



Scenarios for the Future of IT

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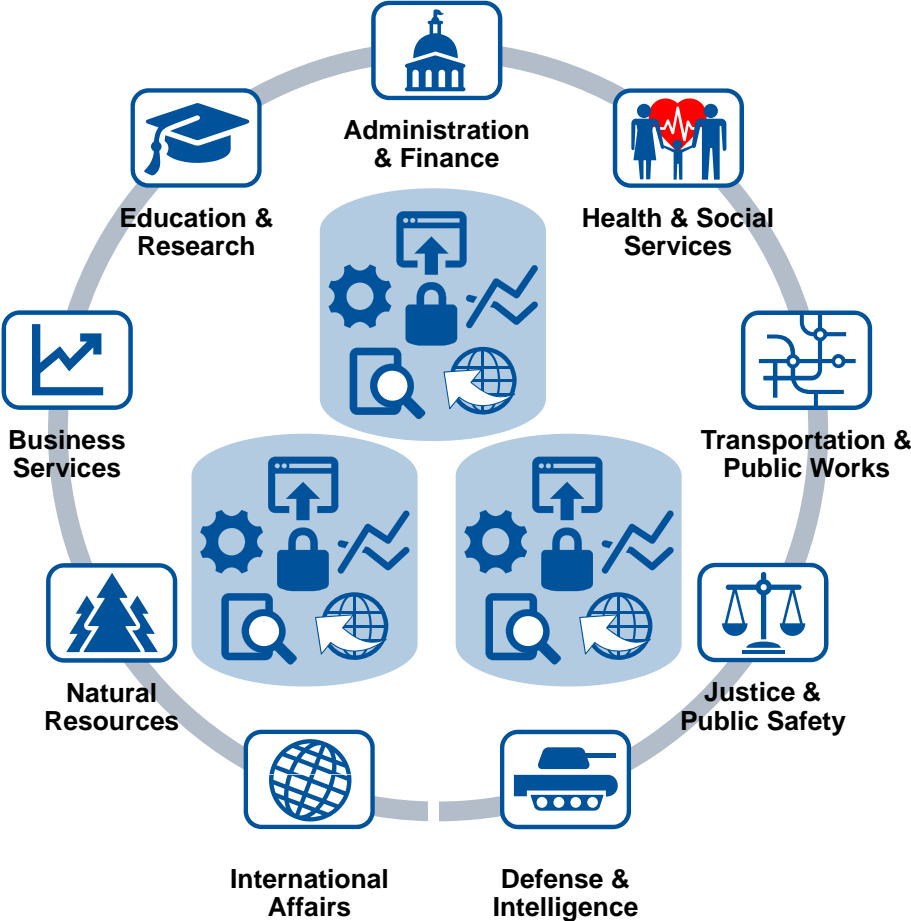
What Work Needs To Be Done? CIO Survey Data for Canada Public Sector

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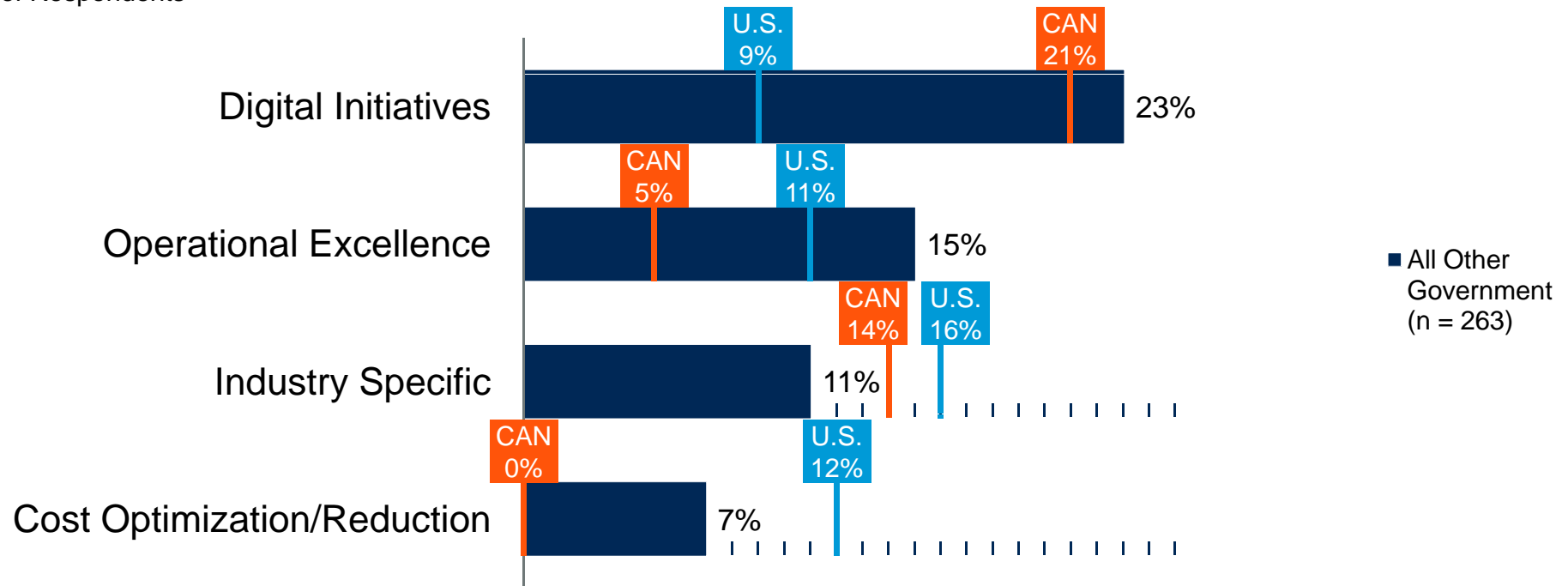
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Digital Government Is Designed to Coordinate Services Across Boundaries



Digital Initiatives and Mission Focus Are Top Priorities

Top Priorities for 2018 and 2019 — Government
Percentage of Respondents

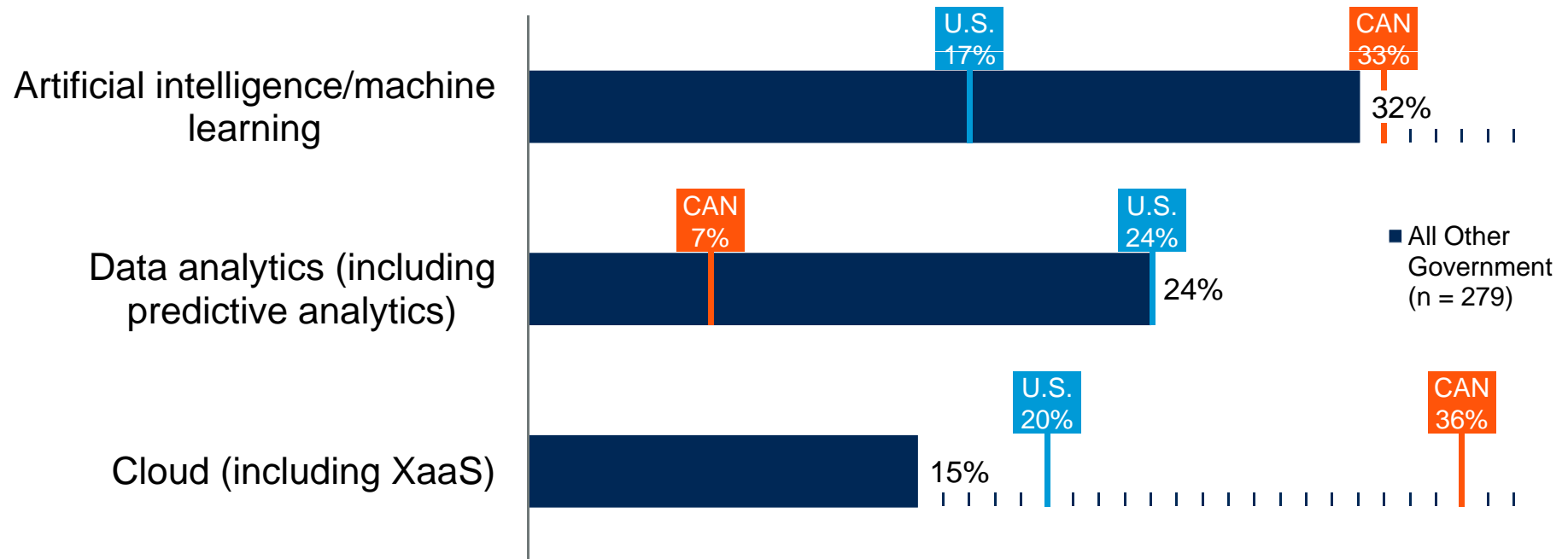


Q. What would you say is your organization's top priority for 2018 and 2019? Coded open-text responses, multiple responses allowed. Base: All answering, excluding prefer not to answer. n varies by segment. U.S: n = 162, CAN: n = 42

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Changing the Game With AI/ML, Data Analytics, and Cloud

Game Changing Technologies – Government Percentage of Respondents



Q. Which technology area do you expect will be a game changer for your organization?

Base: All answering, excluding prefer not to answer; n varies by segment. U.S.: n = 162, CAN: n = 45

