Opportunities & Threats: Ecosystem vs. Industry
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The TCS 2020 Chief Information Officer (CIO) Study seeks answers to central questions facing information and technology executives across industries in North America and Europe: How are they helping their enterprises navigate a complex and fast-evolving digital landscape? Where are they focusing their digital initiatives? What traction have they gained this decade from those efforts?

This report focuses on how chief information officers and other senior leaders in their companies think about threats and opportunities in a world of cross-industry digital ecosystems.

Other reports in this series examine these and other issues across and within industries:
- Key Findings: How CIOs Are Helping Their Companies Navigate the Digital Ecosystem
- Roles & Responsibilities in Digital Business
- Data Priorities & Practices
- Master Report: Study Results, Trends & Best Practices

Additional reports look specifically at the following industries: consumer packaged goods; banking, financial services, and insurance; retail; and telecommunications, media, entertainment and information services, as well as the viewpoints of CIOs at North American and European firms. All reports currently available from the TCS 2020 CIO Study can be found at: on.tcs.com/ciostudy
Key Highlights

Opportunities & Threats: Ecosystem vs. Industry

Despite significant attention to the emerging world of cross-industry digital ecosystems, only about one-fifth of the 1,010 firms surveyed look at their digital opportunities through the lens of such ecosystems. More than twice as many view their opportunities through a narrower aperture that mostly encompasses their present industry structure.

No industry yet has more companies focused on digital ecosystems than it has those oriented to their existing industry opportunities. The industry least focused on the ecosystem is consumer packaged goods—leaving the established players ripe for competition from new direct-to-customer e-commerce firms leveraging the ecosystem.

Companies today are more likely to see the digital ecosystem as the source of competitive threats than as a platform for opportunity.

Across most industries, the greatest predictor of where a company’s top management foresees future competitive threats emerging is its industry’s overall view on such issues, not its own strategic outlook for future opportunity.

Nevertheless, companies expecting to compete along traditional industry lines in the years ahead are the most likely to think they’re also mostly or fully prepared to take on new digital entrants from outside their sector.
Digital Opportunity & Competition: Context in the CIO Study

As defined by TCS thought leaders Frank Diana, Bill Quinn, Kevin Mulcahy and Rose Castellon-Rodriguez in the 13th edition of the management journal *TCS Perspectives*, a digital ecosystem has as much or more to do with the “ecosystem” as with the “digital” aspects of a business.

To understand the key differences in how corporate leaders view their opportunities (and threats), the 1,010 respondents of our survey were split into three groups based on how the CIOs said their company’s top management team and board of directors think about the company’s business and opportunities in a digital world: Ecosystem Strategists, Transitional Strategists, or Industry Strategists.

**dig·i·tal eco·sys·tem**

A complex network of stakeholders that extends across industry verticals. These stakeholders—producers, suppliers, customers, and platform orchestrators—connect through digital platforms and interact in ways that create value.

In a digital ecosystem, participants act collectively to create new markets, deliver new forms of value, and build new and more engaging customer experiences.

The fact that ecosystems cross industry borders is key. They are horizontal, not vertical, forming connections among participants without regard to industry or sector. This allows ecosystem players to capture more opportunities, and improve their collaboration skills, which makes them more resilient and agile in the face of competitive market threats and fluctuations.

Definitions

**Ecosystem Strategists** (188 respondents)

“Our board and top management team thinks very expansively about its business and opportunities in a digital world. They’re entirely open to new ideas about customers, offerings, data to sell, etc., and actively pursuing opportunities in those areas. We use ‘digital ecosystem’ or similar concepts to expand our thinking about what sectors we play in, what competitors we compete against (today and in the future), what customer needs we could address, what business partnerships we should explore.”

**Transitional Strategists** (331 respondents)

“Our board and top management team thinks expansively about its business and opportunities in a digital world. They’re very open to new ideas about customers that could be served, products and services that could be created, data that could be sold, etc.”

