



Digital: making any business crisis-proof

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AT A GLANCE

While the COVID-19 pandemic has challenged leaders across the globe, a group of companies have presented better performance compared to their peers. These companies have a common trait: they successfully blend technology and human capabilities, around concise purpose & strategy, to generate superior outcomes. We call them Bionic companies.

STUDY METHODOLOGY

BCG automatically screened more than 6 million words in financial reports of Ibovespa index corporations to unveil evidences of digital focus and investments. With that, we ranked such companies based on the frequency that digital expressions were found on their reports – what we call digital density – and compared this score to the companies' financial performances.

SUPERIOR VALUE GENERATION AND HIGHER RESILIENCE

During the pre-COVID-19 period, Bionic companies presented stronger EV and EBITDA growth compared to Laggards. During the crisis, such companies have experienced a lower and smoother drop in their market capitalization and, more important, a much faster recovery.

WIDER AND DEEPER DEVELOPMENT OF DIGITAL CAPABILITIES

Looking across eight dimensions, we realized that Bionic companies are committed to a larger number of digital disciplines and develop each of them to a higher level of maturity.

SHARPER FOCUS ON SPECIFIC SECTOR

Comparing B2C and B2B companies, we observed that Bionic organizations have laser-focused on the disciplines that mattered the most for their segment. Still, consistent investments in Digital Talent was a common finding to both company profiles

1. Context and motivation

The extent to which COVID-19 has changed the way companies operate during and likely post-pandemic is undeniable. The pandemic has put leaders across the globe to the test, challenging them to make life-changing decisions in short periods of time, with limited – and often ambiguous – information. One of the key changes to have emerged from the COVID-19 crisis is the acceleration of Digital Transformations, which are estimated to have been expedited by between 3 to 4 years.

In Brazil, as in other parts of the world, we have seen executives struggling with how best to manage abrupt demand fluctuations, minimize negative impacts of supply chain disruptions and simultaneously keep their workforce safe and productive.

We have observed that some companies were able to perform better than their peers during the challenges of COVID-19. Therefore, we have decided to investigate what traits separated the strong performers from those that lagged behind. Our research has shown that companies that skillfully blend technology capabilities with a digitally-savvy organization performed much better than their peers.

At BCG, we call them **Bionic companies: firms that amalgamate technology with human capabilities around a consistent Purpose/Strategy, in the pursuit of tangible Business Outcomes to achieve superior performance**, such as resilience to adversity, robust competitive advantage, higher market share and stronger employer appeal, which combine to result in more solid financial performances.

2. Bionic company framework and study methodology

BCG has a proprietary framework (see Exhibit 1) that characterizes aspects of Bionic Companies. In this framework, we categorize eight dimensions of the Bionic Company:

- Strategy & Purpose
- Bionic Operations
- Personalized Customer Experiences & Relationships
- New Offers, Services & Business Models

- Data & AI
- Modular Technology
- Dynamic Platform Organizations
- Digital Talent

The underlying assumption here is that companies that invest not only in tech, but also in their personnel, generate superior value materialized in stronger business outcomes.

EXHIBIT 1 – BCG’S FRAMEWORK FOR BIONIC COMPANIES



To uncover the bionic qualities of these companies, we applied AI/ML to perform an extensive analysis of financial reports for the publicly traded companies¹ that are part of the Ibovespa stock exchange index in Brazil. Our goal was to identify evidence of simultaneous investments in technology and in people that could potentially explain their financial performance through the application of a neutral (i.e. non-self-reporting) methodology.

In essence, we have run a script to automatically screen through **over 6 million words in more than 25 thousand pages of companies’ financial reports from 1Q 2017 through 1Q 2020**, in order to unveil evidence of digital investments made by these companies. We cross-referenced this extensive database with a dictionary of expressions that indicate a company’s footprint in relevant digital topics. Our word database encompassed topics relating to all eight dimensions in the framework for Bionic companies.

We have then ranked these companies based on how frequent such digital expressions were found in their financial reports; what we have termed digital density. The denser a company report is with the presence of such expressions, the

better it was ranked in our analysis. Those in the **top 25%** of our rankings were classified as Bionic companies, showing a digital density around **4 times** that of the Laggard players (the bottom 75%).

Finally, the digital density of each company was compared to their financial performance, in order to identify patterns and co-relations.

The study sought to find answers to a number of important questions:

- Is there any difference in capital market performance and fundamentals between Bionic companies and Laggards before and during the pandemic?
- What is behind potential differences?
- Are there distinctions between B2C and B2B players? What is common between them?
- What are some notable cases of Brazilian Bionic companies?

