

# Helping Higher Education Drive Change With Business Capability Modeling

*Standards Enable Flexibility*

Jan-Martin Lowendahl

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# Higher Education Is an *Information Industry*

We:

- Create Information
- Maintain Information
- Disseminate Information

—  
*Information* Technology Is  
Core to What We Do!





# Data-point: Cost of Copying at the Library of Alexandria

“Information retrieval and copying had a huge cost — one had to pay a top-rated scribe 25 denarii (\$ 3,125 in today’s dollars) to copy 100 lines.”

Digital Transformation: Survive and  
Thrive in an Era of Mass Extinction  
Thomas M. Siebel



# Data-point: Cost of Printing ~30 Years After The Gutenberg Bible

“In 1483, a printing shop in Florence, run by nuns, charged **3 florins** for printing **1,025** copies of Plato’s Dialogues.

A scribe charged about **1 florin** for copying the work, but produced only **1 copy.**”

**A ~340:1 productivity Increase**

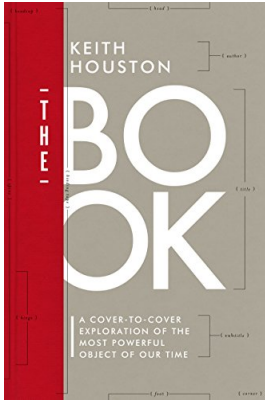
Adapted from “The Printing Press as an Agent of Change”  
(Cambridge: Cambridge University Press, 1980), p 46.

Elizabeth L. Eisenstein

Via

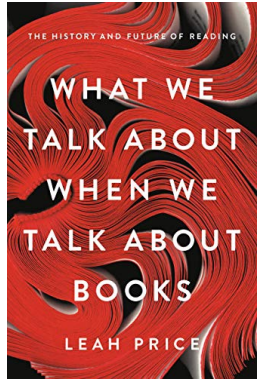
The Shallows: What the Internet Is Doing to Our Brains by Nicholas Carr

# Reflection: Every Technology Has It's Trade-off



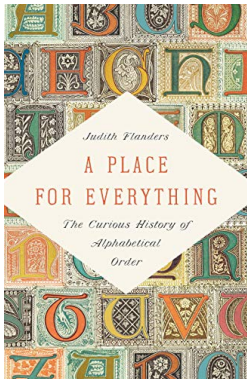
**The Book: A Cover-to-Cover Exploration of the Most Powerful Object of Our Time by Keith Houston**

**What We Talk About When We Talk About Books: The History and Future of Reading by Leah Price**



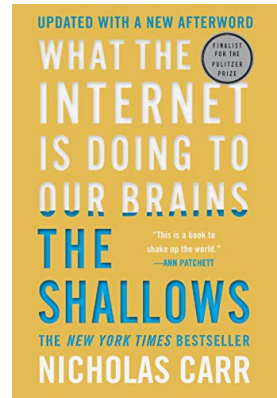
“If men learn this,  
it will implant forgetfulness in their souls ...  
... you offer your pupils the appearance of wisdom,  
not true wisdom

Plato 427-347 BCE, Phaedrus



**A Place for Everything: The Curious History of Alphabetical Order by Judith Flanders**

**The Shallows: What the Internet Is Doing to Our Brains by Nicholas Carr**



**Are You**

**Really Good at One Thing?  
— Betting on One Future**

**or**

**Building a Capacity to  
Adapt to Many Futures?**

# Which World Do You Live In?

## A Stable World



Slow, Predictable



Certainty



Consistent, Rule-based



Interdependent

## Efficient Wins

## A Changing world



Fleeting, Fluctuating



Optionality, Opportunity Cost



Flexible, Contextual



Combinative

## Adaptive Wins

**Opportunity & Risk**

**Investments**

**Governance**

**Asset Utilization**

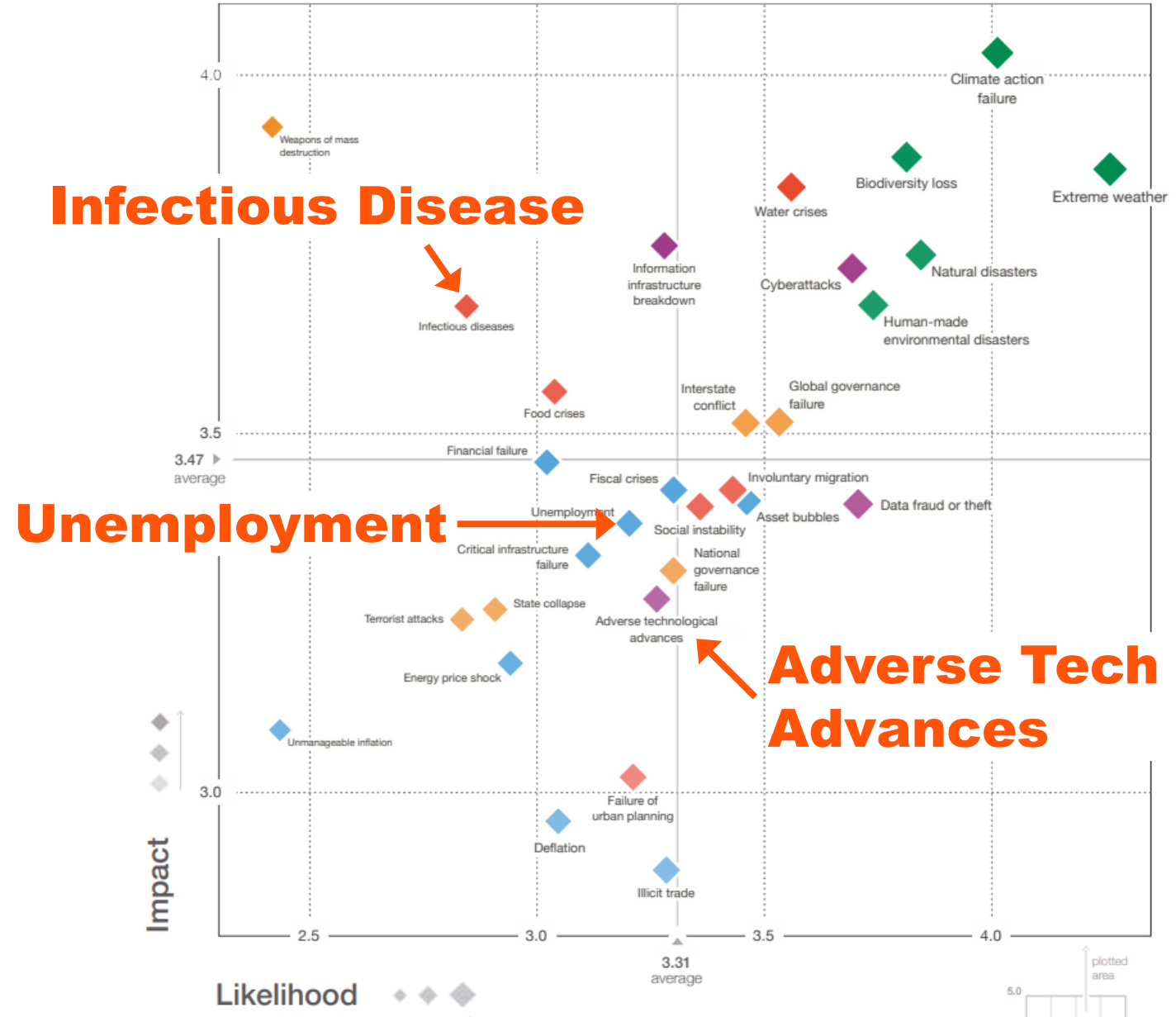
# Disruptions: Threats, Opportunities or Obligations?

Renewed institutions need to become "Social Instruments" again. Solving real societal problems.

*The Evolution of Civilizations*  
Carroll Quigley



Risk Landscape 2020

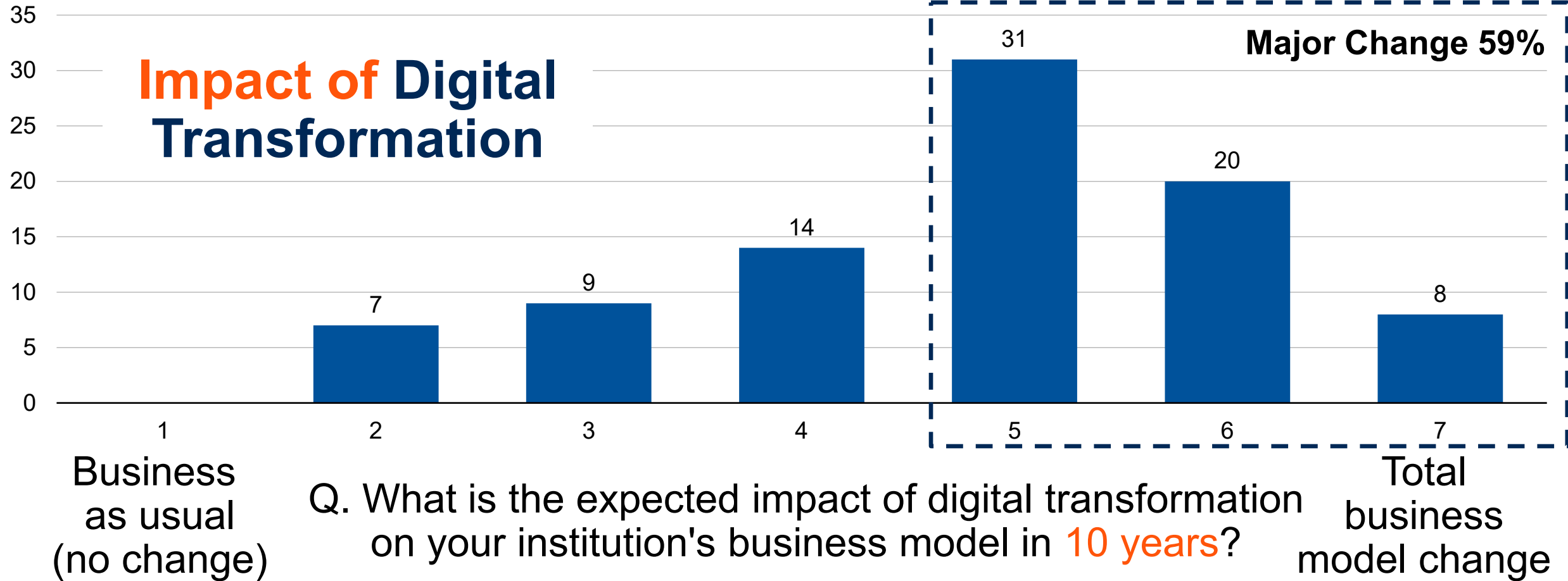


Source: [The Global Risks Report 2020](#), World Economic Forum



# Get Ready For Change: Says Who? Says You — The CIO!

Percentage of Respondents

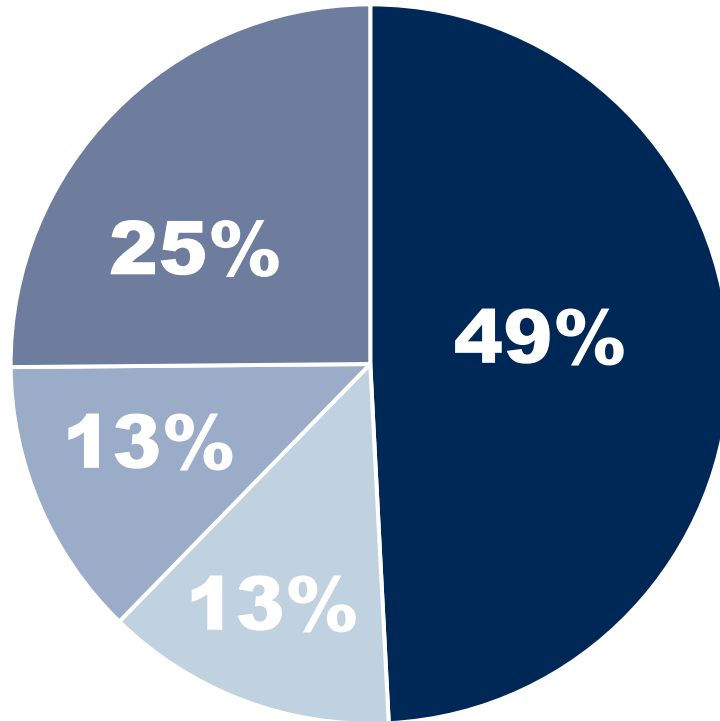


**Data from the 2018 CIO Agenda  
(Collected ~May-July 2017)**

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# Higher Education Is Changing Business Model!

