Introducing Data-Driven Innovation Framework for Digital Business Success

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Initiatives: CIO Leadership of Innovation, Disruptive Trends and Emerging Practices; Data and Analytics Leaders

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Additional Perspectives

- Summary Translation: Introducing Data-Driven Innovation Framework for Digital Business Success
  (16 July 2021)

Overview

Key Findings

- Data-driven enterprises intentionally exploit their data and analytics (D&A) assets for internal and external digital innovation. Leaders examine data-driven opportunities as a primary part of their business strategy rather than secondary and supportive.
- Digital business acceleration is dependent on digital innovation, yet many enterprises find their digital ambitions inhibited by the lack of an organizational focus on D&A.

Recommendations

CIOs and other executives accountable for driving digital innovation should:

- Develop the enterprise's digital ambitions by systematically leveraging D&A in the idea generation and evaluation steps of the innovation.

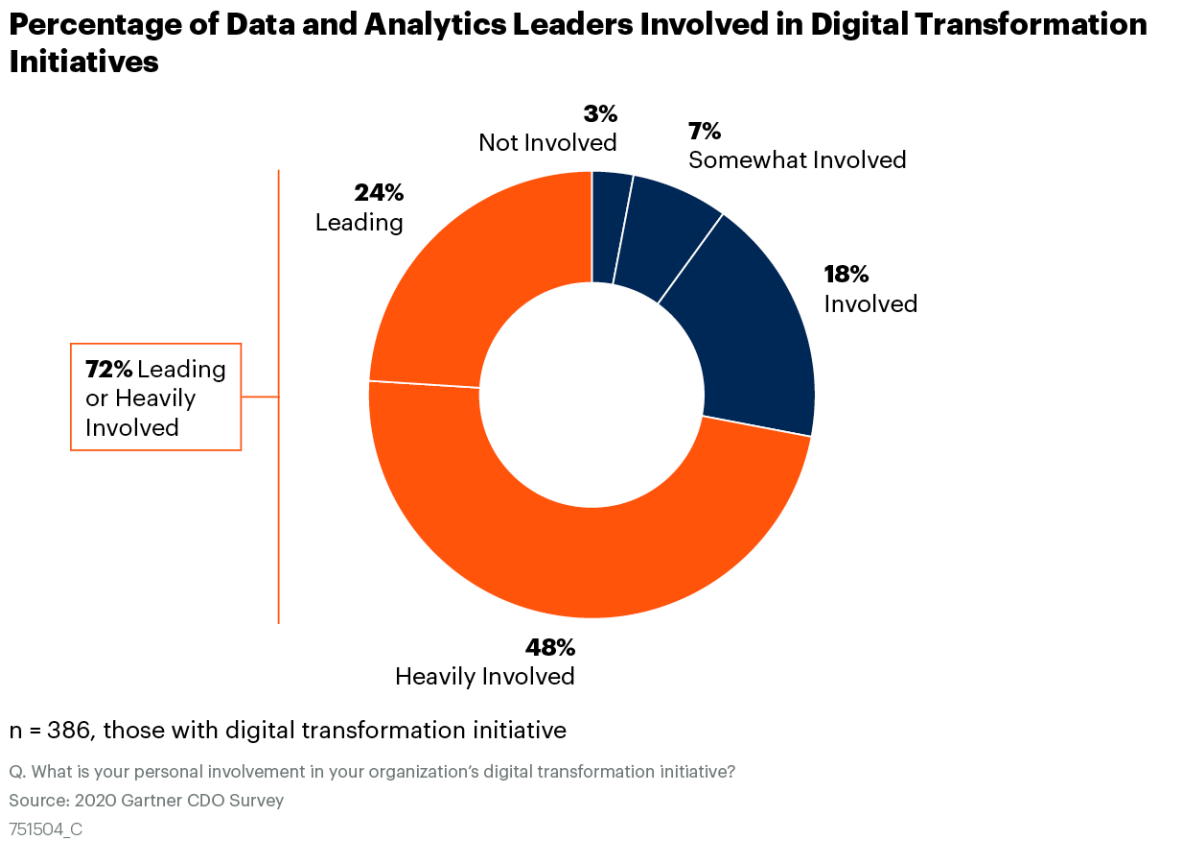
- Adopt a business model innovation pivot by monetizing data and information to create new business value opportunities.

