

# The Cognitive Enterprise

*The finance opportunity*

IBM Institute for Business Value

## Executive Brief

We are at the start of the next big shift in business architectures, driven by the pervasive application of exponential technologies, such as artificial intelligence (AI), automation, blockchain and the Internet of Things (IoT), to the core processes and workflows of organizations. This generational shift will take the digital wave that business and governments are currently surfing to the next level and transform the way that employees add value and corporations sustain their differentiation. The Cognitive Enterprise will leverage proprietary data, unique platforms and specialist expertise to achieve its goals. But what will the journey look like and what are the factors for success? Which business units or corporate function teams in the enterprise will drive the necessary transformation and manage resulting changes across the business?

In “The Cognitive Enterprise: Part 1 – The journey to AI and the rise of platform business architectures,” Mark Foster, Global Leader of IBM Global Business Services, described how business leaders can begin to explore these new business architectures. In this brief, Tony Menezes, Global Leader, Cognitive Process Re-engineering, IBM Global Business Services, and Bob Booth, Vice President and European Leader, Cognitive Process Re-engineering, IBM Global Business Services, examine the critical role of the finance function in an organization’s transformation into a Cognitive Enterprise.

## How IBM can help

To help clients succeed on the journey to become Cognitive Enterprises, IBM brings digital strategy and design ideas, cognitive process skills and assets, and cloud application and infrastructure capabilities. The power of Watson and the IBM Cloud – combined with our industry insights and end-to-end implementation and services expertise – can help organizations meet the opportunities and challenges of this next wave with speed and certainty. For more information about our reinvention offerings and skills, visit [ibm.com/gbs](http://ibm.com/gbs).

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## Finance's critical role in the Cognitive Enterprise evolution

*Exponential technologies have sparked the next wave in enterprise transformation, offering both challenges and opportunities for the enterprise. These technology advances are the catalyst for another sea change in business architecture design and a new era for the enterprise. The Cognitive Enterprise will aim for competitive advantage by embracing technology to leverage its unique assets and execute a platform model supported by ecosystem partnerships. The CFO and finance organization have a strategic role to play as stewards of the data, algorithms of measurements and validation of benefits, and thereby determining the success criteria for any Cognitive Enterprise initiative. The finance organization must also lead the way in transforming its own operational processes, curating proprietary data and reinventing its workforce to deliver on the expectations for real-time insights, on-the-spot forecasts and all-encompassing foresights. CFOs who accept the challenge can help their organizations grow, manage risk and ultimately achieve sustainable competitive advantage.*

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## Introduction

In our recent report “The Cognitive Enterprise: Part 1 – The journey to AI and the rise of platform business architectures,” we defined the next big shift in how organizations will emerge and the implications for business architectures enabled and driven by new and exponential technologies.<sup>1</sup> We also described how leaders can begin to explore and benefit from their organizations becoming Cognitive Enterprises, as well as what such enterprises do and how they compete.

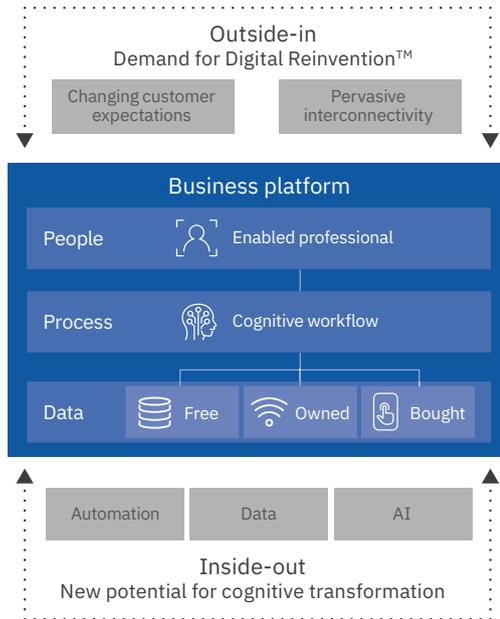
Most organizations are already exploring new business architectures brought about by exponential technologies and other market forces, but they need to engage their customers, employees and ecosystem partners thoughtfully, with intent and at scale. To gain a new – and possibly accelerating – competitive advantage, leaders need to drive cross-functional transformation and build the capabilities to create a Cognitive Enterprise. The results of this journey position organizations to cultivate superior customer experiences, engaged employees and optimized partner networks.