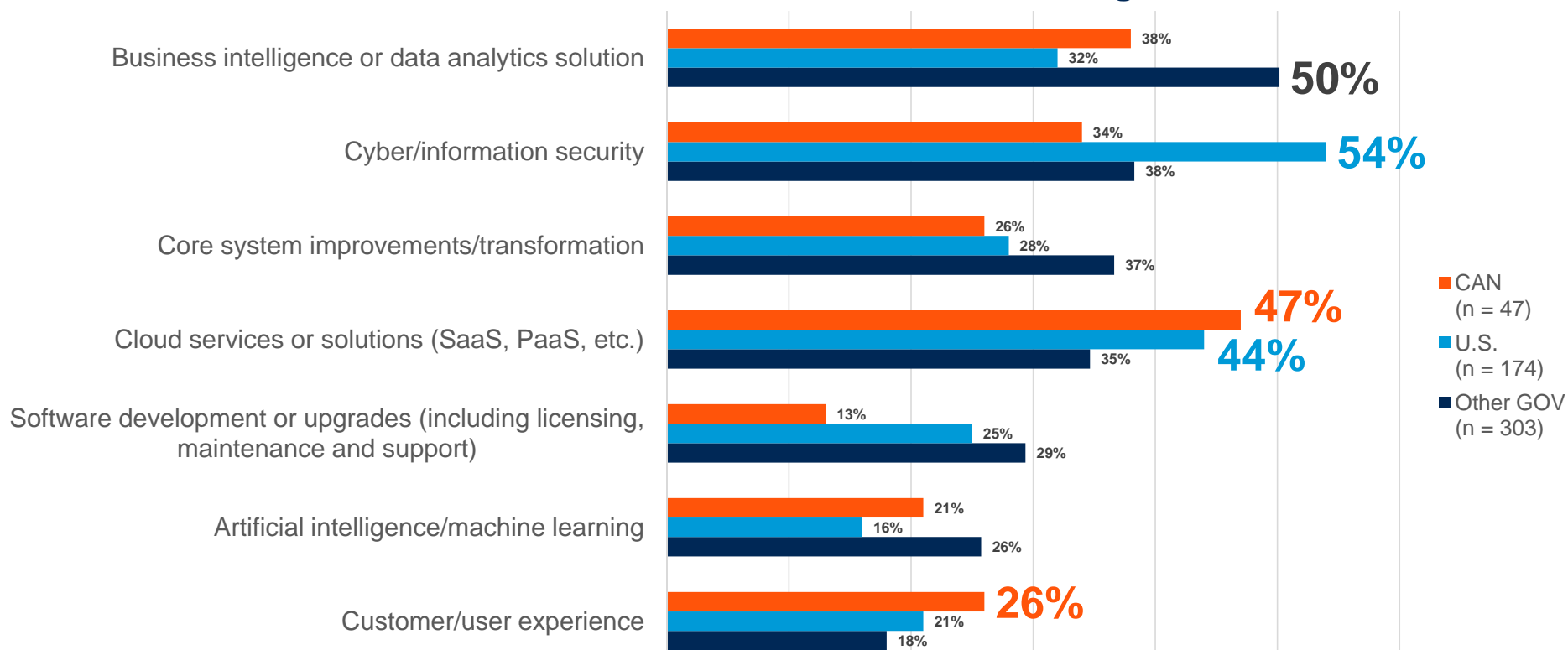
Showing the 3 most common answers by percentage per segment; coded open-text responses; multiple responses allowed.

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NA CIOs Are Investing in the Cloud, Security and Citizen Experience

New or Additional Funding in 2019

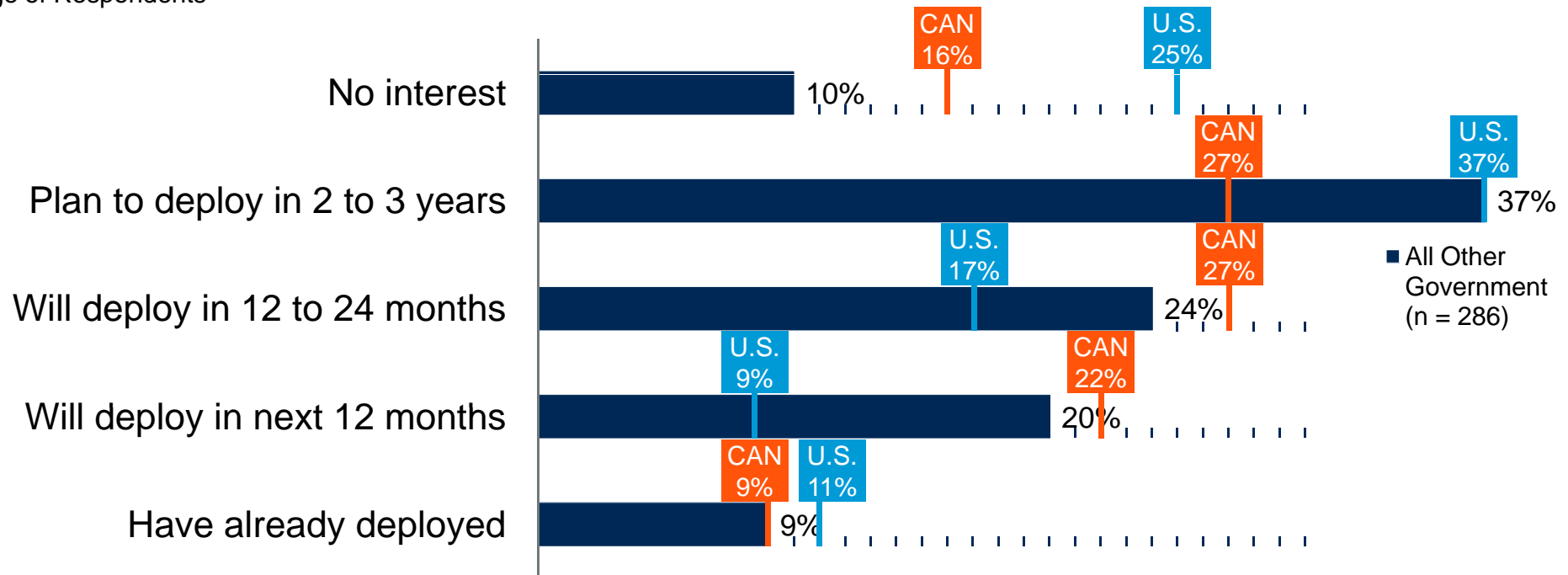


Q. What are the technology areas where your organization will be spending the largest amount of new or additional funding in 2019?
 Base: All answering, excluding prefer not to answer; n varies by segment. multiple responses allowed; pick from a list.
 Showing **INTERNAL OF RESTRICTED** Others' common answers with exception of :Infrastructure/data center."

AI Is Coming to Government

Plans for Artificial Intelligence — Government

Percentage of Respondents



Q. What are your organization's plans in terms of the following digital technologies and trends? Artificial Intelligence.
 Base: All answering, excluding prefer not to answer; n varies by segment. U.S.: n = 163, CAN: n = 45

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Top Government Uses for AI

Percentage of Government CIOs Using AI For ...



Process
Optimization

20%



Chatbot

17%



Computer-Assisted
Diagnostics

16%



Fraud
Detection

14%



Face
recognition

11%



Call Center
Assistance

10%



Sentiment
Analysis

9%

Q. Does your organization use any of these AI-based applications. Multiple responses allowed.

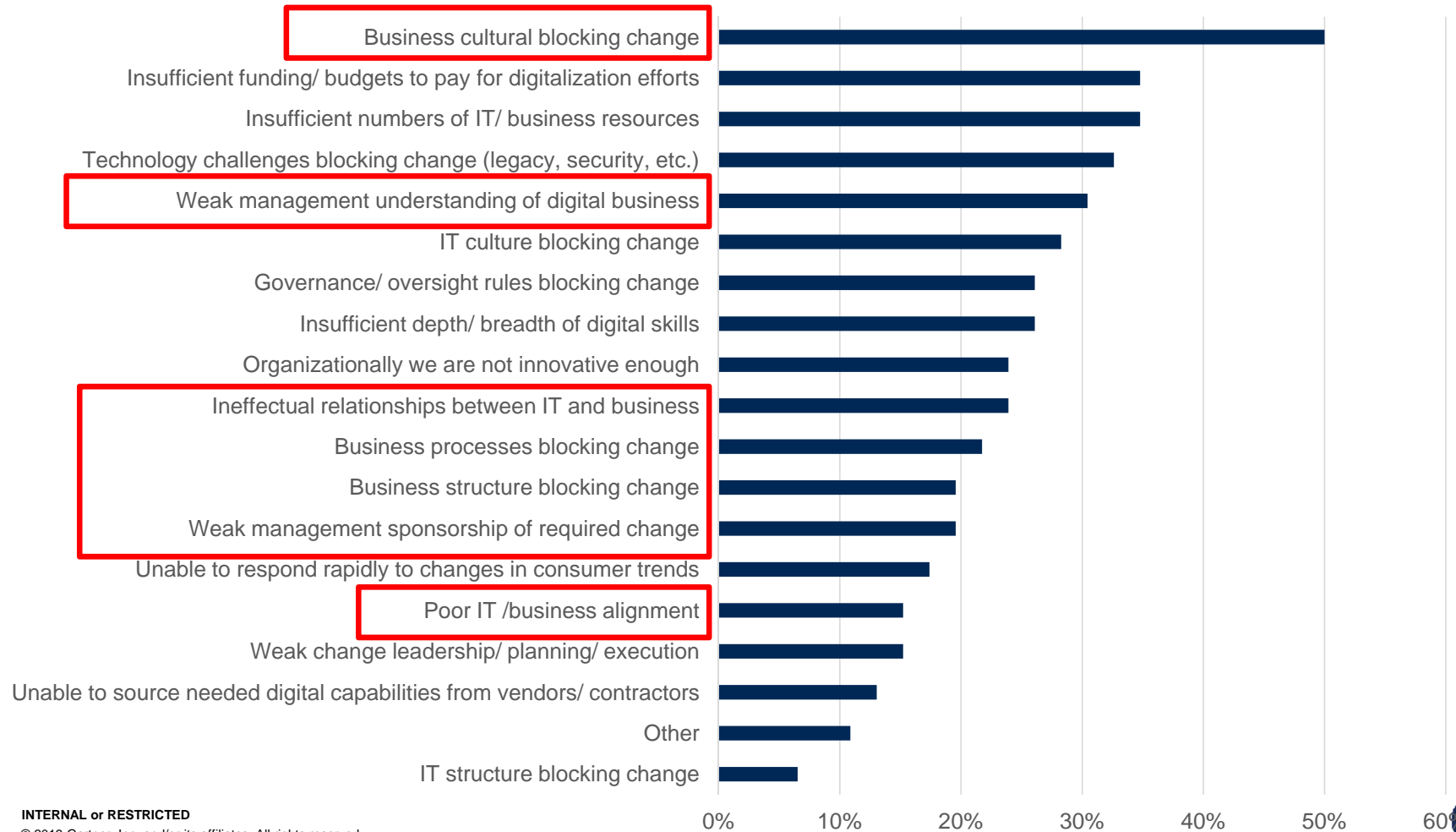
Base: Government CIOs answering, n = 476

