Building a Cognitive Enterprise: Nine Action Areas for Financial Services Companies

Core Concepts
Australia and
New Zealand

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This Core Concepts Australia and New Zealand document is abridged from the in-depth version, "Building the Cognitive Enterprise: Nine Action Areas, Deep Dive" that also contains full-length case studies.

Accelerating your digital transformation for the new normal

We are at a tipping point in history where the impact of technology is so significant it can completely transform the way business is done. The convergence of exponential technologies such as artificial intelligence (AI), automation, the Internet of Things (IoT), blockchain, and 5G will change business models, reinvent processes, and allow us to reimagine the way we all work. IBM calls this the emergence of the Cognitive Enterprise™.

In 2020, every business has been forced to rapidly rethink the way they do business. Their economic survival is dictated by how successful they are in implementing new ways of working – both internally amongst employees and externally with customers. For financial services companies, these new challenges add to existing ones such as the longer-term downward pressure on margins and increasing compliance obligations.

This report explains how to meet these challenges by applying exponential technologies in new ways to build market-making business platforms that include intelligent workflows and offer a new enterprise experience for customers and employees. In short, it reveals how to turn a financial services company into a Cognitive Enterprise.

Industry challenges

Since the start of the COVID-19 pandemic, the rate of change has shifted into warp speed. Offices emptied overnight and many people are still working remotely. Some offices and branches have reopened, but workforces need to be reshaped to reflect changes in customer behaviours. Banks' call centres, for example, have seen huge surges in call volumes.

Industries have changed, with some enjoying sudden booms while many others are resigned to months or even years of suppressed demand. Banks have assumed a critical support role by providing help such as loan repayment deferrals for customers under financial stress.

But banks are themselves facing additional pressures, including the prospect of increased credit losses and lower lending demand. Even before the pandemic, banks were facing shrinking margins and limited growth opportunities. Insurance companies were facing challenges such as the impact of recent natural disasters and declining underwriting results. They were also grappling with fundamental changes to their traditional products due to the prospect of new technologies such as driverless vehicles.

Meanwhile, the repercussions of Australia's Royal Commission into Misconduct in the Banking, Superannuation and Financial Services Industry are still being felt. With more attention from regulators, for example, banks face the prospect of having to implement systematic compliance across 100 per cent of transactions, rather than the current sample-based approach.

These tough new compliance obligations will add to financial institutions' existing cost pressures – such as their relatively large workforces. At the same time, the pandemic has highlighted the risks of relying extensively on offshore workforces to address cost challenges. For example, the shutdown in India and other countries has significantly disrupted some operations.

Digital leaders and laggards

Before the pandemic, the organisations seeking major transformations were typically either struggling or high performers ahead of the curve. Now, we are seeing the business performance bell curve turned upside down, with an even greater discrepancy between the leaders and laggards.

This division is reflected in a recent IDC survey of IT decision-makers. By mid-June, 35 per cent of Australian organisations and 29 per cent of New Zealand firms were in a "return to growth" phase in the COVID-19 response, the survey found. But one-third of the organisations in both countries were still in a recessionary stage, where they were focused on building business resilience and dealing with the uncertainty of how and when the economies will fully reopen.[1]

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Accelerating your digital transformation for the new normal

Deciding how to change

With the urgent need to improve compliance, manage changing customer behaviours and find new revenue sources while reducing costs, it's hardly surprising financial services companies are seeking to accelerate transformation. But many struggle with how to get started.

For example, many companies have sought to become more efficient through digital initiatives such as robotic process automation. However, many have failed to achieve their desired results. Traditional automation models simply cannot process the unstructured information that employees at banks and insurance companies need to review and assess.

To solve this issue, industry leaders are applying AI in new ways. Some leading banks are using it to interpret and assess customer credit reports, financial disclosures, economic forecasts, and media reports to assist with credit assessments.

In the United States, Morgan Stanley[2] is accelerating the onboarding of customers by using AI to automate many due diligence activities related to anti-money laundering.

Insurers are using AI to interpret claim lodgement reports to determine coverage, or assess images of damage to automate assessments. The Royal Bank of Scotland (now NatWest Group)[3] and GEICO[4] both use AI-powered virtual agents to provide better customer service and reduce costs.