2019 CIO  
Agenda\*  
n=183



- Has/in-process
- Will begin within 36 months
- Consensus to change but no plans
- No+DK (other)

*How important is information and technology in enabling this change to your organization's new business model?*

| Reason for BM change                     | %   |
|--|-----|
| Meet consumer demands/expectations       | 38% |
| Counter competitive pressures            | 31% |
| Reduce/control costs                     | 27% |
| Growth/capture new market opportunities  | 20% |
| React to societal changes                | 20% |
| Preserve our brand/reputation            | 14% |
| Change in leadership                     | 6%  |
| Scale the business                       | 6%  |
| Comply with new rules/regulations        | 5%  |
| Improve customer service                 | 1%  |
| Corporate merger or acquisition activity | 1%  |

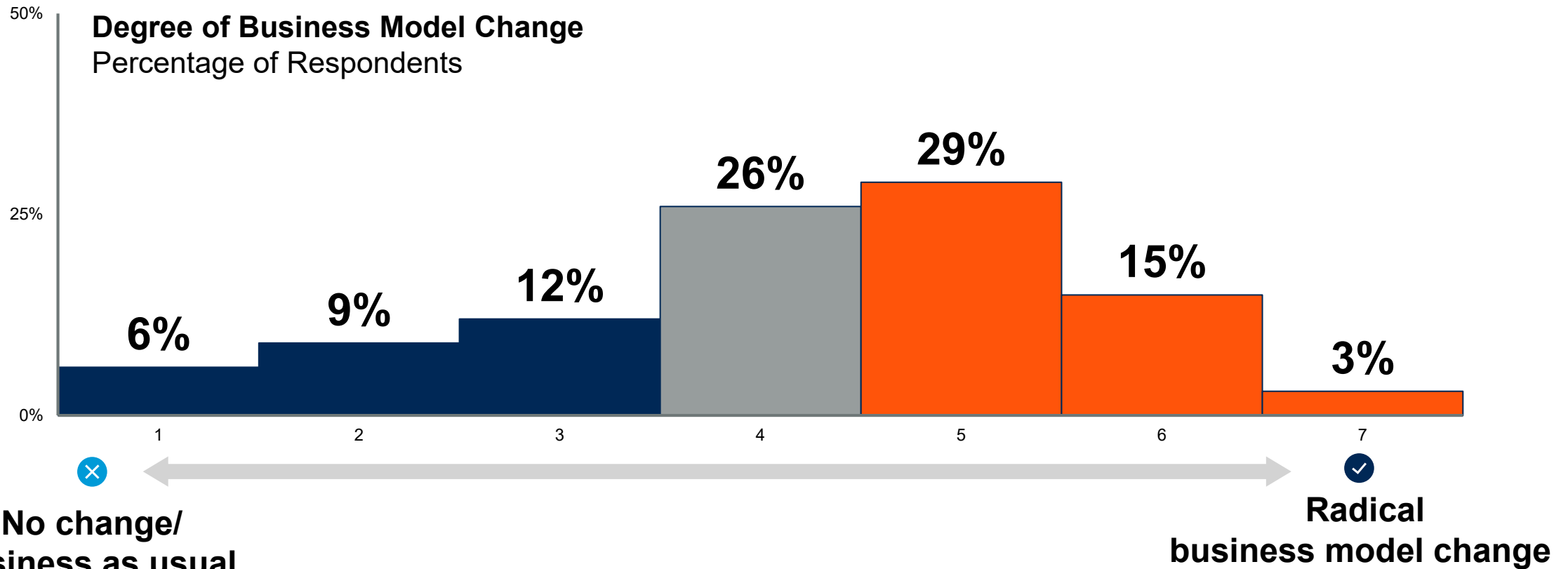
**Student Experience**

**Student-Society Success**

| n =           | 86  | 1,399 |
|---------------|-----|-------|
|               | HE  | Total |
| 1. Not at all | -   | -     |
| 2. Slightly   | -   | 1%    |
| 3. Moderately | 14% | 5%    |
| 4. Very       | 53% | 47%   |
| 5. Extremely  | 33% | 48%   |
| Mean          | 4.2 | 4.4   |
|               | 86% | 95%   |

\*Collected ~May-July 2018

# The Pandemic Accelerated Higher Education Business Model Change



n = 117 Higher Education respondents, Excludes "Not sure"

Q. To what degree has your enterprise's current business model changed from its pre-COVID-19 business model?

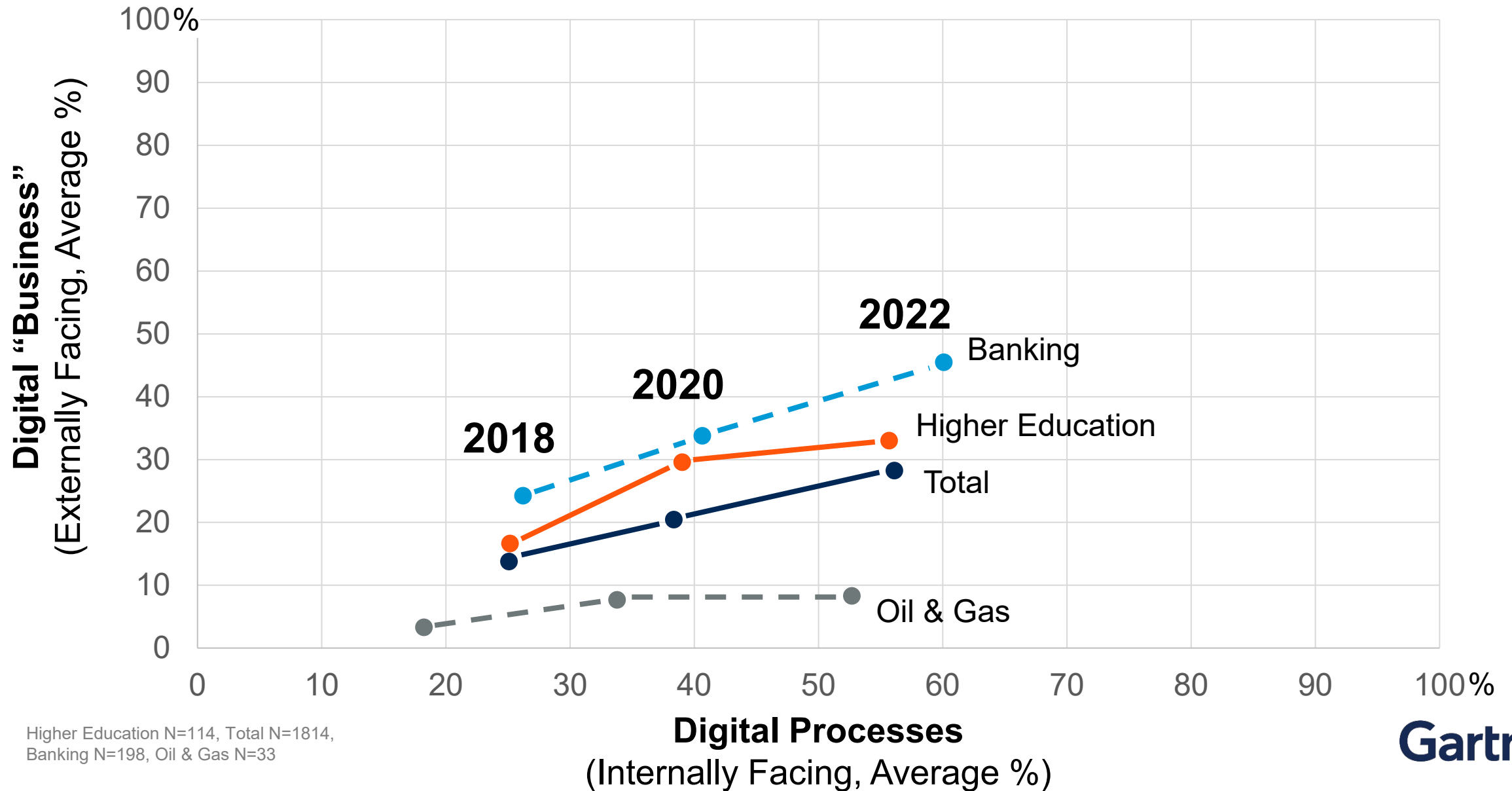
Source: 2021 Gartner CIO Survey

ID: 722433

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# 2021 CIO Agenda: Digital Journey Plot