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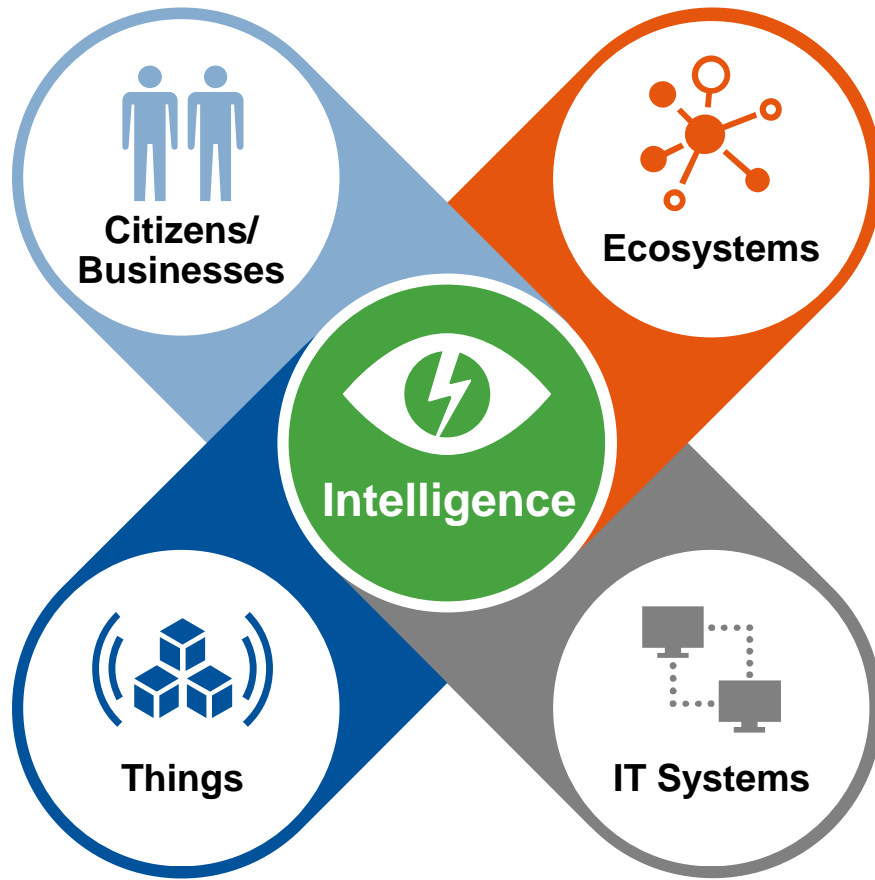
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Culture is the main inhibitor of success