Traditional automation models simply cannot process the unstructured information that employees at banks and insurance companies need to review and assess.

Driving change from the inside out

Digital initiatives like those above need to be underpinned by fundamental technological and cultural change. And the latter is still the biggest challenge facing many financial institutions. Business leaders are struggling to engage their wider organisations and transform their companies in meaningful and sustainable ways. They need help working out how to get started and then scale, identifying which execution and funding vehicles to use, and deciding how to orchestrate the complexity of the change.

IBM is helping enterprises solve these issues through a next-generation, platform-centric business model designed to help accelerate organisations' journeys to becoming Cognitive Enterprises.

For much of the past decade, organisations have been striving for "outside-in" digital transformations. They have been connecting themselves more deeply to customers and external stakeholders, using the power of the internet for pervasive connectivity and driving these digital capabilities deeper into their businesses.
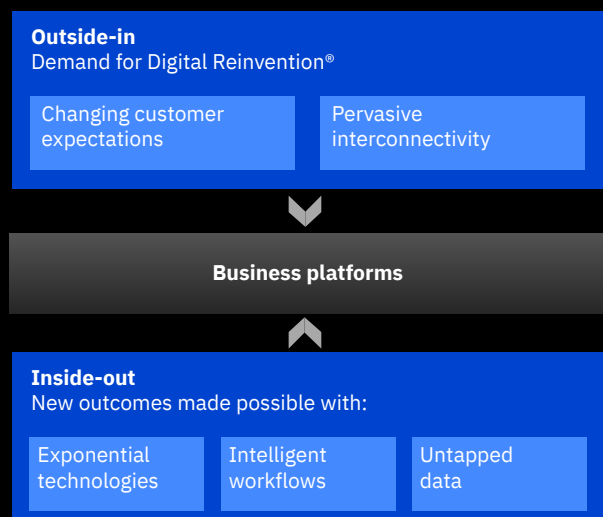
Today, IBM is helping organisations build on these capabilities by driving "inside-out" transformations (see Figure 1). This approach will enable businesses to unlock the power of their data through new technologies that offer exponential gains, such as AI, blockchain, automation, IoT, 5G, and edge computing.

IBM is helping enterprises combine these two forces in a new wave of change and structuring themselves around reimagined business platforms.

Figure 1:

The platform-centric business model

As organisations attempt to navigate the market, the next era of business reinvention emerges with platforms at its heart.

Outside-in
Demand for Digital Reinvention®

Changing customer expectations

Pervasive interconnectivity

Business platforms

Inside-out
New outcomes made possible with:

Exponential technologies

Intelligent workflows

Untapped data

These platforms are not just a place for proof of concept or outlier projects. They are core to the organisation, with many designed to redefine the business.

But make no mistake – becoming a Cognitive Enterprise is a cultural challenge, not a technology challenge. It depends on the skills and acumen of the workforce, but applied in different ways. For example, financial services companies should think of AI as "augmented intelligence," assisting the workforce rather than a replacement for people.

Too many organisations focus their energies on validating that AI works. In fact, the main roadblocks are human challenges, including:

— Overcoming the perceived workforce threat;

— Identifying the new jobs and careers that will emerge as the organisation harnesses AI;

— Addressing concerns about allowing automation to make decisions, and implementing appropriate controls and oversight mechanisms;

— Providing the right experience for customers and staff when interacting with, and participating in, a Cognitive Enterprise; and

— Addressing issues of trust and bias.

Accelerating your digital transformation for the new normal

Three key components

The journey to becoming a Cognitive Enterprise starts with data and the technologies that allow teams to extract its full value. Those insights are then used to create smarter workflows. But success depends on human interactions and capabilities. For financial services companies especially, it's vital to enrich employees' skills and create deep, trusted customer relationships.

The problem for many business leaders is knowing how and where to start as they struggle to escape from the "cognitive chaos" of multiple experiments and proof of concepts from early innovation endeavours.

Having worked with many leading financial services companies, IBM has identified three key components that underpin this new platform-centric business model:

1. **Market-making business platforms –** the North Star for the investment priorities and change initiatives needed for sustainable success, these strategy-based platforms are foundational to transforming the way the company delivers on its purpose and business objectives, by reinforcing competitive positioning, to shape a new role within an industry, and open up cross-industry market opportunities.

