11 Insights for Getting — and Staying — Ahead in the Digital Economy

Our recent study shows companies are already separating from the pack based on how they deploy advanced technologies and business models. Using research-based insights, decision makers can move fast with strategies and tactics that will yield the best results. Here’s an overview of our findings; for the full report, please see “The End of the Beginning” at cognizant.com/digital-transformation-report.
As we move beyond the early days of the digital economy, crucial questions arise about how to keep moving forward. This study aims to answer them.
We’re 20% of the way through the 21st century. If your company is still around, congratulations, because many aren’t.

As we move beyond the early days of the digital economy, however, crucial questions arise about how to keep moving forward: what’s working, what’s not, where investments are paying off, optimal next steps, what separates leaders from followers.

To find the answers, we surveyed 2,491 business and technology leaders from multiple industries globally that collectively account for about $21.6 trillion in annual revenue. We also interviewed senior executives who are knowledgeable about advanced technology initiatives within their companies.

Using our findings, we distinguished leaders from laggards to better understand what organizations look like at any point on the digital maturity curve and what it takes to make progress on that journey. Our research reveals how much businesses should be investing in advanced technologies as a percent of revenue today and in the near future, the investments that are yielding the greatest returns, the next best areas to focus on, the returns they can expect at various points of the maturity curve and more.

We invite you to read our ebook or visit us at cognizant.com/digital-transformation-report to read the full report.
Finding Your Place on the Maturity Curve
Unsurprisingly, some companies are doing much better with adapting to modern-economy realities than others. To better understand what a leader looks like, we devised a framework to calculate a maturity score. The score is based on three criteria:

1. **Ranking on a digital transformation framework**: We scored companies across 13 key aspects of business and technology change (see page 7 for the full list).

2. **Ability to influence revenue through digital methods**: Drawing on self-reported data, we analyzed the level of revenue influenced directly or indirectly by digital channels.

3. **Benefits generated from digital**: This included operational benefits, such as speed to market and improving cost efficiencies, and more strategic ones, such as greater shareholder value and market share.

We created a maturity score for each respondent and assigned each to one of four categories: "beginner," "implementer," "advancer," and "leader." We then distilled our findings into easily digestible lessons that business and technology leaders can absorb and apply immediately.
Illuminating the Path Ahead: 11 Key Insights
With more than half of all respondents at an intermediate or even advanced state in nearly every area of our framework, we’re well into what the World Economic Forum calls the Fourth Industrial Revolution.¹

But experienced executives have outsized expectations to move even faster, more aggressively, over the next 36 months. So amid the groundswell of progress, there’s a clear warning: If you’re not moving fast already, you’re falling farther behind.

Key components of the modern enterprise

Percent of respondents in the implementation, maturing or advanced stage of each area of the digital maturity framework.

1. Digital strategy and roadmap
2. Workforce transformation
3. Innovation culture
4. IoT and connected products
5. Aligning operations with customer demands
6. Modernized core IT
7. Data management and analytics
8. Automation
9. Software deployment
10. Human-centricity
11. Enhanced/augmented workers
12. Improved consumer/employee experience
13. Artificial intelligence

Response base: 2,491 business and technology leaders
Source: Cognizant
Figure 2
2 Four guidelines to assess your digital maturity

Although each industry and company is different, and regional differences abound, our study offers guidelines for self-diagnosis:

1. Investment

Are you investing 9.8% of revenue into new technology and business models? Are you ready to increase that to 15.7% in three years? That’s the average investment level across respondents.

2. Direct and indirect revenue from technology

Is digital influencing 21.3% of your revenues (i.e., marketing, digitally-enabled products and services)? Is 14.3% of revenue coming through digital channels? These are the cross-industry averages in our study.

### Return on revenue from tech investments

<table>
<thead>
<tr>
<th></th>
<th>Direct Revenue</th>
<th>Total Influenced Revenue</th>
</tr>
</thead>
<tbody>
<tr>
<td>All respondents</td>
<td>14.3%</td>
<td>21.3%</td>
</tr>
<tr>
<td>Leader</td>
<td>22.0%</td>
<td>30.5%</td>
</tr>
<tr>
<td>Advancer</td>
<td>15.8%</td>
<td>25.3%</td>
</tr>
<tr>
<td>Implementer</td>
<td>11.9%</td>
<td>19.2%</td>
</tr>
<tr>
<td>Beginner</td>
<td>9.7%</td>
<td>13.6%</td>
</tr>
</tbody>
</table>

Response base: 2,491 business and technology leaders
Source: Cognizant
Figure 3
3. Margin improvement
Have your modern-economy initiatives helped cut costs by at least 2.3% over the past year? If not, it’s below the average of all companies that we studied.