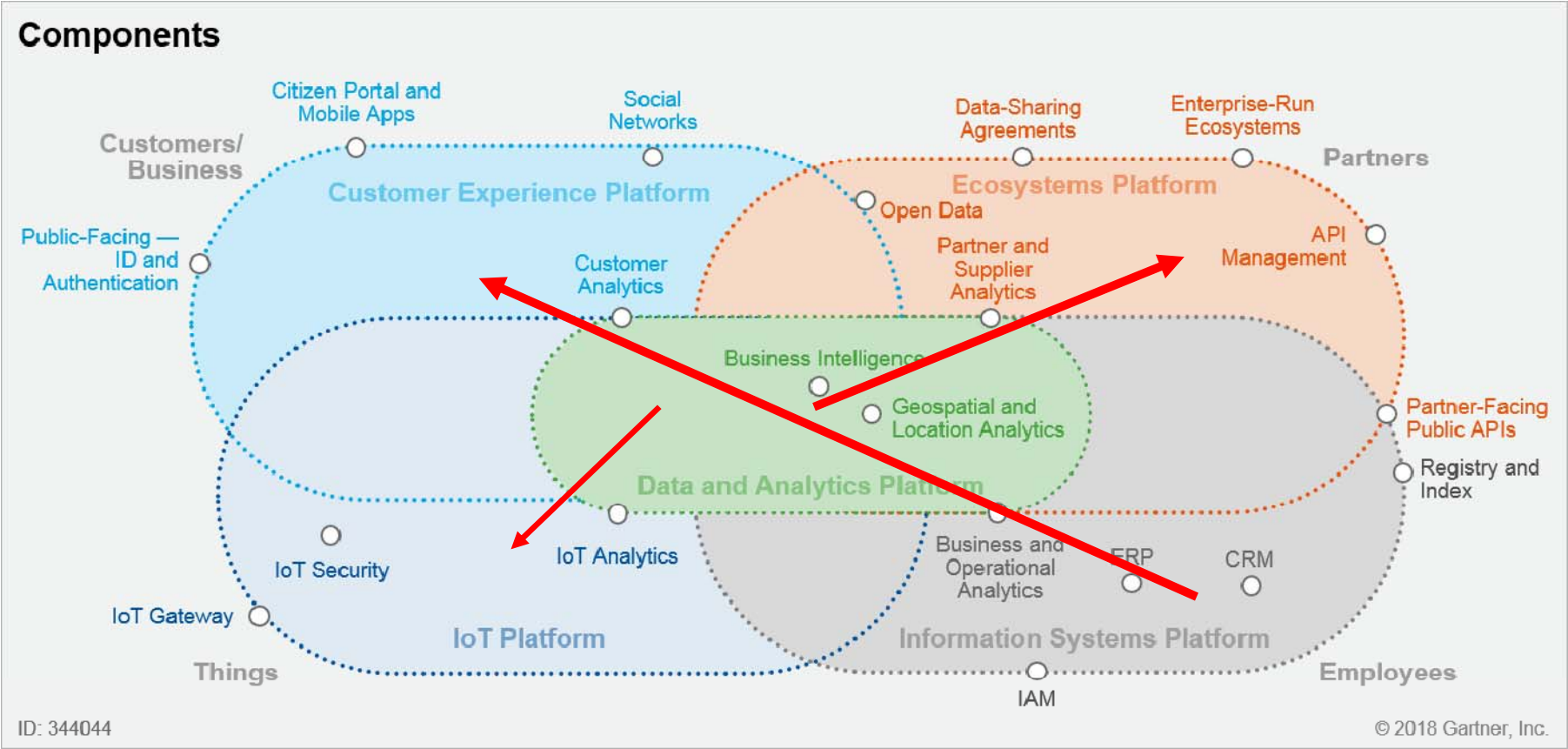


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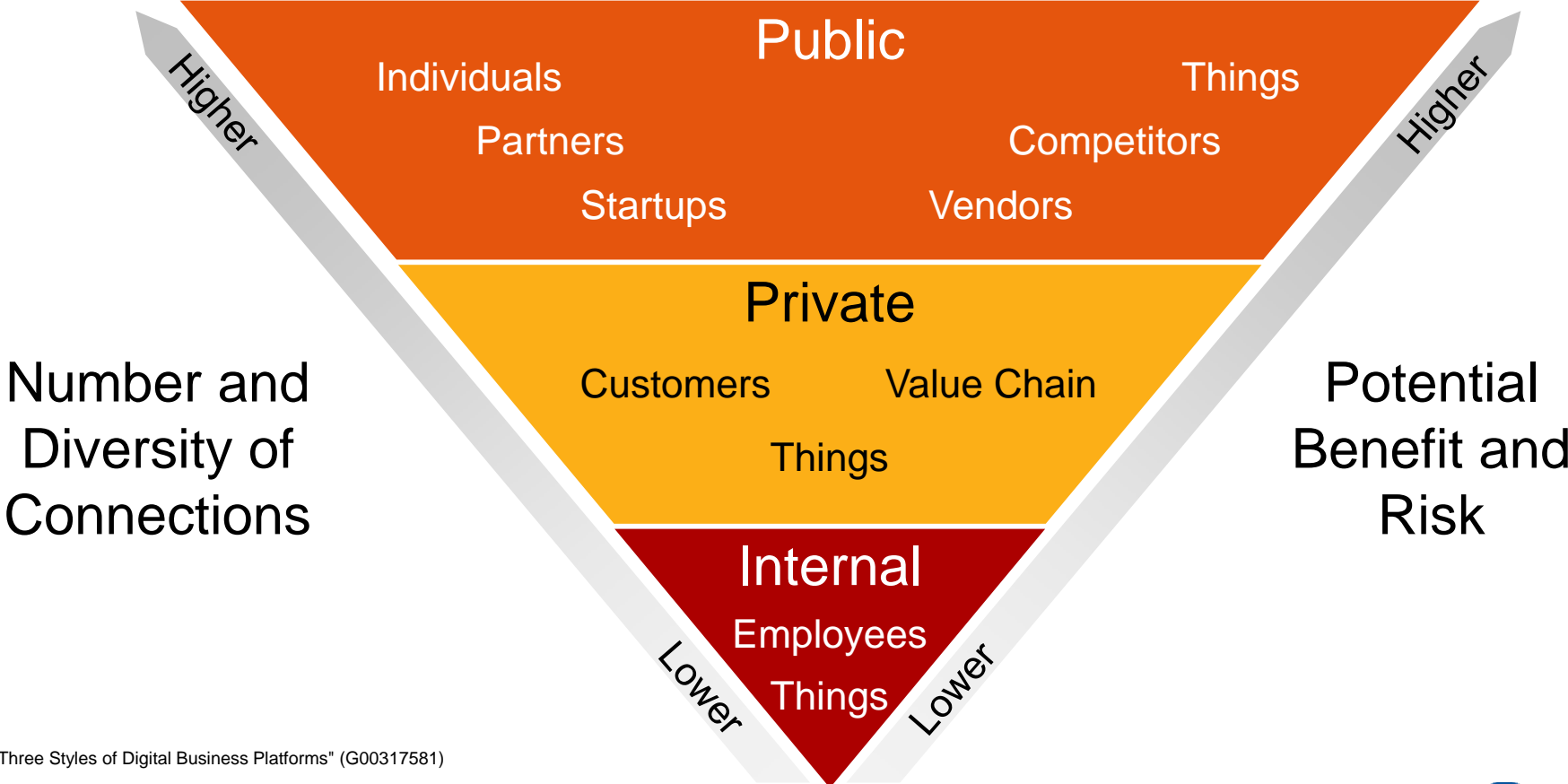


Digital Government Technology Platform

Components of a Digital Government Technology Platform



Digital Platforms Empower Ecosystems



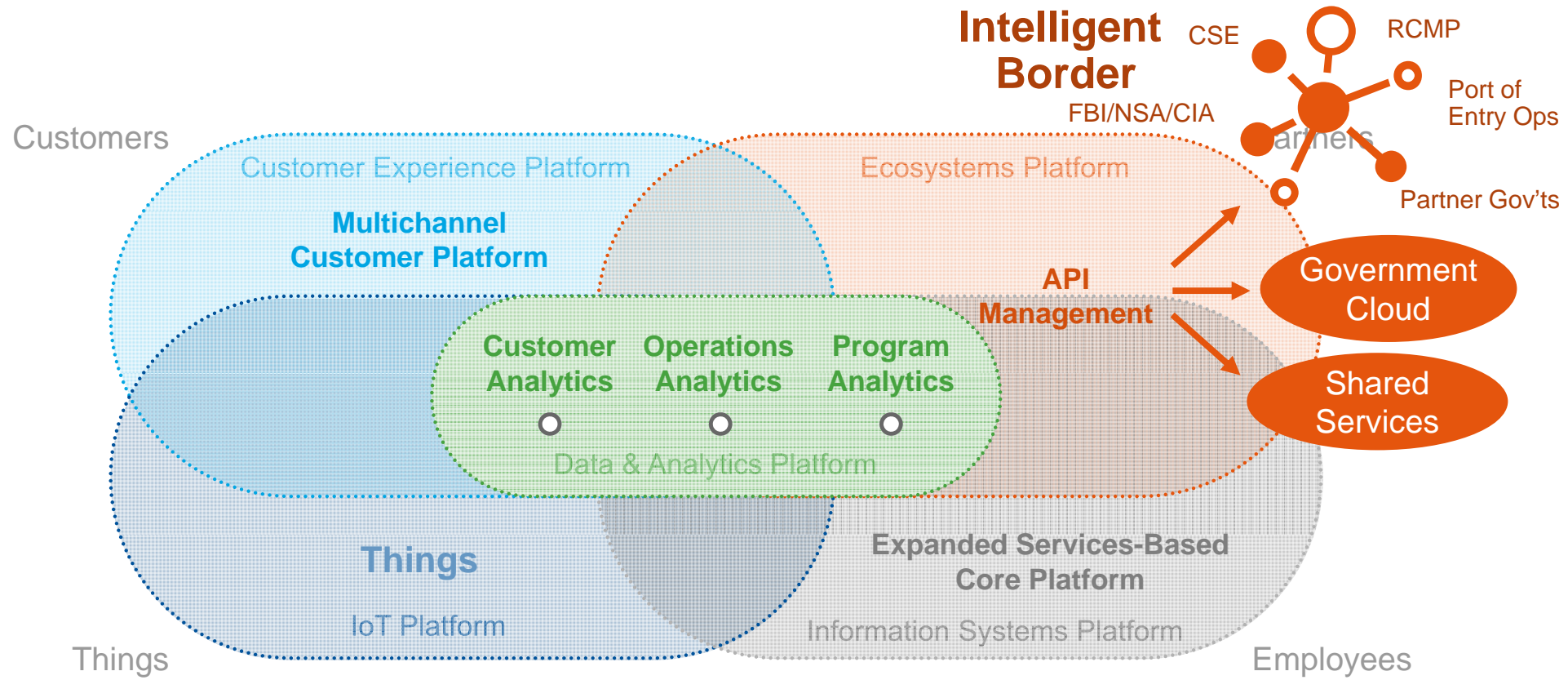
Source: "Three Styles of Digital Business Platforms" (G00317581)

Digital Platforms Enable New Business Models

Platform Business Models



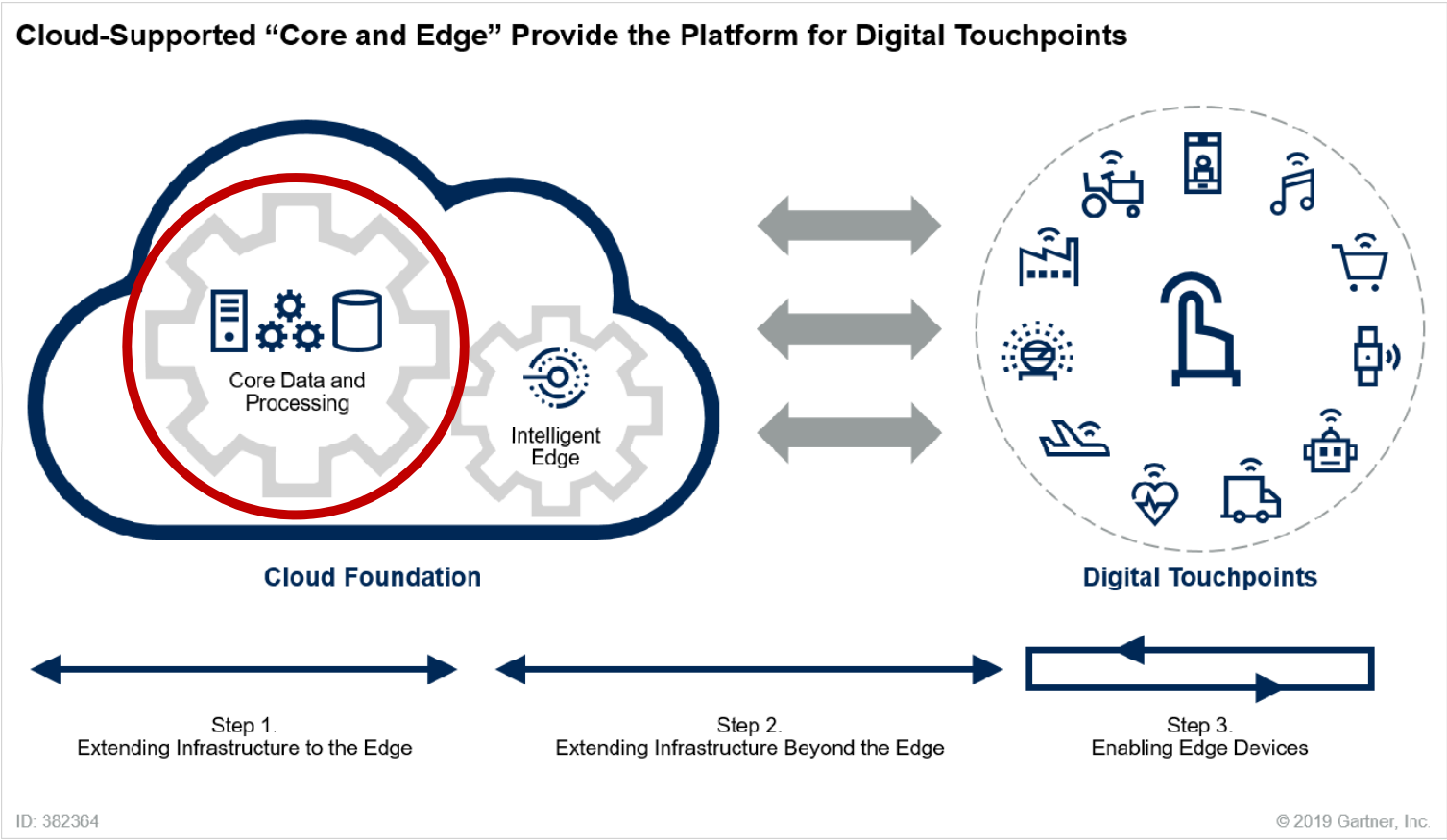
Extending Out To The Ecosystem



Digital Business Transformation



Cloud-supported “Core and Edge” for Business Transformation



What Is Your Digital Ambition?