2. **Intelligent workflows –** these are extended end-to-end or front-to-back processes that, through the application of technology at scale, define the customer experience and economic outcomes at the heart of the new business platforms, and clearly differentiate the organisation.

3. **Enterprise experience and humanity –** these initiatives extend the customer experience to the employees that serve customers, the enterprise itself and the entire ecosystem to provide a seamless environment of value and purpose using human-centred design.

The Cognitive Enterprise framework

Within the three components are action areas – nine in total – that we see as critical to creating a framework for success (see Figure 2).

The Cognitive Enterprise demands a new kind of leadership, emboldened by deep technology insights, and new skills and culture to embrace this exponential potential. Perhaps the biggest challenge and opportunity lies in the capacity to make the necessary changes in the pools of expertise, mindsets, and ways of working to bring this vision to life.

Figure 2:

Nine action areas for creating a framework for success

Action Area			
Market-making Business Platforms	Double Down on "Big Bets"	Create a New Business Blueprint	Orchestrate Compelling Change
Intelligent Workflows	Embed Exponential Technologies	Drive Value from Data	Deploy Through Hybrid Multicloud
Enterprise Experience and Humanity	Elevate Human-Technology Partnerships	Cultivate Smart Leadership, Skills, and Culture	Perform with Purposeful Agility

Action Areas to build
Market-making Business Platforms

1. Market-making business platforms

Cognitive Enterprises are built on new business platforms that can leverage data to reinvent competitive positioning and create new market opportunities. To establish market-making business platforms, companies need to instil new rigour and focus to move beyond experimentation and balance stability with agility.

A Cognitive Enterprise typically has a primary platform that is built around the organisation's core strategy, acts as connective tissue with ecosystem networks and technologies, and gets smarter over time through AI. The primary platform also has supporting platforms for tasks such as back-office processes and applications that interact with third parties.

Many of these platforms are designed to leverage internal data. After all, an estimated 80 per cent of the world's data remains proprietary.[5] Others, however, straddle organisations and industry boundaries.

In Europe, for example, innovative banks have taken advantage of open banking to build platforms for ecosystems that serve specific segments, such as the agribusiness sector.[6] By building platforms outside the bank, they were able to fulfil customer needs and capture new revenue sources by moving into their customers' value chains and providing products and services beyond banking.

Similar opportunities exist in Australia and New Zealand to launch platforms to service ecosystems, including in agriculture, construction, trades, healthcare, engineering, and transportation.

To build market-making business platforms like this, organisations need to:

— **Double down on "big bets"** – choosing a platform likely to deliver results and aligning the organisation, assets, resources, and investments to rapidly scale and then evolve the platform.

— **Create a new business blueprint** – embedding governance in a more open and transparent way to inform decisions made at the edge of the business, and reconfiguring organisational components to create a new target operating model.

— **Orchestrate compelling change** – establishing "control towers" to monitor early warning indicators, orchestrate change in real time, and develop iterative and proactive change management.

Lygon

From paper to blockchain

Backed by a consortium including ANZ Bank, Commonwealth Bank, IBM, Scentre Group and Westpac, Lygon is a new digital platform that uses blockchain technology to transform how businesses obtain and manage bank guarantees for property leases. The platform includes standardised process and contracts, along with an updated legal framework underpinning digital contracts. It reduces the risk of fraud, decreases the potential for errors and significantly reduces the time it takes to issue a bank guarantee.

Results

90 to 95% faster turnaround time for bank guarantees.

The platform features a digital workflow, standardised terms and the security to resist fraud. And the speed is exceptional – in the Lygon pilot using real customer data, what used to take up to a month took less than a day to process.[7]

Using intelligent security automation to reduce threats

If the journey to becoming a Cognitive Enterprise starts with data, protecting that information is crucial – particularly for financial institutions, whose customers have high data security expectations. That can be a challenge given the sudden increase in remote working and digital footprints.