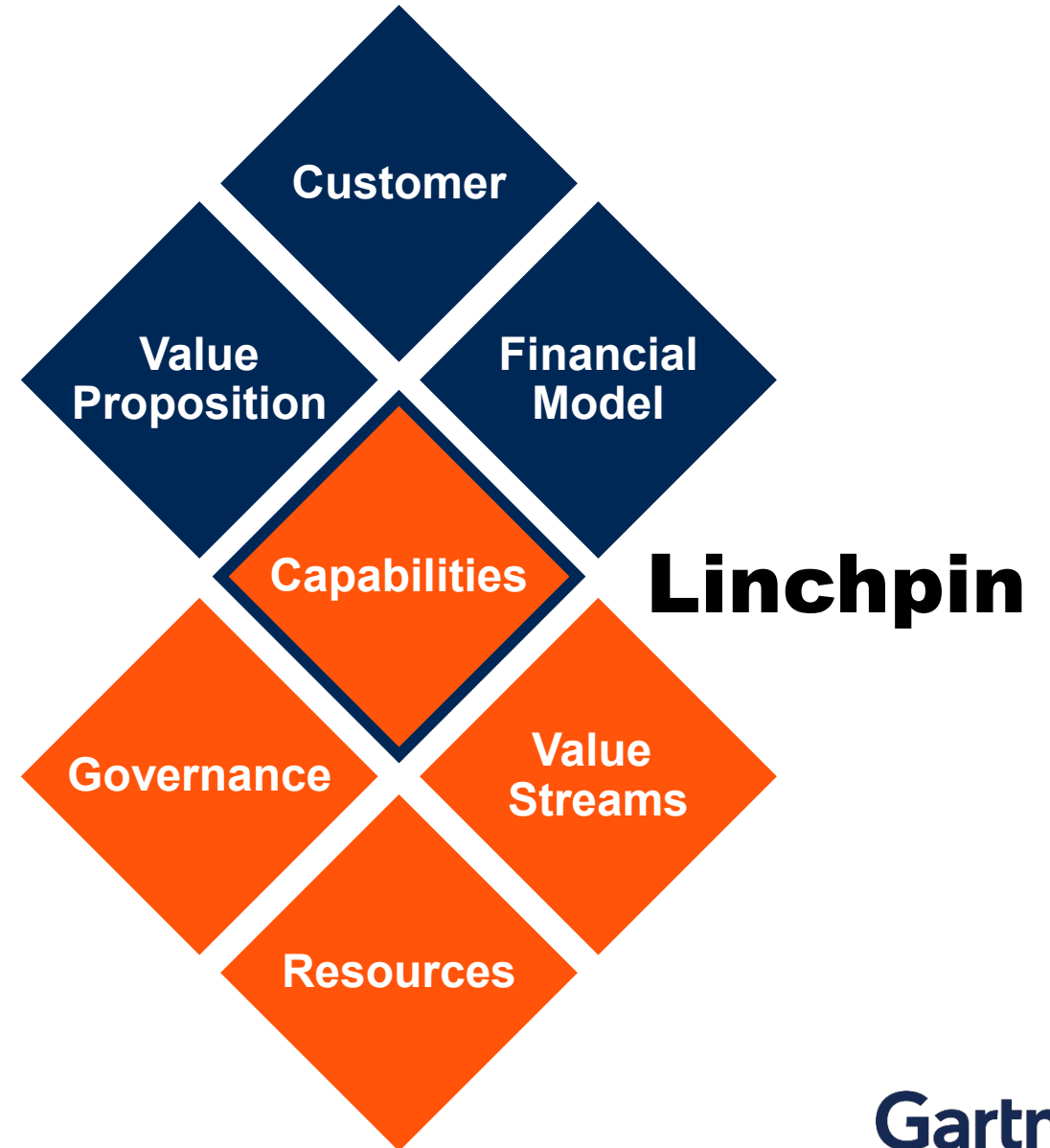
$$a = \frac{dv}{dt}$$



# One Size Does NOT Fit All... Simple Models To Model Your Future

**Business Model**

**Operating Model**

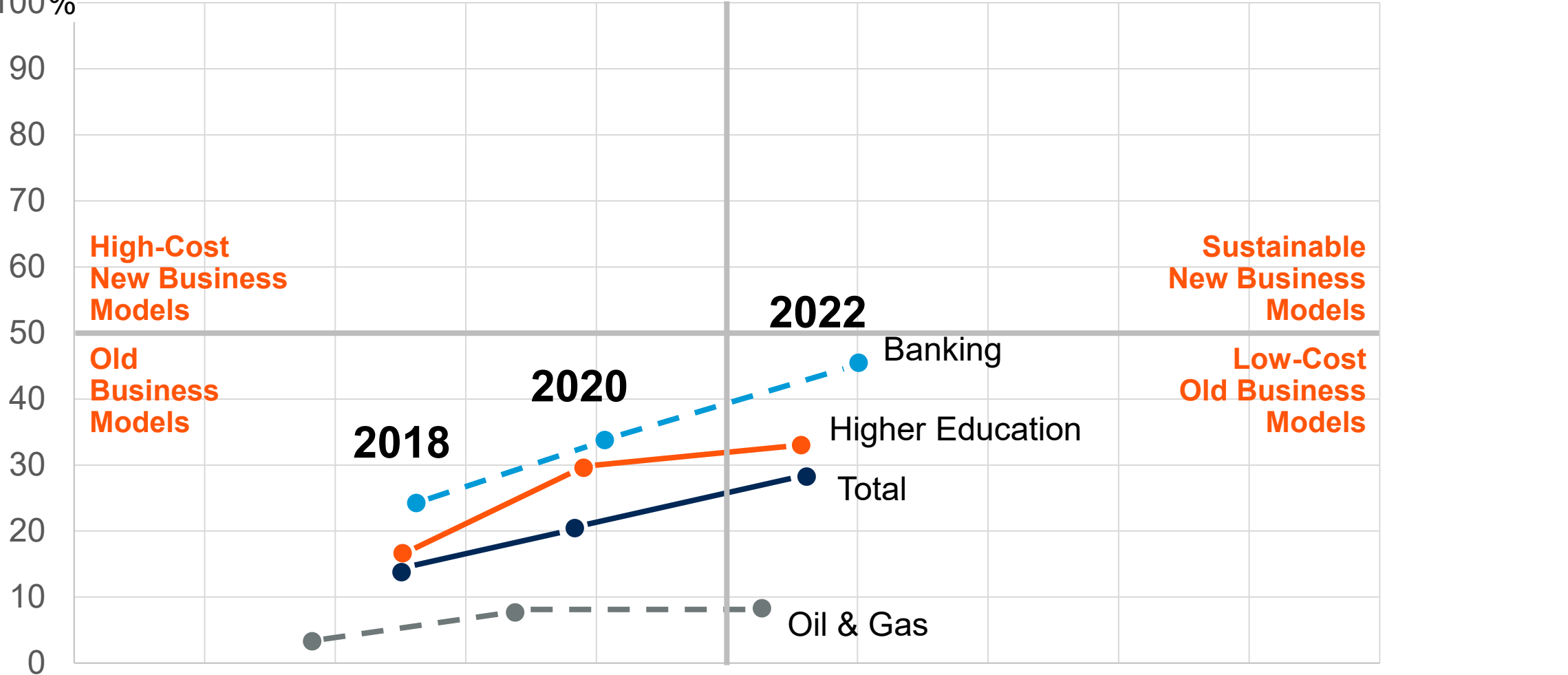


# Balancing the Degree of Digital Models The Model

Digital 100%



Business Model



Analog 0 10 20 30 40 50 60 70 80 90 100% Digital

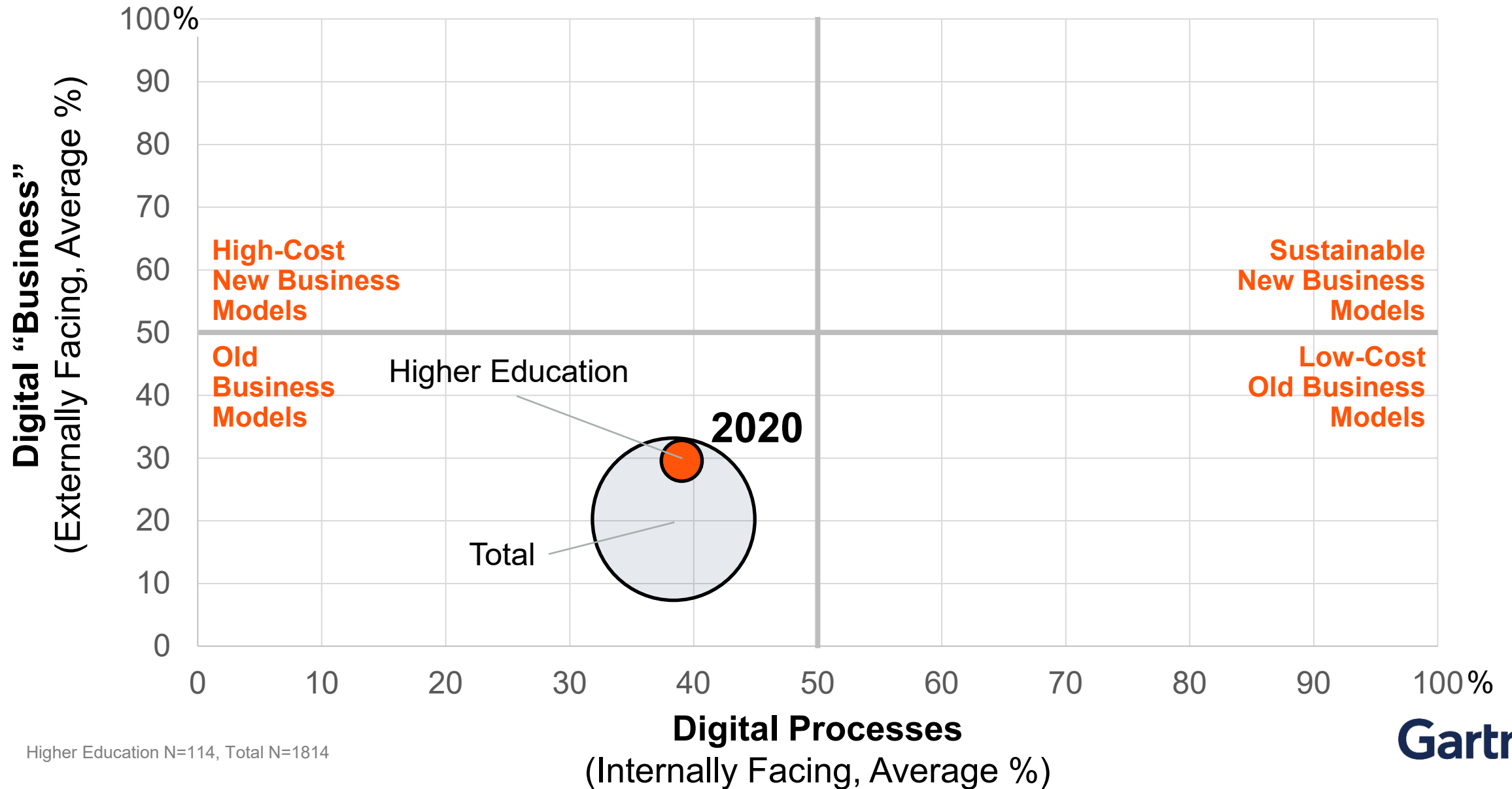
Operational Model



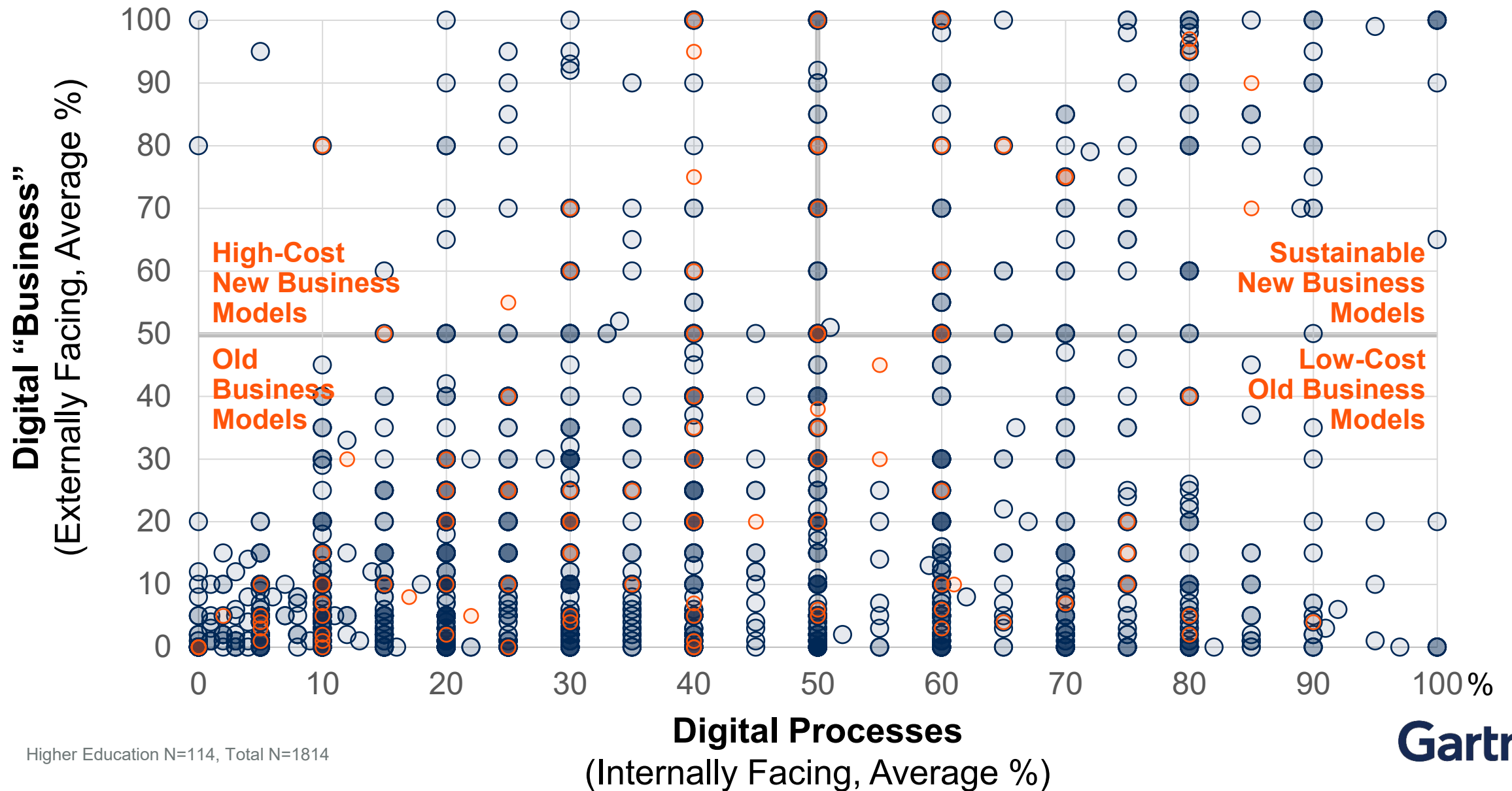
Higher Education N=114, Total N=1814,  
Banking N=198, Oil & Gas N=33

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# Lies, Damn Lies and Statistics



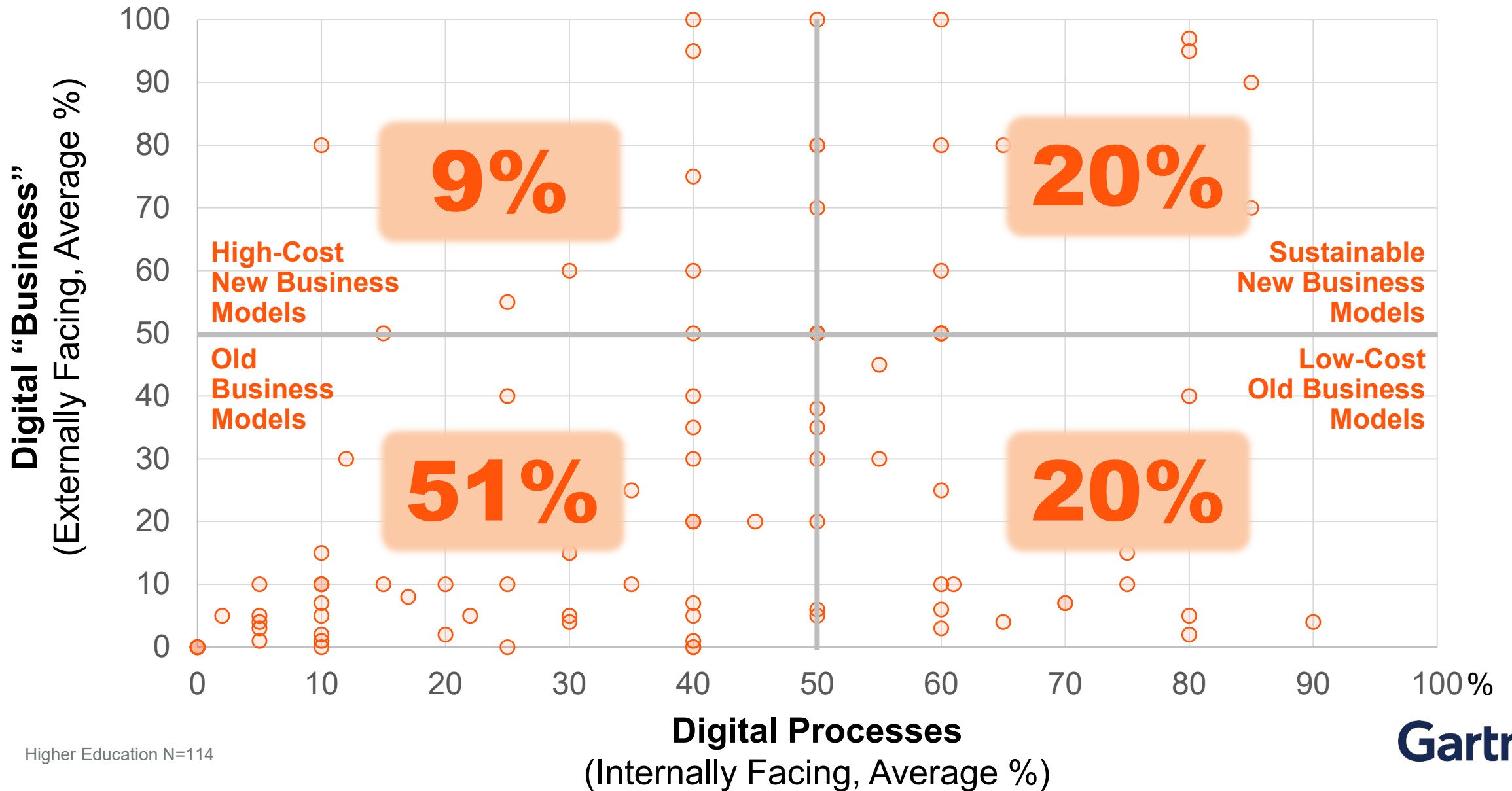
# Averages Can Deceive...