Digital Government Strategy



Digital Business Optimization

Digital Business Optimization Adds Significant Value Without Changing Current Service Models

<p>1 Improve Existing Revenue</p> <p>e.g. Analytics to optimize price & increase spend</p> <p>Increase Revenue</p>	<p>2 Reduce COGS</p> <p>e.g. IoT & 3DP to reduce costs</p> <p>Improve Operating Margin</p>	<p>3 Reduce SG&A</p> <p>e.g. digital channels to optimize sales & mkt</p> <p>Improve Operating Margin</p>	<p>4 Improve employee productivity</p> <p>e.g. AI & RPA to take on more volume without increase headcount</p> <p>Improve Workforce</p>	<p>5 Enhance customer experience</p> <p>e.g. digital channels & IoT to provide connected experiences</p> <p>Improve Customer Experience</p>	<p>6 Optimize inventory & yield</p> <p>e.g. analytics to better forecast and IoT to track inventory</p> <p>Increase Asset Utilization</p>	<p>7 Optimize physical assets</p> <p>e.g. IoT to maximize uptime, life, yield and reduce energy</p> <p>Increase Asset Utilization</p>	<p>8 Optimize financial assets & cash</p> <p>e.g. analytics to better assess risk & raise yield</p> <p>Increase Asset Utilization</p>
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Improved Productivity and Budget Management

Better Citizen Experience

Digital Business Transformation

Digital Business Transformation Leads to New Service Delivery Models and Better Outcomes

Less transformative				More transformative	
<p>1 Sell Existing Digital Assets</p> <p>e.g. selling data and algorithms</p> <p>Connected Revenue</p>	<p>2 Digitalize Product or Service</p> <p>e.g. selling connected machines & services</p> <p>Connected Revenue</p>	<p>3 Sell Metered Revenue</p> <p>e.g. selling on pay-as-you-use basis</p> <p>Connected Revenue</p>	<p>4 Contract Based on Shared Risk Outcome</p> <p>e.g. price varies based on a shared outcome metric</p> <p>Connected Revenue</p>	<p>5 Run A Platform Business</p> <p>e.g. a business that has sellers, buyers all working on same platform</p> <p>Platform Revenue</p>	<p>6 Move Into Adjacent & New Industries</p> <p>e.g. Tesla Powerwall</p> <p>New Industry Revenue</p>

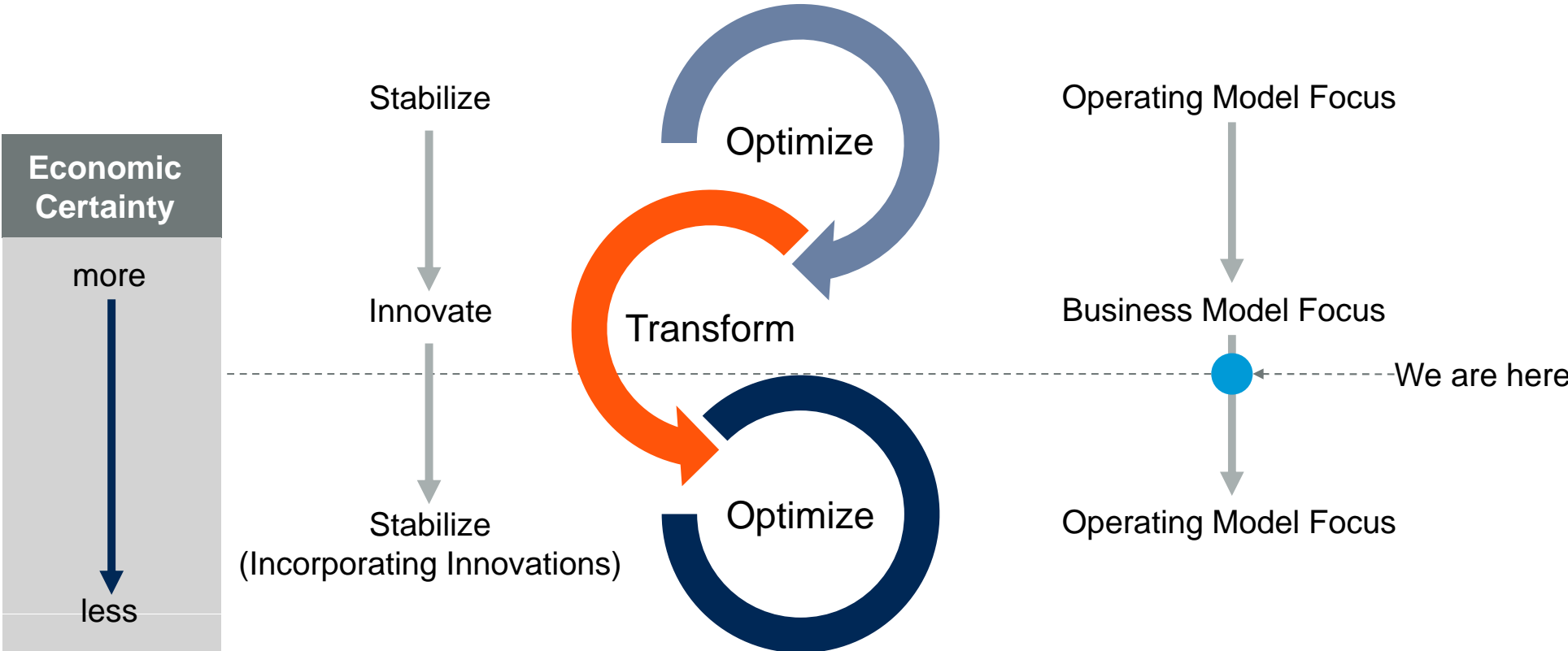
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New Services and Results

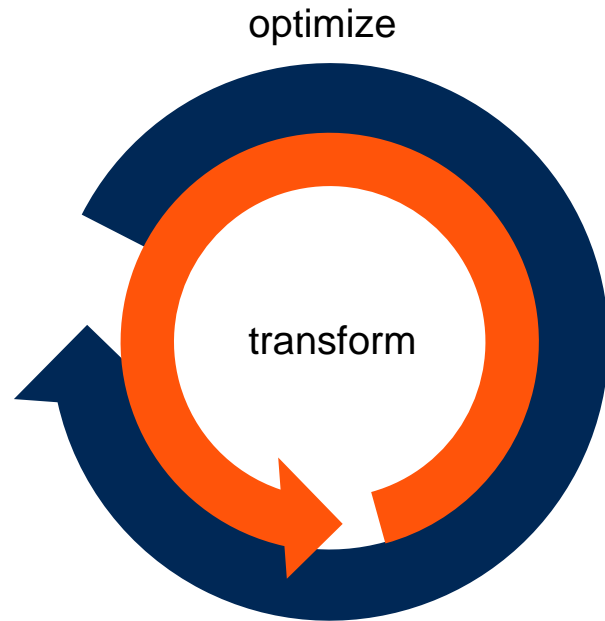
New Operating Models



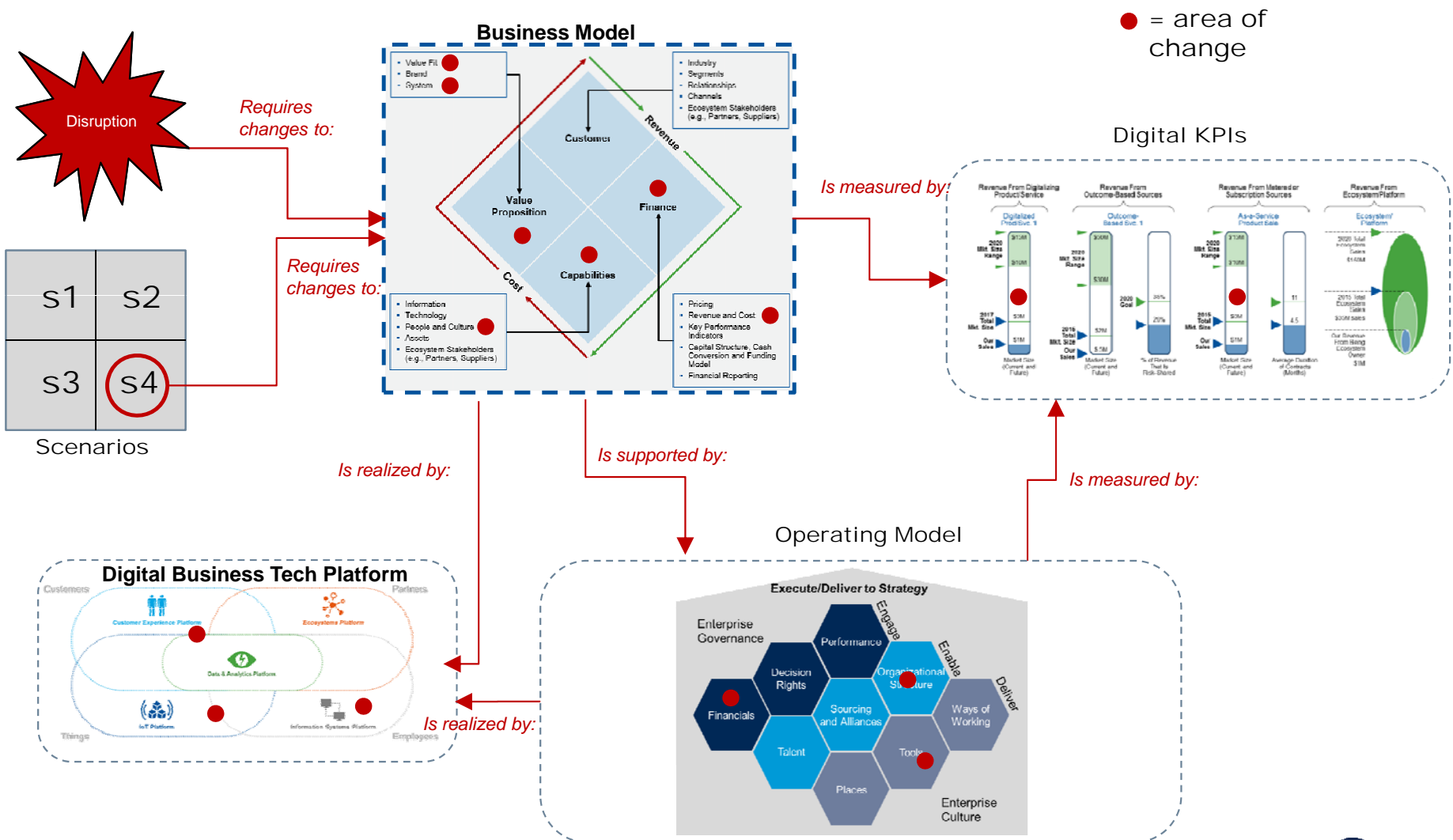
Is There An Optimize-Transform Cycle?