### **What we mean by the Cognitive Enterprise**

On the heels of digital trends that are starting to mature, the next wave beyond digitization has begun. The rise of new and exponential technologies – including AI, blockchain, the IoT, robotic process automation, virtual and augmented intelligence, 3D printing and others – is teeing up another era of business architecture change. We define the result of such revolutionary change as the Cognitive Enterprise.

**Figure 1**

Establishing a Cognitive Enterprise business platform



Source: IBM Global Business Services.

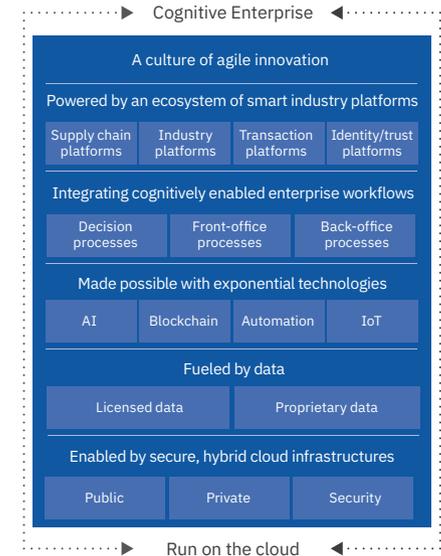
A Cognitive Enterprise will establish a *business platform* that leverages the differentiation in its *processes*, institutional knowledge of its *people* and exclusivity of its *data* to create competitive advantages and new business models (see Figures 1 and 2).

**Figure 2**

The Cognitive Enterprise is rooted in data and leverages the power of platforms

### How to transform into a Cognitive Enterprise

- Clarify intent of core platform focus.
- Re-engineer workflows to use cognitive capabilities.
- Reinvent the workforce proactively.
- Curate proprietary data actively.
- Secure data, processes and platforms end-to-end.
- Integrate agility across organizational boundaries.
- Revisit and adjust technology architecture choices continually.



Source: IBM Global Business Services.

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The business platform – or platforms – will provide new insights and capabilities that are targeted at either a) reinventing internal workflows; b) accelerating business transactions across the network of suppliers, business partners and distributors; or c) establishing new paradigms within a particular industry or across multiple industries. Industry incumbents will strive to establish, maintain or reestablish their leadership positions in their respective industries by developing and executing clear strategies that are anchored on:

- Cognitively enabled enterprise workflows supported by an agile and empowered workforce.
- Exponential technologies to supplement existing systems of records that provide an “inside-out” view of the enterprise and client engagement systems that provide an “outside-in” view of the enterprise.
- Data – centered on enterprise proprietary data but enriched with public and licensed data – that effectively integrates with data from ecosystem and network partners.

Results from the most recent IBM Global C-suite Study reveal the growing importance of the platform economy, with leaders of many organizations highlighting near-term plans to reallocate capital to platform business models.<sup>2</sup> In fact, 42 percent of Chief Financial Officers (CFOs) surveyed say their enterprises are operating, building or considering a platform model.<sup>3</sup> A successful platform strategy can offer the competitive advantage necessary for innovative incumbents to turn the tide on new entrants to the marketplace.

As the core platforms and new business architectures are established in a Cognitive Enterprise, meaningful changes will cascade throughout the organization. For example, the roles of the various corporate functions – such as customer care, human resources, finance, legal, marketing, procurement and supply chain – will also evolve and transform, as will the roles of individuals.