**Industry Strategists** (491 respondents)

“Our board and top management team thinks narrowly—or, at most, somewhat more than narrowly—about its business and opportunities in a digital world. Either they still largely think about our business through the traditional lens of our industry structure, or they’re not at all expansive in thinking about our opportunities beyond the way the company has thought about them for decades.”

**Strategic orientation of company boards & top management**

- **Ecosystem Strategists** (19%)
- **Transitional Strategists** (33%)
- **Industry Strategists** (49%)
Ecosystem Strategists Twice as Likely to Be Found in U.S.

U.S. firms are twice as likely as firms in Canada, the United Kingdom, Germany and the Netherlands to view their strategic opportunities through the lens of cross-industry digital ecosystems. Over half of the European CIOs surveyed said their companies are largely focused on opportunities in the same way they always have been.

Of the 188 Ecosystem Strategists in our survey, 77% were in North America and 23% were in Europe.

### Strategic orientations by country

<table>
<thead>
<tr>
<th>Country</th>
<th>Ecosystem Strategists</th>
<th>Transitional Strategists</th>
<th>Industry Strategists</th>
</tr>
</thead>
<tbody>
<tr>
<td>US</td>
<td>26%</td>
<td>31%</td>
<td>43%</td>
</tr>
<tr>
<td>Canada</td>
<td>13%</td>
<td>42%</td>
<td>46%</td>
</tr>
<tr>
<td>UK</td>
<td>13%</td>
<td>30%</td>
<td>57%</td>
</tr>
<tr>
<td>Germany</td>
<td>5%</td>
<td>41%</td>
<td>54%</td>
</tr>
<tr>
<td>Netherlands</td>
<td>12%</td>
<td>30%</td>
<td>58%</td>
</tr>
</tbody>
</table>
Strategic Outlook Varies by Revenue

The larger, by revenue, a company is, the less likely its leadership is focused solely on the current industry’s competition and opportunities. There is not, however, a natural progression to thinking explicitly about digital ecosystems.

Ecosystem Strategists still constitute a minority (a third or less) of companies, regardless of revenue. Companies approaching (but not yet achieving) $10 billion and $50 billion in revenues are somewhat more interested in ecosystem strategies than companies at other inflection points of growth, whereas a plurality of companies with revenues in the $10-20 billion and over $50 billion ranges are open to new ways of doing business, but do not yet see their strategic options as overt reflections of emerging ecosystems.

### Strategic orientations by annual revenue

<table>
<thead>
<tr>
<th>Revenue Range</th>
<th>Ecosystem Strategists</th>
<th>Transitional Strategists</th>
<th>Industry Strategists</th>
</tr>
</thead>
<tbody>
<tr>
<td>$500 million to less than $1 billion</td>
<td>18%</td>
<td>25%</td>
<td>57%</td>
</tr>
<tr>
<td>$1 billion to less than $5 billion</td>
<td>17%</td>
<td>36%</td>
<td>48%</td>
</tr>
<tr>
<td>$5 billion to less than $10 billion</td>
<td>25%</td>
<td>28%</td>
<td>47%</td>
</tr>
<tr>
<td>$10 billion to less than $20 billion</td>
<td>11%</td>
<td>47%</td>
<td>42%</td>
</tr>
<tr>
<td>$20 billion to less than $50 billion</td>
<td>29%</td>
<td>30%</td>
<td>41%</td>
</tr>
<tr>
<td>$50 billion or greater</td>
<td>21%</td>
<td>41%</td>
<td>38%</td>
</tr>
</tbody>
</table>
Ecosystem Thinking vs Industry Thinking

No Industry Is Yet Thinking Outside Itself

Today, no industry’s corporate leadership yet consists of more Ecosystem Strategists than Industry Strategists. (Automobile manufacturers have an equal number of firms focused on digital ecosystems as those looking at more traditional industry opportunities.)

The industries whose CIOs report their corporate leadership is most focused on industry strategies—consumer packaged goods, industrial manufacturing, and healthcare and life sciences—are also those with the fewest Transitional Strategists and in the bottom half of industries represented by Ecosystem Strategists, implying that these companies are expecting less disruption in coming years—or they may be the least prepared should it occur.

