A hiker with a backpack stands on a rocky mountain peak, looking down at a vast valley. The background shows a deep canyon with forested hillsides. A large, semi-transparent geometric shape is overlaid on the top right of the image.

# BUSINESS AT THE SPEED OF DATA: A DIGITAL OPERATING FRAMEWORK

How to Stop Analyzing and Start Course  
Correcting for Real Digitization Now

## TABLE OF CONTENTS

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- 3      **INTRODUCTION**
- 5      **BEING DIGITAL:** The Digital Operating Tenets Required to Thrive Now and Weather Future Disruption
- 10     **POST-DIGITAL:** Testing Tomorrow Today
- 11     **YOU ARE DIGITAL:** An Operating Framework





The billion-dollar startup was supposed to be the stuff of myth. Google was never worth \$1 billion as a private company. Neither was Amazon, nor any other alumnus of the original dotcom class. But today, a mere 12 years after Google went public, there are 169 of these unicorns, all launched with valuations of \$1 billion or more.

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Their collective valuation today hovers around \$600 billion, all value diverted from within the market, which of course has not added \$600 billion in value over that time. In fact, the annualized return of the S&P 500 over the same period, when adjusted for inflation, is a modest 3.4 percent.<sup>1</sup>

While they've blazed the trail, the unicorn club is not exclusive to software giants. Anything but. In fact some of the biggest unicorns sell hotel rooms, cab rides, and clothing. They sell and deliver traditional products and services, digitally, allowing them to scale, to adjust real-time against market conditions, and to attract value at a nearly unstoppable rate.

And very soon these unicorn companies—busy disrupting and dominating traditional market sectors with digital operations—will seem quaint in comparison to the herd of \$1 trillion startups that may soon be stampeding down on us all.

In one of his last keynote speeches before his retirement, John Chambers, Cisco's CEO of 20 years, predicted that more than one-third of businesses today will be dead in 10 years.

"The only ones that will survive will turn their companies into digital, techie versions of themselves, and many will fail trying," Chambers told the 25,000 attendees of a Cisco customer conference in June 2015.

This apocalyptic message is cushioned by one truth: We are all capable of operating digitally. The necessary tools are prolific and inexpensive, and the mythical messengers of the digital revolution are transparent and generous in sharing their best practices. We simply have to start. We must be willing to start small, opening ourselves to rapid and raw feedback and readying ourselves for course correction. An upfront analysis does very little in preparing us to get started. Our first investment instead should be in the type of feedback mechanisms that allow gradual course correction and the celebration of successes along the way.

Digital transformation is not an end state. It is an ongoing revolution—against business-as-usual in favor of continuous improvement, agility, automation and transparency—that will make your organization stronger, your products and services better, and your customers happier.

**Your revolution starts now.**

# BY THE NUMBERS: No matter what you sell, it's worth more digitally.

## HOTELS



**\$19.7 billion:**

The equity value of the world's largest hotel operator, Hilton Worldwide Holdings Inc., in its December 2013 IPO.\*



**\$30 billion:**

Current market valuation for Airbnb, which owns no property and has spent just \$250 million over its lifetime.\*\*



## TRANSPORTATION



**Assets of less than \$10 million; \$10-\$50 million in debts:**

Financials of SF Yellow Cab, San Francisco's largest taxi cab company, in its January 2016 Chapter 11 filing.\*



**\$3.63 billion:**

Gross bookings for Uber in the first half of 2015.\*\*



## RETAIL



**149**

Number of bookstores closed by Barnes & Noble since 2008.\*



**400**

Number of brick-and-mortar bookstores Amazon announced it was planning to open over the next few years.\*\*



\*Hilton Worldwide Holdings Inc. was founded in 1919 and owns 10 hotel brands. It's December 2013 IPO raised \$2.34 billion, a record-breaking figure for lodging companies.

