

TIME FOR A REBOOT:

**Nearly Half of Companies Aren't
Ready for Digital Transformation**

A Center for Digital Transformation
Research Report

Executive Summary/Key Findings

We surveyed more than 100 CIOs and other senior IT executives across a range of industries about how their companies were preparing for a digital world. And indeed, about one in six companies surveyed feel that transforming their businesses for a digital economy is critical to their success. And another 41% believe digital transformation is a part of their growth strategy, but not the whole story.

But a large percentage of survey participants (44%) did not view digital transformation as crucial to their businesses – at least, crucial enough to be digitally proactive and aggressive. If those companies later decide to get serious at digital transformation, they will need to make substantial changes in their mindsets, business processes and talent.

The 15% of our research participants whose companies believe that digital transformation is their most important mandate have much to learn from:

- Their digital transformation starts at the top of the organization – in most cases with their CEO.
- Their culture embraces innovation and risk-taking, including driving ideas from multiple disciplines.
- They look for guidance on what to do digitally not only from inside their industry but more importantly from outside of it.
- They realize they need highly skilled digital talent, and they are willing to invest in the latest digital technologies to attract that talent.

The rest of this report goes into these and other findings in more detail.

The Accelerating Digital Transformation of Industries

Most executives are now well aware of what happens to established companies whose products and services have morphed into digital offerings. The prospects of their death passes before their eyes. The stories of digital roadkill of Blockbuster (from 9,000 video rental stores in 2004 to bust in 2010), Eastman Kodak (from market leadership in film to bankruptcy in 2012 and to reemergence but at a fifth of its size 10 years ago) and Borders (Amazoned out of existence) have been well told.

But there are many more stories that have not. Consider roadmap maker Rand McNally. Founded in Chicago by Willam Rand and Andrew McNally five years before the Civil War broke out, the company boomed in the early 1900s by mapping America's fast-growing road system. Near the end of the century, Rand McNally employed more than 4,000 people. But then Internet-based maps began replacing its treasured Road Atlases, and digital maps from digital companies

such as Google and MapQuest moved front and center.¹ Rand McNally went on a downward spiral, with the McNally family selling its majority stake in 1997, and six years later its private equity buyers brought the firm into bankruptcy proceedings. Rand McNally still exists today (in the hands of another PE firm), but with a workforce that is 10% the size of its staff in the 1990s. Meantime, Google's online maps are a key beachhead into the \$21 billion market in the U.S. for local advertising.²

All those long-established businesses had products that could be digitized entirely. Thus, it's no surprise that they struggled mightily in the digital economy. But companies whose products and services will always take a physical form – think automobiles, taxi service, and hotel rooms – are not immune from digital incursions into their businesses. Digital disruption must be taken seriously by every business.

Just ask automobile companies, which have seen new competition from Silicon Valley (Tesla Motors, launched in 2003) and more recently (according to press rumors) Apple Inc. Or look at the taxi business. By the end of 2014, Uber (which has spread fast with its smartphone app for finding and booking taxis on the fly) had raised \$1.2 billion, setting its market value at \$40 billion. That was nearly four times the revenue last year of U.S. taxi and limousine services.³ In San Francisco alone, Uber reports revenues of \$500 million, exceeding those of the mature taxi business. And most of these revenues haven't come at the cost of others; rather there was a significant unmet demand that Uber tapped into. And hotels are next, with Internet-based businesses such as Airbnb making it easy for travelers to book rooms at people's apartments. Launched in 2007, Airbnb was worth \$10 billion as of last April.

And these won't be the only industries facing digital disruption. Even our industry – the genteel business of running a university – is finding a rapidly growing number of online competitors with names like Coursera and EdX. Shouldn't your company be thinking about how it too can grow by tapping into unmet wants and needs?

The Focus of This Research

With more and more industries facing digital opportunities and threats, the Center for Digital Transformation was launched in 2012. Our goal has been to shed important new light on how corporations can become more competitive and productive in a digital economy. This study, conducted late in 2014, focuses on one aspect of this issue: Just how ready are companies for a digital transformation of their businesses and industries?