Transformation and Optimization Should Co-Exist



Different gears for different needs, smooth shifting between them



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Doing the Work

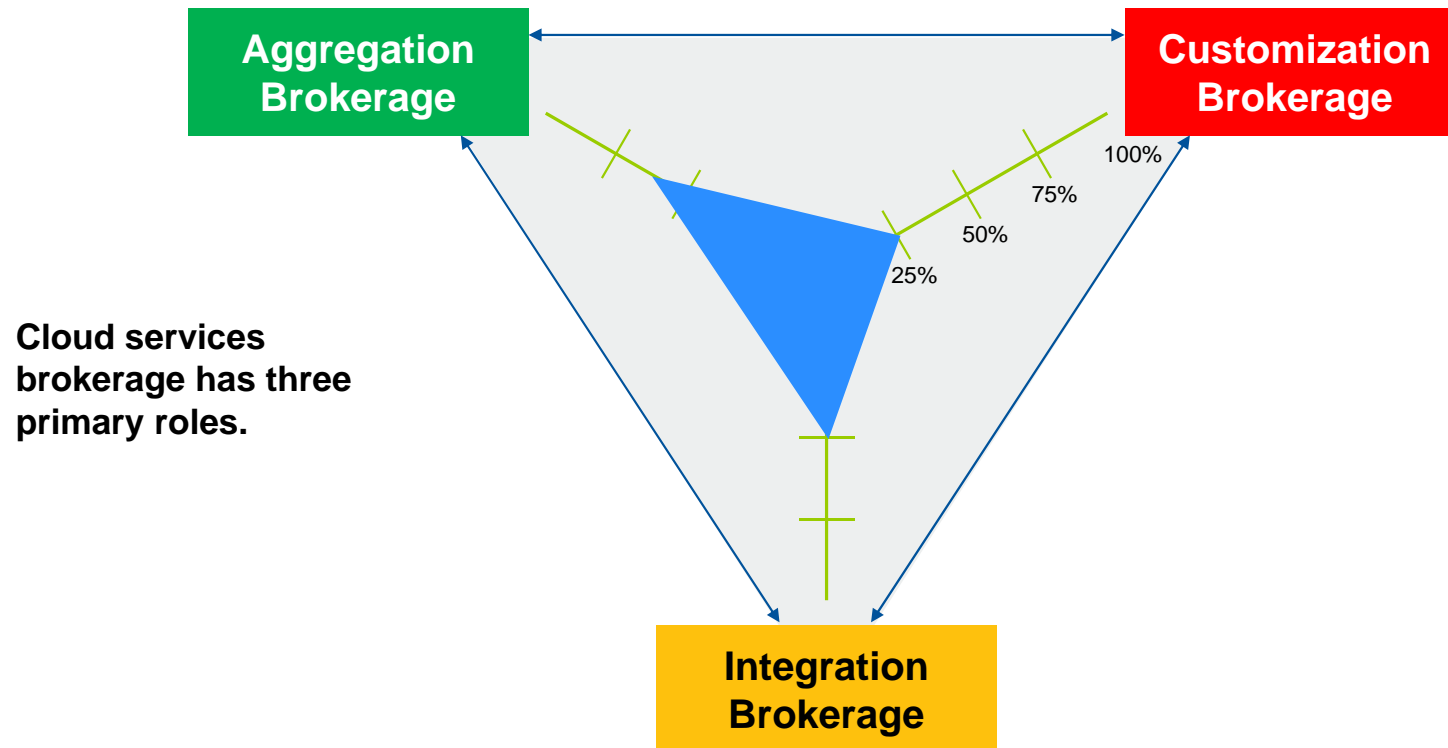
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IT will broker more than it builds.

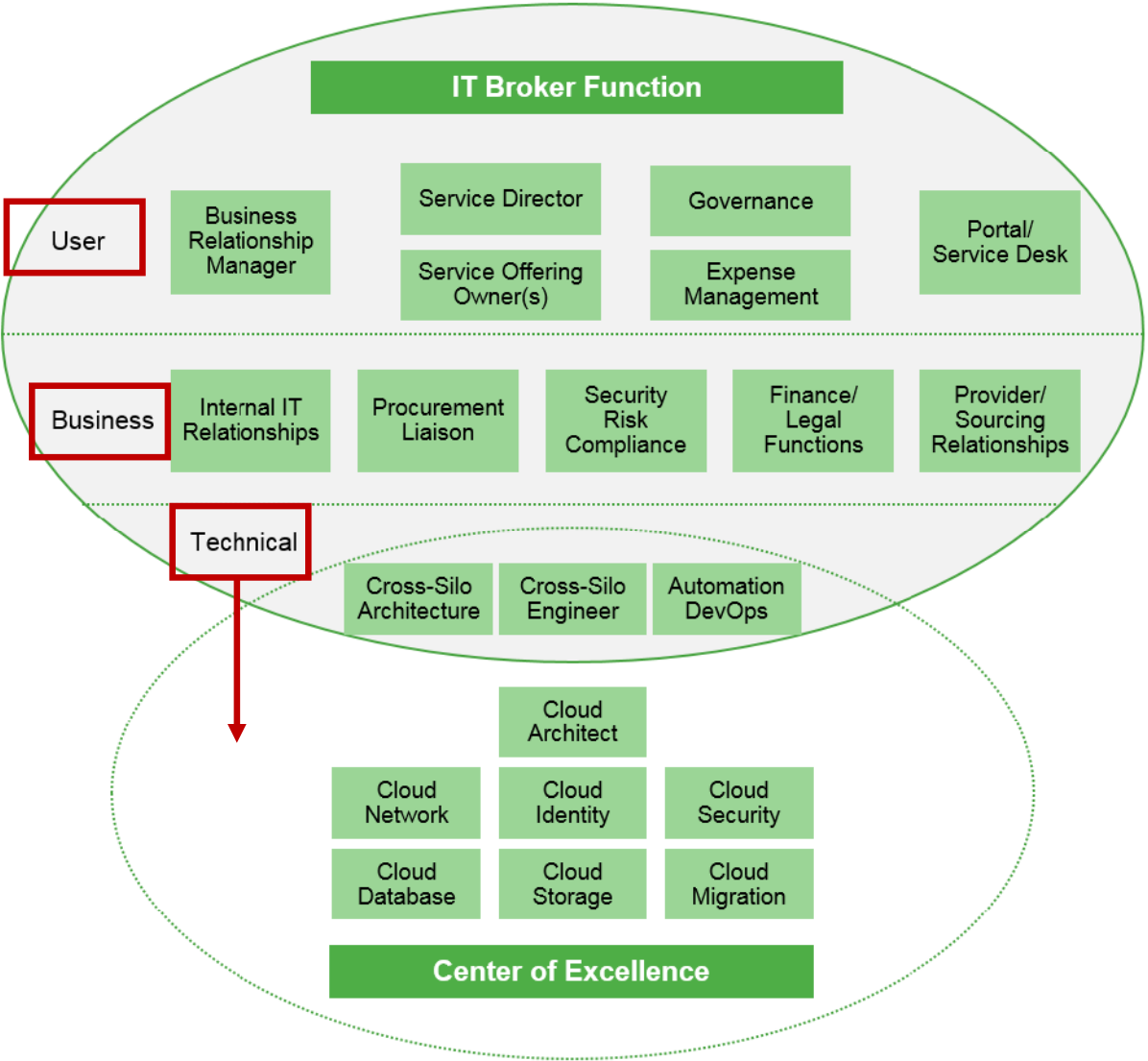
Managing the Clouds: Cloud Service Brokerage



Cloud Service Brokerage: Roles

- **Product management** — act like a software company: focus on value and continuous delivery
- **Security/compliance** — identifying and managing security and privacy issues of public cloud, partner with regulators, auditing
- **Business enhancement/relationship management** — work on business architecture and capability alignment
- **Data scientist** — Solve complex data problems, and discover new problems to be solved
- **Integration architect** — Design a flexible mediation architecture to broker, aggregate, integrate disparate services

Role Distribution For Cloud



Attributes of Digital Dexterity

Ambition to Work Digitally

- Believes technology can augment personal tasks
- Willing to take on new roles
- Views data and **technology** proficiency as critical to career advancement