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### **KONE establishes business platform that propels new approach to service**

KONE Corporation, a global leader in the elevator and escalator industry, realized that global connectivity and real-time insights into equipment performance could help improve “people flow” in some of the world’s busiest buildings. KONE implemented a system that can leverage IoT and other AI technologies to capture data, analyze performance and optimize the uptime of thousands of elevators and escalators worldwide. The platform can use real-time data from KONE’s systems, historical records from the company’s engineers and equipment specifications to proactively predict maintenance needs and help improve equipment availability through reduced downtime, reduced faults and detailed performance information. The results are improved customer service and an enhanced user experience.

## The finance opportunity in a Cognitive Enterprise

According to the recent IBM Global C-suite Study, 74 percent of CFOs cite existential threats of some kind to their enterprise's current business model. Well over half of that 74 percent say their organizations face threats from competitors using innovative technologies or approaches (see Figure 3).<sup>4</sup> As a result, more organizations expect to continuously experiment and capitalize on new opportunities – often in tandem with other entities.

**Figure 3**

*CFOs identify existential threats to their enterprises' current business models*



*Source: IBM Global C-suite Study, 19th Edition, CFO Perspective. IBM Institute for Business Value. 2018. Q: How is your enterprise's current business model being threatened? Select all that apply (excluding exclusive choice).*

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Two-thirds of CFOs surveyed for our C-suite study confirm that their agenda includes taking an active role in developing strategy, driving growth, reducing costs, managing risks and providing insights. Yet, approximately half of CFOs report their finance organizations aren't as effective as they need to be.<sup>5</sup> Finance needs to engage and weigh in much faster on emerging opportunities. Meaningful business partnerships and alignment shape this new paradigm, with a degree of responsiveness enabled by improved curation and analysis of integrated enterprise and environmental data.

CFOs see participation in business platforms as a critical enabler to realize new opportunities, combat threats and transform the core of their business models. The role of CFO and the finance organization in supporting the Cognitive Enterprise transformation is to define the success criteria for these business platforms, recognizing that measurements are different and can cut across enterprise silos, supplier and business partner networks, and even broader in their industry.

The finance organization is the steward of the data, algorithms, metrics and benchmarks for the Cognitive Enterprise, and accordingly, it needs to assess the capital allocations in these platforms as strategic investments that will have material impact on the enterprise's results. As such, the CFO and the finance organization will play a leading role in the Cognitive Enterprise transformation, with a particular focus on the following imperatives:

- *Re-engineer workflows to use cognitive capabilities*, along with other technologies, to deliver solutions where and when needed.
- *Curate proprietary data actively* to capitalize on opportunities for monetization or competitive advantage.
- *Reinvent the workforce proactively*, creating a knowledgeable, agile, collaborative and empowered team to lead the organization into the future.

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*“We have implemented and established more digital platforms to expand our business partner networks, which has led to the transformation of our business models.”*

**Chief Financial Officer**, Telecommunications, Mexico

The finance organization itself is also a beneficiary of these exponential technologies and can lead the way in adopting these imperatives within its operations. The need for real-time insights, on-the-spot forecasts and all-encompassing foresights in ongoing operations has been accentuated with pervasive connectivity and customer expectations driving the Digital Reinvention™, the advent of the Cognitive Enterprise and a “new collar” workforce. In the following sections, we describe how finance organizations can adopt the above imperatives in their operations.

**Re-engineer workflows to use cognitive capabilities: *Reinventing finance processes***

To support the speed and flexibility needed by the Cognitive Enterprise, financial processes must be reinvented to replace transactional and decision support activities with automation and cognitive solutions, wherever feasible. According to our C-suite study, a majority of finance leaders understand the need for process reinvention, with 66 percent saying they are effective at streamlining and digitizing finance operations.<sup>6</sup>

Component business modeling (CBM) is useful in analyzing enterprise processes and identifying areas for reinvention.<sup>7</sup> Finance processes can be broken down using a CBM framework that identifies areas that can be re-engineered by AI and automation technologies (see Figure 4).

