Accelerating digital to build the 'bionic company'

BCG’s Digital Acceleration Index (DAI) to measure digital maturity
Agenda

1. The Bionic (Digital) Company
   - Measuring digital maturity
   - What bionic companies do differently
   - Case: Digitizing Government
COVID-19 is forcing companies to face a new reality

- High uncertainty complicating decision making, effective responses and planning
- Disruption to operations & supply chain resulting in lost revenue and increased costs
- Suboptimal workforce allocation for fast changing supply/demand and new ways of working
- Drastic change in consumer demand requiring ways to re-build it and find growth

Companies are looking to deploy solutions quickly, and plan for a successful recovery

Source: BCG
Basically all industries need to cope with digital disruption

Leverage digital to reduce customer journey pain points and then scale across the value chain

Need to have a strong focus on digital as a defensive move to avoid disruption from pure digital players

1. Based on six variables assessing the perceived industry digital disruption
Source: BCG DAI assessment
Pre-crisis, digital capability investments have been top priority

Investor views on priority areas companies should aggressively invest in¹

<table>
<thead>
<tr>
<th>Area</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Digital Capabilities or Tech Stack</td>
<td>50%</td>
</tr>
<tr>
<td>Research &amp; Development</td>
<td>44%</td>
</tr>
<tr>
<td>Marketing &amp; Sales</td>
<td>41%</td>
</tr>
<tr>
<td>Other Innovation</td>
<td>38%</td>
</tr>
<tr>
<td>Mergers &amp; Acquisition</td>
<td>34%</td>
</tr>
<tr>
<td>Emerging Markets</td>
<td>31%</td>
</tr>
<tr>
<td>Divestitures and/or Spin-Offs</td>
<td>29%</td>
</tr>
</tbody>
</table>

Now, ~80% of companies plan to accelerate digital transformations

Percentage of respondent², by views on priority of digital transformation post crisis

<table>
<thead>
<tr>
<th>Industry</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>All industries</td>
<td>83%</td>
</tr>
<tr>
<td>Consumer</td>
<td>87%</td>
</tr>
<tr>
<td>Energy</td>
<td>85%</td>
</tr>
<tr>
<td>Industrial Goods</td>
<td>84%</td>
</tr>
<tr>
<td>TMT</td>
<td>82%</td>
</tr>
<tr>
<td>Healthcare</td>
<td>82%</td>
</tr>
<tr>
<td>Public Sector</td>
<td>80%</td>
</tr>
<tr>
<td>Insurance</td>
<td>80%</td>
</tr>
<tr>
<td>Financial Institutions</td>
<td>80%</td>
</tr>
</tbody>
</table>

1. Respondents were asked what percentage of companies should be more aggressive in pursuing the following strategies for value creation.
2. Respondents asked if COVID-19 pandemic affected the urgency of their organization's overall digital strategy.

Source: DSR Digital Transformation 2020 Survey still ongoing with n=775; BCG 11th annual investor survey 2019 with n=251
Leaders outperform laggards in earnings, innovation and value

1.8× higher earnings growth p.a.

-1.5× higher spend on innovation p.a.

Enterprise value more than doubling p.a.

EBITDA

R&D expenditure

Total enterprise value

Bionic leaders

Bionic laggards

1. Digital Performer and Digital Leader aggregated to one category
Source: Capital IQ (n=224), DAI Global Database
Still, several challenges why digital transformations fail to deliver

1. Lack of complete understanding in economics of digital
2. Underestimating scale and momentum of digital impact
3. Setting small, short-sighted digital ambition

1. Resistant legacy workforce
2. No connection between projects and BU owner benefits
3. Conflicting leadership accountabilities

- Lack of scale / flexibility in the underlying legacy tech platforms to scale the digital transformation
- Shifting overall business focus
- Lack of adoption or lack of payoffs from anticipated ‘quick wins’

Source: BCG
Agenda

The Bionic (Digital) Company

Measuring digital maturity

What bionic companies do differently

Case: Digitizing Government
Now, the overall nature of work is transforming significantly

From human operated ...

... to human designed

Human operated

Technology/Al augmented

Technology/Al transformed

Source: BCG
The company of the future is bionic

Building the Bionic Company means “designing technology and the human org around each other to realize transformation outcomes operations, customer experiences & relationships, and new offers and businesses”

Source: BCG
Bionic DAI with 40 dimensions to measure digital maturity

Level 3 - 40 dimensions

**Outcomes**

**Bionic Operations**
- Manufacturing (I4.0/ICO)
- Procurement
- Digital supply chain
- Shared services & Centers of excellence
- Corporate center
- Service operations

**Strategy and purpose**
- Purpose: Strategic vision and ambition
- Priorities & alignment

**Technology**
- Data & AI
  - Data governance
  - Data strategy
  - Digital & data platforms
  - Artificial intelligence
  - Cybersecurity
- Modular Technology
  - World Class Tech function
  - Internet of things
  - Modularity
  - Digital delivery (DevOps)