\*\*Founded in 2008, Airbnb boasts 60 million customers, 640,000 hosts, and 2 million listings.

\*A downturn in demand for medallions—the city-issued license to operate cabs which traditional cab drivers are required to own—was among SF Yellow Cab's cited financial woes. Medallions, which are owned by cab companies and sold or leased to cab drivers, plummeted in value from more than \$1.3 million in 2013 to between \$700,000 and \$800,000 in 2015.<sup>4</sup>

\*\*Despite huge losses for Uber in the first half of 2015 the company's exponential growth contributed to 40 percent consecutive quarter-over-quarter growth rates. Uber is currently raising money based on a \$66 billion valuation.<sup>5</sup>

\*Barnes & Noble's business model was disrupted by Amazon's explosive growth and the rise of e-books, which peaked at around 20 percent of total book sales.<sup>6</sup>

\*\*Amazon announced that its stores would serve as local warehouses, distribution centers, and someday, drone-delivery airports. It signals a trend in e-commerce companies using the benefits of a retail location to drive sales online.<sup>7</sup>



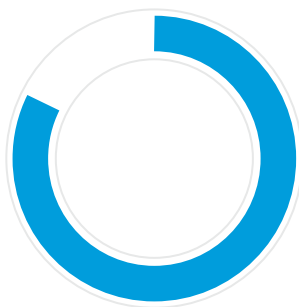
## BEING DIGITAL: The Digital Operating Tenets Required to Thrive Now and Weather Future Disruption

### ■ NORTH HIGHLAND SURVEY DATA:

Throughout this report are results from a North Highland-sponsored survey conducted in August 2016. Over 200 C-suite-level business leaders in the US and UK were asked about their digitization efforts. The results—presented throughout this report—tell the story of digitization today.

Today's most successful companies are digital, and they're slated for continued success well into 2020, the year in which Gartner predicts that 80 percent of today's business products or processes will be reinvented, eliminated, or digitized.

### ■ SURVEY DATA: How important is digitization?



**83%** report that it is "very important" or "extremely important" for their organization to achieve an increased level of digitization over the next five years.

Figure 1. Digitization over the next five years.

Its why even the most analog of businesses are working to close the digital gap.

Sometimes, it happens by choice: Boeing, the 100-year-old aerospace company and America's biggest manufacturing exporter, announced in July 2016 a partnership with Microsoft to build a cloud-based platform for its portfolio of commercial aviation analytics tools.

Other times, it's happening by force: facing the shattering effects of democratized, digital content production, incumbent newspaper publishers have faced widespread bankruptcies and layoffs as they scramble to digitize their models.

Being digital, by choice or force, centers around several distinct character traits. Here's what being digital looks like today:

## Being Digital: Three Critical Operating Tenets of Digital Companies

**1. They give authority to data, empowering it to inform short-cycle feedback loops:** Digital companies invest in and establish more—and smarter—data sources. And they carefully, quickly harvest that data and use it to manage by evidence. Scripting with strict version control replaces doing and documenting, delivering repeatable accuracy at a pace that meets or beats the market.

less risk, and in an environment riddled with feedback loops that fuel incremental course correction. They operate like the Apple App Store, which has 2 million apps, 130 billion downloads and in excess of \$20 billion in sales in 2015,<sup>8</sup> all run through an algorithm-driven system that vets new apps and dictates where they appear in the storefront based on downloads, popularity, and keywords.

Human intervention in a company that gives authority to data and empowers it to inform short-cycle feedback loops is by exception. They render human, manual interference unnecessary in the sale and delivery of products and services, and even in the creation of new ones.