Our C-suite study data reveals that significantly more finance leaders than their peers have optimized their processes with digital technology, for example 68 versus 51 percent in order-to-cash, 65 versus 46 percent in procure-to-pay, and 58 versus 33 percent in financial planning and analysis (FP&A). Moreover, these leaders have extended their capabilities to full digital collaboration with external entities in areas such as treasury management, external financial reporting and fixed assets.<sup>8</sup>

**Figure 4**  
Disruptive automation in finance

	Financial operations	Accounting close and consolidation	External financial reporting	Business performance management	Planning, budgeting and forecasting	Risk and compliance management	Treasury and investments	Tax management	Specialty services	Financial administration	
<b>Direct</b>	Financial procedures and business rules	Accounting policies and procedures Close coordination and scheduling	Financial disclosure requirements Investor relations management	Reporting procedures and rules Reporting framework KPI definition	Budget procedures and guidelines Strategic planning and target setting Operational planning Capital planning	Internal controls framework Enterprise risk framework	Liquidity planning Treasury procedures and rules Investment portfolio planning Investment procedures and rules	Tax compliance policies and procedures Tax strategies and planning	External financial audit requirements Audit objectives and planning M&A strategy Financial business strategy/corporate structure	Financial policies and procedures Financial systems architecture planning Self planning Data governance strategy and rules Finance service delivery model	<b>AI/Automation opportunity level</b>  High Medium Low <b>Bold indicates high shared services opportunity</b>
<b>Control</b>	<b>Operational reconciliation</b>  Finance policy monitoring Authority and limits delegation	<b>Financial reconciliation</b>  <b>Journal entry review and approval</b>	<b>Reporting compliance monitoring</b>  <b>Detective self-audit</b>  Financial statements approval	<b>KPI monitoring</b>  Business performance review/impact assessment Incentive comp integration	<b>Budget/forecast model design</b>  Budget policy monitoring Plan approval	<b>Operational reconciliation</b>  <b>Finance policy monitoring</b>  <b>Risk and compliance monitoring</b>	<b>Bank account reconciliation</b>  <b>FX exposure management</b>  <b>Portfolio performance monitoring</b>	<b>Tax compliance monitoring</b>	Audit recommendations monitoring M&A board approval M&A synergy monitoring	<b>Policy monitoring</b>  <b>Master data management</b>  <b>System architecture compliance</b>  <b>Service provider monitoring</b>  Staff performance and reviews	
<b>Execute</b>	<b>Payroll accounting</b>  <b>Tax and expense processing</b>  <b>Dispute/deduction accounting</b>  <b>Fixed assets accounting</b>  <b>Project accounting</b>  <b>AP/AR processing</b>  <b>Procurement</b>	<b>Pre-close execution</b>  <b>Consolidations</b>  <b>Intracompany/transfer pricing</b>  <b>Tax accounting</b>  <b>Periodic close performance</b>	<b>Financial statements preparation</b>  <b>Board reporting preparation</b>  <b>Regulatory reporting production</b>  Regulatory inquiries handling Investor relations support	<b>Management reporting</b>  <b>Business analysis and modeling</b>  <b>Cost accounting management</b>  <b>Scoreboard/dashboard creation</b>  Business case preparation	<b>Budget preparation</b>  <b>Forecast preparation</b>	<b>Risk reporting</b>  Risk scoring and evaluation Compliance and controls reporting	<b>FX transaction execution</b>  <b>Trading and settlement</b>  <b>Cash forecasting</b>  <b>Cash management operations</b>  <b>Portfolio management</b>  <b>Investment modeling</b>  <b>Equity/debt management</b>  Capital acquisition and securitization	<b>Tax return preparation</b>  <b>Tax research</b>  Tax inquiries handling Transaction-based tax advice	Internal audit execution Audit findings reporting M&A candidate identification M&A due diligence M&A deals execution Special projects/internal consulting	<b>Master data maintenance</b>  <b>Financial systems maintenance</b>  Staff development and retention Service provider management	

Source: IBM Global Business Services.