Higher Education N=114, Total N=1814



# And It Takes Only One...



# Deciding The Balance – Drives Capability Evolution



Digital Enablement

Digital Optimization

Digital Transformation

*Key Strategy: Working Capital of (Modular) Capabilities*

# The Change Challenge

**How Do You Eat An Elephant?**

**Digital Enablement**

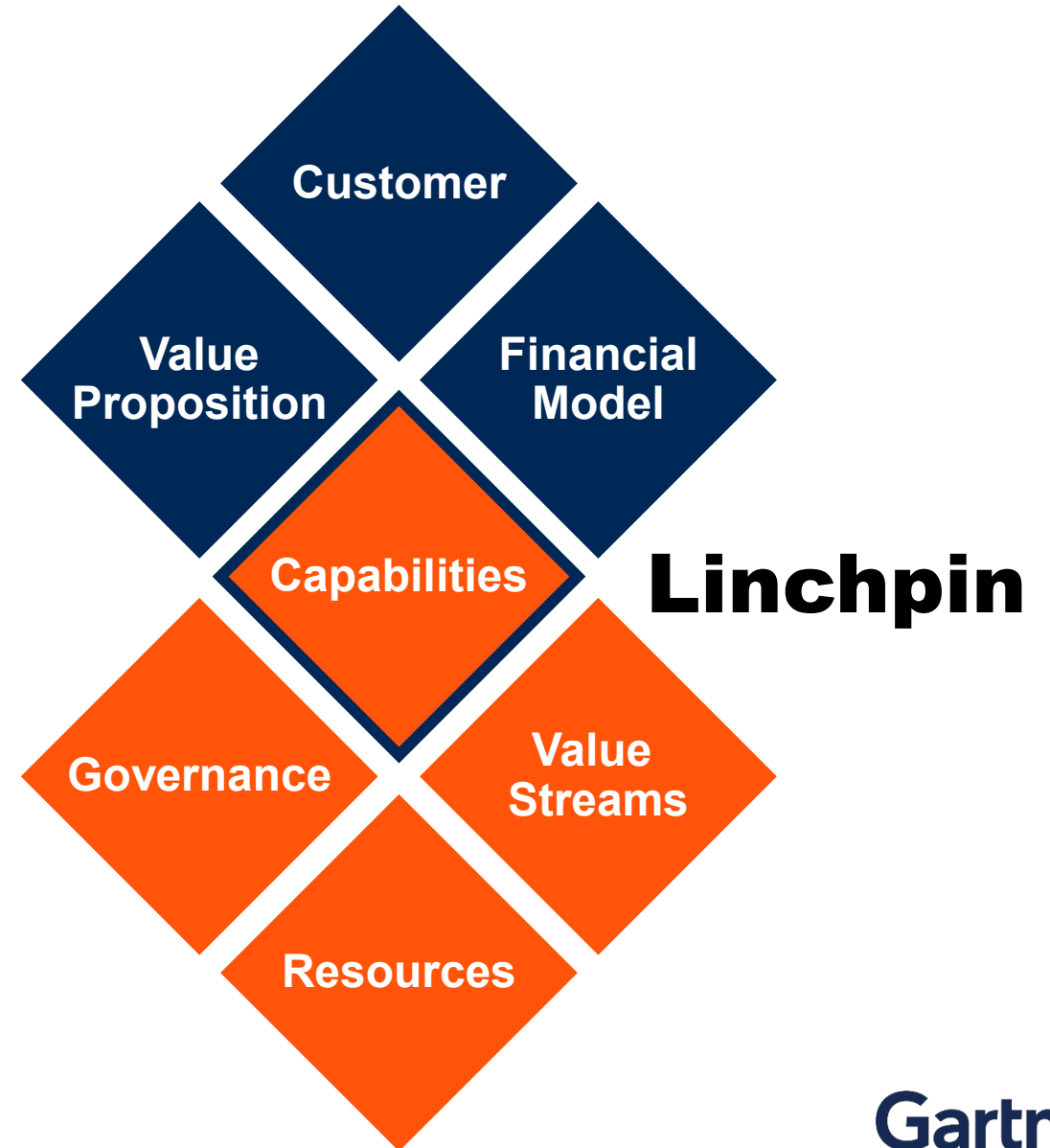
**Digital Optimization**

**Digital Transformation**

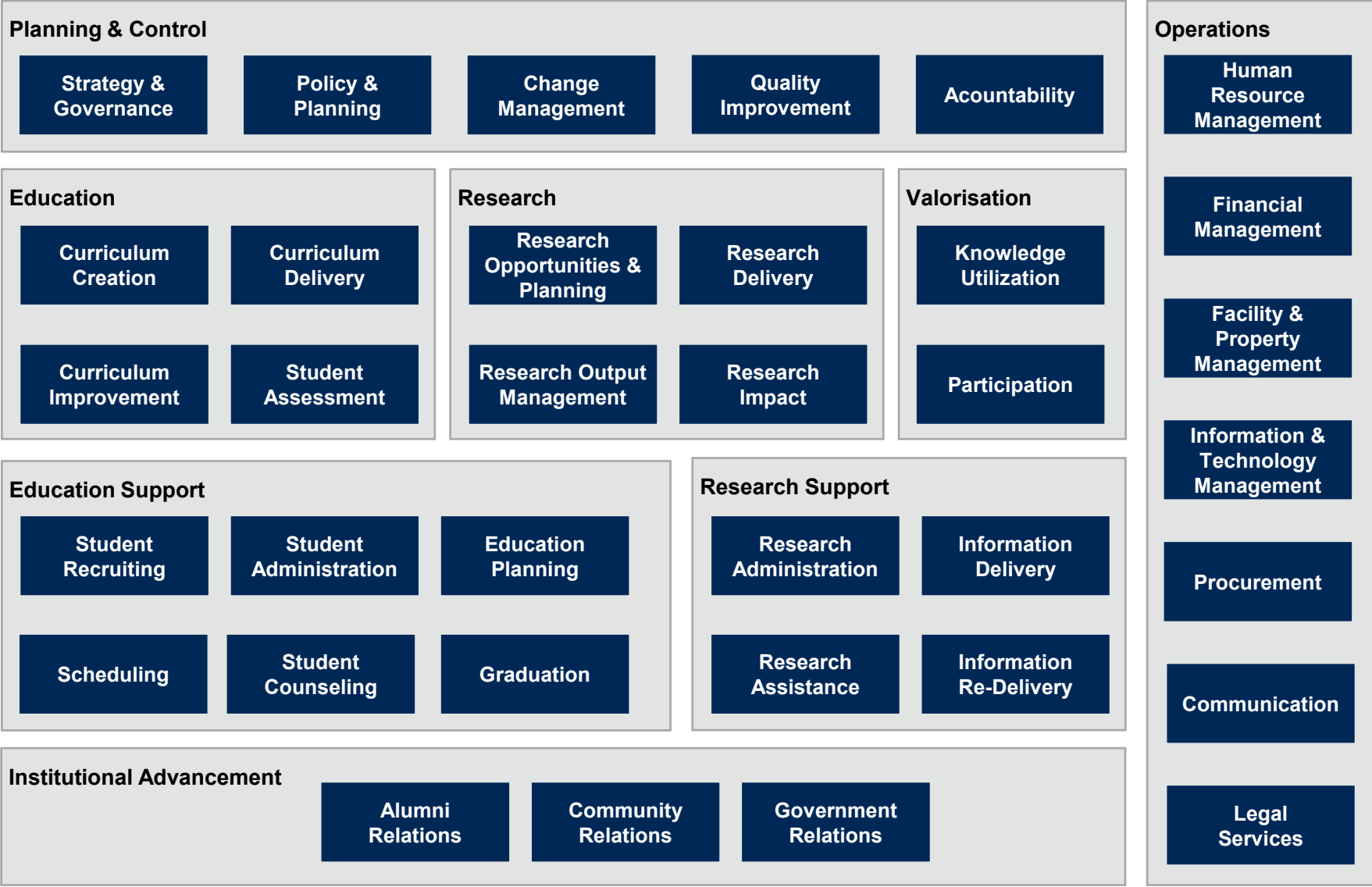
# Mastering Capabilities Catalyzes Change