### Strategic orientations by industry

<table>
<thead>
<tr>
<th>Industry</th>
<th>Ecosystem Strategists</th>
<th>Transitional Strategists</th>
<th>Industry Strategists</th>
</tr>
</thead>
<tbody>
<tr>
<td>Automotive</td>
<td>27%</td>
<td>46%</td>
<td>27%</td>
</tr>
<tr>
<td>Banking &amp; financial services</td>
<td>28%</td>
<td>41%</td>
<td>31%</td>
</tr>
<tr>
<td>Travel &amp; transportation</td>
<td>22%</td>
<td>43%</td>
<td>35%</td>
</tr>
<tr>
<td>High-tech</td>
<td>31%</td>
<td>34%</td>
<td>35%</td>
</tr>
<tr>
<td>Telecommunications</td>
<td>18%</td>
<td>43%</td>
<td>38%</td>
</tr>
<tr>
<td>Media, entertainment, information</td>
<td>21%</td>
<td>36%</td>
<td>43%</td>
</tr>
<tr>
<td>Insurance</td>
<td>15%</td>
<td>42%</td>
<td>43%</td>
</tr>
<tr>
<td>Retail</td>
<td>14%</td>
<td>39%</td>
<td>47%</td>
</tr>
<tr>
<td>Healthcare &amp; life sciences</td>
<td>15%</td>
<td>23%</td>
<td>62%</td>
</tr>
<tr>
<td>Manufacturing</td>
<td>19%</td>
<td>19%</td>
<td>63%</td>
</tr>
<tr>
<td>Consumer packaged goods</td>
<td>6%</td>
<td>8%</td>
<td>87%</td>
</tr>
</tbody>
</table>
In addition to having a higher percentage of boards and management teams focused on digital ecosystems than most other industries, the automotive and banking industries have the lowest percentages of traditional Industry Strategists—fewer, even, than in high-tech—marking an awareness that (for car companies and banks, at least), the game has changed considerably in the past decade.

Change also seems imminent in the travel and transportation and the telecommunications services industries, with a higher percentage of Transitional Strategists than Industry Strategists—even if only about a fifth of these CIOs say their companies are currently consciously competing in a digital ecosystem.

One industry—consumer packaged goods—deserves a closer look, since it varies so widely from the other industries.
Summary: Only some of the largest and some of the smallest CPG firms are overtly seeking to leverage the digital ecosystem as it relates to their sector, their competition, customer needs and new partnerships. The vast majority of CPG companies are focused on traditional industry issues such as improving operations and finding efficiencies.

Strategies in Consumer Packaged Goods

In assessing their business opportunities in a digital world, CPG boards and management teams are the least likely to look beyond, or redefine, the industry’s traditional borders.

87% of CPG CIOs reported their companies’ leaders still largely see their business and its opportunities through the lens of traditional industry structures, compared to only 42% of CIOs in other industries who said so.
Ecosystem and Transitional Strategies in Consumer Packaged Goods

Among some of the very largest CPG firms—as well as some of the smaller firms—work is underway to take advantage of new digital and data capabilities in transforming whole areas of revenue, partnerships, customers and profit. Fourteen percent of CPG CIOs said their companies were thinking expansively or very expansively about business and opportunities in a digital world. Overtly digital ecosystem-focused strategist companies were only to be found among the companies with less than $5 billion in revenue or more than $50 billion.

Giants are the often well-known names in the industry. (In the food and beverage subsector, for example, around 12.5% of this nearly $5 trillion global market is controlled by only 30 companies.) Across CPG, these major global players are generally focused on the digital ecosystem, and are often at the forefront of new sales and marketing avenues, new customer segments, and new subsectors in which they might compete.

Similarly, start-ups in various subsectors of CPG—such as Dollar Shave Club and Harry’s in men’s personal grooming—have been able to leverage cloud platforms, e-commerce and viral media to quickly become big enough to be worth acquiring by much larger companies.