Introduction

According to the 2021 Gartner View From the Board of Directors Survey, seven in 10 boards of directors (69%) have accelerated their digital business initiatives in response to COVID-19 disruption (both optimization and transformation). And 19% said innovation was a new priority (see Survey Analysis: Board Directors Say Pandemic Drives Increased Investments in IT). [1]

Gartner defines a digital business as an organization, or a unit within an organization, whose product set and business model are made possible by the use of information and digital technology. A digital business cannot exist without D&A. This is evident when you consider that 83% of respondents to Gartner's sixth annual chief data officer (CDO) survey had a digital transformation initiative in their enterprise. Seventy-two percent of the respondents said they were leading (24%) or heavily involved (48%) in these initiatives (see Figure 1 and CDO Agenda 2021: Influence and Impact of Successful CDOs in the Sixth Annual CDO Survey). [2]

Figure 1. Percentage of Data and Analytics Leaders Involved in Digital Transformation Initiatives



The CDO survey results show that enterprises already recognize this essential synergy between digital business transformation and creating a data-driven enterprise (see Build a Data-Driven Enterprise). However, many enterprises still struggle to identify innovation opportunities that are primarily based on the use of D&A assets.

This is why enterprises need a more intentional approach to data-driven innovation (DDI) — data is no longer secondary and supportive to the business strategy, but a primary part of the ability to drive new business outcomes.

Analysis

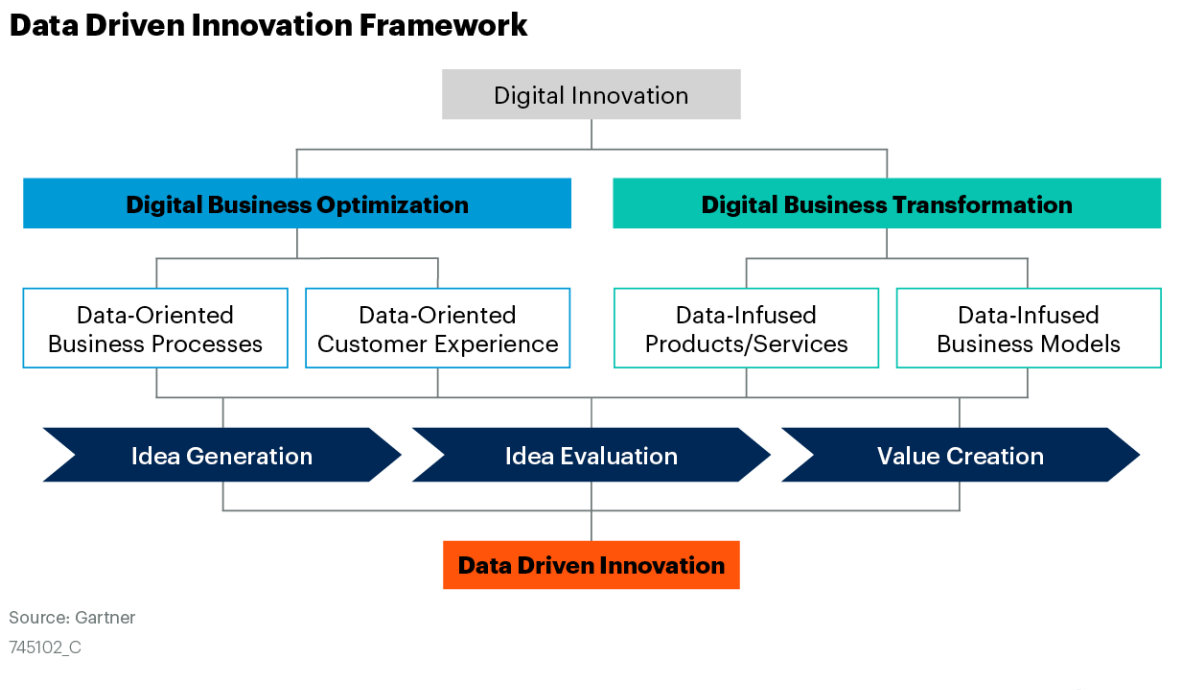
DDI refers to the use of D&A to develop or foster new products, processes, organizational methods and markets. D&A can drive both the discovery and execution of innovation, achieving new business models, products and services with a confirmed business value.