4. Areas of maturity
Are you at an advanced stage with digital strategy, data management, process automation and Internet of Things (IoT)? That’s where leaders excel. The biggest gap between leaders and beginners is in AI.

**Top areas of maturity**
Percent of respondents who said they were advanced or maturing in the following areas.

- Digital strategy
- Data management
- Automation
- IoT and connected products
- Workforce transformation
- Modernized core IT
- Artificial intelligence
- Innovation culture
- Software deployment
- Aligning operations with customer demands
- Improved consumer/employee experience
- Human centricity
- Enhanced/augmented workers

Response base: 2,491 business and technology leaders
Source: Cognizant
Figure 4
Modernizing data is a no-regret step

The same percent of respondents whose organizations have made moderate or substantial investments in data management (60%) have realized moderate to high returns. Quite simply, data — and associated analytics — leads to both revenue growth and cost savings.

Data is a hidden advantage that legacy companies have against digital-native competitors. Finding, mining, managing and using that data — in an ethical and transparent way — is paramount to success.

Data management investments yield high returns
Leaders realize higher ROI from data management.

Response base: 2,491 business and technology leaders
Source: Cognizant
Figure 5
The same percent of respondents whose organizations have made moderate or substantial investments in data management (60%) have realized moderate to high returns.
If you’re investing <10% of revenue on advanced technologies, best of luck!

Tech investment is growing across industries

Respondents across industries reported a surprisingly consistent level of technology spending, at an average of 10% of revenue, and plan to increase that to almost 16% over the next three years.

Considering the total revenue of all respondents is around $21.6 trillion, this equates to about $2.16 trillion in current annual technology investment, and around $3.45 trillion in three years. The average company in our study would be spending roughly $837 million on technology this year and raising it to $1.3 billion in three years.

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<table>
<thead>
<tr>
<th>Industry</th>
<th>Today</th>
<th>In three years</th>
<th>Growth</th>
</tr>
</thead>
<tbody>
<tr>
<td>Utilities</td>
<td>7%</td>
<td>12%</td>
<td>88%</td>
</tr>
<tr>
<td>Industrial</td>
<td>8%</td>
<td>14%</td>
<td>73%</td>
</tr>
<tr>
<td>Consumer goods</td>
<td>10%</td>
<td>16%</td>
<td>62%</td>
</tr>
<tr>
<td>Financial services</td>
<td>10%</td>
<td>16%</td>
<td>62%</td>
</tr>
<tr>
<td>Retail</td>
<td>9%</td>
<td>15%</td>
<td>61%</td>
</tr>
<tr>
<td>Healthcare payer</td>
<td>11%</td>
<td>17%</td>
<td>59%</td>
</tr>
<tr>
<td>Life sciences</td>
<td>11%</td>
<td>17%</td>
<td>58%</td>
</tr>
<tr>
<td>Healthcare provider</td>
<td>10%</td>
<td>17%</td>
<td>55%</td>
</tr>
<tr>
<td>Telecom</td>
<td>10%</td>
<td>16%</td>
<td>55%</td>
</tr>
<tr>
<td>Media</td>
<td>11%</td>
<td>17%</td>
<td>55%</td>
</tr>
<tr>
<td>Insurance</td>
<td>11%</td>
<td>17%</td>
<td>52%</td>
</tr>
<tr>
<td>Technology</td>
<td>10%</td>
<td>15%</td>
<td>35%</td>
</tr>
<tr>
<td>Average across industries</td>
<td>10%</td>
<td>16%</td>
<td>60%</td>
</tr>
</tbody>
</table>

Response base: 2,491 business and technology leaders
Source: Cognizant
Figure 6
More than 77% of respondents have made significant investments — and reaped moderate or high returns — in three essential areas:

- The cloud (the true engine of the digital economy).
- Mobile (everyone is on the move).
- Cybersecurity (the new endless war).

*Future* growth (and savings) will come from continued investment in the cloud but also deployment of new technologies, particularly IoT, process automation and data management. Keep in mind that when it comes to where leaders plan to invest over the next three years, the biggest gaps between their plans and beginners’ is in data management, AI, cybersecurity and strategy setting.

**Technology investment highs and low**

Percent of respondents who’ve made a significant investment in each area in the past two years.