Digital strategy developments across a sample of subsectors

- New business models
- Direct-to-consumer
- Hyper-personalization
- Smart products & services
- IOT-enabled supply chains
- Digital twins in manufacturing
Despite strong examples of innovation and transformation in consumer packaged goods, the majority of CIOs at the 141 CPG companies in our survey said that their boards and top management still largely or even solely thought about business through the perspective of their traditional industry structure. There are various factors why that might be so.

**Traditional industry forces at play**

- High barriers to success historically: manufacturing physical products, warehouses, distribution networks, retail partnerships
- CPG was among first industries to hardwire enterprise resource planning into infrastructure; now struggling to move on from ERP legacy technology
- Low percentage of board members with deep digital experience*:
  - CPG boards: 39%
  - Non-CPG boards: 51%
- Low R&D spending as a percent of sales compared to most other industries**

Major developments in technology and business threaten to overtake these traditional-minded firms, however.

**Industry ecosystem forces at play**

- Digital platforms and outsourcing have drastically reduced the cost to entry for start-ups.
- CPG-focused venture and private equity investors (e.g., Greenmont Capital Partners), accelerator firms (e.g., Accel Foods) and even crowdsourced funding platforms (e.g., CircleUp) provide ready capital.
- Many large CPG companies’ “innovation investment” includes mergers and acquisitions, corporate venture funds and foundry/venture studios (e.g., Unilever Foundry).
- Consumer interest in health, sustainability, authenticity and transparency is driving marketing success for new, smaller firms not shackled with legacy reputations.

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Establishing a Roadmap to an Ecosystem Strategy

The real risk for the majority of the CPG companies—in North America and Europe, at least—may not be their lack of explicit focus on the emerging digital ecosystem but their seeming disinterest in even “new ideas about customers that could be served, products and services that could be created, data that could be sold, etc.”

In the TCS study, only 8% of CPG CIOs described the thinking of their boards and top management as these kinds of Transitional Strategists.

Even the two other industries that may be over-emphasizing traditional industry business models—industrial manufacturing and the healthcare and life sciences sector—had more than a third of CIOs give their corporate leadership credit for expansive thinking, whether that was in general or specifically regarding the digital ecosystem opportunities.

Among the eight remaining industries, it may also be relevant that the retail industry—to which CPG has traditionally been yoked—also reported the highest percentage of Industry Strategists (47%) and the lowest percentage of Ecosystem Strategists (14%).

At the CPG industry’s current inflection point, it’s apparently never been easier for new companies and companies established in other industries—leveraging the benefits of the digital ecosystem, partnerships and industry economics—to become a competitive force among consumer packaged goods companies. And it’s never been more challenging for established CPG companies to beat them at the game.

In TCS’ view, Industry Strategist CPG companies—which are currently focusing on operational excellence and cost efficiencies—need to have a clear roadmap to transition to be an Ecosystem Strategist, relevant to the consumers and the markets they serve and differentiated from their competition. Based on their current digital maturity, they should focus on identifying the right digital interventions required in their value chain to have the right products and assortments in the right channels to drive higher sales and market share.
Companies Today Are More Likely to See the Digital Ecosystem as a Threat Rather Than an Opportunity

While the digital ecosystem represents new possibilities to some corporate leaders, it’s more likely to be considered the origin of formidable competition.

In the broadest terms, today’s corporate management is 1.7 times more likely to see threats emerging from the digital ecosystem (32%) than opportunities (19%, as shown on page 6).

Overall, a plurality (41%) of CIOs said their top management believed their most formidable competition between now and 2025 would be “established companies we’ve competed with for years.” But more than a quarter (27%) thought existing digital-native companies would be the biggest threat, and nearly a third (32%) said the competition would likely mostly arise from “new digital companies that aren’t here yet but will be by 2025.”