**Human**
- Digital Talent
  - Talent ecosystem
  - Exponential learning
  - New leadership models
- Dynamic Platform Organization
  - Governance
  - Platform organization
  - Digital transformation accelerator
  - Virtual teaming
  - Agile@Scale

**New Offers, Services and Business Models**
- Innovation and disruption
- New business build
- Start-up incubation, VC, M&A
- Lighthouses & prototyping
- Digital ecosystem go-to-market
- Digital ecosystem operating model

**Personalized Customer Experiences & Relationships**
- E2E customer journeys
- Digitally driven pricing
- Next-generation sales
- Personalization
- Digital marketing
- Customer services
- Research & product development

Source: BCG Digital Acceleration Index (DAI)
Each dimension is scored along 4 maturities to calculate overall DAI

<table>
<thead>
<tr>
<th>Bionic maturity (1-100)</th>
<th>DAI score</th>
<th>Starter</th>
<th>Literate</th>
<th>Performer</th>
<th>Leader</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>0-7</td>
<td>8-15</td>
<td>16-24</td>
<td>75-82</td>
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<td></td>
<td></td>
<td>25-32</td>
<td>33-40</td>
<td>41-49</td>
<td>83-90</td>
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<tr>
<td></td>
<td></td>
<td>50-57</td>
<td>58-65</td>
<td>66-74</td>
<td>91-100</td>
</tr>
</tbody>
</table>

**Starter**
- Unclear Digital vision
- Business and IT sometimes work on digital topics based on ad hoc demands, align only if projects jointly executed
- Organization not yet digitally enabling

**Literate**
- Clear vision/strategy & roadmap defined
- Processes are being digitized and Businesses, Functions execute digital initiatives, but in functional silos
- Digitally enabling governance in place

**Performer**
- Strong digital mindset and agile culture
- Business and IT have jointly built key Digital capabilities across all areas
- Digital initiatives are built & commercialized with success. Some disruptive businesses have already been launched

**Leader**
- Initiatives are contributing to strategy with a clear value added
- Digital has been embedded throughout the company: innovation, value proposition, tech, & ops.
- Outperforms peers in key digital metrics, and digital is seen as the key driver of the company value

Source: BCG Digital Acceleration Index (DAI)
Global study 2019 | FI and Telco companies with highest DAI scores

Note: Scores are the average DAI score from 0 (lowest) to 100 (highest) per industry in a region.
Source: BCG global DAI study 2019

Gap between top and low sectors smaller in Asia vs. EU or US

Europe with no sector which is globally leading

High spread in US btw top sectors & those falling behind
The Bionic (Digital) Company

Measuring digital maturity

What bionic companies do differently

Case: Digitizing Government
Bionic companies apply four boosters in their digital transformation

- **Tech & Data investments**
  - >15% OPEX for digital
  - Inv. focus on tech & data: 55% Bionic leaders, 29% Bionic laggards
  - 35% Bionic leaders, 47% Bionic laggards

- **Digital people & upskilling**
  - >15% FTE in digital roles
  - >15% FTE planned to upskill: 44% Bionic leaders, 23% Bionic laggards
  - 25% Bionic leaders, 51% Bionic laggards

- **Core process transformation**
  - E2E digital solutions at scale: 33% Bionic leaders, 7% Bionic laggards
  - >25% of processes digitized: 14% Bionic leaders, 33% Bionic laggards

- **New digital revenue**
  - >10% from digital solutions: 61% Bionic leaders, 33% Bionic laggards
  - Higher sales growth vs. peers: 22% Bionic leaders, 34% Bionic laggards

Source: Global DAI study 2019/2020
>60% companies incorrectly assessed changes needed to technology

-80% of companies felt they had necessary IT architecture to support digital transformation

In hindsight, >60% among them said they underestimated the changes required

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1. Respondents asked to rate the level of sophistication of IT architecture / data and digital platform to support digital transformation initiatives
2. Respondents asked to identify in hindsight the ability to plan the type of changes to IT infrastructure and data platform required to allow for flexibility

Source: DSR Global Digital Transformation 2020 Survey; n=825
Bionic companies prioritize human enablers

Dedication of people

**Dedication**

Q: Share of FTE dedicated to digital / working in digital roles

<table>
<thead>
<tr>
<th>&lt;=15%</th>
<th>&gt;15%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bionic companies</td>
<td>Bionic laggards</td>
</tr>
<tr>
<td>56</td>
<td>77</td>
</tr>
</tbody>
</table>

**Hiring**

Q: Digital FTE growth target in coming 3 years

<table>
<thead>
<tr>
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<th>&gt;15%</th>
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<td>56</td>
<td>74</td>
</tr>
</tbody>
</table>

**Upskilling**

Q: Share of FTE for upskilling in digital along the coming year

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<tbody>
<tr>
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<td>Bionic laggards</td>
</tr>
<tr>
<td>49</td>
<td>72</td>
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Source: Global DAI study 2019/2020
Companies that transform successfully, follow 6 key success factors

1. Define strategy and purpose
   - Integrated strategy with clear transformation goals

2. Drive to outcomes
   - Leadership commitment from CEO to middle management
   - Effective monitoring of progress towards outcomes

3. Invest in human
   - High-caliber talent dedicated to transformation program
   - Agile leadership & persistence, driving broader adoption

4. Invest in technology
   - Flexible, modular technology & data platform

Source: BCG DSR
Agenda

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Digital transformation of a major Government bureaucracy...