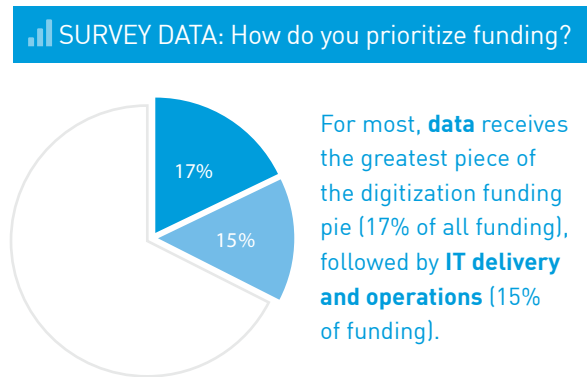
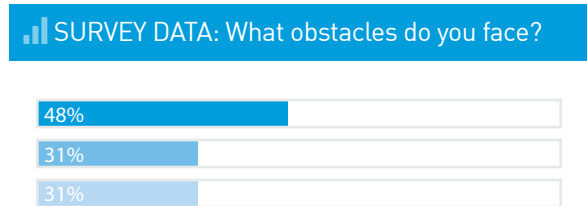


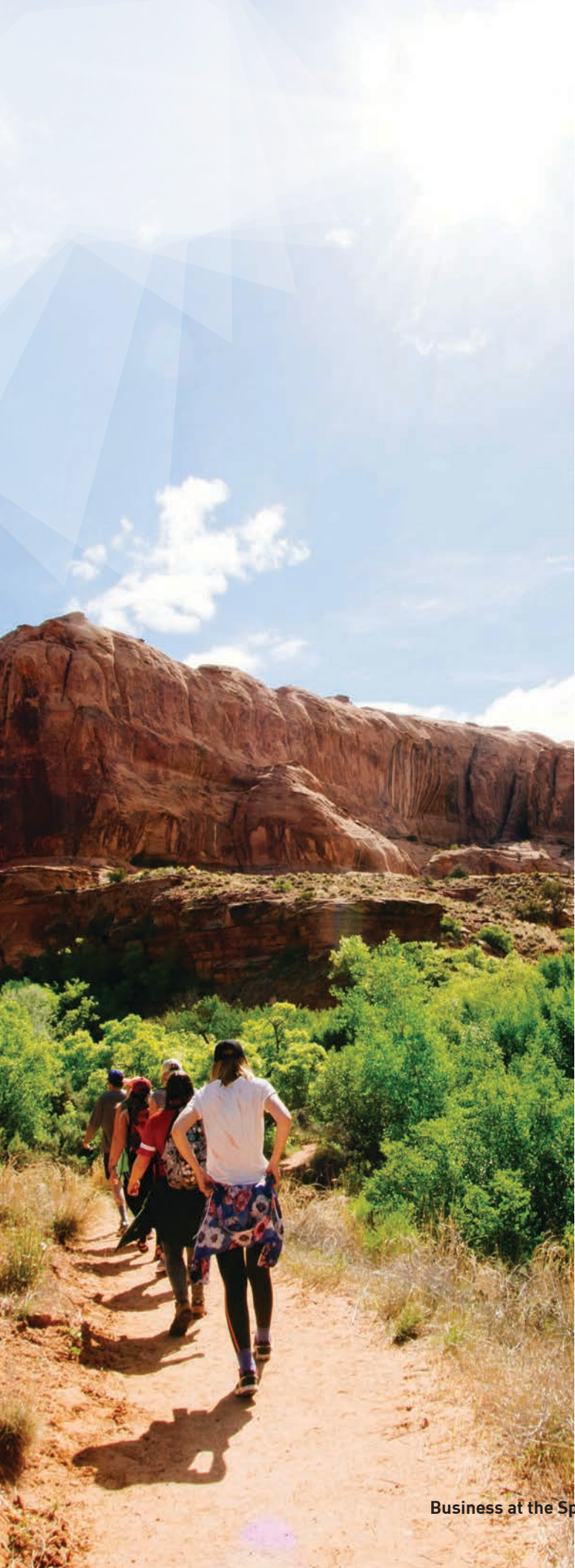
Figure 2. Digitization funding.