This is a dramatic shift in the way most organizations currently operate, where the human workforce is performing the majority of tasks with support from technology and systems. We have now reached a new level of capability – an era in which processes are executed by technology (the “digital workforce”) and enhanced by people (the “new collar” workforce).

This approach allows CFOs to reshape the target operating models of their finance organizations, where past debates on centralized versus decentralized, customized versus standardized and insourced/onshore versus outsourced/offshore have fewer tradeoffs. Process-wise, Lean, Six-Sigma and Kaizen methodologies are still applicable, but the inclusion of other approaches like design thinking, agile and “working in squads and delivering minimal viable products (MVPs) in sprints” will become a critical differentiator.

Engaging the business owners early and often in the process redesign, while leveraging cognitive technologies, mobile application and data, will make information available where and when needed, enhance business decisions support and eliminate numerous processes. At the same time, many manual tasks in the remaining redesigned processes can be fully automated, freeing up talent time to better understand what is happening outside and across the organization. The opportunities are substantial, and the margins for improvement are significant – not just in efficiencies, but in user engagement and quality of services. Many organizations have stalled at the pilot stage of applying these technologies. The key to forward movement is to forge a partnership with the CIO to develop a holistic vision for applying these technologies and a clear view of how to start and scale.

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**Curate proprietary data actively: *Revealing business insights***

Data – the new “natural resource” of the Cognitive Enterprise – can be a source of enormous competitive advantage when leveraged effectively. The CFO should serve as the evangelist for a data-first culture and collaborate across the C-suite to treat data as an asset that can be monetized. In this environment, a loss or breach of data can be disastrous to an organizations’ reputation, wiping out years of effort and brand value. CFOs must estimate the financial damage of these potential issues and forecast the impact to the income statement, balance sheet and cash flow statement.

Decision making relies on accurate and timely data and a common understanding of the facts. Data integrity and authenticity are even more critical with business networks that share data beyond the enterprise. Our research indicates finance leaders have mastered the adoption of a standard chart of accounts and common finance data definitions.<sup>9</sup> The CFO now needs to help the business apply the same rigor that is applied to the financial reporting cycle to the management of structured and unstructured data and production of decision-making reports.

Effectively leveraging data to reveal business insights can lead to benefits across the enterprise. For example, the ability to capitalize on proprietary data and cognitive technologies creates an opportunity to monetize proprietary data and pursue new revenue sources, as demonstrated by McLane Company (see sidebar: *McLane leverages advanced analytics, cognitive computing and proprietary data to create new revenue stream*). It can also offer insights to help improve marketing activities and customer experience.

**McLane leverages advanced analytics, cognitive computing and proprietary data to create new revenue stream**

McLane Company is one of the largest supply chain services leaders, providing grocery and foodservice supply chain solutions for convenience stores, mass merchants, drug stores and chain restaurants throughout the United States. With the help of advanced analytics models, the company is launching a new line of business, selling ad space on its large fleet of distribution trucks using “geo-fenced” trailers. McLane also plans to leverage geospatial analytics to gain new marketing insights based on the data it gathers.

Deriving value from data will demand that finance master new forms of complex data with a greater sense of urgency (see Figure 5). Data offers visibility into the ecosystem and network, while blockchain technology can enable the establishment of multiple network platforms between enterprises, suppliers, distributors and clients, with applications on these platforms that support straight through processes. Our research indicates finance leaders have become particularly adept at ecosystem advantage, partnering with organizations in their value chain and even collaborating selectively with competitors.<sup>10</sup>

