through complex and ongoing change, leading with courage and vulnerability and the ability to reframe problems.
“Reimagine digital makes the core theme of business leaders’ call to action today, towards designing winning strategies in light of the new market realities. It’s about having a digital-first mindset, with eyes firmly set on enabling the workforce as well as data assets, in creating risk-resilient new world operating models aimed at emerging stronger in the post-COVID-19 world.”

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Let’s get started today

Reimagine Digital

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References

1. PwC’s CEO Panel Survey  
   https://www.pwc.com/gx/en/ceo-agenda/ceo-panel-survey-emerge-stronger.pdf

2. PwC’s Global Consumer Insights Survey 2020  
   https://www.pwc.com/gx/en/industries/consumer-markets/consumer-insights-survey.html

3. PwC’s 23rd Global CEO Survey - Singapore Report  

4. PwC’s 22nd Global CEO Survey - ASEAN Findings  

5. PwC’s 2018 APEC CEO Survey - Singapore Findings  

6. Sizing the prize: What's the real value of AI for your business and how can you capitalise?  
   https://www.pwc.com/gx/en/issues/analytics/assets/pwc-ai-analysis-sizing-the-prize-report.pdf

7. PwC Singapore: Connected Digital Enterprise  

8. The World Bank, 8 June 2020. COVID-19 to Plunge Global Economy into Worst Recession since World War II,  

9. Singapore’s economy shrinks in Q2, country enters worst recession in 55 years  