Digital companies don't have silos, internal hand-offs or wait-states. They operate at near-zero latency, minimizing work-in-progress and the process management that comes with it. They are lean, with a higher ratio of hours clocked to 'doing' rather than planning, reporting or documenting. They explore unconventional scenarios faster, with



- Respondents report that the top 3 obstacles to digitization are:
1. Funding (48%)
  2. Cross-department cooperation (31%)
  3. Siloed efforts without organization-wide perspective (31%)

Figure 3. Top obstacles to digitization.



## 2. They organize around their products and objectives rather than functions or geographies:

**One leading digital company executive recently said, “If you don’t want your products to look like your organization, change your organization.”**

Organizing around products and objectives makes for a far more intuitive organizational structure than organizing against functions or geographies. It reduces the need for strict hierarchies and restrictive job descriptions: It focuses efforts and resources into the work that directly connects to your value chain, and naturally reduces investment in everything that doesn’t.

Uber—a company driven “to bring better transit, opportunity to the masses”—is built on an organizational philosophy that blurs the lines between employees, employers and even customers. Its drivers are not employees (yet in June 2015 Uber lost a labor commission lawsuit in California, which if applied broadly, threatens to re-classify Uber drivers from contractors to employees), limiting its investment in back office functions like HR and finance, and freeing up focus on next-generation offerings.

### 3. They are designed to continuously

**transform, and they travel light:** They're built to change, with a foundational purpose so aspirational it requires nimble transformation to achieve it. Elon Musk's purpose for SpaceX is "Enabling people to live on other planets." SpaceX hasn't enabled anyone to live in space yet, but its transformation-ready organizational structure and leadership purview say "we aren't there yet, and we don't know exactly what it's going to look like, but promise to get there."

Uber's transformation-ready business model allows it to open in new cities in a matter of weeks, and to discontinue services in entire geographies based on shifting market demands at very little cost. It also enables it to move faster than the competition: In August 2016 Uber teamed up with Volvo to rapidly launch a fleet of self-driving cars in Pittsburgh, beating Google, Tesla and Ford—all of which have been developing similar fleets for years—to the self-driving, car-sharing market punch.

Transformational design can enable product transformation—Apple, for example, makes its own products obsolete every few years, and recently went so far as to remove a headphone jack from the iPhone 7—and even business model transformation. Even the most traditional, analog of business models are capable of massive transformation. [See the sidebar "From Product to Platform: Digital Business Model Transformation"]

## FROM PRODUCT TO PLATFORM: Digital Business Model Transformation

Henry Schein, an 84-year-old dental supply wholesaler company based in Long Island, is about as cool as a cavity. But the company has placed itself at the center of the digital revolution, converting its catalogue business into the leading platform for digital dentistry.

Henry Schein's digital transformation began in the early 1990s when it acquired a small software sales company that was producing DOS-based software packages to help dentists manage basic accounting. Today, Henry Schein has created the platform from which all modern dentistry operates.

Take for example the delightful experience of having a crown put on your teeth. The standard process used to include having copious amounts of goop shoved into your mouth to make an impression of your teeth, which was then shipped to a lab, where it was turned into a mold. Artisans then applied layers of white enamel powder to the crown to match color, and finally it was shipped back to the dentist for insertion. The whole process could take weeks, even months to complete.

On the Henry Schein platform there is no goop. An imaging rod makes a 3D image of the affected teeth, a dental assistant then designs the crown on the same screen and sends it to a drilling machine, which is the size of a large toaster. Thirty minutes later the crown is done. The entire design and manufacturing process takes less than an hour—and the dental chair gives you a back rub while you wait.