**Business Model**

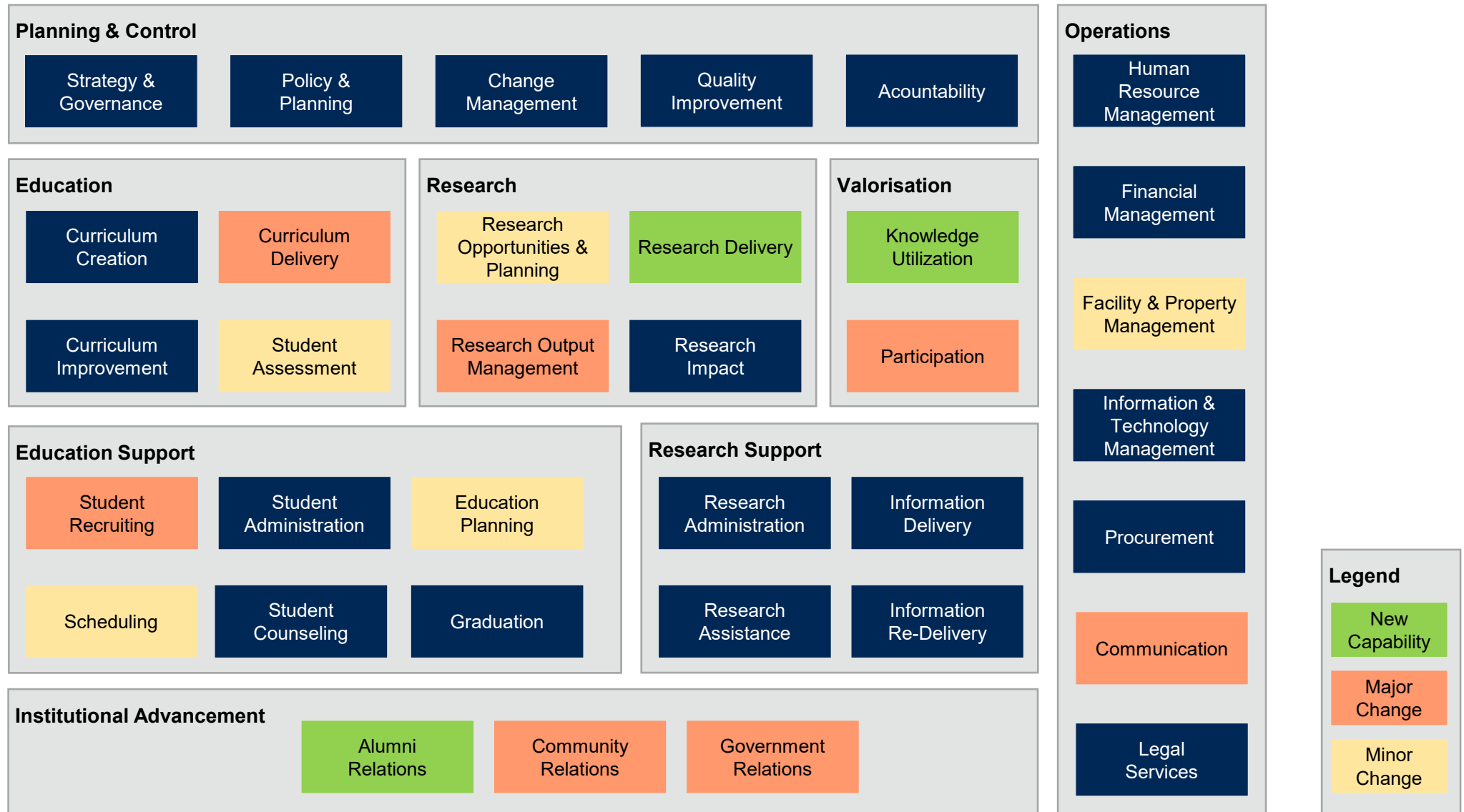
**Operating Model**



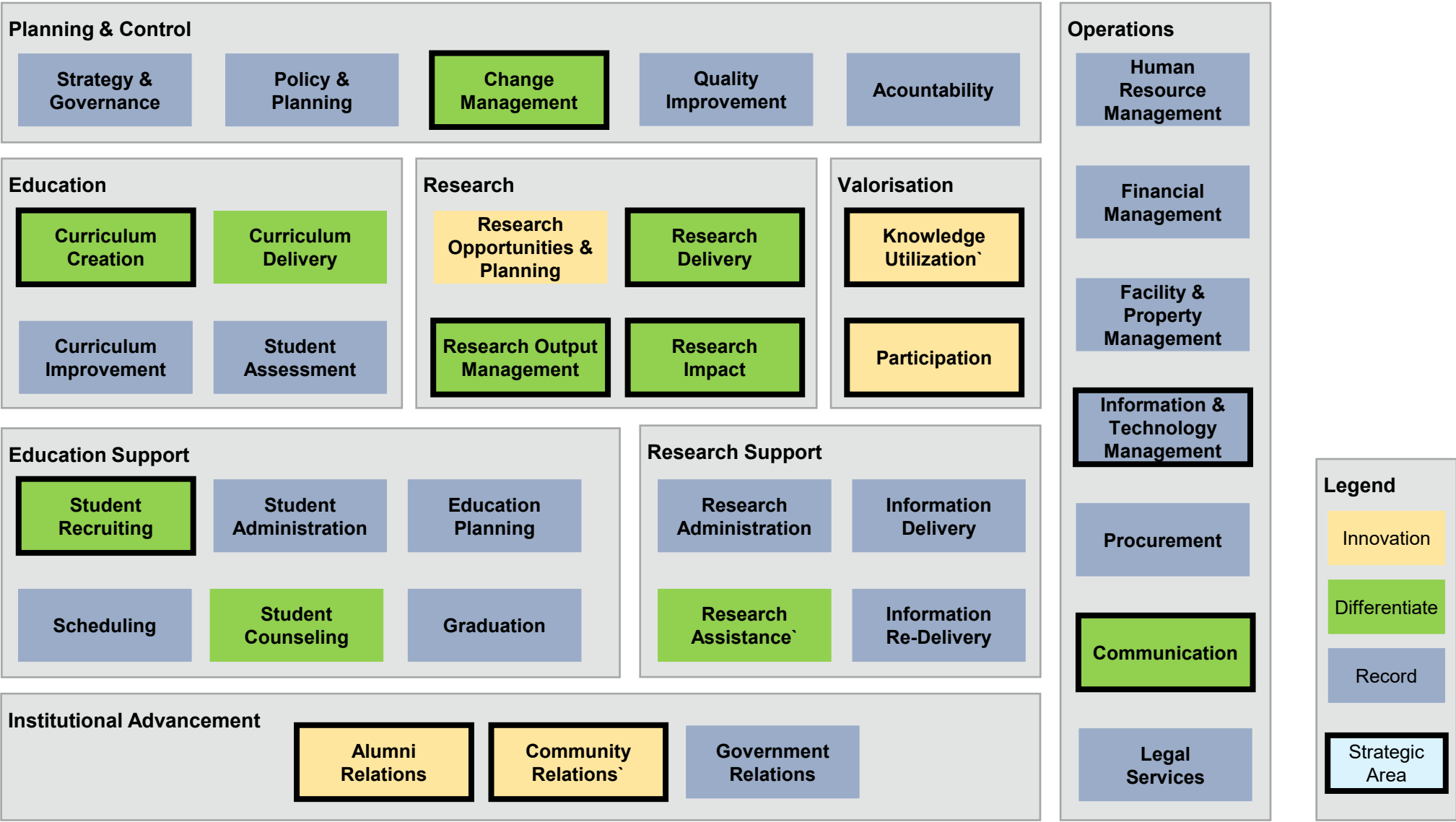
# Simplified Higher Education Business Capability Model



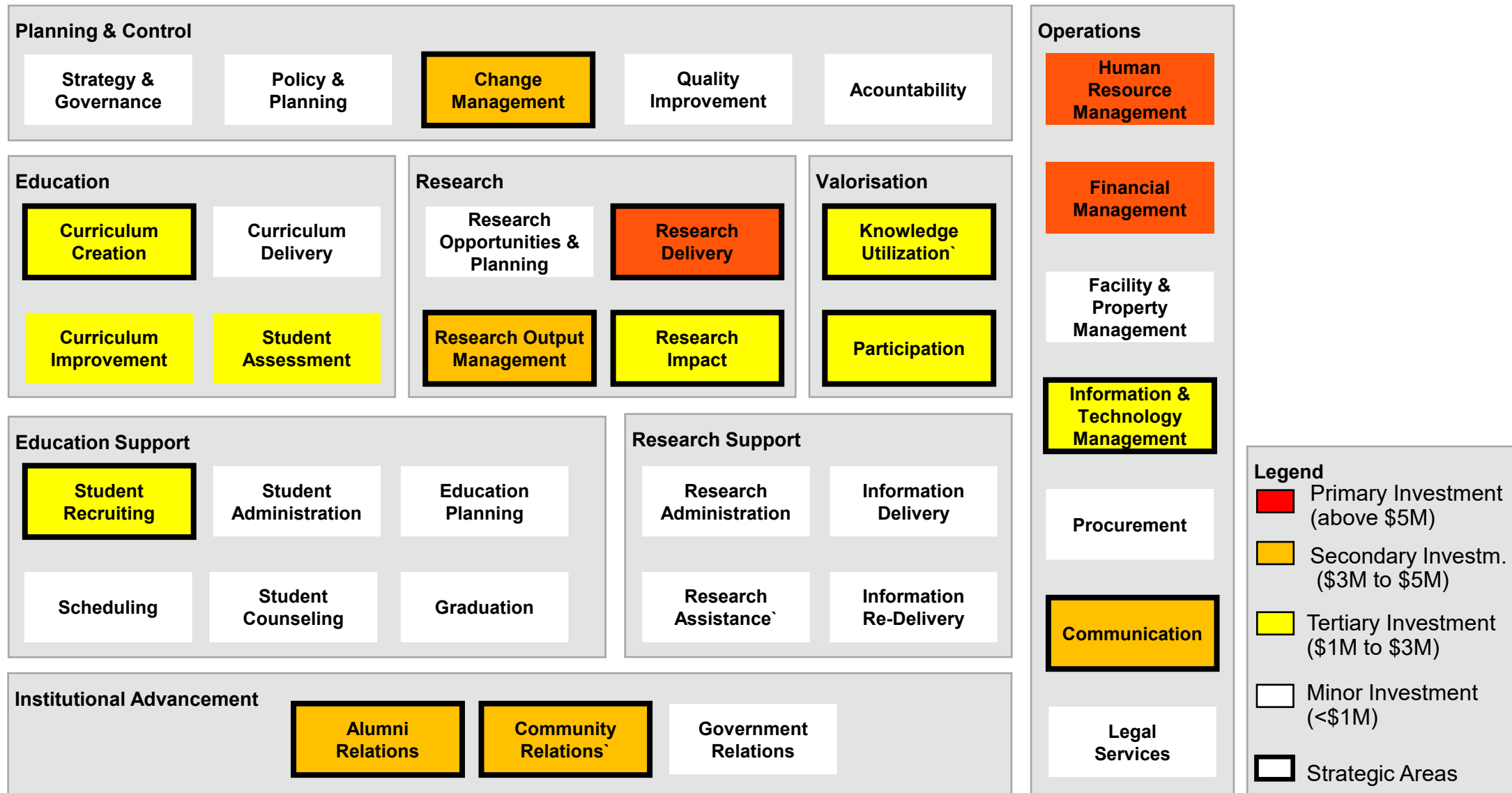
# Sample Heat Map Indicating Degree of Change