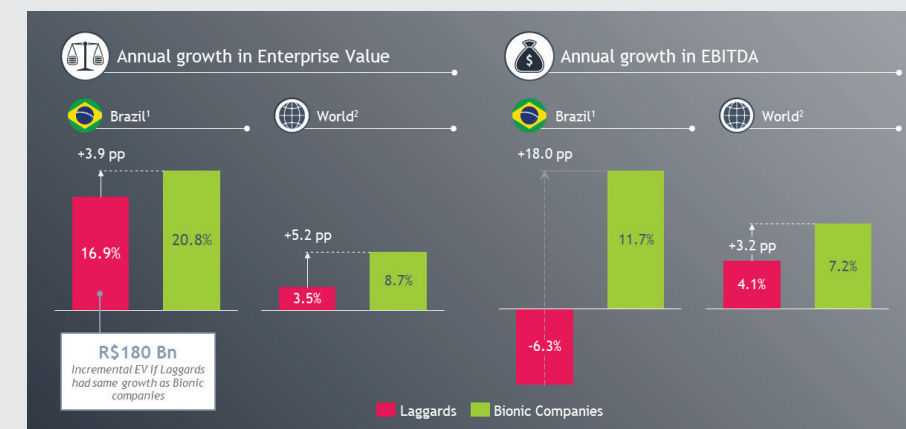
3. Emerging findings

3.1 VALUE IMPACT

The results showed that companies with clear evidence of investments in digital capabilities (i.e. combination of technological and personnel capabilities) fared considerably better than their peers.

Looking at the pre-COVID-19 period, **Bionic companies demonstrated a stronger multi-year performance when compared to the Laggards**, both in Brazil as well as across the globe (see Exhibit 2).

EXHIBIT 2 – ANNUAL GROWTH IN ENTERPRISE VALUE AND EBITDA, LAGGARDS VS BIONIC COMPANIES



1. Digital density analysis for publicly traded companies part of Ibovespa index, 2018-2020 2. BCG DAI (Digital Assessment Index) for companies across the globe, 2015-2019 Source: Capital IQ, Company's financial reports

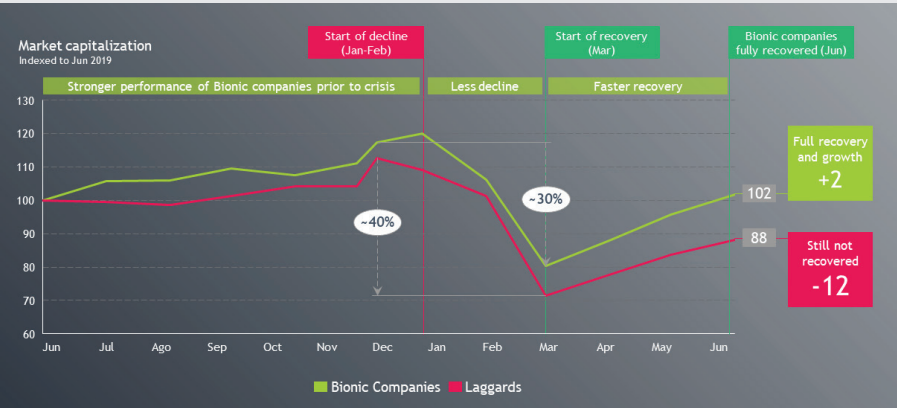
In Brazil, we observed a +3.9 p.p. difference in Enterprise Value Growth, and +18 p.p. in EBITDA growth; the latter being far higher than the world-wide difference. These numbers show that Brazilian Laggards would have increased their EV by R\$ 180 Bn had they grown at the same rate as the Bionic players. Such a delta value target would have more than justified their investments in digital capabilities.

For more information about our global study please visit perspectives.bcg.com or access the following link directly: <https://www.bcg.com/de-publications/2019/how-digital-champions-invest>.

The study used our proprietary methodology DAI (Digital Acceleration Index), a questionnaire-based evaluation of a company's digital maturity. It enables companies to assess their digital capabilities, compare their performance with peers and evaluate their readiness to become a Bionic company.

When we analyzed their financial performance during the COVID-19 crisis, Bionic companies in Brazil showed a stronger resilience during the market downturn (see Exhibit 3). Bionic companies have experienced a lower and smoother drop in their market cap compared to Laggards: ~30% reduction for Bionic companies versus ~40% for Laggards. More importantly, their recovery was much faster: by June/2020, Bionic companies had already recovered their market cap value on YoY basis; conversely, Laggards were still down ~12%.