Primary competition expected by 2025

- New digital companies that aren’t yet here but will be by 2025: 1%
- Companies established as digital companies: 32%
- Established companies we’ve competed with for years: 41%
- Other: 27%

Total exceeds 100% due to rounding.
Ecosystem Strategists Expect Ecosystem Competitors

The Ecosystem Strategists—already attuned to the opportunities of the digital ecosystem—present a different picture compared to the overall response. Two-fifths say they’re focused on the digital competition they anticipate emerging in the next five years and almost a quarter (22%) expect to see companies already established as digital companies as their greatest rivals by 2025.

The Industry Strategists, however, are more likely to see their most formidable competition coming from the same pool of established companies they already know. Nearly half (48%) think so, compared to a little over a third (36%) of ecosystem-oriented firms.
Mismatches Between Opportunity & Threat

As the cross-industry data shows, there is some relationship between an company’s strategic focus on the digital ecosystem and its expectations for competition to arise out of that ecosystem, while companies that see their opportunities through a traditional industry lens are more likely to see their current competitors as their most formidable competition in the years ahead. It is far from a one-to-one match, however.

For example, only 28% of banks are overtly planning new opportunities in the digital ecosystem (see page 9), yet 57% expect their toughest competition by 2025 to be digital firms still on the horizon.
Across most industries the greatest predictor of which competition top management foresees as its most formidable by 2025 is the industry’s overall view on such issues, not its own strategic outlook of future business opportunity.

For financial companies, telecom, tech or travel, digital platforms have made it easier to enter the market, making the threat of a big competitor appearing quickly more likely. For those industries focused on legacy competitors, competing at scale either requires assembling major assets—or there exists an outsized industry player, such as Amazon in retail.

Three industries—automotive; healthcare and life sciences; and media, entertainment and information services—differ significantly from the other industries in how they assess future competition.

### Most formidable competition by 2025

<table>
<thead>
<tr>
<th>Competition Type</th>
<th>Description</th>
<th>Graph Representation</th>
</tr>
</thead>
<tbody>
<tr>
<td>New digital companies that aren't yet here but will be by 2025</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Established companies we’ve competed with for years</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Companies established as digital companies</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other</td>
<td></td>
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</tbody>
</table>
Summary: In three industries—automotive; healthcare and life sciences; and media, entertainment and information services—the view of the competitive horizon differed significantly in one way or another from other industries.

Automotive

The automotive industry was the only one where a sizeable segment (management at 18% of Ecosystem Strategist automotive companies and 11% of Transitional Strategists) think their greatest competitive challenges may arise out of entities best categorized as “other.” In a sector for which a consumer electronic company (such as Sony) might also design an electric vehicle (the Vision-S), when search engines (Google) may beget self-driving cars (Waymo), and where electric car manufacturers (Tesla) may share management with companies seeking to colonize Mars (SpaceX), such an open-ended approach to potential competition may in fact be the safest bet of all.
Healthcare & Life Sciences

The healthcare and life sciences industry is the only one that maps the overall findings across all industries: CIOs said top management roughly divided its competitive attentions according to where these executives also see their opportunities arising. Overall, the industry is generally focused (45%) on competing against the same companies it has for several years. But those healthcare companies already thinking in terms of digital ecosystems also expect their biggest competitive challenge to come from still-unestablished digital companies in the next five years. In contrast, the leadership of companies in healthcare and life sciences still in a transitional stage for their strategy and those mostly focused on their more traditional industry-bound opportunities see their existing competition providing more of the same in the years ahead.

A CLOSER LOOK: Varied Industry Expectations of Future Competition / continued

![Competition expected by 2025 in healthcare & life sciences](chart)

<table>
<thead>
<tr>
<th>Ecosystem Strategists</th>
<th>Transitional Strategists</th>
<th>Industry Strategists</th>
</tr>
</thead>
<tbody>
<tr>
<td>70%</td>
<td>60%</td>
<td>50%</td>
</tr>
<tr>
<td>40%</td>
<td>30%</td>
<td>20%</td>
</tr>
<tr>
<td>10%</td>
<td>0%</td>
<td>New digital companies that aren’t here but will be by 2025</td>
</tr>
<tr>
<td>0%</td>
<td>0%</td>
<td>Companies established as digital companies</td>
</tr>
<tr>
<td>0%</td>
<td>0%</td>
<td>Established companies we’ve competed with for years</td>
</tr>
<tr>
<td>0%</td>
<td>0%</td>
<td>Other</td>
</tr>
</tbody>
</table>