To research the topic, we designed and fielded a 50-question survey to chief information officers in companies in five countries: the U.S., Canada, Italy, France and India. In all, 111 CIOs and other senior IT executives completed the survey. They came from a range of industries and company sizes, with 41% in firms of

more than \$1 billion in annual revenue. The majority were based in North America. And 61% were founded before the emergence of the World Wide Web, meaning they didn't start as digital companies.

With this research, we capture the current state of affairs – how prepared (or not) companies are for the digital economy. In addition, we make recommendations for companies that believe they need to “get digital” quickly. To be prescriptive, we compared the answers of the most digitally ready companies – the so-called “leading” firms – to those of the least digitally ready. Their differences revealed a number of distinct approaches to preparing for the ongoing digital revolution.

Many Companies are Ripe for being the Disruptee (Not the Disruptor)

So how prepared are companies for digital transformation? The surprising answer: not very. Nearly half (44%) believe that transforming their businesses for the digital age is either not important to their growth or not relevant at all to them. Only 15% believe that being a digital company is a key to their success (a group we'll refer to as “leading” in this report), and another 41% say it's important but just one part of their growth strategy (a group we'll call “strategic”). Those companies we believe that are ripe for being the disruptee are categorized as “tactical” (35%), “minimalist” (5%) or “non-existent” (4%). [See Exhibit 1.]

Exhibit 1. How Companies are Approaching a Digital World



So that means less than one in six companies believe that being a digital business is crucial to their survival. And of this group, about a third (35%) feel they are trailing competitors in becoming digital businesses. In some industries, especially if a business has no other distinct competitive advantage, this can be downright dangerous. If a company falls far behind, it may never be able to catch up to the leader.

Most Companies Focus Digital Technologies on Marketing and Sales

Given the nonstop headlines about technologies such as cloud, mobile devices, social media and big data and analytics software, it would be easy to get the impression that most companies are using these digital technologies in every part of their business. But our study found this not the case at all.

While more than four out of five companies are using cloud, mobile and social media (Exhibit 2), with but a few exceptions their usage isn't going beyond the marketing and sales functions. (See Exhibit 3.)

Exhibit 2. New Technologies in Use

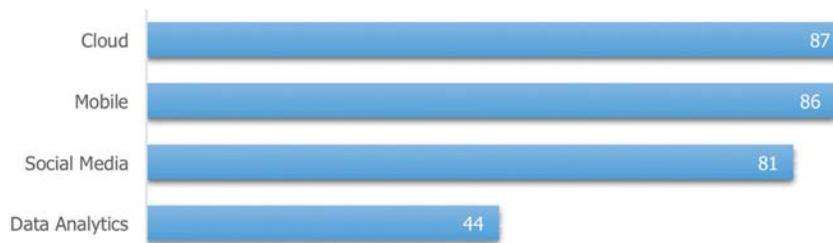
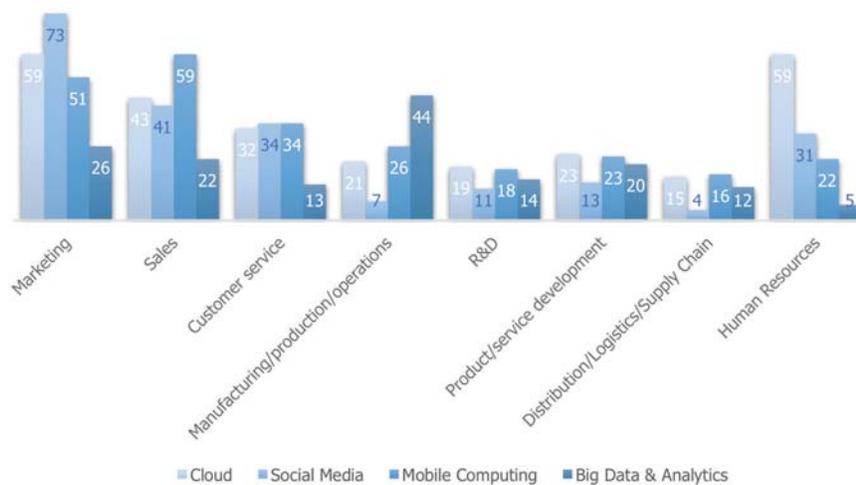


Exhibit 3. Use of Digital Technologies Within Functions



This is somewhat predictable: Companies are looking to get near-term returns from their digital investments, so they focus them on the two business functions that are closest to revenue. Yet even within marketing, 74% of companies are not using big data and analytics to do tasks that are now possible to do such as analyzing social media comments to find unhappy customers and influencers on the customer decision.