![Bar chart showing technology investments](chart.png)

Response base: 2,491 business and technology leaders

Source: Cognizant

Figure 7
When it comes to where leaders plan to invest over the next three years, the biggest gaps between their plans and beginners’ is in data management, AI, cybersecurity and strategy setting.
Calculating technology’s returns

Percent of respondents who said they are getting “moderate” or “high” returns on these investments.

- Leader
- Beginner
- All

Cloud technology
Mobile technology/apps
Cybersecurity technologies
Robotic process automation
IoT/wearables/sensors
Data warehouse/data lake/big data analytics
AI
Blockchain technology
Augmented and virtual reality

More than 70% of companies on average are already realizing moderate or high ROI (including cost savings, growth, valuation, etc.) on the low-risk bets of cloud, mobile technology and cybersecurity.

Response base: 2,491 business and technology leaders
Source: Cognizant
Figure 8
### Separating leaders from laggards

Percent of respondents realizing high positive impact specifically on revenue.

<table>
<thead>
<tr>
<th>Aspect</th>
<th>Difference (in percentage points)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Automation</td>
<td>19</td>
</tr>
<tr>
<td>Artificial intelligence</td>
<td>19</td>
</tr>
<tr>
<td>Data management and analytics</td>
<td>18</td>
</tr>
<tr>
<td>Software deployment</td>
<td>12</td>
</tr>
</tbody>
</table>

When asked which aspects of digital are having the largest positive impact specifically on revenue over the last year, the difference between leaders and laggards is particularly vast in automation, AI, data management and software deployment.
Find your customized starting line

Businesses will realize different returns on any given investment depending on their digital maturity level. Here’s what our findings reveal:

I **Think strategy at the start!** The most impactful time to invest in a modern-economy strategy is in the early stages. Strategy remains important as companies fine-tune their approach to meet changing objectives and market conditions.

I **Build your innovation muscle from the get-go.** Building a culture of innovation is also an early-stage winner and continues to boost performance across all stages of digital endeavors.

I **Proficient data management amps performance for more mature companies.** Managing data better — and therefore being able to derive insights, apply intelligence, drive growth and more — provides fuel for later-stage initiatives.

### Where you are defines where to start

Areas of investment where respondents are realizing highest ROI.

<table>
<thead>
<tr>
<th></th>
<th>Beginner</th>
<th>Implementer</th>
<th>Advancer</th>
<th>Leader</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Digital strategy</td>
<td>Digital strategy</td>
<td>Automation</td>
<td>Automation</td>
</tr>
<tr>
<td>2</td>
<td>Innovation culture</td>
<td>Automation</td>
<td>Digital strategy</td>
<td>Data management</td>
</tr>
<tr>
<td>3</td>
<td>Align with demands</td>
<td>Innovation culture</td>
<td>Data management</td>
<td>Transform workforce</td>
</tr>
<tr>
<td>4</td>
<td>UX</td>
<td>Transform workforce</td>
<td>Transform workforce</td>
<td>Digital strategy</td>
</tr>
<tr>
<td>5</td>
<td>Modernized IT</td>
<td>UX</td>
<td>Human centricity</td>
<td>AI</td>
</tr>
</tbody>
</table>

Response base: 2,491 business and technology leaders
Source: Cognizant
Figure 10
The devil — and value — is in your back office

Technology is reshaping work in every industry

Top three processes where respondents see impact today and expect a bigger impact in the next three years.

<table>
<thead>
<tr>
<th>Industry</th>
<th>Impact from digital tech today</th>
<th>Expected impact in three years</th>
</tr>
</thead>
<tbody>
<tr>
<td>Financial services</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Customer enrollment and onboarding (64%)</td>
<td>Payment processing and services (67%)</td>
<td>Customer enrollment and onboarding (84%)</td>
</tr>
<tr>
<td>Consumer lending, loan servicing, loan processing (56%)</td>
<td>Client services and advisory (84%)</td>
<td>Integrated care management (76%)</td>
</tr>
<tr>
<td>Revenue cycle management (52%)</td>
<td>Consumer lending, loan servicing, loan processing (83%)</td>
<td>Value-based care management (75%)</td>
</tr>
<tr>
<td>Healthcare (payers and providers)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Customer enrollment and onboarding (64%)</td>
<td></td>
<td></td>
</tr>
<tr>
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<td></td>
</tr>
<tr>
<td>Revenue cycle management (52%)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

For the results of all industries included in the study, please see our full report.