**Figure 5**

*Cognitive computing has a dramatic impact on enterprise information demands*

	 Traditional	 Cognitive
Information elements	<ul style="list-style-type: none"> <li>– Finance transactional</li> <li>– Volumetric/statistical</li> </ul>	<ul style="list-style-type: none"> <li>– Social</li> <li>– Demographic</li> <li>– Economic</li> <li>– Meteorological</li> </ul>
Information types	<ul style="list-style-type: none"> <li>– Structured</li> <li>– Rule-based (GAAP, IFRS)</li> </ul>	<ul style="list-style-type: none"> <li>– Unstructured</li> </ul>
Information time horizon	<ul style="list-style-type: none"> <li>– Periodicity</li> <li>– Quarterly, yearly historic</li> <li>– 12-month planning</li> </ul>	<ul style="list-style-type: none"> <li>– Real-time</li> <li>– Predictive</li> </ul>
Information lead times	<ul style="list-style-type: none"> <li>– SEC calendar driven</li> </ul>	<ul style="list-style-type: none"> <li>– Immediate</li> <li>– Anticipatory</li> </ul>
Information uses	<ul style="list-style-type: none"> <li>– Historic</li> <li>– Explanation/attribution</li> </ul>	<ul style="list-style-type: none"> <li>– Strategy development and adjustment</li> <li>– Revenue growth</li> <li>– Anticipate events</li> </ul>

Source: Fuessler, William, Spencer Lin, and Carl Nordman. "The cognitive CFO: How 'leaders' are increasing finance IQ." IBM Institute for Business Value. May 2017; IBM Global Business Services.

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### **Reinvent the workforce proactively: *Becoming business advisors***

As a finance organization integrates a digital workforce based on AI and robotic process automation to perform activities across the spectrum of value – transactional to decision support – it needs to retrain and shift its workforce to higher-value services for its business units. This “new collar” workforce will be substantially more client centric and adept in bringing solutions to business issues, whether developing new business models, interpreting decision support outputs from multiple digital workforce sources or analyzing trends that cut across networks in the industry.

Many organizations marginalize the value of FP&A by relegating it to data gathering, reconciling and formatting. However, they can unlock this talent by investing in common certified data sources and predictive analytical tools that enable FP&A to anticipate events. In addition, aligning FP&A to the business enables finance to develop the relationships and acumen needed to understand the business model and key drivers. This contextual understanding helps finance sort through growing volumes of structured/unstructured data to discern what’s relevant.

CFOs and their leaders need to make deliberate efforts in transforming and retraining their workforce. They should recognize any shortage of skills within their organization and consider a range of options internally or externally to shift their workforce. Required specialized skills include analysis, visualization, security, mobile, social, machine learning and modeling.<sup>11</sup>

While all organizations face the skills challenge, some are better positioned than others. For example, 70 percent of finance leaders surveyed for our C-suite study have developed the analytical talent in their finance organization to partner with the business, compared to just 42 percent of their peers.<sup>12</sup> The seismic shift in the ways technologies change the human role in workflows and processes and the growth of digital workers mean that talent and reskilling will become an urgent element of any CFO agenda.

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### **Canada Mortgage & Housing Corporation’s culture of innovation enables shift in workforce**

Canada Mortgage & Housing Corporation (CMHC) helps Canadians meet their housing needs and offers objective research and advice to the government. CMHC’s highly skilled analysts were spending more time manually joining, preparing and fixing data than analyzing it, leaving a large pool of unstructured content that was not used for analytics of any kind. In a quest for new efficiency and business value, CMHC embarked on a multi-year technology and business transformation to implement state-of-the-art technology and real-time access to centralized, quality data. This transformation aimed to allow CMHC to better anticipate and understand the needs of Canadians and develop more effective strategies to meet those needs by enabling employees and streamlining processes. Now, CMHC is poised to become a truly insight-driven organization, currently developing advanced analytics models for a multitude of business opportunities.