The R&D organization appears to be largely sitting on the sidelines of the digital revolution. Less than 20% of companies are using any of the four core digital technologies. And in distribution and logistics functions, the numbers are even lower.

Two exceptions to the trend that sales and marketing functions are stealing the limelight with digital technologies: HR (59% are using cloud computing here) and manufacturing (44% are using big data and analytics software). Many companies have been turning to cloud-based providers of HR systems (benefits administration, recruiting, talent management, etc.) for several years. And many production operations use big data to improve throughput and quality.

The fact that the majority of businesses surveyed aren't using digital technologies much beyond marketing and sales is another indicator of how unprepared these companies are with the technologies. That begs the next question, which is why?

Why Many Businesses Aren't Prepared

Despite articles that fill the management journals and business press on the need to leverage digital technologies, most companies are barely down the path. Our research points to five reasons:

- **A lack of skills at the top to generate an innovative digital strategy.** Only about one in five companies (19%) said their company possessed such skills to a “great extent.” Twice as many said those skills existed to a moderate extent (39%), and 21% said those skills existed in a small way or were nonexistent. To illustrate this, the CIO of a large health care company told us his company lacked “...imagination. There still seems to be this odd disconnect in how executives use technology personally and figuring out how to use it to drive competitive advantage and revenue in our company.”
- **Skepticism about the impact of digital technologies on their business.** While nearly half (44%) of the companies said market forces are pushing their companies to become digital, much fewer (19%) felt their firm was at risk of being disrupted by the technologies. In fact 43% believe their businesses either won't be disrupted at all or only to a small extent. (See Exhibit 4.) Said a senior IT executive at a giant consumer products company: “We're in a world where pressure of driving costs down is very high. This makes it extremely critical to clearly articulate the bottom-line business value to invest in these capabilities.”

Exhibit 4. What's Doing the Disrupting, and How Serious Is It?

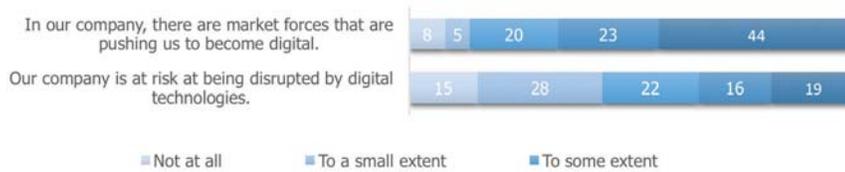


Exhibit 5. Barrier to Transformation: Financial risk



- Corporate cultures that punish innovation and risk-takers – especially if they put the current cash cows at risk.** Asked to indicate the degree to which their companies would fund strategic digital initiatives with uncertain returns, only 19% said to a “great” extent. The majority (55%) said their company would fund such projects only to “some,” a “small” or no extent. In a related question, we asked how willing their firms would be to cannibalize their existing revenue streams with digital initiatives. Only 14% showed “great” willingness. Some 59% said “some,” “small” or no willingness. (See Exhibit 5.) And only about a third (32%) said their company culture to a great extent was one of innovation and risk-taking.
- A shortage of digital talent.** Longstanding IT professionals don’t necessarily have the skills in big data and analytics, cloud systems, social media, and mobile technology. The skills they’ve worked on for years – client server computing, mainframe computers, PC troubleshooting and the like – are a different set of skills than the ones required to work with big data systems such as Hadoop, cloud-based programs, social media data analysis, and mobile apps and wireless communications. Less than one quarter of the companies we surveyed said they had “to a great extent” the technical talent for digital innovation. A much larger percentage (42%) said that talent existed to some, a small or no extent at all. (Exhibit 6.)