The massive amounts of data being generated by the digital economy can provide a wealth of ideas for business growth. Beyond traditional data analytics, DDI is driven by less-structured data, such as weblogs, social media, email and sensors, which have good information hidden that would help generate ideas and evidence when data correlations are found (see SIIA's white paper, Data-Driven Innovation).

As a result of DDI, the enterprise could be:

- Designing the intellectual property that will form its core business model
- Developing new information products and commercializing internal capabilities
- Creating highly personalized services or enhanced personal experiences for customers
- Applying the DDI process itself to trigger new ideas to create business value, including internal data monetization (see Figure 2)

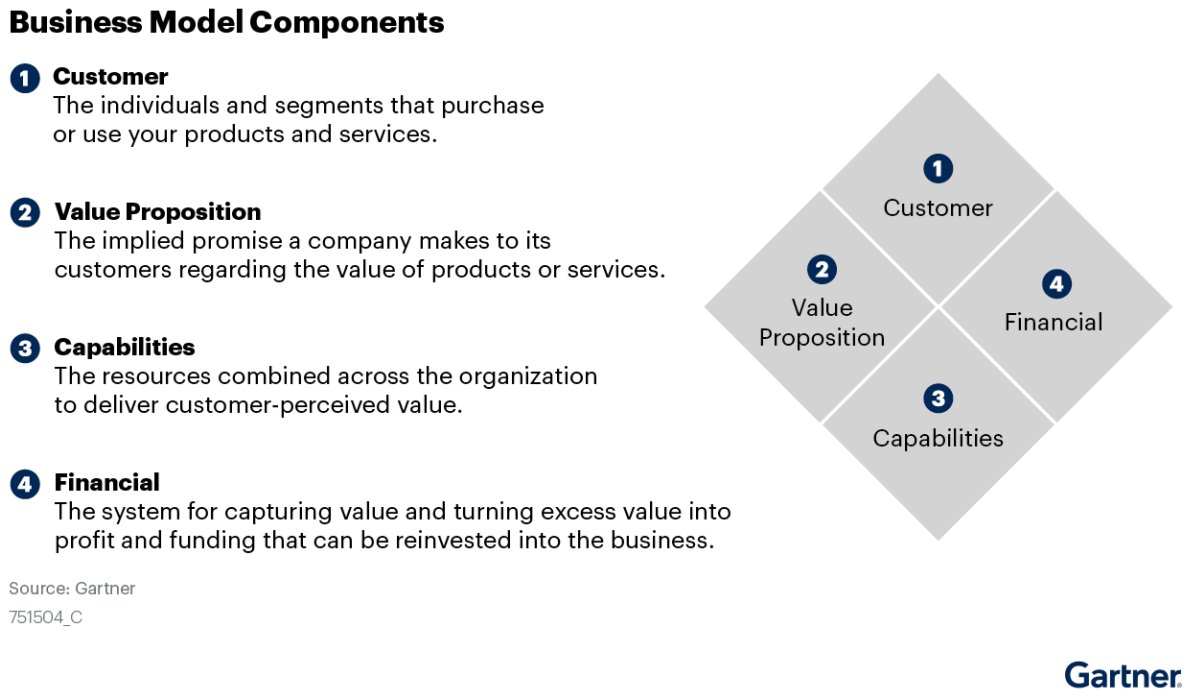
Figure 2. Data-Driven Innovation Framework



Adopt a Business Model Innovation Pivot by Monetizing Data and Information

Business models provide a blueprint for how an enterprise creates, delivers and captures business value (see Figure 3 and Use Business Models to Guide Digital Business Transformation: A Customer Service and Support Leaders' Perspective).