Ability to Work Digitally

- OK with unclear and changing requirements
- Works iteratively to improve outcomes
- Can work from anywhere, with the right **technologies**

Ability to Build Digital Businesses

- Collaborates easily across seniority levels to set direction
- Surfaces digitalization opportunities to improve operations
- Obtains **technologies** independently to succeed on the job

Culture: Change the Behaviors That Hinder Fitness

How we work:

- How innovations are developed
- How problems are solved
- Perception of the business value created

How we make decisions:

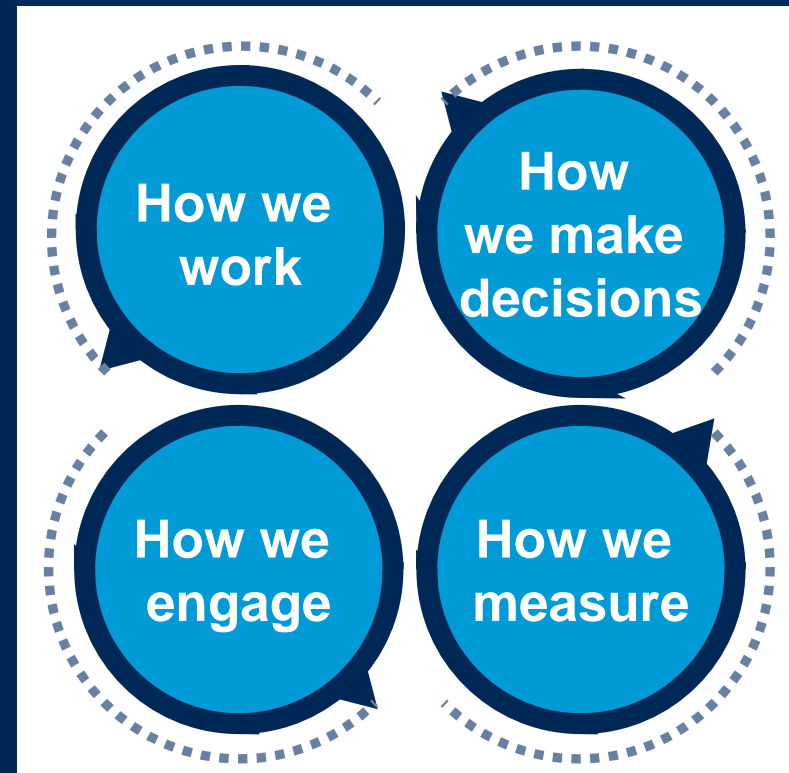
- General leadership style
- Effect on response speed

How we engage:

- Collaboration methods groups use

How we measure:

- Organizational performance metrics
- Effect on focus and direction



Core Fitness: Continuous Modernization

- Stop executing large-scale rip and replace programs.
- Use a dedicated modernization team alongside product and platform teams.
- Prevention is better than curing: Managing technical debt in 'New' Applications.



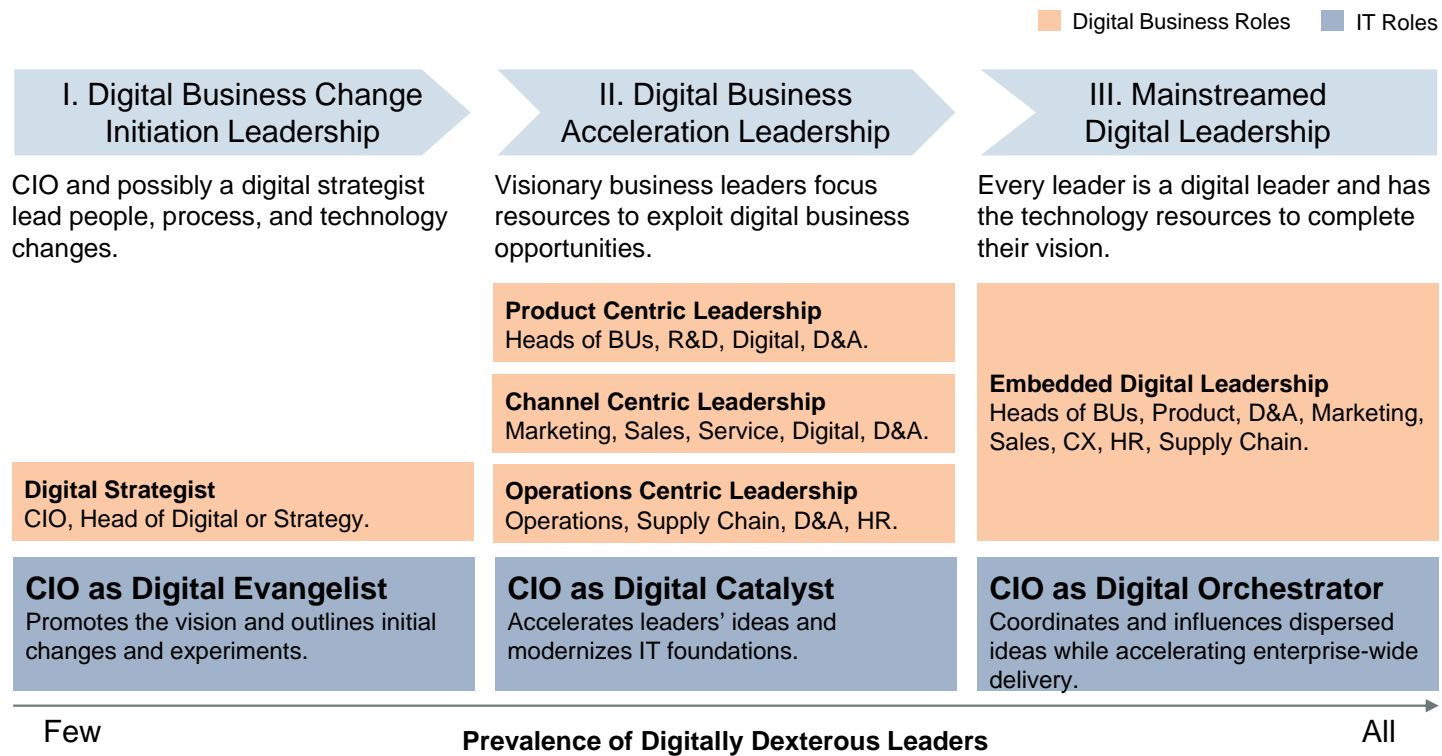
Privacy Design For Ethical Fitness

- Festina lente
 - “Mistake of law”: Ignorance is no defense
 - Unintended consequences is no excuse
- Government regulations are in place
 - But more nuance is needed
 - Need more detailed regulations for AI, machine learning, “agency”
- To do:
 - Practice scenario-based ethical design
 - Work with regulators as partners



Three Models of Enterprise Digital Leadership

Business Leaders' Involvement in Digital Business Will Impact CIOs the Most



Source: Gartner (2019)

^a Digital dexterity includes leaders' ambition and ability to build digital businesses, and work digitally.

Shifting Focus for Digital Leadership

Where Leaders Will Spend Their Time as Digital Business Evolves

Digital Responsibilities

I. Digital Business Change Initiation Leadership

CIO as a Digital Evangelist

II. Digital Business Acceleration

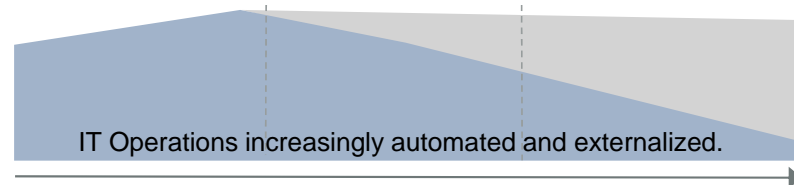
CIO as a Digital Catalyst

III. Mainstreamed Digital Leadership

CIO as a Digital Orchestrator

Traditional IT Management

Manage Legacy infrastructure, core enterprise systems, end-user support.



Declining CIO Focus enabled by asset reduction, automation, rise of the CISO and Chief Data Officer.