Aging technology infrastructure. Sixty percent of companies see their IT infrastructure as a great or moderate barrier to digital transformation. Only 40% indicated it was a relatively insignificant barrier. (Exhibit 7.)

Exhibit 6. Technical Talent Available in the Company

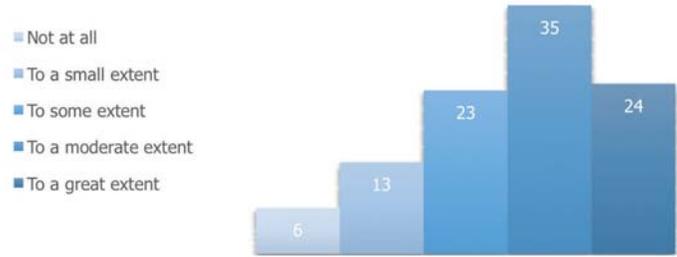
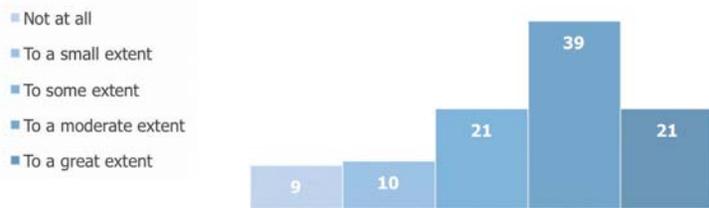


Exhibit 7. Barrier: IT Infrastructure



What the Digital Leaders Do Differently

We said earlier in this report that 15% of the survey participants saw digital transformation as a key element of their company's growth strategy. So what does this group of "leading" companies (as we refer to them) do differently from the rest? Why is their top management more likely to want to be the "disruptor" and not the "disruptee"? What can executives who believe their firms need to ratchet up their digital vision learn from companies that already have?

In comparing the answers of the leading firms to those that aren't as digitally aggressive, we found four key differences. Each presents what we believe to be an imperative.

IMPERATIVE # 1

Start the Digital Transformation at the Top

Make sure the impetus for digital transformation comes from the top of the organization. The clear majority of survey participants from leading companies – some 88% -- said their senior executives recognized the competitive potential of digital technologies. In contrast, only 15% of the "tactical" and 40% of the "strategic" firms said the same thing. What's more, 71% of the "leading" firms have a CEO who actively champions using digital technologies. That was the case in only 18% of the "tactical" companies. And 88% of the leading firms believe digital technologies play a major role in the success of their business – more than twice the number (36%) in the "tactical" firms.

A large consumer products manufacturer's CIO told us that top management is fully bought into the need to exploit digital technologies. "There's a realization that digital solutions are the new table stakes for doing business, and that the competition will easily outpace us if we do not invest in digital."

That's a philosophy that has served movie and TV program distributor/producer Netflix well. The \$5 billion company has had two digital strategies that wound up knocking out Blockbuster: putting movies on DVDs and distributing them through the mail, and then streaming movies online. Those moves didn't happen by accident. Netflix founder and CEO Reed Hastings believed he had to be the champion of using digital technology aggressively. "We were so obsessed with not being the next Kodak, the next AOL, about not being the company that clung to its roots and missed the big thing," he told

“There’s a realization that digital solutions are the new table stakes for doing business, and that the competition will easily outpace us if we do not invest in digital.”

the Stanford Graduate School of Business last year. “We said if there’s a bias, we should be more aggressive. We have to be so aggressive it makes our skin crawl.”⁴

But having an intuitive sense at the top that digital technologies are important is not the same as having a clear vision of how to use those technologies in the business. For example, less than half (47%) of the “leading” companies felt they had the right visionary skills to define an optimal digital strategy. Still, that was a much higher percentage than the 21% of “strategic” and 11% of “tactical” companies that had the right visionary skills.