Figure 3. Business Model Components



DDI requires a foundational change of business model from traditional businesses. Starkly put, attempting to deliver DDI within your existing business model is likely to fail because:

- The customers are different (see How CIOs Foster Innovation by Listening to the Customers or Ignoring Them).
- The value proposition is different (see Applied Infonomics: 7 Practices for Chief Data Officers to Monetize Information Assets).
- The finance and funding approach are different (see Disrupting Traditional Approaches to Create a Resilient Innovation Funding Model).
- The capabilities required to develop and deliver value are different (see What Are the Must-Have Roles for Data and Analytics?).

Executing successful DDI requires:

- **A business model pivot based on an innovation approach** — It takes creativity, curiosity and critical thinking to identify specific new use cases and opportunities to monetize data, often co-creating these in partnership with other stakeholders within your ecosystem (see How Leading Organizations Create Innovative Business Models and How to Monetize Data Assets With Your Data and Analytics Service Provider).

- **Adopting a startup approach of an innovation lab/R&D type approach to identify and explore data monetization opportunities** — This includes techniques such as design thinking, persona mapping, customer journey, user stories and minimum viable product (see How to Build an Innovation Lab).

- **Dependency on establishing a disciplined, robust and composable approach to managing information as an asset — Examples include** cataloging valuable data, making it shareable and focusing on data quality (see 10 Ways CDOs Can Succeed in Forging a Data-Driven Organization).

- **Increased sharing of data** — This includes clarity about the legal, regulatory and jurisdiction expectations that must be applied in data sharing business models (see Smart Data Sharing — Five Insights to Get It Right).

- **Adopting product management disciplines where the data is treated as the product** — Create information products to realize the true value of the product's information assets and establish competencies to manage information products to exploit business value at enterprise scale (see Essential Product Management Practices to Monetize Data and Analytics Assets).

- **The imagination and creativity to ideate a continuous and ongoing pipeline of new use case ideas, business scenarios and potential business value opportunities** — Rapid prototyping enables new ideas to be developed, tested and validated for potential viability. However, many of these ideas will not be taken forward into a full market offering or live deployment. Take what has been learned from each scenario, and apply that learning to the next new idea (see Tool: A Living Library of Real-World Data and Analytics Use Cases).

Note that challenges still exist in the areas of control and ownership of data, protection of personal data, promotion of data standards and data sharing frameworks (see HM Treasury's The Economic Value of Data). However, recent trends on the availability, immediacy, reliability and cost of data are all pushing digital innovations toward DDI.

Case Studies

Case-in-Point: Open Innovation by Sharing Data With Ecosystem Partners (Pfizer)

Pfizer and BioNTech created a partnership and committed multiple R&D sites to vaccine development (see Reimagine Innovation With an Adaptive Innovation Ecosystem Framework). For clinical trials, Pfizer is using automation, artificial intelligence (AI) and predictive analytics to speed up the development of medicines. Remote data collection, including wearable devices and mobile apps, are making it more convenient for people to participate in clinical trials. Pfizer is using real-world evidence (RWE), including data from electronic health records (EHRs), registries and insurance records, to "help improve both the design and execution of clinical studies and in some cases, answer important clinical questions without the need to enroll new participants into a clinical study. This is particularly important when traditional trials alone do not provide sufficient data."

For more information, see Pfizer's Clinical Innovation.

Case-in-Point: Data Evidence Catapults Innovation (Google's Area 120)

Google uses data as an asset internally to solicit its employees continuously to come up with innovative ideas based on data they have analyzed. At Google, every employee is encouraged to innovate by voluntarily contributing up to 20% of their time to innovation activity, which has evolved into an internal incubator called Area 120. Numerous new products are in the pipeline at all times. Employees must show data evidence of business value upfront to obtain funding, which means all innovators must have the ability to analyze data. Because Google has such large masses of available data, doing nothing with that much data would be a crime. It's clear to see that data is central to its culture.

For more information, see Welcome to Area 120, Google's In-House Incubator.

Case-in-Point: Driving Data Is the Product (Arity)

The Arity mobile and telematics platform transforms large amounts of raw driving data into meaningful insights that help better predict risk and improve customer experience. Arity leverages mobility data to provide customers and partners with behavioral insights, strategies and solutions that create safer, more relevant transportation experiences for everyone. This is achieved by correlating massive volumes of enriched mobility data in real time with over 85 years of insurance data (including exposure, premium and loss).