# Leveraging Pace Layering for Pace of Change

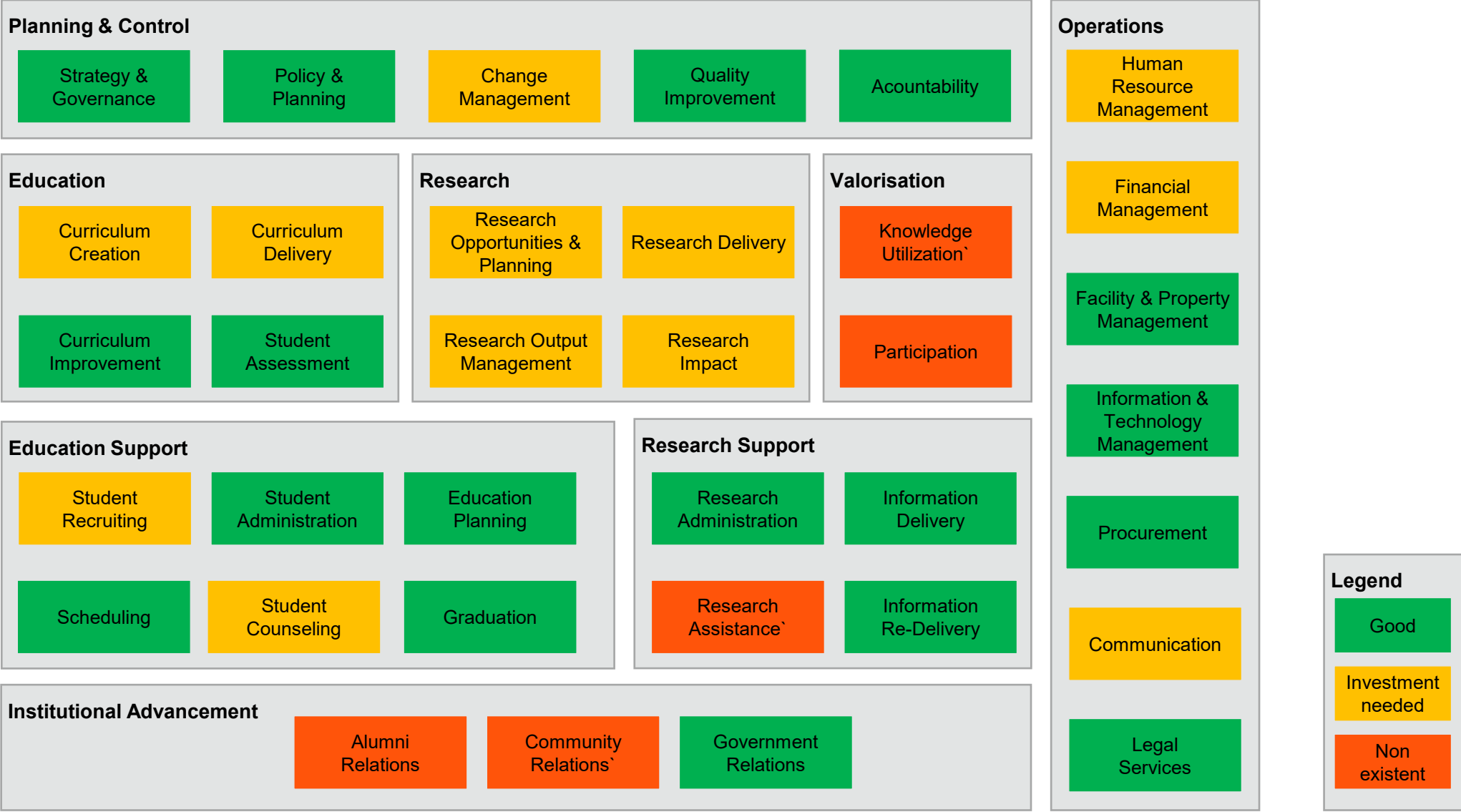


# Strategic Choices and priorities





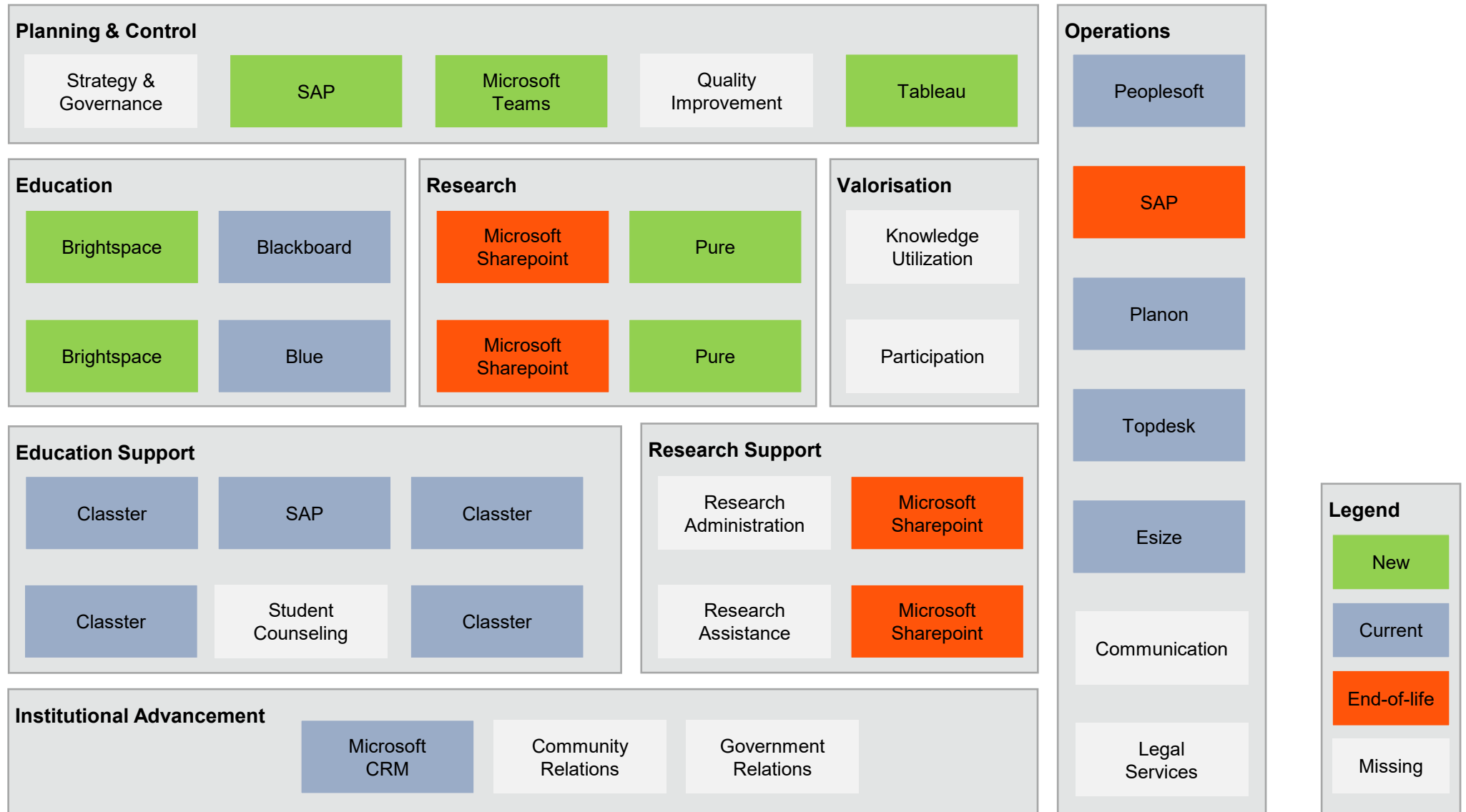
# IT Support Level in Higher Education



### Legend

- Good
- Investment needed
- Non existent

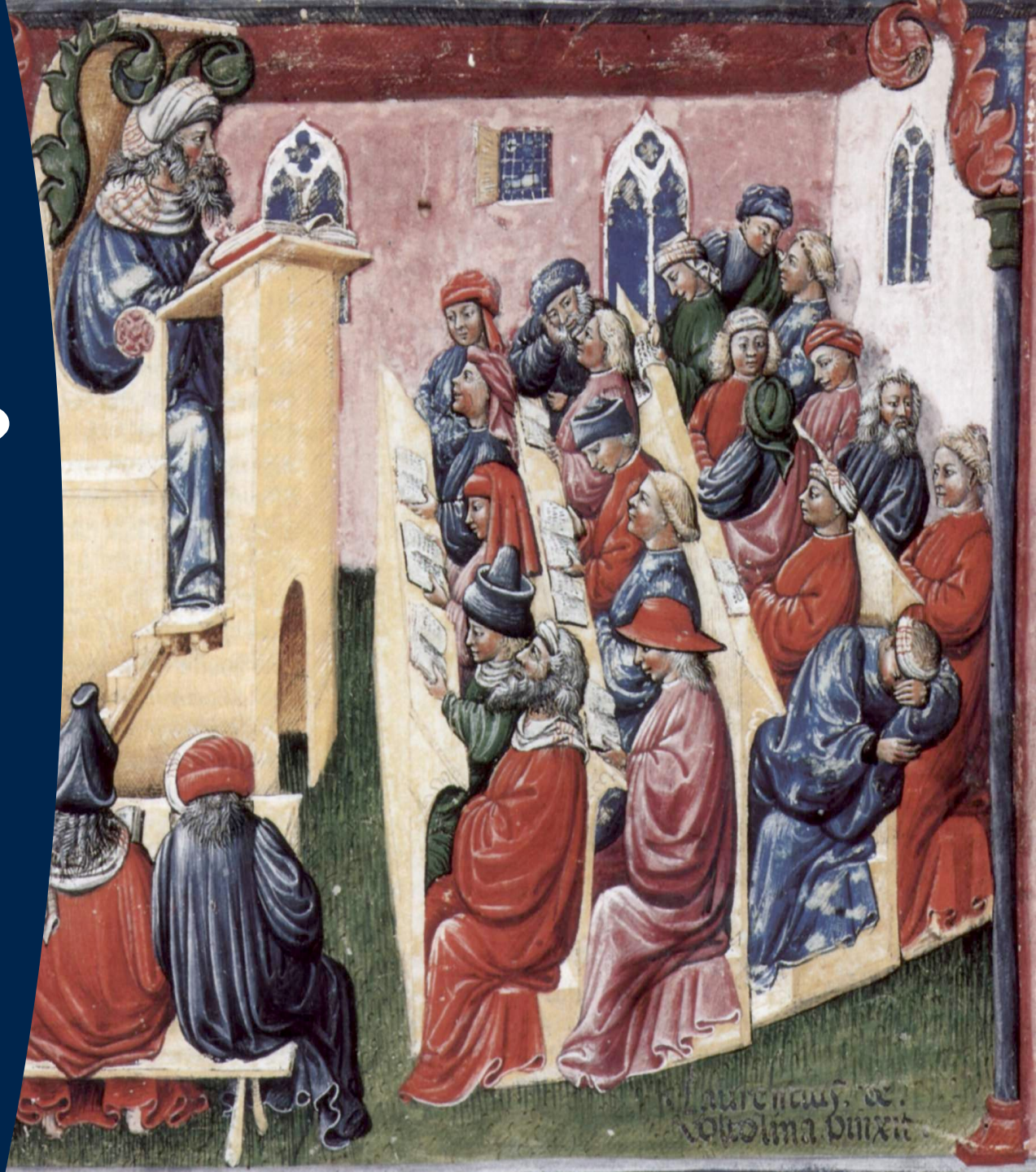
# Application landscape in Higher Education



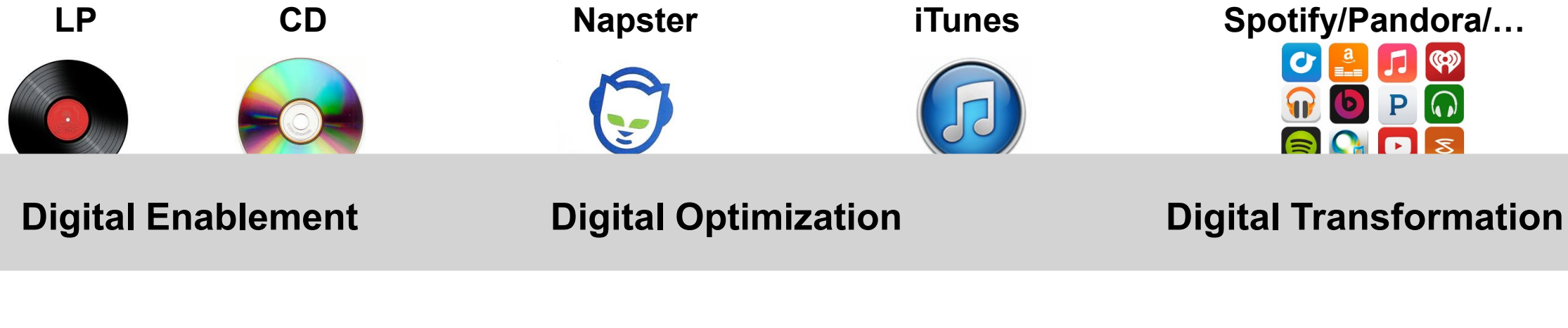
**From Here To There?**

—

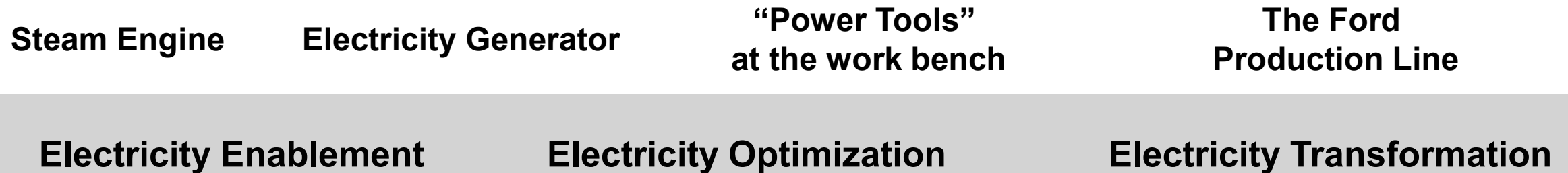
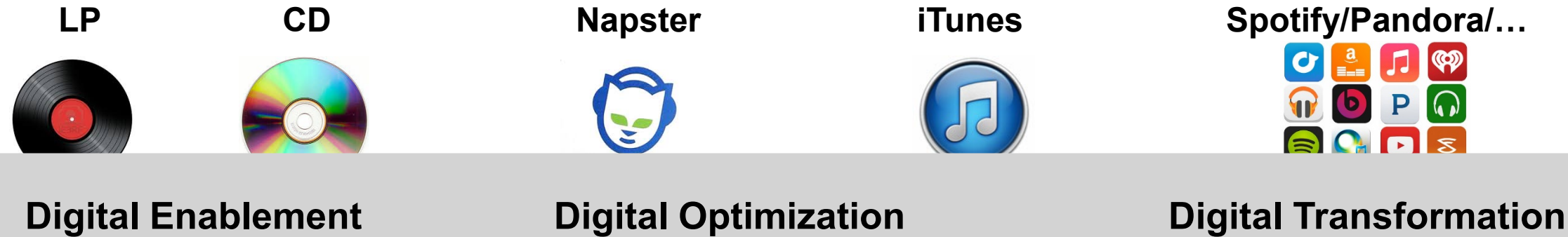
**Education  
(R)Evolution**



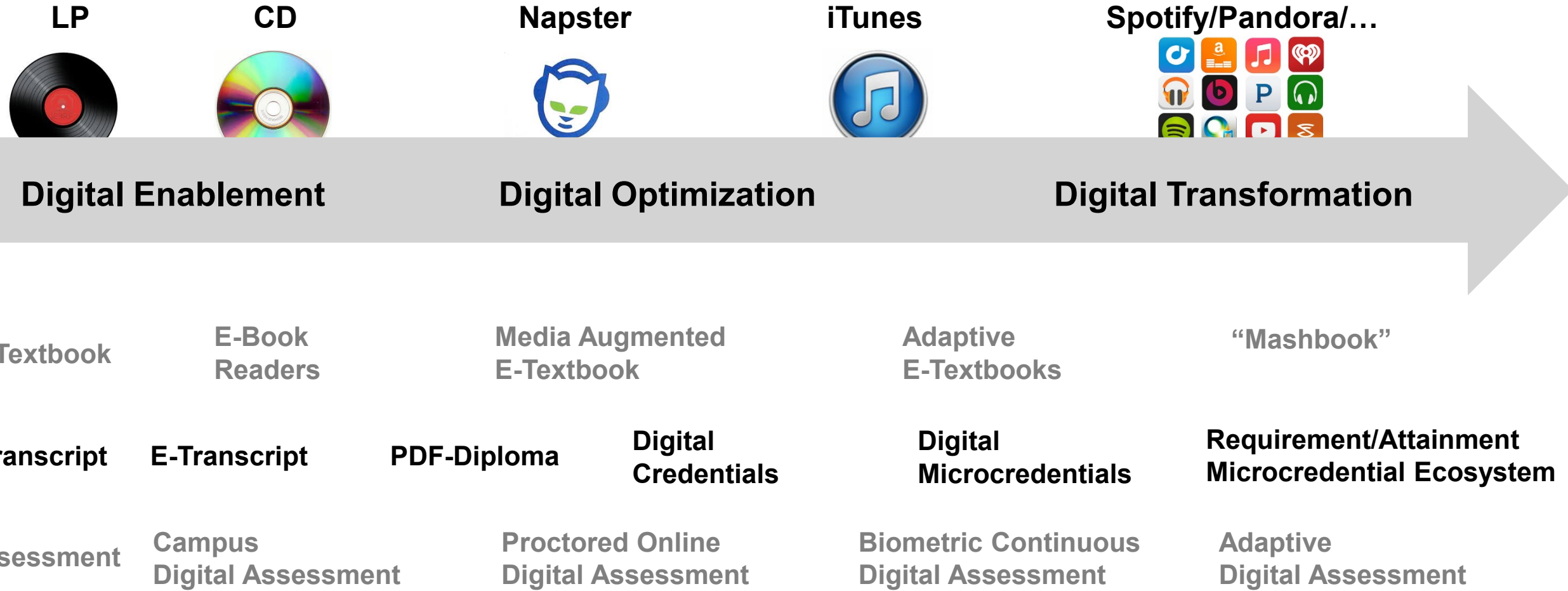
# What Would You Do If You Were a Record Company?