What if your company’s top executives don’t see the importance of digital technologies? What if they believe they will have little impact on who wins or loses in your industry? One way to address such skepticism is to engage in discussions not about the digital technologies per se but rather how companies are using them in your and other industries to gain market share, cut costs, accelerate cycle times, improve new products and achieve other business mandates.

In other words, focus the conversations on the market impact of the technologies – and less on the technologies themselves. With so much hype and unfilled promises coming out of technology vendors, many business executives automatically tune out when a conversation gets quite technical and claims are made without substantiation.

What if those discussions went like this?

- “It gives us tremendous new insights into customer behavior, which is leading to better products.” That was what a major software company’s IT executive told us in explaining the value of digital technology.
- Mobile technology “made our sales force be recognized as the most professional and effective one in the industry,” said another survey participant, an IT executive at a home furnishings company. Of course, as every CEO and chief sales officer knows, more effective selling produces higher revenue.
- “Marketing to consumers through social media has given us a larger voice, and consumers who use social sites are our best advertisers,” said an IT executive at an automotive company. That sounds like it’s far less expensive – and far more effective – marketing than traditional print and broadcast advertising.

When discussions about digital technologies are put in those kinds of terms, CEOs and other members of the C-suite begin to listen. When they are about arcane intricacies of the technologies, they tune out.

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IMPERATIVE # 2

Be Ready to Revamp the Way You Do Business

As your strategy evolves, be ready to change your business model and business processes, even radically. Digital strategy must drive organizational structure and the way work is conducted. Companies that think they can merely “bolt on” digital technologies to existing marketing, sales, customer service, manufacturing, distribution and other longstanding – and often calcified – business processes will be hugely disappointed.

Hastings didn't bring Netflix to life thinking about how he could build a better video rental store. He saw the opportunity to get rid of the store by reaching consumers through the Web and the U.S. mail. Eventually, he saw the need to cannibalize his own distribution network by streaming video content online into homes.

In other words, you must be ready to cannibalize your current business – and then change your business model again. To be sure, competing against and taking revenue out of your core business is easier said than done. In fact, only 35% of the “leading” companies surveyed said their companies' leaders were willing in the short turn to cannibalize the current business. But that was 10 times the percentage of “tactical” firms, only 3% of which were willing to kill the core business with digital businesses.

But even if you're just revamping the current business through digital technologies, you still must be prepared to make seemingly radical and uncomfortable changes in marketing, sales, service, manufacturing and other processes. Perhaps one of our research participants – an IT executive in a global consumer products company – put it best:

“We need to break the old ways of doing work and have more emphasis on transforming business processes” in ways that capitalize on digital technologies. “We can't take it for granted that the business will figure that out on its own. We need to pair digital capabilities with an intentional effort to touch and improve how work is done.”

This kind of thinking is far more likely to happen in firms that are out in front in the use of digital technology. Of the “leading” companies in our survey, the majority (53%) said their senior management was ready to change current practices. That was nearly three times the number (18%) that were willing to do so in the “tactical” firms, and it was more than twice the number in the “strategic” firms (23%).

It's easy for companies to say they'll reengineer business processes. It's another thing to actually get the people who manage those processes to go along. Without a license to experiment in business process innovation, a company's digital

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teams will be marginalized. That requires a culture of process innovation. Of the “leading” firms, 69% said they had such a culture vs. only 13% of the “tactical” firms.

Corporate cultures are built on what is rewarded in the organization. A firm that rewards risk-taking will create an innovative culture. Half the leading firms have explicit rewards for innovation, which is more than twice the number in the tactical firms. And 41% of leaders will fund digital initiatives with uncertain returns; in contrast, only 5% of the tactical firms will do so.

What’s more, creativity is far more likely to be a cross-functional sport in the leaders. Some 59% of these companies encourage new ways of thinking and ideas from diverse perspectives. That’s not the case in most of the tactical firms, only 21% of which encourage such expansive thinking.