The cost and risk of a cybersecurity breach are increasing each year. According to the Ponemon Institute's 2020 Cost of a Data Breach Report, the average cost of a data breach in Australia was A$3.35 million per breach, a 9.8 per cent increase from 2019. Eighty per cent of these incidents exposed customers' personally identifiable information – and it took an average of 211 days for businesses without security automation to identify and contain a breach.[8]

However, organisations can reduce these risks. Businesses that had fully deployed security automation technologies – such as those using AI, analytics, and automated orchestration to identify and respond to security events – experienced less than half the data breach costs than organisations that did not have these tools. Organisations with security automation were also able to respond to breaches more than 27 per cent faster than those that didn't have it.

Action Areas to create Intelligent Workflows

2. Intelligent workflows

Market-making business platforms are built on new and dynamic workflows that connect front- and back-office processes end to end. These intelligent workflows are transformed by exponential technologies – including AI, blockchain, and IoT – that use multiple data sources to generate insights that can help improve processes and allow employees to make better and more timely decisions.

Intelligent workflows are critical for banks and insurers to reduce the operational expenses that are needed for large back-office workforces. These workflows will enable much higher levels of low-touch or even no-touch processing, shortening approval times and improving the customer experience.

Where processes require regulatory compliance – such as ensuring responsible lending and no-advice service activities, and meeting customers' best interest obligations – intelligent workflows allow 100 per cent compliance to be built into the process.

For example, intelligent virtual agents can have compliance built into how they answer customer calls. They can also monitor calls handled by human agents, assessing interactions for content and sentiment. In this scenario, all calls can be reviewed, in real time, for compliance and customer satisfaction.

# Action Areas to create Intelligent Workflows

As well as addressing cost challenges, intelligent workflows are enablers of market-making business platforms that provide near real-time responses. To this end, they can enhance next-generation enterprise software, such as SAP S/4HANA and Salesforce, by adding value and differentiation to these applications' core processes.

To create intelligent workflows, organisations need to:

— **Embed exponential technologies to change ways of working** – building highly dynamic workflows with multi-functional teams that can work in parallel, iteratively, and with autonomy to unleash exceptional productivity and innovation (see Figure 3).

— **Drive value from data** – using the most valuable information and establishing robust governance to build trust in data and AI models so decisions can be pushed out to the organisation's front lines.

— **Deploy platforms through hybrid multicloud** – enabling the organisation to unlock more data from new and legacy solutions, and put it to new uses in intelligent workflows and modernised applications.

Figure 3:

Exponential technologies embed intelligence into workflows
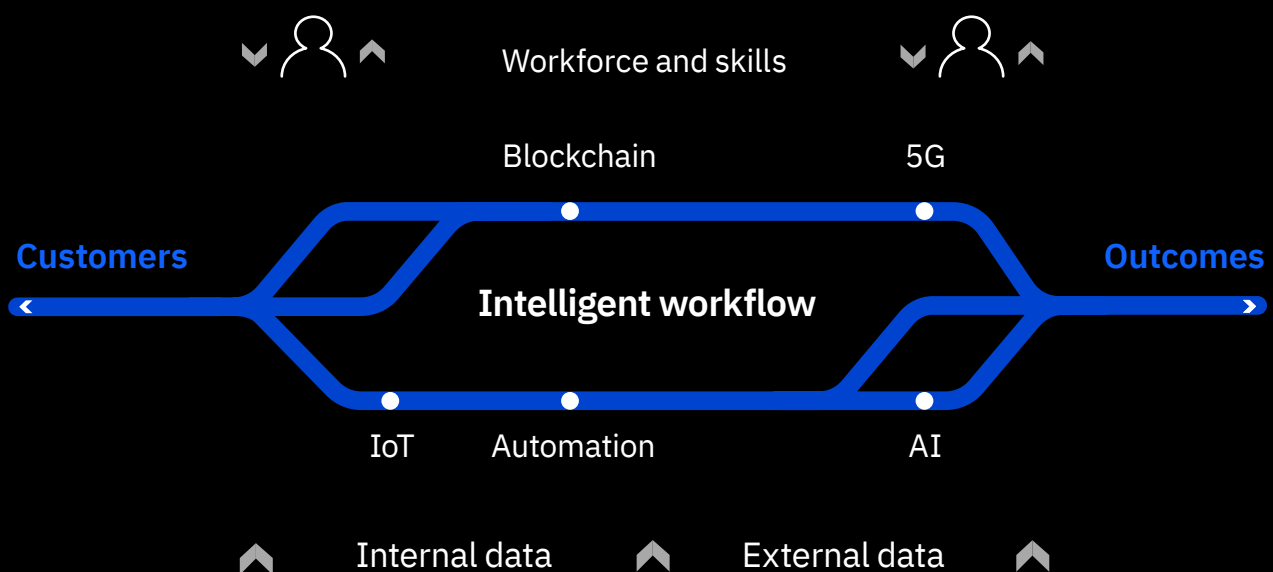
Intelligent hybrid multicloud solutions

