Race to Reinvent for Multiplied Innovation

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#IDCFutureScapes
Race to reinvent
The race is on
Future of work

By 2025, 50% of progressive DX organizations will have a high-performing workforce. This workforce will comprise of self-managing, metric-driven and digitally determined teams with the ability to create and deliver 10x market impact ideas/innovations.

The workforce of the future will increasingly be distributed and intelligent machines and humans working together.

The workspace of the future will increasingly be anytime, anywhere, and a mix of physical and virtual spaces but ensure security and compliance.

The workculture will be even more borderless, collaborative and innovation focused, with culture as the defining character that enterprises will utilize to compete.
Digital disruption is just around the corner

Source: IDC 3rd Platform and Douyin
“Who will be your customers in the future?”
Co-creation/innovation is an important part of the race
**Future of commerce**

<table>
<thead>
<tr>
<th>Type of business model innovation</th>
<th>Today: Business model parameters</th>
<th>Future of Commerce: Additional factors in business model parameters</th>
<th>Primary impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>Information-driven value chains</td>
<td><strong>Key resource</strong>&lt;br&gt;Employees</td>
<td><strong>Key resource</strong>&lt;br&gt;Crowdsourced assets</td>
<td>Improved organizational awareness and responsiveness</td>
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<td><strong>Key partners</strong>&lt;br&gt;Outsourcing service providers</td>
<td><strong>Key partners</strong>&lt;br&gt;Crowdsourced workforce</td>
<td>New revenue streams, and augmented products and services</td>
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<td><strong>Key activities</strong>&lt;br&gt;Sourcing</td>
<td><strong>Key activities</strong>&lt;br&gt;Real-time sensing</td>
<td>Deepen customer insights, and increase advocacy</td>
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<tr>
<td>Information-based products and services</td>
<td><strong>Customer relationships</strong>&lt;br&gt;Advertising and promotions</td>
<td><strong>Customer relationships</strong>&lt;br&gt;Assisted purchase</td>
<td>Transform customer relationships into partnerships</td>
</tr>
<tr>
<td></td>
<td><strong>Customer segments and channels</strong>&lt;br&gt;Online versus offline</td>
<td><strong>Customer segments and channels</strong>&lt;br&gt;Pervasive</td>
<td></td>
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<tr>
<td>Dynamic monetization</td>
<td><strong>Revenue structures</strong>&lt;br&gt;Sales of products and services</td>
<td><strong>Revenue structures</strong>&lt;br&gt;Outcome-based pricing</td>
<td></td>
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<td></td>
<td><strong>Revenue structures</strong>&lt;br&gt;Subscription fee</td>
<td><strong>Revenue structures</strong>&lt;br&gt;Behavior-based pricing</td>
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Race to reinvent for multiplied innovation requires digital determination

- **Digitally distraught**
  - DX initiatives are tactical and disconnected from enterprise strategy
  - 10.6%

- **Digitally determined**
  - DX initiatives are initiated at the functional or LoB level with some connection to enterprise strategy
  - 24.9%

  - DX initiatives are tied to enterprise strategy but with short-term focus
  - 24.9%

  - Integrated, continuous enterprise-wide DX innovation is in place with operations and customer/service experiences
  - 28.3%

  - The enterprise strategy is to use DX to transform markets and customers by creating new business models and products/service
  - 11.3%

Source: IDC WW DX Executive Sentiment Survey, 2018 (APeJ) N=1,011; 776 CIO/CTO/CISO and 235 CEO/LoB; Q2, Q5
Defining digital determination

To be one of the digitally determined, it requires more than tenacity; it requires a blueprint that consists of the following four elements:

**A single enterprise strategy.**
All digitally determined organizations rally around a single strategy as opposed to organizations who are trying to coordinate multiple digital strategies rooted in the various lines of business and functional areas.

**A long term investment strategy based on the principle digital is inherently valuable to the business.**
Digitally determined organizations are more likely to fund their digital transformation through a capital budget as opposed to a short-term funding mechanisms.