IMPERATIVE # 3

Look for Guidance Outside Your Industry

It is easy to look at the competitors in your industry and decide that since no one is really far out in front with digital technology, that there’s no rush. Think again. Eastman Kodak was probably not thinking that computer device manufacturer Apple or TV maker Samsung were competitors for its digital cameras in the early 2000s. But they soon were after introducing smartphones with cameras in them. In the 1990s, Borders and B. Dalton probably thought each other and Barnes & Noble were the competition – i.e., other book store retailers – not an Internet startup founded by a computer scientist working at an investment firm (D.E. Shaw) who wanted to change careers.

Leading companies that we surveyed don’t just benchmark against competitors; they compare themselves to companies in other industries. Or as one company said, “We look at best in class in whatever we care about.” In fact, one pharmaceutical company participant in our research said the firm doesn’t want to benchmark its digital activities against other pharmas. The firm would rather look at companies in other industries with high R&D costs.

The “leading” companies at digital transformation appear to be much more focused on how competitors and companies in other industries are using these technologies, and less on the technologies themselves. More than three-quarters (77%) say “market forces” – essentially, what customers, suppliers, competitors and other companies are doing with digital technology -- are pushing them to become digital. That was more than twice the number that said the same thing in the tactical companies (only 33%).

*“We look
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IMPERATIVE # 4

Put Great Digital Talent in Place and Let Them Make Their Mark

Having a great vision at the top of your company – as Netflix CEO Reed Hastings did many years in imagining a world in which movies and TV shows would be streamed to digital devices of all types (not just TV sets) – is not nearly enough. Companies need to have digital strategies and implementers who can take that high-level vision to a tangible and tactical level.

That's a key reason that Netflix is a thriving company today and Blockbuster is history. "Some companies operate by the principle of the product genius at the top," Hastings told Stanford last year. "There's this whole motif that to be a great CEO, you have to be a great product person. That's intoxicating and fun, but you build in incredible amounts of dependence on yourself. You're much stronger building a distributed set of great thinkers." Hastings said he takes great pride in "making as few decisions as possible, as opposed to making as many as possible." CEOs need to "create a sense [in their employees] that 'If I want to make a difference, I can make a difference.'"

For a major West Coast real estate company that participated in the survey, the biggest challenge to adapting to a digital world was "having enough talent to drive digital solutions." Professionals with strong resumes in social media, big data, cloud computing, and mobile computing are in hot demand in many industries – and especially in the companies that make the technology. Companies that are not in the technology business itself are having a hard time drawing the most talented professionals away from Silicon Valley, Boston, Seattle, Austin and other booming centers of digital technologies.

Attracting the best digital talent is easier when a company has committed to investing in the best digital technologies, which can cost in the tens of millions of dollars collectively in a big company. The "leading" firms that we surveyed are far more likely to have such an IT infrastructure; 53% said they did. Only 5% of the "tactical" and 27% of the "strategic" firms could say the same.

Today's digital technologies are a far cry from the technologies that made companies competitive in the 1980s and '90s. As a result, businesses need professionals with deep knowledge of today's digital tools. It's why General Electric, Ford Motor Co. and other firms have built software development facilities in the Bay Area. And it's why a number of old-line IT services companies have struggled with digital projects. The early woes of the health insurance exchanges required under the Affordable Care Act are a case in point.

Talk is cheap. Investing in technology is not, but it speaks volumes. Having the technology on hand – social sentiment analytics tools, big data database management systems, technologies for building smartphone and tablet apps, and so on – is what top digital talent are looking for. And so is a workplace in which they can make their mark.

“Talk is cheap. Investing in technology is not, but it speaks volumes.”

Big companies such as the Swiss food giant Nestle know this well. That's why when it hired Pete Blackshaw in 2011 to head up its digital marketing and social media group, it gave him a big budget and the backing of the chief marketing officer. His group (Nestle's Digital Acceleration Team) has been making its mark on the \$100 billion company, helping it set up 850 Facebook pages, produce thousands of pieces of content for those and other social media sites, and getting the company engaged in what its customers are saying about the company on social media. "It takes real momentum – even sparks – in large organizations" to integrate digital and social media into mainstream marketing practices, Blackshaw told one publication.⁵

Putting digital talent in a corner of the organization and not letting them touch the core business is a recipe for chasing them away. The best-practice companies put them in the center.