Cognitive Enterprises, with their business platforms and intelligent workflows, can be fundamentally enabled by hybrid multicloud applications and infrastructure. At its core, the cloud is designed for new business models.
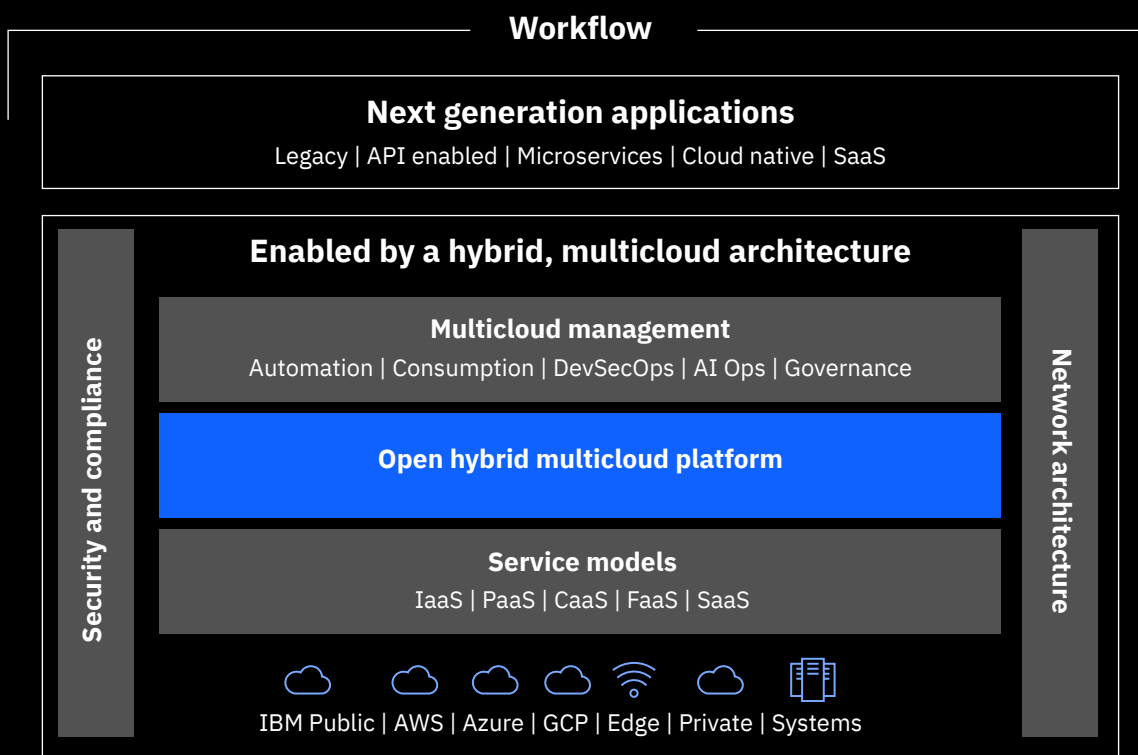
Hybrid cloud architectures straddle on-premises systems (such as mainframes), private clouds, and public clouds. Many organisations already have multiple environments. They are renewing legacy systems, although often in a piecemeal and limited way. However, enabling intelligent workflows at scale requires a broader architectural change (see Figure 4).

Intelligent workflows can have an assortment of underpinning enterprise applications, varying implementations of embedded exponential technologies, and evolving data architecture needs. Each of these can be enabled by a hybrid cloud environment.