### **Actions to get started on the finance opportunity**

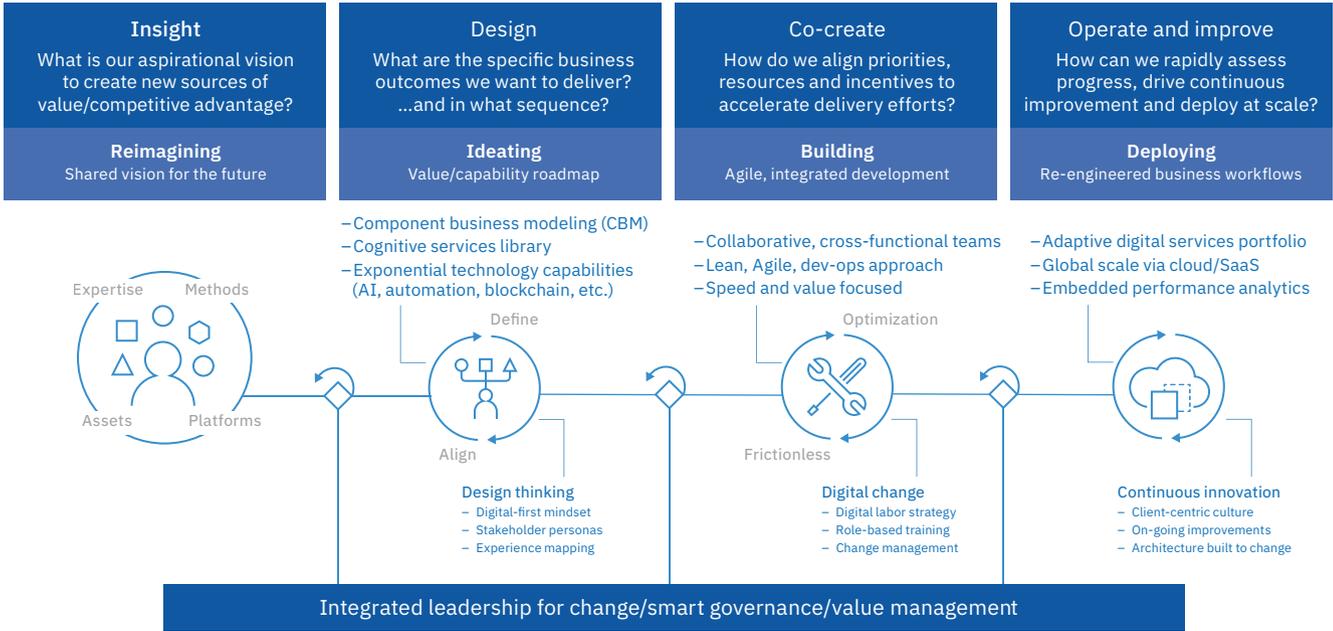
- Engage C-suite executive sponsor to define project and develop the case for change.
- Invest in “garage” methodology to identify, prioritize and deploy core platform(s) for your enterprise.
- Strengthen discipline around data – ownership, currency, accuracy and security.
- Implement change management strategies and workforce training and reskilling initiatives to optimize results.
- Establish governance to validate all measurements, business case gates and enterprise value.
- Lead by re-engineering finance processes, curating financial data and reinventing finance function workforce.

## **Next steps**

Any Cognitive Enterprise transformation requires a C-suite executive sponsor, especially as these initiatives cut across the organization. In driving the finance agenda, the CFO should serve as an executive sponsor who brings together leaders from lines of business, finance, IT and operations. Many leading companies have attempted to establish centralized innovation teams (such as task forces and centers of excellence) to accelerate understanding and adoption of these solutions. Yet, these teams can be improved to drive business leaders’ ownership of ideas and change required, inspire employees to be part of the future state and align resources to create one team.

The “garage” concept supports enterprises going through a business transformation “inside out” by aligning to the organization’s strategic business imperatives (see Figure 6). This approach helps ensure buy in to the reinvented workflows by incorporating design thinking and agile development of MVPs in pilots involving key stakeholders in the organization, as well as agreed to business cases and roadmaps of re-engineered processes, technology and operating teams.