**Resoluteness to make required organizational and cultural changes.**
Digitally determined organizations are two times more likely to have digital embedded throughout the organization as opposed to residing in a central digital group.

**A single digital platform to scale technology innovations.**
Digitally determined organizations are focused on scaling digital operations and therefore are working towards a single digital platform.
Here’s an industry example in the race to reinvention
The race to reinvent is the race to become a digital native enterprise

A digital native enterprise (DNE) is able to **scale its operations and innovate at a pace that is an order of magnitude greater than traditional businesses.** It is driven by a customer-centric and empowered workforce that embraces risk taking as it seeks to continuously innovate. **Technology and data** are its lifeblood, fueling more efficient operations, new revenue streams and customer loyalty.

Digital disruption is business as usual. A DNE adopts an “outside in” approach, leveraging its ecosystem of stakeholders (i.e. customers, partners, employees, community) to dynamically evolve offerings and even its business model.

Source: CxO Conversations 2018
**Determination**

By 2020, at least 55% of organizations will be digitally determined, transforming markets and reimagining the future through new business models and digitally enabled products and services.

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**Impact on technology buyers**

- Envision your future technology architecture that underpins DX initiatives in the enterprise. Data will increasingly become a critical core of your platform. Foundational IT services do not go away. There is still a need for IT governance, architecture, integration, and development services.

- Assess your DX platform requirements to ensure that your digital IP is kept inhouse to deliver scale and agility. You should be looking to constantly review this mix to optimize value derived from new use cases and capabilities.

Source: IDC FutureScapes 2019 – Prediction #1 of DX (Nov 2018); DX Awards (DXa) 2018 Program
Determination

The digital determination blueprint

Strategy
A single strategy

Financials
Inherent value

Platform
Integrated for scale

Organization structure and culture

Source: IDC FutureScapes 2019 – Prediction #1 of DX (Nov 2018); CxO Conversations
Data monetization
By 2020, 60% of large enterprises will create data management or monetization capabilities, thus enhancing enterprise functions, strengthening competitiveness, and creating new sources of revenue.

- Data management capabilities are prerequisite to the enterprise's ability to ingest data in an increasingly larger volume at a faster pace.
- Embrace edge computing innovation with an intelligent core.
- Structure the data team as a customer-centric business and leverage a product management approach.

Impact on technology buyers

- 65% of organizations across Asia/Pacific are creating data management capabilities.
- 40% of organizations across Asia/Pacific are creating data monetization capabilities.
- By 2021, organizations on average expect 22% of their revenues will come from data monetization.

Source: IDC FutureScapes 2019 – Prediction #4 of DX (Nov 2018); WW DX Executive Sentiment Survey, 2018 (APeJ N=1,011; 776 CIO/CTO/CISO and 235 CEO/LoB); Q20, Q11; * large = 1,000 employees in APeJ/at least US$1b in group revenue
Data monetization

New investments

Ecosystem-based

New players

Source: IDC FutureScapes 2019 – Prediction #4 of DX (Nov 2018); DX Awards (DXa) 2018 Program
Digital KPIs
By 2023, 80% of entities will have incorporated new digital KPI sets - focusing on product/service innovation rates, data capitalization, and employee experience - to navigate the digital economy.

Source: IDC FutureScapes 2019 – Prediction #10 of DX (Nov 2018); WW DX Executive Sentiment Survey, 2018 (APeJ N=1,011; 776 CIO/CTO/GISO and 235 CEO/LoB); Q2, Q24
### “Making Banking Joyful” KPIs

<table>
<thead>
<tr>
<th>Digital Transformation &amp; Systems</th>
<th>Target</th>
<th>Outcome</th>
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<tbody>
<tr>
<td>Leverage ecosystems and our digital footprint to grow digital interactions with customers</td>
<td>We launched the world’s largest banking application programming interface (API) developer platform, making available a wide array of APIs for external partners to plug into. We have since published over 180 APIs and connected with more than 60 partners. We grew our digital footprint, broadened access to customers, increased our social media fanbase by 15% to 8 million and grew engagements by 12 million through the SPARKS mini-series.</td>
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**Acquire**