EXHIBIT 3 – MARKET CAPITALIZATION OF BIONIC VERSUS LAGGARD COMPANIES



1. Digital density analysis for publicly traded companies part of Ibovespa index, 2018-2020 Source: Capital IQ, Company's financial reports

3.2 VALUE DRIVERS

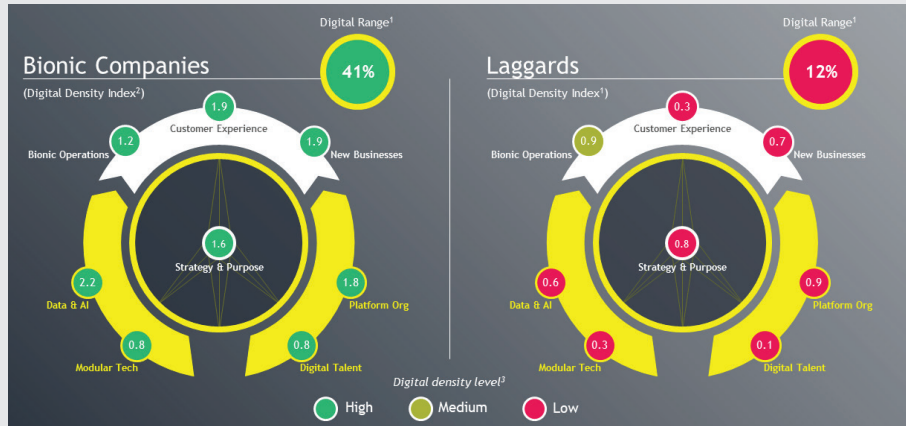
As the study revealed strong evidence of Digital being an important lever for growth and resilience, we have decided to further explore the reasons behind Bionic companies' advantages over Laggards.

For that, we defined two metrics: the normalized **digital density** and the **digital range**.

- The digital density measures the emphasis a certain company gives to each of the eight dimensions of the framework – it ranges from 0 to 10, where the score of the Champion within each dimension equals 10.
- The digital range, for a group of companies, was defined as the percentage of companies which have a high normalized digital density index in 4 or more dimension. A group of companies with a high digital range indicates that these companies emphasize not only a couple of dimensions, but several of them.

This analysis led us to two main factors. First, Bionic companies typically have a **wider focus on Digital** – 41% digital range, versus 12% for Laggards. Second, Bionic companies on average place **more emphasis in each of the distinct dimensions** - in Strategy & Purpose, for instance, Bionic companies have an average digital density index of 1.6, versus 0.8 for Laggards (see Exhibit 4). In other words, Bionic players are committed to a larger number of dimensions and develop each of them to a higher level when compared to Laggards.

EXHIBIT 4 – RANGE AND DEPTH OF DIGITAL DENSITY, BIONIC VERSUS LAGGARD COMPANIES



1. Percentage of companies with 4 or more dimensions with High digital density index 2. Normalized digital density index: ranges from 0 to 10, where the score of the Champion of each dimension equals 10 3. High: > 20% above average; Low: < 20% below average; Medium: between 80% and 20% of average Source: Companies' financial reports

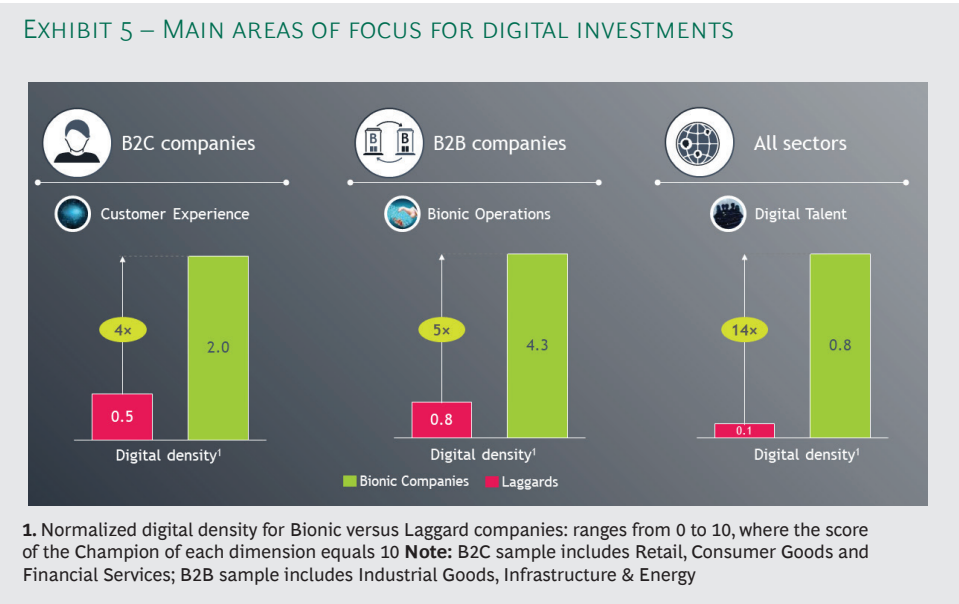
3.3 B2B VERSUS B2C SEGMENTS

Our study also aimed to establish whether there are distinctions in how companies invest in digital capabilities and their related digital density, depending on whether they focus on B2C or B2B.