**Figure 6**  
*The “garage” model drives continuous innovation*



Source: IBM Global Business Services.

A garage is underpinned by a governance model that helps ensure the initial outcomes drive adoption across the enterprise and deliver sustainable value within the organization and across its ecosystem and network partners. The pace at which the program roadmap and milestones are developed and the resulting business case materializes is dependent on each enterprise (see Figure 7). Ultimately, the garage is an innovation hub that helps amplify business impact and accelerate time-to-scale in the cognitive era.

**Figure 7**

*Representative milestones in transformation journey*

	Initial outcome from garage	Driving adoption across enterprise	Cognitive Enterprise at scale
Re-engineer workflows to use cognitive capabilities	<ul style="list-style-type: none"> <li>– Identify workflows within finance to reinvent with cognitive computing technologies.</li> <li>– Build and deploy initial project to prove value.</li> </ul>	<ul style="list-style-type: none"> <li>– Define roadmap for workflows to re-engineer within enterprise and across ecosystem/network partners.</li> <li>– Establish governance to accelerate adoption and technology standards and to drive business cases.</li> </ul>	<ul style="list-style-type: none"> <li>– Core platform(s) is established for enterprise and ecosystem workflows that reduces “friction” and facilitates “straight through” e2e processes and establishes industry eminence.</li> </ul>
Curate proprietary data actively	<ul style="list-style-type: none"> <li>– Inventory proprietary data – existing and new sources – that provide differentiation across enterprise.</li> <li>– Establish policies for data access in enterprise and ecosystem partners.</li> </ul>	<ul style="list-style-type: none"> <li>– Ensure data governance deployed, including provenance and accuracy.</li> <li>– Identify proprietary data that can be monetized and leveraged in commercial models.</li> </ul>	<ul style="list-style-type: none"> <li>– Data-driven business decisions are incorporated into cognitive and automated workflows.</li> <li>– New offerings and revenue sources are developed from monetizing proprietary data.</li> </ul>
Reinvent the workforce proactively	<ul style="list-style-type: none"> <li>– Define the finance organization in a Cognitive Enterprise and determine necessary roles and skills.</li> </ul>	<ul style="list-style-type: none"> <li>– Conduct skills assessment and develop training programs for target organization.</li> </ul>	<ul style="list-style-type: none"> <li>– An agile, knowledgeable and client-centric workforce that provides business decision support, supplemented by digital workforce performing transactional services, is established.</li> </ul>

Source: IBM Global Business Services.

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## Summary

A critical part of becoming a Cognitive Enterprise involves establishing a business platform that encompasses people, process and data, as well as building on any previous investments the organization might have made related to Digital Reinvention and core enterprise systems. Exponential technologies like AI, automation, blockchain and IoT enable organizations to re-engineer workflows, leverage their vast amounts of proprietary data and create platform-centric business models to establish themselves as incumbent disruptors in their industry.

Getting started requires strong and visible senior executive sponsorship, as well as a commitment to adopt design thinking and agile development methods that require participation from all affected stakeholders. Another essential step involves interactive and iterative engagement with the workforce, supported by requisite change management programs. Rapid deployment is also important and can be facilitated with a roadmap of incremental functionality that is mapped to the business case and includes a timeline to scale. Finally, comprehensive governance of participation, data integrity, measurements and validation of benefits is critical.

The CFO and finance organization have a strategic role to play across their enterprise in defining the success criteria and acting as stewards of the data, algorithms of measurements and validation of benefits for any Cognitive Enterprise initiative. The finance organization must also lead the way in its enterprise by transforming its operational processes, curating proprietary data and reinventing the workforce to deliver on the expectations for real-time insights, on-the-spot forecasts and all-encompassing foresights. CFOs who accept the challenge can help their organizations grow, manage risk and ultimately achieve sustainable competitive advantage.

### For more information

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