Few **Prevalence of Digitally Dexterous Leaders** Many

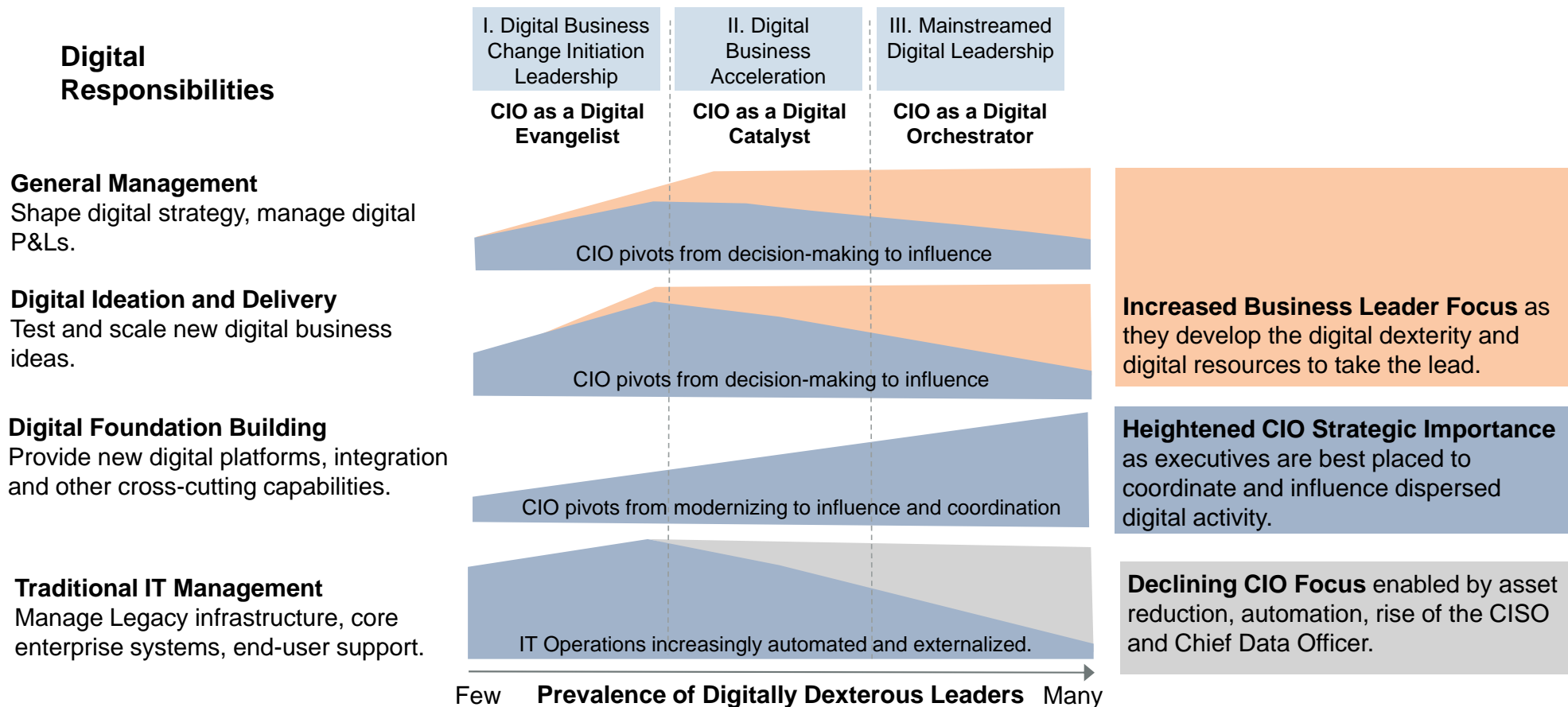
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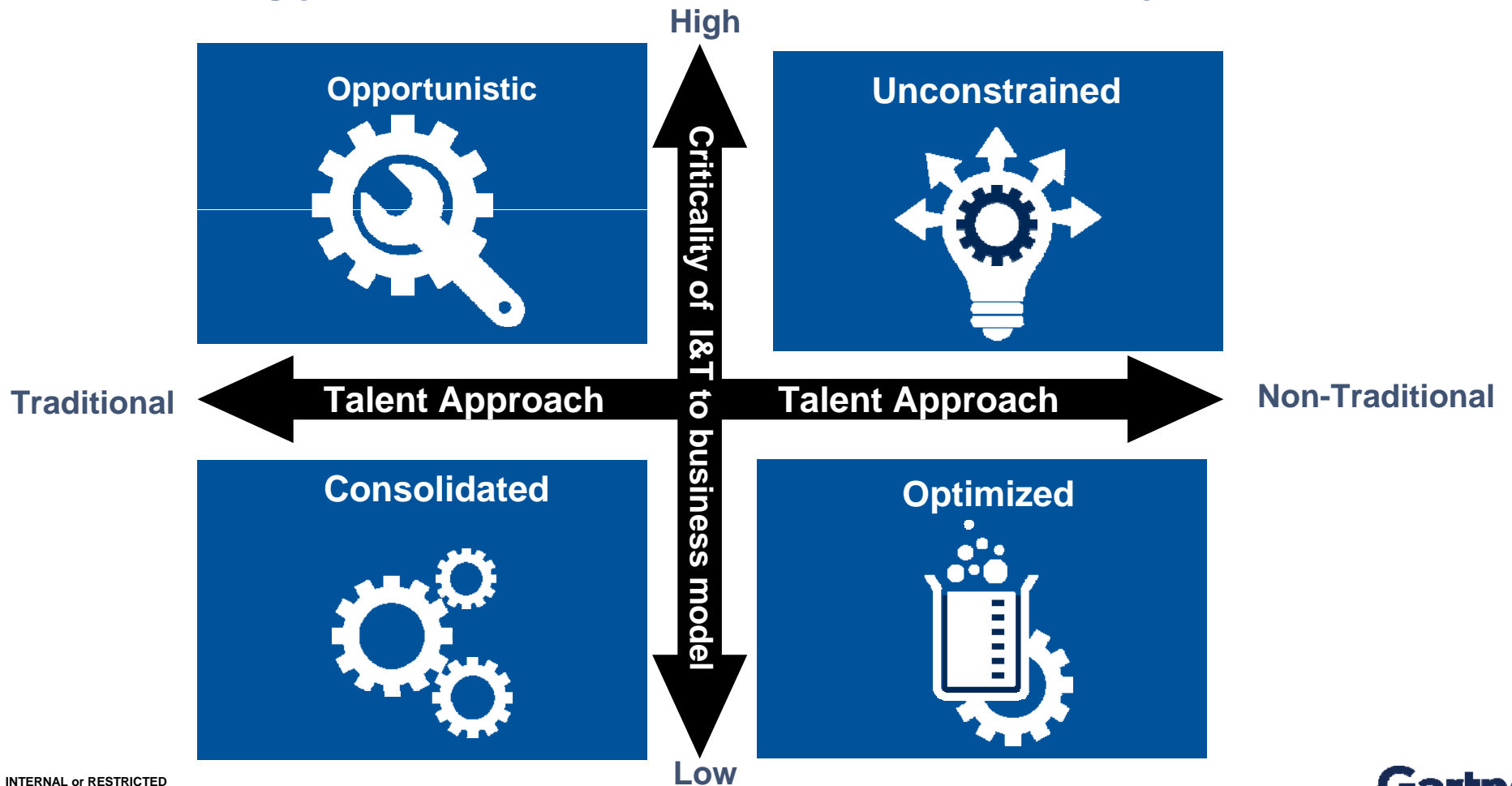
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Shifting Focus for Digital Leadership

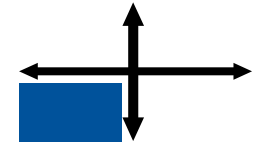
Where Leaders Will Spend Their Time as Digital Business Evolves



Technology Leadership Distribution by 2025



Consolidated



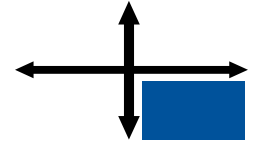
- **Business model**
 - systematic and predictable.
- **Focus**
 - Scale.
- **I&T investment**
 - mindset to invest for **productivity and efficiency.**
- **Risk Profile**
 - **Low**
 - adopt proven technologies to create productivity and efficiency gains.
 - Only post-hype proven practices adopted
- **Talent**
 - Hiring directly out of school and investing heavily to train

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Optimized



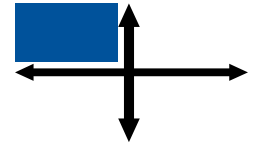
- **Business Model**
 - systematic and predictable. I&T is an enabler.
- **Focus**
 - address industry volatility
 - leverage talent to increase competitiveness
- **I&T Investment**
 - optimize performance
 - compete on customer experience.
- **Risk Profile**
 - **Moderate**
 - adopt proven technologies
 - adopting non-traditional approaches to talent.
- **Talent**
 - riskier and experimental

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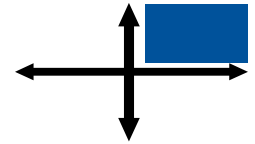
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Opportunistic



- **Business model**
 - Focused on renewal of one or two specific capabilities.
- **I&T Investment**
 - advances a specific pocket of opportunity.
 - extend their current customer service, operations or products & services by taking bolder risks with I&T.
- **Risk profile**
 - **Moderate-high**
 - adopt technologies as a fast follower but...
 - sometimes as a leader in a particular area.
- **Talent**
 - Reinvest in their people
 - build new I&T skills required to competitively advance in a particular area.

Unconstrained



- **Business Model**

- advances in multiple business capabilities
- fast changing environments.
- digital is embedded in the customer experience, improving operations and productivity and providing new products and services

- **Risk Profile**

- High
 - leaders in the adoption of information & technology.

- **I&T Investment**

- mindset to apply I&T in a manner that advances an industry or an ecosystem.

- **Talent:**

- combination of I&T and non-traditional approaches to talent to reshape industries and ecosystems
- People seek to work for these companies in any capacity so that they can increase their personal value to that business or others.

Summary

- ✓ The nature of IT work is changing:
 - Shift to ecosystem thinking
 - IT evolved From Builders to Brokers
 - IT will facilitate the emerging digital business platform
 - More citizen development is good for business outcomes
- ✓ As leaders...
 - You can address cultural inertia directly with new metrics, decision freedom, and new ways of day-to-day work
- ✓ There are various ways to align skills with IT delivery
 - From conservative internal investment to complete openness to external talent
 - Determine which approach will provide the highest benefit: e.g., mission yield.

Recommended Gartner Research

- ▶ **2019 CIO Agenda: A Government Perspective**
Alia Mendonsa and Cathleen Blanton (G00383935)
- ▶ **2019 CIO Agenda: Government Insights**
Alia Mendonsa and Rick Howard (G00368448)
- ▶ **Predicts 2019: Establish the Foundations for Next-Generation Digital Government Success**
Dean Lacheca and Others (G00374437)
- ▶ **Government CIOs Must Resist Transformation Hype and Focus on Digital Optimization**
Rick Howard and Neville Cannon (G00364101)

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