# What Would You Do If You Were a Record Company? ... Or a Manufacturer?



# Build Your Own Story – Out of Your Own Capabilities



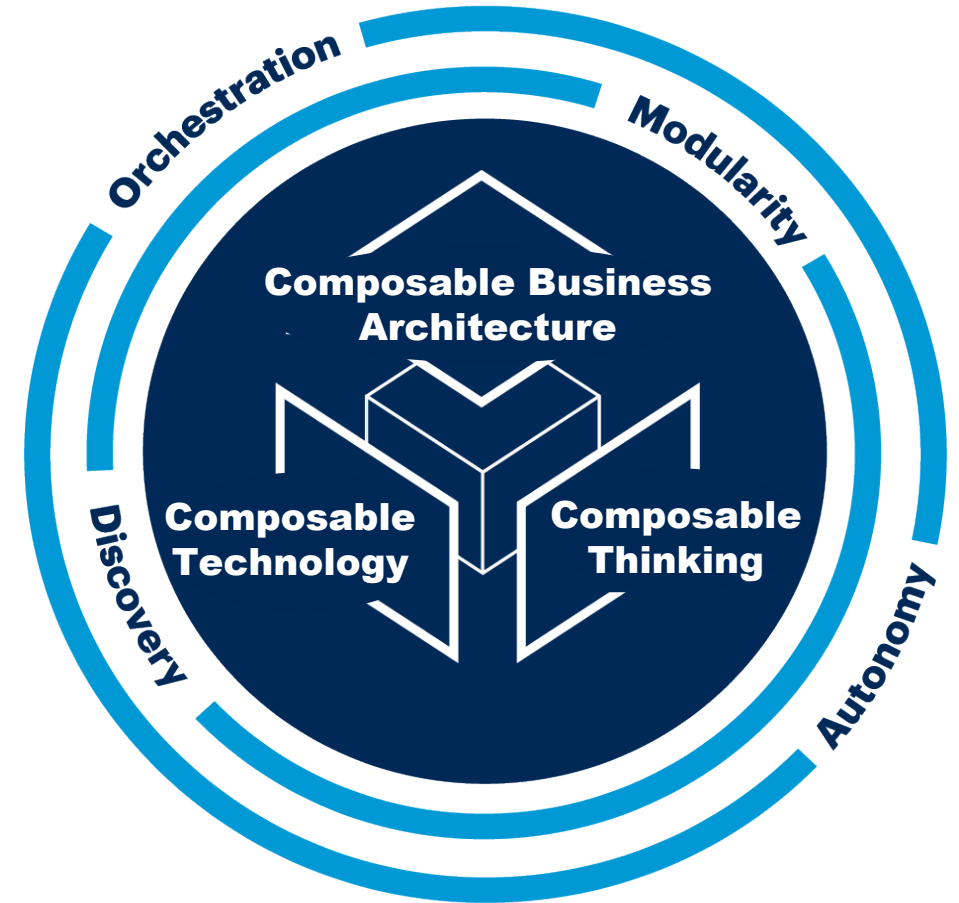


# The 2022 CIO Agenda:

Master **Business Composability**  
to Succeed in Uncertain Times

# What Is Business Composability?

- **Composable Thinking** (a mindset) to guide business change in the face of opportunity and uncertainty
- **Composable Business Architecture** (a blueprint of the business) to manage the pace of business change
- **Composable Technology** (the digital resources) to digitalize business





# Making Composability a Fitness Superpower is a Journey

## Low Business Composability

- 1. Not at all
- 2. Rarely
- 3. Somewhat

## Moderate Business Composability

- 4. Limited (e.g., in specific business units)
- 5. Common in several (but not most) business units

## High Business Composability

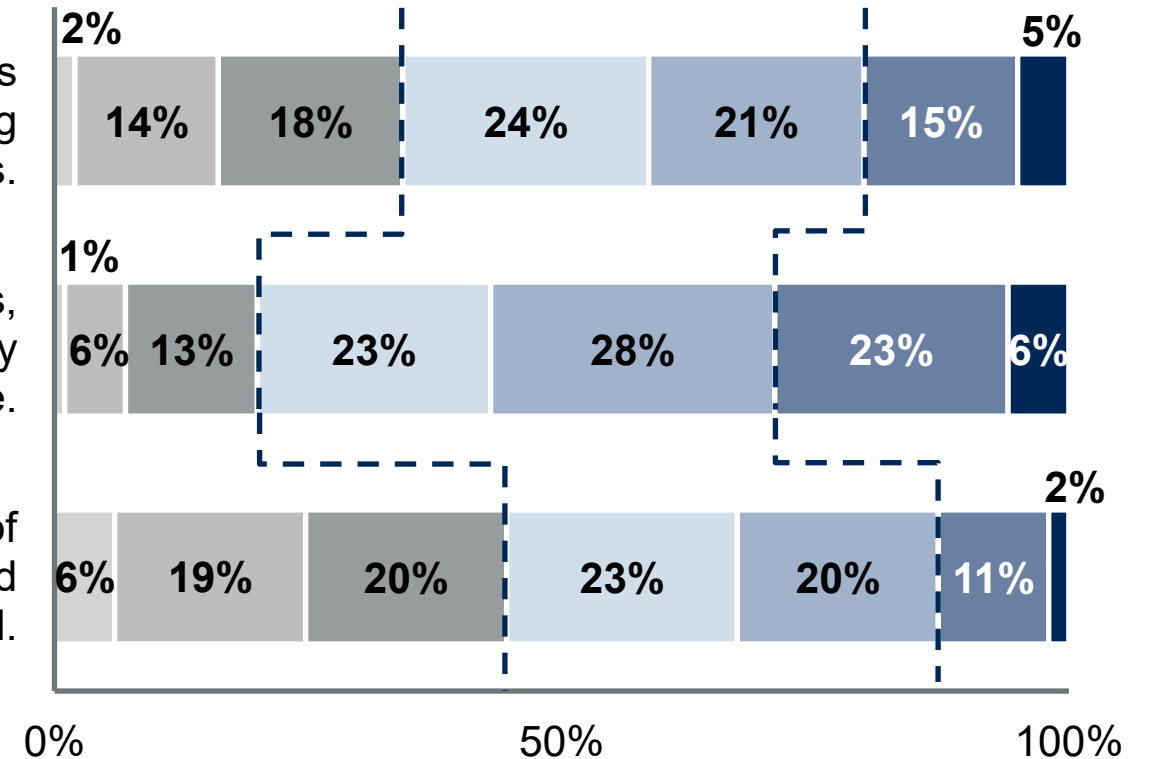
- 6. Widely
- 7. Extensively throughout the enterprise

- Composable Thinking
- Composable Business Architecture
- Composable Technologies

Our culture encourages the continuous exploration and creation of game-changing business capabilities.

Business elements (e.g., capabilities, products, teams, processes, services, etc.) dynamically evolve to create new value.

Technology assets and capabilities consist of modular components where assembly and reassembly are automated.

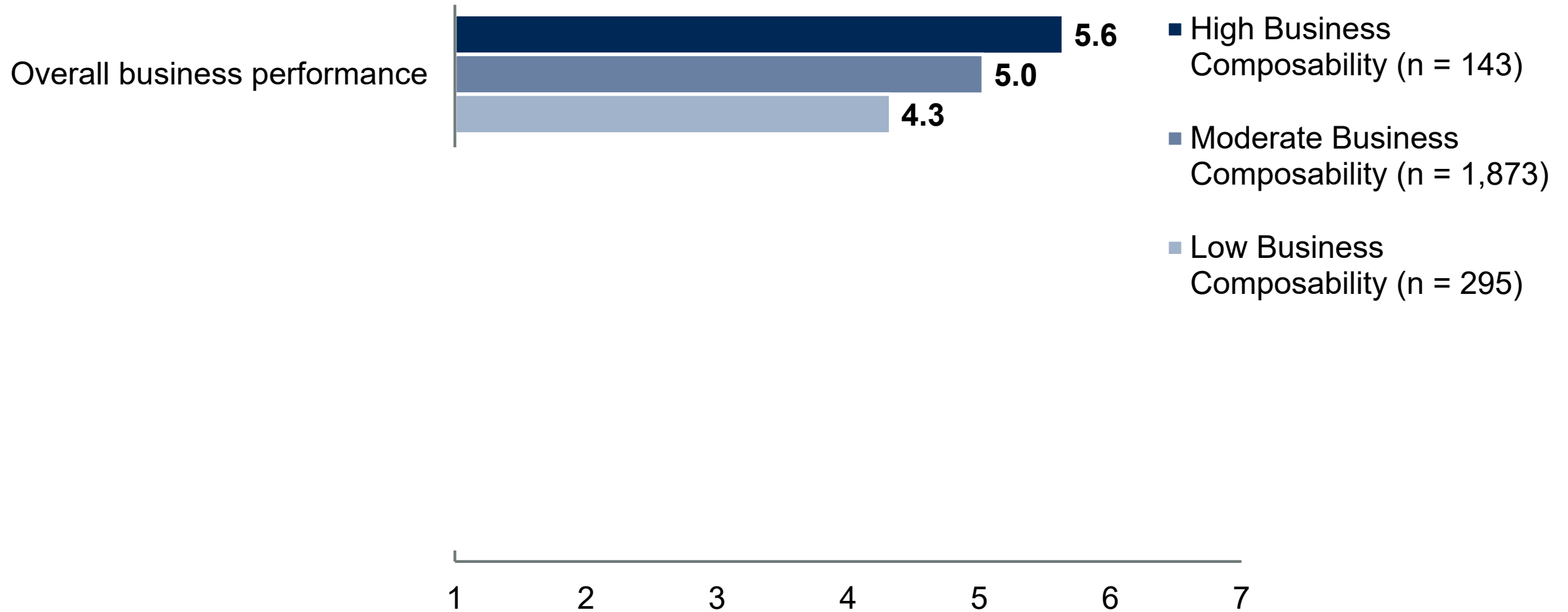


n = 2387, All respondents, excluding "Not Applicable"  
 Q. To what extent does your enterprise utilize these principles?  
 Source: 2022 Gartner CIO and Technology Executives Survey



# Enterprise Business Performance

Average Score on a Scale of 1 (Far behind) to 7 (Far ahead)



n varies by segment, All CIO respondents

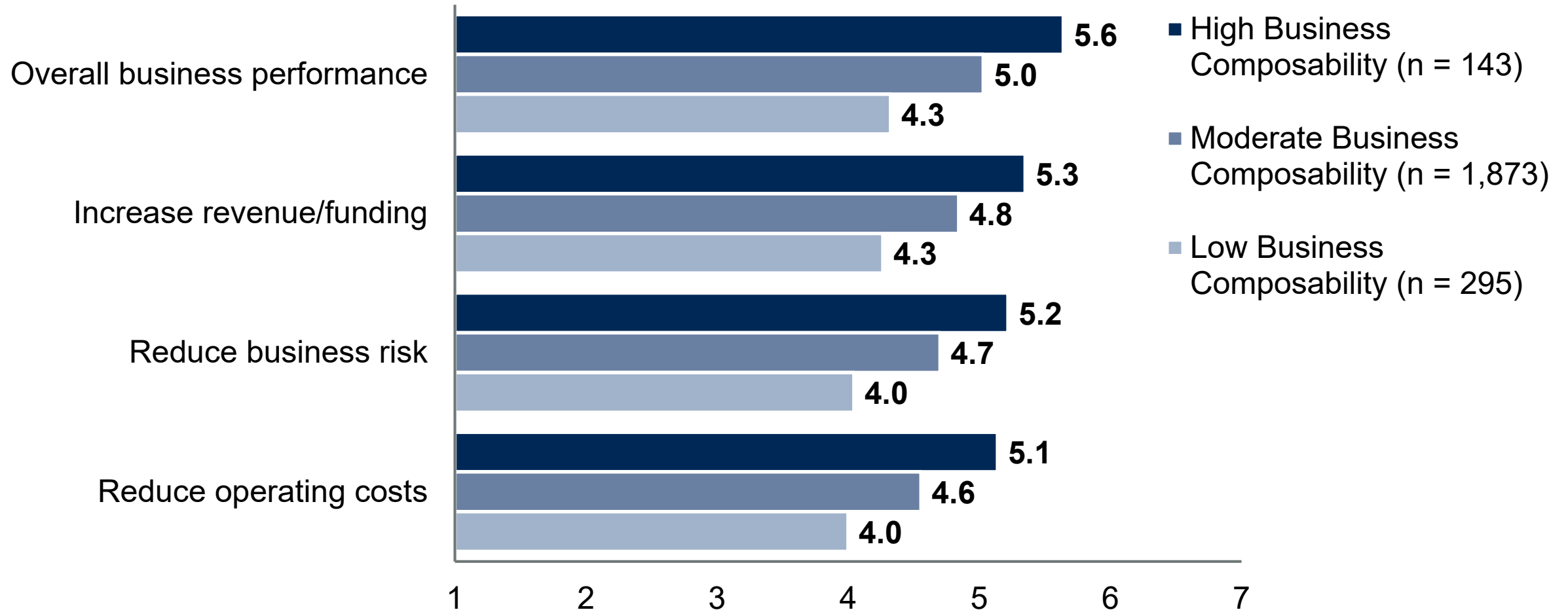
Q.. Considering the last 12 months, rate your enterprise's business performance compared with its peers or competitors.