Figure 4:

Dynamic orchestration with hybrid multicloud drives flexibility and speed

Workflow

Next generation applications
Legacy | API enabled | Microservices | Cloud native | SaaS

Enabled by a hybrid, multicloud architecture

Security and compliance

Multicloud management
Automation | Consumption | DevSecOps | AI Ops | Governance

Open hybrid multicloud platform

Service models
IaaS | PaaS | CaaS | FaaS | SaaS

IBM Public | AWS | Azure | GCP | Edge | Private | Systems

Network architecture

A cloud platform designed for financial services

IBM recently launched the IBM Cloud for Financial Services, a significant milestone in IBM's collaboration with Bank of America. Along with IBM Cloud Policy Framework for Financial Services, it establishes a new generation of cloud for enterprises with common operational criteria. It includes a streamlined compliance controls framework specifically for the financial services industry, allowing IBM's growing financial services ecosystem to transact with confidence.

"We have had great success with our proprietary, private cloud that currently houses the majority of our technology workloads," said David Reilly, Bank of America's Global Banking & Markets, Enterprise Risk & Finance Technology and Core Technology Infrastructure executive. "At the same time, we have been looking to identify a financial services-ready solution that offers the same level of security and economics as our private cloud with enhanced scalability. That's why we're partnering with IBM to create an industry-first, third-party cloud that puts data resiliency, privacy, and customer information safety needs at the forefront of decision making."

In developing the IBM Cloud for Financial Services, IBM collaborated with Bank of America and Promontory, an IBM Services business unit and global leader in financial services regulatory compliance consulting, to establish a set of cloud security and compliance controls as the basis of its policy framework. The IBM Cloud Policy Framework for Financial Services will allow financial institutions to confidently host key applications and workloads. Its aim is to deliver the industry-informed controls needed to operate securely with bank-sensitive data in the public cloud.[9]

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Fighting Fraud and Financial Crime

Meeting regulatory requirements today is a growing challenge. Increasing criminal sophistication and demands for timely intervention means that banks have large workforces that manually research prospective customers being on-boarded and investigate transaction alerts. Despite these efforts, falling behind in many of these activities is regularly cited as a challenge for banks and a contributor to poor customer experience.

Organisations are increasingly turning to intelligent worklfows, leveraging AI and automation to streamline the customer research activities, confirming details of business officers and owners, identifying adverse press reports, or triaging incidents through identification of valid or fraudulent activity patterns to reduce customer onboarding times or reduce false positives.
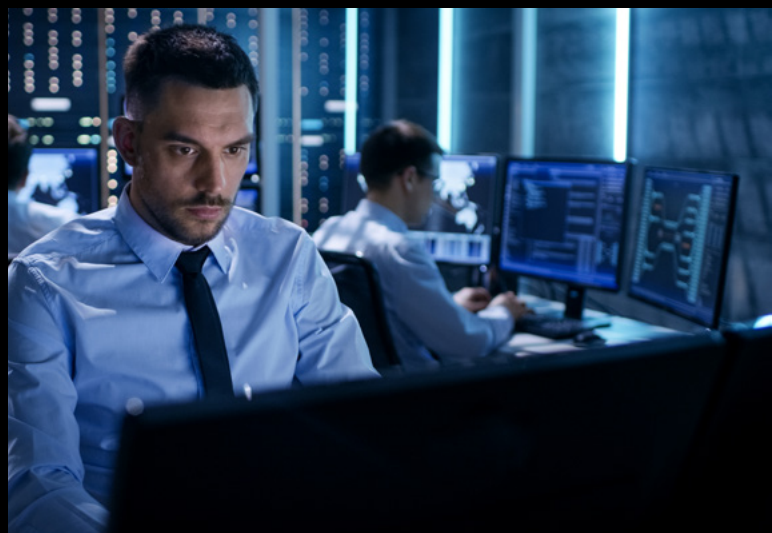
Action Areas to advance Enterprise Experience and Humanity

3. Enterprise experience and humanity

Ultimately, the success of these next-generation applications – and the platforms themselves – hinges on their human interface. Businesses need to create a new enterprise experience for employees, customers, and other stakeholders. Doing this requires human-centred design to seamlessly apply AI and other new technologies for the people who use and benefit from them, while also cultivating an agile culture.