The main finding was that Bionic companies had a much sharper focus on the disciplines that mattered the most for their specific sectors. As seen in Exhibit 5, B2C Bionic companies invest in Customer Experience 4x more than their peers, as measured by our digital density index. A clear – and consistent – approach to digital channels and omni-channel experiences was also common among B2C leaders. Similarly, digital leaders in B2B invest in making their operations increasingly more Bionic at a rate 5x higher than B2B laggards. Laser-focused

investments in Industry 4.0, Blockchain and Virtual Reality allowed B2B Bionic players to outperform their peers.

A major cross-segment finding, common to both B2C and B2B companies, consists of a substantial chasm between Bionic companies and Laggards in the discipline of Digital Talent (i.e. ~14x gap between them – see Exhibit 5). The adoption of new technologies has a significant impact on the skill set needed in key areas; Bionic companies realize this and make investments in both hiring and upskilling, aiming to build a flexible and adaptable workforce. Digitally-versed personnel are also more willing to design and innovate - instead of just operate – driving more value generation in growth periods and increasing business resilience during downturns.



4. Notable cases

Three Brazilian Bionic companies stood out as benchmarks of their sectors: **Gerdau, Bradesco and Magazine Luiza**. Highlights of their investments in digital skills and performance trajectories can provide a reference for how to achieve superior performance as a Bionic company.

Gerdau, the best performer in the Industrial Goods sector, was able to effectively implement an agile mindset in how their teams operate. They have successfully created several multidisciplinary squads operating in a less hierarchical and more autonomous fashion, while breaking organizational silos. Such an organizational set-up allowed this bionic company to maximize the value generated from machine learning and artificial intelligence tools, use selected cases as guides for value creation, which had just been implemented. Here, the case to become bionic was clear. The company effectively deployed technology – by developing advanced analytics tools – coupled with capable and agile teams, who were able to leverage the power of data to make more precise decisions swiftly, contributing to the company’s ability to react and rebound in such challenging times. **(Reader’s note: Gerdau case, Smart Decision, Annual Report 2019)**

When we look at Bradesco, a benchmark of the Financial sector, we see a similar pattern. This high-level performer was able to deploy advanced data management techniques to rethink their credit product lines, making sure their offers were seamlessly embedded into their customer’s journeys. In parallel, their teams were receiving an important upskilling to be able to operate in such a data & technology-heavy world. Among other initiatives, this player has also hired tens of data scientists who seamlessly blended into the organization’s decision-making process, again leveraging the power provided by technology to allow companies to achieve superior financial results. **(Reader’s note: Bradesco case, CRM2.0/ Brain, Annual Report 2019)**

Finally, Magalu stands out in the Retail sector. The company not only invested in a myriad of digital disciplines, but also aimed to create a digital ecosystem by leveraging businesses adjacent to their core. Initiatives such as an innovation lab, a multi-channel customer experience, strong marketplace capabilities and special payment and delivery services – all boosted by technology – clearly contributed to the development of such an ecosystem. Additionally, investments in creating a digitally-savvy workforce appear to be a constant in the company. Their financial reports state that they already have more than 100 multidisciplinary teams (squads) operating in an autonomous and empowered fashion, maximizing the outcomes that a bionic company can generate. **(Reader’s note: Magazine Luiza, Earnings Release 3Q2017 and 2Q2019, Annual reports 2018 and 2019)**

The examples above reinforce the original hypothesis: investing in technology along with properly upskilling and enabling your workforce will allow you to realize the benefits offered by the digital and technological realms. By blending digitally-versed talent with cutting-edge technologies, companies can achieve superior and long-lasting results.

5. Call for action

Bionic companies successfully blend human and technological capabilities as enablers of sharply focused business outcomes, organizing them around a consistent purpose and strategy. This approach could have enabled Brazilian Laggards to grow at higher rates in the recent past, generating up to R\$ 180 Bn in incremental EV between 2018 and 2020.

In summary: if you aim to build a growing and crisis resistant business, we advise you to embark on the journey towards becoming Bionic.

Interested in knowing how Bionic your company is? Reach out to us to request a digital maturity assessment.

NOTES

1. Total of 65 companies, out of the 68 that comprise the Ibovespa index. 3 companies not considered due to: lack of information or part of a sector with n < 3 players

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