Source: 2022 Gartner CIO and Technology Executive Survey



# Enterprise Business Performance

Average Score on a Scale of 1 (Far behind) to 7 (Far ahead)



n varies by segment, All CIO respondents

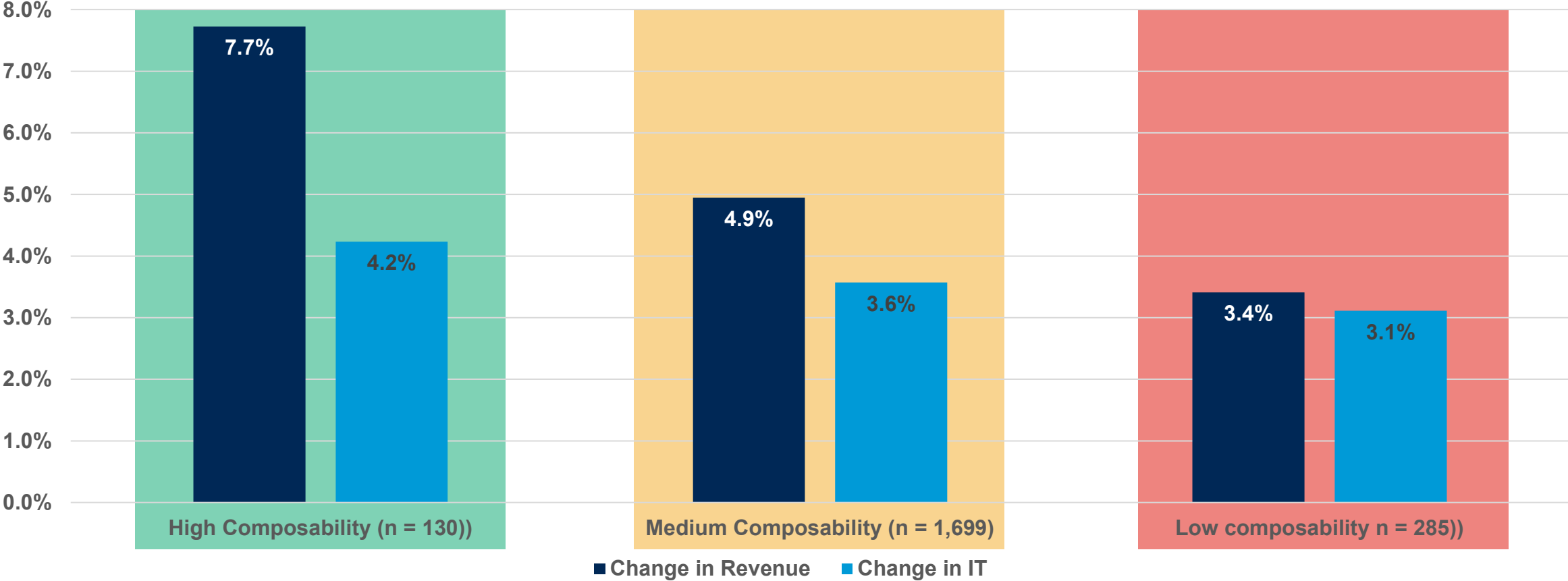
Q.. Considering the last 12 months, rate your enterprise's business performance compared with its peers or competitors.

Source: 2022 Gartner CIO and Technology Executive Survey

# High-Composability Enterprises Increase Revenue/Budget Faster and Leverage IT Better

Expected Change in Revenue/Budget and Change in IT Budget From 2021 to 2022

Average Percentage Change



n varies by segment, CIOs and technology executives answering, excluding not sure  
Q. By what percentage do you expect your enterprise's revenue/overall budget/turnover to increase or decrease from 2021 to 2022?  
Q. By what percentage do you expect your enterprise's IT budget to increase or decrease from 2021 to 2022?  
Source: 2022 Gartner CIO and Technology Executive Survey

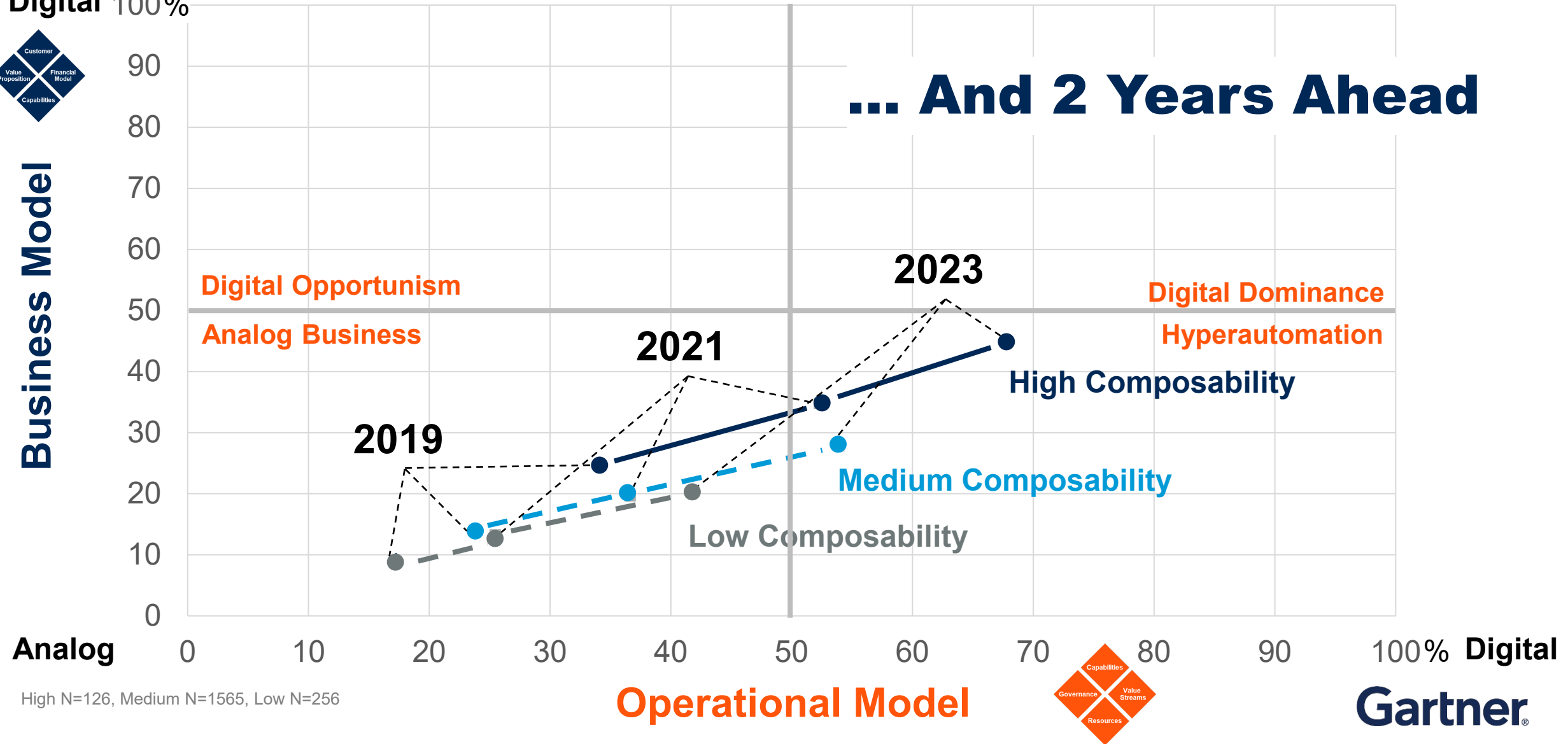
# Highly Composable Enterprises are More Digital...

Digital 100%



Business Model

... And 2 Years Ahead



Digital Opportunism  
Analog Business

Digital Dominance  
Hyperautomation

2019

2021

2023

High Composability

Medium Composability

Low Composability

Analog

0 10 20 30 40 50 60 70 80 90 100% Digital

Operational Model



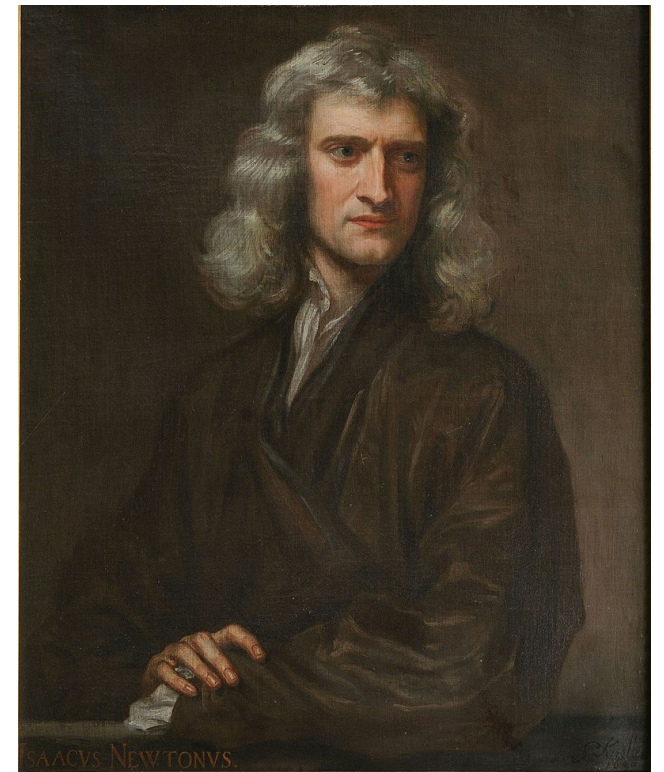
High N=126, Medium N=1565, Low N=256

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Cambridge Feb. 9. 1675.

Mr. Hooke's reading of your letter of the 22<sup>nd</sup> of January was exceedingly well pleased & I thank you for the offer of private satisfaction which you have done which seems a true philosophical spirit. I am a little surpris'd to hear of any dispute in nature of Philosophy more than contention; nor any kind of resolution more than one in print: & therefore I gladly embrace your proposal of a private correspondence. While some before many witnesses is seldom without some further concern than that for itself: but what passes between friends in private is usually divested of name of consultation rather than contest: so I hope it will prove between you & me. Your animadversions will be therefore very welcome to me: for though I was formerly kind with this subject & have not yet dar'd to publish ever shall remain so much love for it as to delight in reading over it; yet to have at once in short of thoughts or most pertinent objections that may be made, I could not be willing to need so much as to know as man better able to furnish me with them than your self. In this you will oblige me. And if there be any thing else in my papers in which you apprehend I have assumed too much, or not done you right, if you please to reserve your sentiments of it for a private letter, I hope you will find also that of an act so much in love with philosophical productions but of I can make them good to the equity of friendship. But in of means time you defer too much to my ability for searching into this subject. What I have done is not much to my credit. You have did much several ways, & especially in taking of colours of thin plates into philosophical consideration. If I have seen further it is by standing on the shoulders of Giants. But I make no question but you have done very considerable experiments besides those you have published, & some of 'em very probable the same will some of them in my late papers. Two at least I know you have observed, of dilatation of a black spot at the contact of two convex glasses & at the top of a water bubble: & it's probable there may be more, besides others which I have not made: so of I have reason to refer as much or more, in this regard to you as you would do to me, especially considering how much you have been directed by

**"If I have seen further it is by standing on the shoulders of Giants."**



Portrait of Newton at 46 by [Godfrey Kneller](#), 1689

Newton, Isaac. ["Letter from Sir Isaac Newton to Robert Hooke"](#). Historical Society of Pennsylvania.



# Ceterum Censeo...

“Standards Enable Flexibility”

Jan-Martin Lowendahl

**The End**