What began as a catalogue company selling mouthwash and dental picks has transformed dentistry and in doing so it has made big money for shareholders. Since its IPO in 1995, it has provided an annualized return to shareholders of 16 percent.<sup>9</sup>



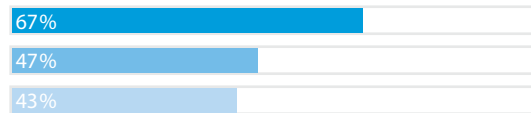
Either way, it's done with very little baggage. Airbnb is the largest hotelier in the world, and it doesn't own a single piece of property. The world's largest taxi company, Uber, owns no cars. And Facebook, the world's most popular media company, creates no content. What these companies do own and control—the digital interface—is far more valuable.

They own only what they need to delight customers and make their suppliers and employees the best in the world. They zero in and capitalize on their core capabilities to achieve a nearly unbreakable level of agility and scalability. And while they are all great enablers of a broad ecosystem of success, they are able to take more than their fair share simply because no one else is becoming digital as fast or as well.

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Being digital means changing almost everything. It changes how we set strategy and budgets. It changes how we plan, interact with our ecosystems and subdivide our P&Ls. It requires a new kind of infrastructure to connect people, process, and technology across the entire enterprise and to empower them all to operate digitally. And it demands a fundamental culture shift to encourage agile ways of working that combine creativity, metrics, and learnings to respond to quickly changing requirements.

#### ■ SURVEY DATA: What motivates your digitization efforts?



Respondents report the top three motivations for digitization are:

1. Reducing costs (67%)
2. Streamlining work (47%)
3. Satisfying or engaging customers (43%)

Figure 4: Top motivations to digitize.

## POST-DIGITAL: Testing Tomorrow Today

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Our approach in digital work is to test by doing, amplifying feedback loops along the way to let data guide course correction. We don't over-assess, over-evaluate, or over-strategize. We design hypotheses, rapidly assemble minimum viable products, and immediately solicit input from the customer and via internal feedback loops.

We have a few hypotheses of our own. We believe these are worthy of testing. We believe unicorns already are testing and evolving similar hypotheses.

This is post-digital. It is uncharted, unconventional, and ripe with opportunity. What if you joined us in testing the future now?

- **What if you got rid of your traditional IT department?** Do your employees really need anything more than a browser on their device of choice? And do you really need anything not already provided by cloud services? Everything your IT team could possibly create or maintain is already being done better, faster, and more securely with tools like Slack, Trello, Dropbox, and Facebook. We believe that applying them in the right way to connect the right systems could be your singular IT challenge.
- **What if you treated your software like employees?** Imagine evaluating code against Employee Experience or Customer Experience objectives. Imagine software with a higher purpose. We believe software needs a purpose, a reason to perform, as part of a larger platform in order to thrive as we enter the end of the development era marked by AI and machine-learning-enabled software development.
- **What if you replaced your employees with software?** We envision a future where employees are empowered as a platform, not one-off solutions, so they can be scaled and evolved. We imagine moving beyond standard automation to a zero-latency, zero-waste state in which data friction is eliminated and each and every employee function has an integral position in the value chain.

|| SURVEY DATA: How many apps do you employ?

**18%**

of respondents state that their organization employs more than 300 apps at any given time.

*Figure 5: Application management.*

|| SURVEY DATA: How digital is your customer engagement?

**33%**

of respondents report that customer service interactions taking place through digital channels account for 25% or less of all customer touch points.

*Figure 6: Digital customer service.*

## YOU ARE DIGITAL: An Operating Framework

A digital transformation is unique to each organization. But in leading digital transformation efforts for our clients over the last five years, we have identified a handful of absolutes. When distilled down, those absolutes provide the framework for digital success.

- 1. Prepare for discomfort:** Organizations doing it right get comfortable with the discomfort of this evolution. You don't have to figure it out all at once. You just have to be willing to start and to make the organizational changes required for success. Set the direction, draw a line in the sand, and understand that line will move.
- 2. Build your team:** Make sure you have the right leadership to provide protection from the organization. Corporate antibodies will fight digital transformation. Previously high-value leadership traits are being replaced by those that demonstrate diversity, resilience, and transformative capability. To attract the right leaders, it's important to provide clarity into the capabilities your organization will grow vs. buy—your sourcing model. To attract the best in the world, outsource everything that is a commodity, and build your in-house capabilities around the areas that truly define your organization's purpose. The best developers in the world will refuse an enabler role; their work must directly add value and guide strategic decision-making.