Legend:
- Purple: New digital companies that aren’t here but will be by 2025
- Blue: Companies established as digital companies
- Green: Established companies we’ve competed with for years
- Gray: Other
Media, Entertainment & Information Services

Only the media, entertainment and information services industry CIOs were most likely to say, across all strategic viewpoints, that their top management thinks the competition is already on the scene—and is already digital. This competition is likely in the form of streaming services for video and audio, as well from other parts of the industry with sizable audiences, subscribers and users, such as video gaming and sports. In addition, moves by companies blurring the lines between retail and media (such as Amazon), between high-tech and media (Apple), and between telecommunications and media (AT&T) demonstrate that existing companies provide enough of a threat without trying to imagine what else might be looming on the horizon.

A CLOSER LOOK: Varied Industry Expectations of Future Competition / continued

Most formidable media competition by 2025

- New digital companies that aren’t yet here but will be by 2025
- Companies established as digital companies
- Established companies we’ve competed with for years
- Other
In addition to being more likely to expect formidable competition from new digital entrants, Ecosystem Strategists also generally feel more prepared for new competitors on the digital horizon than do the Industry Strategists.

But even the CIOs at Industry Strategist firms—who don’t consider their companies’ boards and management to be thinking expansively about their business opportunities in a digital ecosystem—are still likely to think their companies are nonetheless mostly or fully prepared, or at least somewhat prepared, for digital competitors from outside their traditional industry appearing on the scene.
The sense of strategic mismatch for some companies—as was found when examining those who see their opportunities in the context of their traditional industry, but expect the greatest threats to come from digital players not even yet established—is only furthered when comparing answers on where management expects threats to emerge against their sense of preparedness for new digital competition specifically.

The CIOs most confident about their ability to address new digital competitions emerging from outside their industry are also the CIOs of companies expecting to compete against the same established companies they’ve always competed against.

“How prepared is your company for digital competitors who come from outside your sector?”

by expected competition

Most formidable competition by 2025

- New digital companies that aren’t yet here but will be by 2025
- Companies established as digital companies
- Established companies we’ve competed with for years

“Other” not shown
Similarly, the CIOs mostly expecting to focus on the same competition they’ve faced for years are nonetheless the most confident about the length of time it would take for them to respond to digital competition coming from outside their sector. Over half say: less than 3 months.

In fact, 15% of these industry-focused players predicted they could address such new digital competition in under a month—compared to the 13% of CIOs expecting that to be their most formidable challenge who think they can respond that quickly.

**“How long would it take your company to respond effectively to such a threat?”**

<table>
<thead>
<tr>
<th>Competition Type</th>
<th>Timeframe</th>
<th>Confident Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>New digital companies that aren’t yet here but will be by 2025</td>
<td>Less than 3 months</td>
<td>Most confident</td>
</tr>
<tr>
<td>Companies established as digital companies</td>
<td>3 months to less than 6 months</td>
<td></td>
</tr>
<tr>
<td>Established companies we’ve competed with for years</td>
<td>6 months or more</td>
<td></td>
</tr>
</tbody>
</table>

“Other” not shown
How We Conducted This Study

For the TCS 2020 CIO Study, we surveyed 1,010 CIOs to find out:

- The role and responsibilities of CIOs on digital transformation matters, now and in the years ahead;
- How they view opportunities and competitive threats in the context of their emerging digital ecosystem; and
- How their companies use data strategically.

The survey respondents work in 11 industries with headquarters in the United States, Canada, the United Kingdom, Germany and the Netherlands. About three quarters of the respondents work in enterprises with revenue that tops $1 billion. Some 72% have annual IT budgets of at least $50 million, and 45% have IT budgets of more than $100 million.
About the TCS Thought Leadership Institute

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