Response base: 2,491 business and technology leaders
Source: Cognizant
Figure 11

Our findings indicate that the best play for real-world near-term value comes from focusing on core business process improvements. To reap the highest impact, organizations should:

1. **Focus on processes that directly touch customers.** These are the business processes showing the highest payoff now and in three years.
2. **Stay the course in the middle and back offices.** Across industries, we saw a surprising level of consistency as to which processes were most worthy of a digital injection: most respondents don’t see a big change in focus between the highest-impact processes today and the next three years.
When we looked at advancers and leaders in our study, 48% said a top lesson-learned was to start their initiatives with human insight. In fact, the ability to align new technologies with human requirements — workforce transformation, improving consumer and employee experiences, etc. — is a key defining point between leaders and laggards.

### Humans are still at the center of the digital economy

When we looked at advancers and leaders in our study, 48% said a top lesson-learned was to start their initiatives with human insight. In fact, the ability to align new technologies with human requirements — workforce transformation, improving consumer and employee experiences, etc. — is a key defining point between leaders and laggards.

### Putting people ahead of technology

Percent of respondents who are “advanced” or “maturing” in each area.

Response base: 2,491 business and technology leaders  
Source: Cognizant  
Figure 12
It’s clear that “being digital” pays off. As companies move further along the maturity curve, the net economic impact accumulates — like the compounding effect of interest on an investment.

Specifically, beginners realize a net impact (revenue minus cost) of 2.7% of overall revenue. The net impact continues to increase as maturity increases. The trip from start to finish generates a net benefit equal to 9.0% of revenue.

Here’s how that looks in dollar terms, for the average company with revenues of $8.5 billion:

- **Beginner**: $230 million gain
- **Implementer**: Additional $140 million gain
- **Advancer**: Additional $160 million gain
- **Leader**: Additional $240 million gain

Response base: 2,491 business and technology leaders
Source: Cognizant
Figure 13
As companies move further along the maturity curve, the net economic impact accumulates, like compounding interest on an investment.
Rules of the road will help (and they’re on the way!)

One of the more surprising findings of our study is that a majority of respondents believe that increases in regulation will actually accelerate innovation.

Like it or not, we are quietly rewiring the rules that will shape our lives for years: patent and IP rules, industry regulations, anti-trust laws, privacy rules, autonomous vehicle regulation, laws to help AI and labor exist in harmony, sharing economy regulation and much more.

The key takeaway is that these rules, in aggregate, are not stop signs on the road to progress. In fact, they are more likely green lights that help innovation move more smoothly and efficiently for those who are ready.

Regulatory rise: innovation catalyst or crusher?

Percent of respondents who believe these areas of regulation will accelerate innovation.

Response base: 2,491 business and technology leaders
Source: Cognizant
Figure 14
Assessing and Advancing Your Digital Maturity
Mistakes to avoid

Every company is striving to adapt to modern-economy realities. There are leaders and laggards, but most are in the middle.

Based on our findings, client work and other research, here are six obstacles to avoid while navigating the digital maturity curve.

1. **Assume things will get easier.** Most respondents have built a solid foundation for the modern economy, but that doesn’t mean they’re finished.

2. **Consider software an IT problem.** In the modern economy, it’s all about code, making software everyone’s concern.

3. **Ignore your data.** Effective data management is among the most important steps any company can take to win in the new economy.

4. **Wait for AI to “happen.”** A dollar invested in AI today will lead to a great ROI for those willing to place their bets.

5. **Take your time.** The longer you take to catch up, the wider the gap you have to close.

6. **Treat this organizational change like any other project.** Adopting advanced technologies and business approaches is an ongoing secular shift, not a single IT project.
Respondents by region and country

Respondents were spread evenly by industry (healthcare payers, healthcare providers, technology hardware, technology software, consumer products, financial services, industrial manufacturing, insurance, life sciences, media/entertainment/publishing, retail, telecommunications, utilities). Each of the 12 industries represented 8% to 9% of the sample, or approximately 200 respondents per industry. Hardware and software companies were combined into one of the 12 industries.

* UAE, Saudi Arabia, Oman
Endnotes


About the author

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Paul Roehrig, Ph.D., is Head of Strategy for Cognizant Digital Business. He is the founder and former Global Managing Director of Cognizant’s Center for The Future of Work. Along with Malcolm Frank and Ben Pring, he is a co-author of What To Do When Machines Do Everything: How to Get Ahead in a World of AI, Algorithms, Bots, and Big Data and Code Halos: How the Digital Lives of People, Things, and Organizations are Changing the Rules of Business. He can be reached at Paul.Roehrig@cognizant.com | linkedin.com/in/paul-roehrig-020785.
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For the full report, please visit cognizant.com/digital-transformation-report.