<table>
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<tr>
<th>Grow number of customers acquired digitally</th>
<th>Grow digital acquisition of customers and increase digital channel share</th>
<th>Channel share of retail products sold digitally (5)</th>
</tr>
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<tbody>
<tr>
<td><strong>43%</strong></td>
<td><strong>52%</strong></td>
<td>2016: 43%, 2017: 52%</td>
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</table>

(5) Includes digitally-assisted channels for bancassurance

Growth in digibank India

Over 1.8 million customers acquired since launch

Channel share of SMEs acquired digitally in Singapore
| Value created from digitalisation (Consumer and SME, Singapore and Hong Kong) | In 2017:
(6) A digital customer has either (within the past 12 months): (i) made a product purchase or segment upgrade via a digital channel; (ii) done more than 50% of financial transactions via digital channels; (iii) done more than 50% of non-financial transactions via digital channels |
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<tr>
<td>Drive digital customers' income (Consumer and SME, Singapore and Hong Kong)</td>
<td>The income from digital customers increased 21% yoy. In addition, the income of a digital customer was two times the income of a traditional customer.</td>
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<tr>
<td>Reimagining customer and employee experiences</td>
<td>Drive journey thinking and demonstrate outcomes from journeys started in 2016</td>
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<td>448 journeys across the bank, with 71% of them delivering or having delivered outcomes during the year. In total, 1.1 million customer hours and 327,000 employee hours were saved. Many of these journeys leverage data analytics to make banking joyful for both customers and employees.</td>
</tr>
<tr>
<td>Creating a start-up culture</td>
<td>Inculcate a start-up culture and mindset</td>
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<td></td>
<td>We made good progress, with many of our people embracing a spirit of experimentation and innovation through immersion programmes, experiential learning platforms and ecosystem partnerships. During the year, over 15,000 employees were involved in immersion programmes such as hackathons, incubators, accelerators and partnerships with the</td>
</tr>
</tbody>
</table>
Digital twin
By 2020, 30% of A1000 companies will have implemented advanced digital twins of their operational processes which will enable flatter organizations and one third fewer knowledge workers.

Impact on technology buyers
- Model building will be the domain of the line of business, but IT will be expected to provide tools and data science expertise to make the digital twins consistent and scalable.
- Deploy the digital twins on scalable but elastic infrastructures. Invest in automation in order to optimize storage and compute costs and reliability.
The digital twin value chain

**Digital visualization**
For ideation and innovation, collaboration with customers and suppliers, and visualization of processes

**Digital development**
For internal design and development, manufacturing, service and maintenance at a workgroup level

**Digital twin enterprise**
For enterprise-wide internally focused visibility and collaboration

**Digital twin ecosystem**
For real-time product and asset operation and improvement, extended to customers, partners and suppliers

**Digital twin orchestration**
For real-time visualization, visibility, and decision support across a complementary network of digital twins for products, assets, facilities and plants

Lightweight → Detailed, networked

Source: CxO Conversations 2018
Connectivity

By 2021, driven by LoB needs, 60% of CIOs will deliver "agile connectivity" via APIs and architectures that interconnect digital solutions from cloud vendors, system developers, startups, and others.

Impact on technology buyers

- Plug and play capabilities ease complexity for LoB but increase complexity for IT, and automated capabilities are needed to manage APIs and services at scale. Reduction in time to operation/market in customer or business-facing app integration and/or development.
- CIOs need to create center of excellence for LoB developers to ensure architecturally compatible, secure, and scalable development. Similarly, IT architects and developers will need to change their ways of thinking to design and develop flexible, extensible, and open DX platforms that support the development and operation of digital apps, products, and services.
- Investments in self-service, fully automated, and seamless intelligent connectivity will be necessary to achieve the scope, scale, and reach necessary to support enterprise DX.
- LoB executive satisfaction with platform and integration capabilities.
- Business revenue or cost reduction from LoB acquired apps or systems that are API enabled.