For more information, see Arity's homepage.

Case-in-Point: Help Cities Take Advantage of Their Data (Turku City Data)

Turku City Data, a company fully owned by the Finnish City of Turku, built a smart city knowledge graph that serves as the contextual canvas for continuously unfolding real-world events. The knowledge graph is based on real-world entities — people, objects, locations and unfolding events — and their interrelationships. The resulting data structure is highly flexible and used as input for its AI algorithms to compose a variety of business applications on its n-bridges platform. N-bridges has generated value from 12 business use cases in the eight months since Turku City Data was started on 1 October 2019, with a $2.2 million initial capitalization. Turku City Data is currently working to monetize the platform, marketing it to other cities around the world.

For more information, see Case Study: Data and Analytics Monetization With Knowledge Graphs and AI (Turku City Data). [3]

Case-in-Point: AI Solutions From Early Startups (Stora Enso)

AI is crucial to every industry's technology plans, yet AI solutions often require complex, custom-made adjustments and integrations to generate business value. Rather than relying on large, well-established external partners to develop AI solutions, Stora Enso uses a repeatable and scalable process to collaborate with early-stage startups. Stora Enso relies on an internal innovation broker who matches carefully selected business problems with promising startups. These startups then deliver Stora Enso custom-made AI solutions.

For more information, see Case Study: AI Innovation With Startups (Stora Enso).

Evidence

[1] The **2021 Gartner View From the Board of Directors Survey** was conducted to understand how boards of directors view digital-business-driven business model evolution in their enterprises, and the role of the CIO and other executive leaders. These issues were also discussed specifically in the context of the COVID-19 crisis. The survey provides insights on boards' expectations of executive leaders and how boards of directors translate their focus into actual executive actions and overall corporate performance.

Gartner conducted this survey online from May through June 2020, among 265 respondents in Asia/Pacific (APAC), EMEA and the U.S.

Companies were screened to be midsize, large or global enterprises. Respondents were required to be a board director or a member of the corporate board of directors. If respondents served on multiple boards, they answered for the largest company, defined by its annual revenue, for which they were a board member. The study was developed collaboratively by Gartner analysts and the Research Data and Analytics team.

Respondents were asked: "What kind of impact do disruptions caused by COVID-19 have on your organization's digital business initiatives?" Sixty-nine percent chose "Accelerate digital business initiatives" as the top impact. n = 260, all respondents, excluding "don't know."

[2] The **2021 Gartner Chief Data Officer Survey** was a worldwide Gartner research project surveying individuals with the title and/or responsibilities of chief data officers in Asia/Pacific, EMEA and the U.S. The survey was conducted from September 2020 through November 2020, and includes responses from 469 respondents. The top five vertical industries represented were financial services (20%), government (16%), manufacturing (10%), healthcare (8%) and IT (7%). Sixty-one percent of the firms represented have revenue over $1 billion.

Respondents were required to have the title of CDO or chief analytics officer (CAO), or to have the responsibilities of an executive-level D&A leader in their organization (in the case of organizations without an official C-level D&A title). We also included chief digital officers in the sample, which is a change from last year. The survey sample was gleaned from a variety of sources (which included LinkedIn), with the greatest number coming from a Gartner-curated list of over 3,500 CDOs and other high-level data and analytics leaders.

The study was developed collaboratively by Gartner D&A analysts and the Research Data and Analytics team. Results of this study do not represent global findings or the market as a whole, but reflect sentiment of the respondents and companies surveyed.

[3] Case Study: Data and Analytics Monetization With Knowledge Graphs and AI (Turku City Data), 10 June 2020.

The organizations profiled in this research are provided for illustrative purposes only, and do not constitute an exhaustive list of examples in this field, nor an endorsement by Gartner of the organizations or their offerings.

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Infographic: Innovation by Design

How to Select the Best Platform Business Model

Accelerate Digital Business Aspirations by Becoming a Data-Driven Enterprise

Accelerate Digital Business Through Data-Enhanced Innovation Process

The Gartner Business Model Innovation Framework: A Tool for Deciphering High-Impact Digital Initiatives

Navigate the 9 Common Pitfalls to Scaling Innovation