Becoming a Cognitive Enterprise requires a new kind of leadership, emboldened by deep technology insights and new skills and culture to embrace the potential offered by exponential technologies. Perhaps the biggest challenge and opportunity to bring this vision to life lies in the capacity to make the necessary changes in the pools of expertise, mindsets, and ways of working.

To create a new enterprise experience, businesses need to:

— **Elevate human–technology partnerships** – embedding the enterprise experience everywhere; reshaping the customer, employee and ecosystem partner experience; and establishing a human-centred design.

— **Cultivate smart leadership, skills and culture** – developing leaders who have a combination of business and technology acumen, who can redeploy skills to support intelligent workflows, and who can create a culture that fosters continuous learning.

— **Perform with purposeful agility** – enabling the organisation to move quickly to reinvent its core and optimise value and time to market, while avoiding "agile chaos."

When it comes to skills and culture, three-quarters of the leading organisations in IBM's Global C-suite Study recognise something that others don't: that employees don't just need new skills to be comfortable working with data; they need new tools.

That need is now more urgent, as the pandemic has accelerated customers' use of digital channels and technologies. In fact, a recent study found that 75 per cent of people using digital channels for the first time indicate that they will continue to use them when things return to "normal."[10]

The pandemic has also highlighted the importance of employees having the right skills to support the accelerated digitalisation of financial sector services. IBM Your Learning responds to this need. This personalised learning platform can help employees regularly update and add to their skillsets. IBM Garage takes this approach further by embedding a culture of continuous learning throughout the organisation.

Creating the trust advantage

A key attribute of Cognitive Enterprises is that they foster a culture of trust in data. The IBM C-suite Study for Australia and New Zealand has highlighted that organisations that have truly learnt to trust their data drive better business outcomes. Clearly, when important processes, decisions, and customer and stakeholder interactions rely on automation and algorithms, the requirement for trust is vital. In Australia and New Zealand, 92 per cent of leading organisations – those that excel at extracting value from data – have a singular focus on how they use and safeguard data to strengthen customer trust.[11]

Global C-suite Study
20th Edition
Insights from Australia/New Zealand

IBM Institute for Business Value

Build Your Trust Advantage

Leadership in the era of data and AI everywhere

IBM

The IBM C-suite Study draws on input from 13,484 respondents – including 430 in Australia and New Zealand – across six C-suite roles, 20 industries and 98 countries.

69	67	90	80	64	60
Chief Executive Officers	Chief Financial Officers	Chief Human Resources Officers	Chief Information Officers	Chief Marketing Officers	Chief Operations Officers

3,363 Europe

3,755 North America

1,910 Greater China

858 Japan

915 Middle East and Africa

1,750 Asia Pacific

933 Latin America

430 Australia and New Zealand

New way of building: IBM Garage

IBM has created a new approach to digital transformation called IBM Garage. The Garage is designed to help organisations move at the speed of a startup and become Cognitive Enterprises.

In the Garage, IBM experts help organisations develop new business platforms, operating models and architectures at greater pace and lower risk – and benefit from continuous learning.

Start-up speed. Enterprise scale.

The Garage has a durable position in the full lifecycle of business change from Co-creation, through Co-execution and into Co-operation.

— **Co-create to envision the future** – Uncover a new business opportunity or drive critical new insights into an existing situation. Ideate with an organisation's entire ecosystem, or with relevant smaller squads, to co-create a visionary, compelling, and energising solution that fits within clear architectural guide-bars.

— **Co-execute to build out and scale up** – Expand and create additional squads to build out the team that will realise the future vision. Develop the MVP prototype into a first production-ready release and launch the solution into full production. At the same time, be ready to improve your solution based on what we learn from users and scale up rapidly with robust architectures.

— **Co-operate to iterate and continuously improve** – Keep sharpening and hardening your tools, architecture, and reliability, while monitoring and testing for continuous improvement. This leads to continuous delivery that is crucial to deeply transform your culture. Much of the work can be done with distributed squads throughout the enterprise.

The Garage provides the perfect vehicle for the building of the Cognitive Enterprise. It can help to define and build the market-making business platforms, reinvent and re-engineer the intelligent workflows, and create the enterprise experience where the humanity of the company is able to fully take advantage of the power of the exponential technologies at its heart.

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For more information

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