Source: IDC FutureScapes 2019 – Prediction #1 of CIO Agenda (Nov 2018); DX Awards (DXa) 2018 Program
Connectivity
Platforms
By 2021, prominent in-industry value chains, enabled by blockchains, will have extended their digital platforms to their entire omni-experience ecosystems, thus reducing transaction costs by 35%.

Impact on technology buyers
• CIOs will need to establish a data management strategy that balances business priorities with security parameters but allows their respective organizations to participate effectively in these in-industry data marketplaces.
• The shift to towards these platform-enabled data driven marketplaces is a business model transformation, and it requires the CEO and board level engagement to frame the new world of data monetization linked to the platform-driven economy.
• While participation in blockchain data marketplaces are key to reduce data transaction costs, competition for blockchain digital skills will become fiercer. M&As are expected to rise in this space even the lack of expertise.
In the next 5 years, the number of “digitally determined” organizations with a fully integrated enterprise-wide technology architecture will grow from 20% to nearly 60%.

Source: CxO Conversations 2018
IT governance

By 2021, 45% of CIOs will expand agile/DevOps practices into the wider business to achieve the velocity necessary for innovation, execution, and change.

• Expanding agile governance into the wider business helps IT and LoB organizations to work more closely enabling the enterprise to respond to market changes through adaptation. Improvement in agile-enabled product and deliverable quality as measured by stakeholders.

• IT needs to be “fully agile” in culture, practices and thinking to promulgate agile governance to the enterprise. Improvement in success rates for agile initiatives versus traditional waterfall projects.

• Number of non-IT teams using agile practices in lieu of traditional project management.

Impact on technology buyers

Source: IDC FutureScapes 2019 – Prediction #9 of CIO Agenda (Nov 2018); CxO Conversations 2018; APeJ Software Survey 2018 (N=910)
IT governance

Source: IDC FutureScapes 2019 – Prediction #9 of CIO Agenda (Nov 2018); DX Awards (DXa) 2018 Program; CxO Conversations
Expand to the edge
By 2022, over 30% of organizations’ cloud deployments will include edge computing, and 25% of endpoint devices and systems will execute AI algorithms.

Impact on technology buyers

- Businesses will increasingly compete on their ability to gain immediate access to data, and to quickly drive "next best decisions", typically in real-time. Data at the edge must be available for some level of processing locally, as well as secondarily at more central data centers. Since edge-located compute must have a small footprint and work reliably and affordably without much human interaction, organizations – with the help of next-generation IT solutions - will need to become competent at optimizing for this new model of distributed data and compute.

- As AI services migrate out to the edge, AI-enabled endpoint devices will increasingly be the way AI is consumed by enterprises' employees and customers. Every enterprise must therefore determine which relevant endpoint devices to include in their business models, as well as how to provide these devices with increasing levels of intelligence and link them to the core infrastructure. This involves developing a complex network of interacting systems for AI training, inferencing, and retraining.

- When IT is managing services across a variety of locations, remote monitoring and automation are imperative to keep operating costs under control. Incorporate applications with autonomous capabilities and some form of self-healing, including failing over the nearby nodes, to ensure users maintain access.

Source: IDC FutureScapes 2019 – Prediction #3 of IT Industry (Nov 2018)
Expand to the edge
Resilience
By 2020, 55% of CIOs will initiate a digital trust framework that goes beyond preventing cyberattacks and enables organizations to resiliently rebound from adverse situations, events, and effects.

Impact on technology buyers

• Prevention is not enough; every enterprise will be attacked or impacted by adverse events and CIOs must lead efforts to build resilience for response and recovery.
• Security products and solutions must be complemented with adaptive processes that respond to the changing nature of attacks. Bolster “sense and respond” measures with proactive approaches to security.
• Security and trust are attributes of the business, so IT has a significant stake in brand and reputation management.
• Make security a highly visible and vital part of all IT and LoB workers’ job responsibilities.
• Build resiliency by simulating attacks and testing responses on an ongoing basis.