## THE UNICORN WAY

An analysis of the characteristics shared by founders of unicorn companies may offer insights into some of what makes a successful digital leader:

- **Teams win:** A supermajority of companies (86 percent) have co-founders. Among them, 85 percent of those co-founders had history together—from school, work, or being roommates, with the majority having worked together previously. They are collaborative team players that value diversity of experience and thinking.<sup>10</sup>
- **If at first you don't succeed:** More than three-quarters (76 percent) of founders have an entrepreneurial history and a track record of founding something (even if it was far less successful) previously.
- **Get smart:** About half of unicorns are the product of extremely well-educated co-founders who are graduates of a "top 10" US university.
- **Technically speaking:** The overwhelming majority of companies (92 percent) start with a technical co-founder, and 90 percent have a founder who has experience working in a tech company. The few companies whose founders had no prior experience working in the tech industry are largely consumer-oriented companies, such as Beats Electronics and Warby Parker.
- **Ultimate transformers:** Among these unicorns, 74 percent are still led by their founding CEO or were led by the CEO through a liquidity event. This says a lot about the transformational prowess of these founding CEOs to scale the business from seed stage through multiple financings, leadership team changes, hundreds or thousands of team members, and in many cases global expansion.

## A LEAN STARTUP PRIMER

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It's a practice that favors experimentation over elaborate planning, customer feedback over intuition, and iterative design over traditional "big design upfront" development. While relatively young, its concepts—such as "minimum viable product" and "pivoting"—have quickly taken root in the startup world, and new ventures of all sizes are seeing payoffs by failing quickly and learning continuously.

### The lean startup method has three basic principles:

#### 1. Research and planning can't prove untested hypotheses.

Only doing can. Rather than engaging in months of planning and research, practitioners accept that all they have is a series of untested hypotheses—good guesses, basically. So instead of writing an intricate business plan, practitioners summarize their hypotheses in a framework called a business model canvas. Essentially, this is a diagram of how a company creates value for itself and its customers.

#### 2. Customers rule everything, so get their feedback quickly and incorporate it into iterations or pivot.

Lean startups use a "get out of the building" approach called customer development to test their hypotheses. They go out and ask potential users, purchasers, and partners for feedback on all elements of the business model, including product features, pricing, distribution channels, and affordable customer acquisition strategies. The emphasis is on nimbleness and speed: New ventures rapidly assemble minimum viable products and immediately elicit customer feedback. Cycle time is a key indicator of success; the best have it down to seconds, enabling them to deploy thousands of small customer-driven improvements every day. They've mastered proper "agile", not "ad-hoc." It's a rigorous, scientific way of regularly and rapidly deploying fully tested incremental improvements.

#### 3. Make agile development a core capability. Unlike typical yearlong product development cycles that presuppose knowledge of customers' problems and product needs, agile development eliminates wasted time and resources by developing the product iteratively and incrementally. It's the process by which startups create the minimum viable products they test.

|| SURVEY DATA: Are you agile?

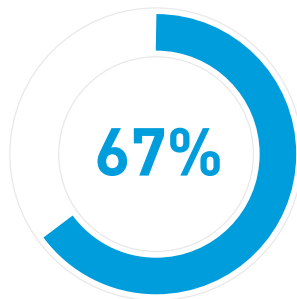
**22%**

of respondents say the group responsible for digitization utilizes an agile approach.