* * *

The advances in digital technologies are breathtaking and arrive by the month. Many technology experts say social media, cloud, big data and mobile computing are still in a very early stage. Similarly, the market share gains of digital companies such as Facebook (in the media business), Uber (taxis), Airbnb (hotels), Google (advertising and online search), and Amazon are remarkable to behold.

Companies that largely wait on the sidelines to see how the digital economy will play out will take on increasing risk – perhaps even more risk than they would by investing heavily and getting in the game.

Research approach and survey demographics

We designed and fielded the survey in the fall of 2014 with senior IT executives across six major sectors (Exhibit 8.). Our questionnaire – 50 questions in all – probed the degree to which these companies were "digital," what business processes were in fact digital, the organizational barriers to becoming so, and the business process, technology and other key success factors.

In all, 111 executives took the survey, with 41% of them in large companies of more than \$1 billion in revenue. Some 21% were in companies of less than \$100 million in revenue, and 38% were between \$100 million and \$1 billion. (Exhibit 9)

Exhibit 8. Survey Respondents by Industry

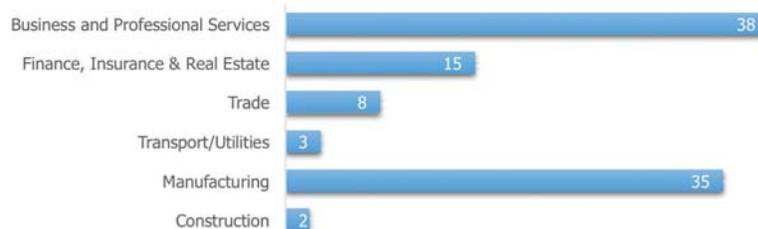
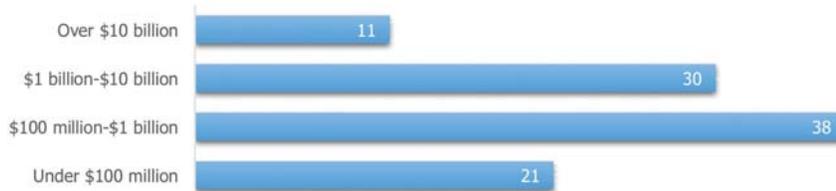


Exhibit 9. Survey Respondents by Annual Revenue



The majority of the 111 participants were in North America, with 60% from the U.S. and 18% from Canada. Another 15% were in Europe, and 5% were in India. (Exhibit 10)

Some 39% of the companies were founded in 1990 or afterward. Some 61% were launched prior to that year. (Exhibit 11)

The data came in, both quantitative (most of the questions were close-ended) and qualitative (answers to open-ended questions that often were revealing).

Exhibit 10. Survey Respondents by Country



Exhibit 11. Year Company Founded



(Endnotes)

1. Rand McNally background from Wikipedia and other reports. http://en.wikipedia.org/wiki/Rand_McNally
2. From a 2013 blog on iStock Analyst. <http://www.istockanalyst.com/finance/story/6481985/google-inc-goog-sizing-google-s-revenue-opportunity-from-local-ads-maps>
3. U.S. taxi and limo 2014 revenue from the U.S. Department of Commerce, Bureau of Labor Statistics, which pegged it at \$11 billion in 2014.
4. From a Stanford Business School interview with Hastings, published on Nov. 3, 2014. <http://www.gsb.stanford.edu/insights/netflix-founder-reed-hastings-make-few-decisions-possible>
5. MIT Sloan Management Review interview with Nestle's Pete Blackshaw, Sept. 22, 2014. <http://sloanreview.mit.edu/article/testing-123/>

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About the Center for Digital Transformation

The Center for Digital Transformation, a Center of Excellence at The Paul Merage School of Business at UC Irvine, has been built on the belief that digital technologies are transforming the strategy and structure of business enterprises. The Center's vision is to be an influential voice and catalyst for advancing the competitiveness and productivity of businesses in the digital economy by providing executives with a better understanding of the dynamics of this profound technological shift and of what these forces mean for their industries and organizations.

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