Source: IDC FutureScapes 2019 – Prediction #6 of CIO Agenda (Nov 2018)
Resilience

CISOs’ most trusted market segments

Source: IDC FutureScapes 2019 – Prediction #6 of CIO Agenda (Nov 2018); IDC WW Digital Trust Survey, 2018 (APeJ N=402); DX Awards (DXa) 2018 Program
IT operations
Compelled to curtail IT spending, improve enterprise IT agility, and accelerate innovation, 60% of CIOs will aggressively apply data and AI to IT operations, tools, and processes by 2021.

Impact on technology buyers

- Automation frees up IT resources for enterprise DX initiatives and IT transformation, but operations personnel will have to be reskilled for new technologies and practices including machine learning and new change management approaches. % improvement in throughput in areas where AI/data have been applied.
- Ensure that change management capabilities are solid and effective as key IT operations and processes are automated.
- Don’t just automate: rethink operations and processes in the context of data and AI-based optimization and potential changes in enterprise service needs.
- Capture lessons learned in automating IT to build competencies for enterprise DX so IT talent can move seamlessly among IT, LoB, and enterprise DX initiatives. % of no. of IT staff members shifted to new, higher value DX roles or reduction in IT staff supporting infrastructure operations.

According to research by Jordan Erlin of Duke University and Cassie Magilner of the Wharton School, some variety throughout a workday leads to increased happiness, likely tied to a greater sense of stimulation and productivity.
Which of the following enterprise software applications at your organization incorporate cognitive/AI functionality?

- IT operations: 50%
- Business intelligence: 33.1%
- Customer service: 33.1%
- Data integration: 30.3%
- Enterprise resource planning: 24.7%
- Content management: 22.3%
- Sales and marketing: 18.3%
- Enterprise collaboration: 13.9%
- Human capital management: 11.4%
- Supplier relationship management: 7%

Source: IDC FutureScapes 2019 – Prediction #2 of CIO Agenda (Nov 2018); APeJ Cognitive AI Adoption Survey, 2018 (N=502)
“DX objectives must not be ambiguous and KPIs are needed to quantify outcomes.”
- SK Telecom CDO (South Korea)

“We’re pivoting now to data-driven, mass one-to-one marketing.”
- P&G CEO (US)

“It’s important to nurture the next generation as well as to bring the current generation up to speed with new technology capabilities.”
- Unika Atma Jaya CIO (Indonesia)

“It’s up to DX teams, the partnership, the leadership to recognize the challenge, have a view on it and agree on priorities, a roadmap sequence. Without the rigor of these discussions, the default is that business will go off on engaging their own technology partners which doesn’t necessarily integrate well into the enterprise, including lost opportunities because data are lost (in silos).”
- Fonterra CMO/CDO (New Zealand)

“Using quick-wins with limited capital outlay and narrowly focused SoW, we were able to quickly demonstrate the value of technologies in solving business problems. These early successes have gained buy-in from business leaders and changed the organizational culture towards technology and sparked conversations to reimagine digital possibilities in a broader scale.”
- Hung Hing Printing CIO (Hong Kong)

Source: IDC DX Awards (Dxa 2018) and CxO Conversations (permissions from respective brands required for any reprints/re-distributions)
Beyond 2023

Autonomy

Human-machine collaboration in the race to reinvent

**Job transformation and productivity accelerate**
New jobs born in Chapter 2 become mainstream, and productivity increases far faster than role destruction.

**New job processes**
As “sub-jobs” become automated, new components of jobs will be created and accelerated through collective learning.

**Smarter automation addresses more sophisticated problems**
Autonomy enables multiplied innovation at scale.

**New personal capabilities**
AI learns from you and helps you evolve personally and professionally.
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