*Figure 7: Rates of agile development and project/program management.*

- 3. Start small and prove by doing:** If your team of 100 isn't working, don't try to fix it. Streamline to a team of 10, and model your operations after lean startup principles. Favor launching over research, real feedback and an open feedback loop, and a solid technological and structural infrastructure so that breakthroughs can be successfully fostered.
- 4. Recognize that it's an enterprise-wide transformation:** This is not an IT department problem. In fact, the real problem may be that your organizational structure has an "IT department" at all.

|| SURVEY DATA: Who's in charge?



An overwhelming majority of respondents (67%) state that their IT department is primarily responsible for executing digitization.

Figure 8. Digital leadership.

Your transformational process will likely start in a silo, perhaps within IT or customer service, but every bit of forward progress helps in the long term. Powerful digital leaders don't accept or foster the confines of those walls, but are willing to start there to achieve an ultimate goal of end-to-end value chains with no hand-offs, enterprise-wide.

For large organizations, those silos may expand beyond organizational departments to entire business segments. By design, business segments responsible for projects or development are more accepting of change than those responsible for operations. The former have been incentivized to drive transformation; the latter has been programmed to stay the course and keep the lights on at all costs. Seek opportunities to push the most advanced parts of your organization to the digital edge and utilize their successes to promote a cultural commitment to digital ways of working.

## A DIGITAL DESTINY, ONE LEADER AT A TIME

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The things that give digital organizations power are not new. They are the tried and true business best practices, scaled through free-flowing data exchange and radical transparency.

Many digital CEOs are incredibly tech savvy. Just as many are not. And ultimately, all the tools, experience and technological expertise in the world are not as valuable as a leader with a willingness to transform. From that transformative willingness all else flows: business conducted at the speed of data, for scale and value growth on your terms and to the world's delight.

Being digital is as much a mind state as it is a technological one. So it starts with you, the leader, to create the digital destiny your organization will be known for. The digital revolution is being brought to fruition one great leader at a time.

**You're up.**

1. As calculated by DQYDJ's "S&P 500 Return Calculator, with Dividend Reinvestment"
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4. "San Francisco's Biggest Taxi Operator Seeks Bankruptcy Protection" The Wall Street Journal January 24, 2016
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7. "Why Would Amazon Want To Be The New Barnes & Noble?" The New Yorker February 3, 2016
8. Gregg Keizer, "Apple's Cut of 2015 App Store Revenue Tops \$4B" Computer World January 6, 2016
9. Murray, Alan. "Every Company Is a Technology Company" Fortune June 10, 2016
10. Statistics in this section from: Lee, Aileen. "Welcome to the Unicorn Club, 2015: Learning from Billion-Dollar Companies" Tech Crunch July 18, 2016

## ABOUT OUR TECHNOLOGY AND DIGITAL SERVICES

At North Highland, we help organizations drive market gains by aligning technology and digital initiatives with strategy and culture. We do this by optimizing the types of tools and services that drive informed decision-making, enable internal collaboration and create platforms for meaningful customer engagement.

We integrate diverse technology consulting competencies with the digital strategy, design, user experience and development competencies of our experience design agency, Sparks Grove.

### Our services include:

- Digital Transformation
- Technology Governance
- Digital Applications
- System Selection and Benefits Realization

## ABOUT NORTH HIGHLAND

[North Highland](#) is a global management consulting firm known for helping clients solve their most complex challenges related to **customer experience, performance improvement, technology and digital, and transformation**. We add value and support our clients across the full spectrum of consulting, from strategy through delivery. We bring the big ideas, then we make them real. North Highland is an employee-owned firm, headquartered in Atlanta, GA, with more than 3,000 consultants worldwide and 60+ offices around the globe. The firm is a member of Cordence Worldwide ([www.cordenceworldwide.com](http://www.cordenceworldwide.com)), a global management consulting alliance. For more information, visit [northhighland.com](http://northhighland.com) and connect with us on [LinkedIn](#), [Twitter](#) and [Facebook](#).

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