...but faces major hurdles in its journey to drive sustained change

- Improve agency’s delivery of digital services
- Improve the way government buy/use technology
- Help build digital skills and establish agile ways of working
- Provide greater transparency on IT projects, costs, risks and opportunities
- 200+ departments and agencies
- $10B annual spend on IT
- 72 digital projects over $10M "reported" as at 2018
- Lacked consistent digital ambition and a coherent digital agenda

Source: BCG project experience
Client Government's aspiration to become digital leader by 2025

- Often unclear vision
- Isolated initiatives
- Organisation not yet digitally enabling
- Clear vision/strategy
- Roadmap defined
- Digitally enabling governance in place
- Key digital capabilities
- Digitalized processes
- Strong digital mindset and agile culture
- Digital visionaries
- Digital first governments
- Most citizen interactions through digital

Source: DAI survey conducted from 15th May 2018 to 1st June 2018 (n=537), BCG experience
Client Government has a digital maturity score of 33
Client Government ambition to become a digital leader

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<tbody>
<tr>
<td>Digital practices in core business areas</td>
<td>Delivery</td>
<td>Gov 2.0</td>
<td>Shared services</td>
<td>Re-imagine government</td>
</tr>
<tr>
<td></td>
<td>10. Delivery</td>
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</table>

Shared digital accelerators

Enablers


Digital maturity score

- Digital passive: 0-7
- Digital literate: 8-15
- Digital performer: 16-24
- Digital leader: 25-32

Ecosystems

Source: DAI survey conducted from 15th May 2018 to 1st June 2018 (n=537), BCG experience
Enablers with highest importance and largest maturity gap

Client Government digital maturity matrix

Gap to ambition (Future ambition—current state)

Digital government strategy
- 1. Vision
- 2. Ambition
- 3. Priorities and alignment
- 4. Roadmap

Digital practices in core business areas
- 5. Policy development
- 6. Procurement
- 7. Revenue optimisation
- 8. Next-gen channel mix optimisation
- 9. Digital supply chain and logistics
- 10. Delivery
- 11. Digital marketing
- 12. Personalisation
- 13. Central functions
- 14. Using shared services

Reimagine government
- 15. User service digitisation
- 16. User journeys
- 17. Process digitisation and robotics
- 18. Build accelerator centre
- 19. New digital services/products
- 20. Degree of digital disruption
- 21. Exemplar projects and prototyping
- 22. Collaboration

Enablers
- 23. Leadership and culture
- 24. Organisation and governance
- 25. Skills and people
- 26. Agile at scale
- 27. Data strategy
- 28. Advanced analytics and AI
- 29. Data and analytics governance
- 30. Tech function (Simplify IT)
- 31. Data platforms/infrastructure
- 32. Digital architecture and cloud
- 33. Digital delivery (DevOps)
- 34. Digital intelligence and AI
- 35. Cybersecurity
- 36. Digital ecosystem and partnerships

Source: DAI survey 2018 (n=537)
Four priority areas for client government identified by gap to ambition, relative importance and alignment to strategy

1. Skills and People
2. Leadership and Culture
3. Advanced Analytics and AI
4. User Journeys
DAI provided critical foundations for the digital strategy

Evidence base for digital transformation strategy

The DAI assessment provided a benchmarked capability assessment to priorities initiatives and develop a case for change for the whole of government digital transformation strategy

Identified four priority areas to focus efforts and investments

The team used DAI outputs to develop playbooks for four priority areas to support agencies to increase their digital maturity

Playbooks for advanced analytics & AI, leadership & culture, skills & people, and user journeys

Ongoing monitoring and tracking of digital performance

DAI was proposed to be integrated into client’s reporting process to measure digital maturity improvements in agencies on an annual refresh cycle

Facilitated great conversations with agency leaders

DAI helped drive better conversations with the client and with the 20+ large government agencies/leaders on their digital agenda

Source: BCG case experience
Further content | BCG.com DAI page and publications

**DAI-based study reports (Links)**

- The Real Champions of Building the Digital Future (July 2017)
- Discovering the how and where to add digital to your private equity (November 2017)
- Is the Digital Revolution in Aerospace and Defense in Crisis? (May 2018)
- Digital maturity is paying off (June 2018)
- How Digital Champions Invest (2019)
- The Race for Digital Advantage in Africa (March 2020)
- Digital Underinvestment Hurts Insurers (May 2020)
- Is Your Technology Ready for the New Digital Reality (May 2020)
- Bionic Champions in the Middle East (July 2020)
- The Digital Path to Business Resilience (July 2020)
- Bionic champions in the middle east (July 2020)