Harvard Business Review

SURVIVING DISRUPTION, LEADING CHANGE: WINNING IN THE APPLICATION ECONOMY

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Digital transformation is at the top of corporate agendas around the world today. Across the global business landscape, software is remaking business models to drive customer engagement, brand, and competitive advantage.

This report highlights what is uppermost in the minds of senior leaders as they strive to win in the new application economy. Nearly half (44 percent) of the 250 global leaders surveyed by Harvard Business Review Analytic Services in this study say that they expect their industries to be significantly disrupted by digital business trends over the next three years. More than a fifth (22 percent) say this has already happened.

How are companies responding? First and foremost, they are investing in modern technology to develop digital products and services faster (53 percent). And it's clear that software is at the center of that investment with fully two-thirds (66 percent) saying that their company's very future rests on the quality of that software.

The leaders—"Frontrunners" in this report—are making speed a competitive advantage with more than two-thirds of that group being adept at quickly developing new technology capabilities. For example, Frontrunners develop mobile apps more quickly, and they're more likely to be using agile approaches to developing that software (42 percent) than are the Stragglers (8 percent).

At CA Technologies, we are hard at work helping our customers seize the opportunities of this new digital world. From mainframe to mobile, we serve the world's leading enterprises across every industry with software products and solutions that can drive first-mover advantage. This report reflects the importance of focusing on core capabilities such as software development, agile management and security that enable companies to move at the speed of business.

Changes in customer behavior and expectations are driving this massive shift, with 46 percent citing these changes as the top driver. Customers are becoming more powerful as they leverage the increasing amount of information available to them to speed and enhance decision making. The response from businesses is to improve customer-facing processes with a focus on digital-first (42 percent).

This focus is showing up in topline growth and a shift in the way companies earn revenue. Frontrunners are already realizing the shift to digital business models, with a full third (33 percent) earning more than 50 percent of their revenue from digital. So, it's no surprise that more than half of respondents (58 percent) say their business model three years from now will be radically different from what it was just three years ago.

To lead in this new world is going to take hard work to overcome barriers such as organizational bureaucracy and change-averse cultures. For most companies, obstacles today take the form of outdated technology infrastructure, an inability to free up resources for digital investments, and a lack of the technical skills needed to thrive across an increasingly competitive digital landscape.

The lesson here is that, if they haven't already done so, business leaders need to fundamentally rethink what they're doing. They need examine their business models in light of the reality of a fast-paced, digitally driven world with users in the driver's seat. Deep investments in software and software development capabilities are likely to remain a strong indicator of who the frontrunners will be on the road ahead in the application economy.

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SURVIVING DISRUPTION, LEADING CHANGE:
WINNING IN THE APPLICATION ECONOMY

Digital business trends are changing how companies around the world compete. This is causing significant disruption in most industries, and the pressure is only going to get more intense, according to a recent global survey of 250 business leaders by Harvard Business Review Analytic Services. These respondents—from primarily large organizations in financial services, manufacturing, healthcare, telecom, and many other industries—recognize the impact this will have on their organization's business models and the central role of great software in their ability to compete. In fact, two-thirds (66 percent) say that their company's future depends on the quality of their software.

"CEOs and boards have woken up to the fact that technology is now an essential part of the business," said George Westerman, Principal Research Scientist at the MIT Initiative on the Digital Economy, and author of *Leading Digital*. "I've lost count of the number of times a CEO has said, 'we're not a bank, we're a technology company' or 'we're not a retailer, we're a technology company.'"

Nearly half (44 percent) of respondents say they expect their industry to be significantly disrupted by digital business trends over the next three years, scoring it an 8-10 on a 10-point scale. More than a fifth (22 percent) say this has already happened.

To survive this disruption, business leaders need to fundamentally rethink what they're doing, says John Hagel, co-chairman of Deloitte's Center for the Edge. "The use of software in business and digital technology in general has been more about doing the same things we've always done but doing it better, cheaper, faster," he said. "Relatively few companies are going back to the basics and saying, given these capabilities, what business are we really in? How could we do business fundamentally differently?"

Chris Curran, principal and chief technologist at PWC and author of its "Digital IQ" study, agrees. "It's easier to focus on the existing business model," he said. But CEOs and boards make a mistake if they put off a more profound examination. More than half of respondents (58 percent) say their business model three years from now will be radically different from what it was just three years ago.

Some companies are moving faster than others. More than a third (38 percent) say their organization's digital offerings are ahead of their competitors'—these are the Frontrunners. A similar number (35 percent) say they are behind—these are the Stragglers. The remaining 27 percent see their position as comparable to that of the rest of their industry.

The vast majority of all respondents (69 percent) currently earn less than a third of their revenue from digital products, channels, and partnerships. But the Frontrunners have already seen the impact of the shift in business models, with a full third (33 percent) earning more than 50 percent of their revenue from digital.

Changes in customer behavior and expectations are driving this shift, and are named by 46 percent of respondents as the top driver. "Customers are becoming more powerful," said Hagel. "They have more options, and more information about those options, and they're able to move from one to another more rapidly." This represents both opportunity and threat.

Survey participants are responding to this shift in power by creating and enhancing the digital customer experience; this was their top digital investment priority, named by 42 percent. Of course, it's not all about technology; 42 percent of respondents are also working to improve customer-facing business processes, with a focus on digital-first.

SPEED WINS BUT CHANGE IS SLOW

Being able to keep up with customers' changing expectations requires new ways of doing things. More than half of respondents (53 percent) are investing in modern technology to develop digital products and services faster. This was the number one action being taken to compete more effectively in the digital economy. figure 1

This is very much a work in progress, with most organizations "still in the middle of retooling their technology delivery capability," said Curran. While outside providers can help, that doesn't let the enterprise off the hook. "Even engaging third parties to get stuff out the door is not as fast as being nimble yourself. There's more overhead and more hoops to jump through to get other people to do the work."

Enterprises won't achieve this nimbleness without first fixing their own technology core, Westerman said. "A clean platform is the foundation of all goodness from technology. Integrated customer experience and end-to-end processes matter more than they ever did before, and you can't do them well if you don't get the platform straight."

In fact, getting the technology right is probably the easy part. The number one obstacle to digital transformation named by respondents is that too much organizational bureaucracy is slowing things down. figure 2 Changing that starts at the top. "People in upper management have to get used to this new clock speed and the somewhat self-organizing nature of digital work," Westerman said.

Business leaders must take a hard look at the way the enterprise is organized and operated. "Most companies are still very siloed," said Hagel. "Data is siloed, decision making is siloed, the visibility is siloed. Creating an integrated view of a customer who may be buying many different kinds of products from you is a huge issue."

For many, this will require culture change as well. "Most large companies are product-centric and have transaction-oriented cultures," Hagel said. "Shifting to a relationship-based culture that focuses on how to enhance the experience and value to the customer is hard."

It's not just hard; it takes time that many survey respondents feel they don't have. The need for speed is driven in part by the emergence of disruptive new competitors; a quarter of respondents name that as one of the top-two forces driving change in their industry—second only to changes in customer expectations. figure 3

FIGURE 1

ACTIONS TAKEN TO COMPETE MORE EFFECTIVELY IN THE APPLICATION ECONOMY

53

Invest in modern technology to develop digital products/services faster

42

Improve our customer-facing business processes, with a focus on digital-first

33

Expand our partnerships with suppliers, distributors, and others

29

Change our organizational structure

26

Invest in technologies and reporting that enhance user privacy and customer trust

26

Change our hiring strategies to better attract the right talent
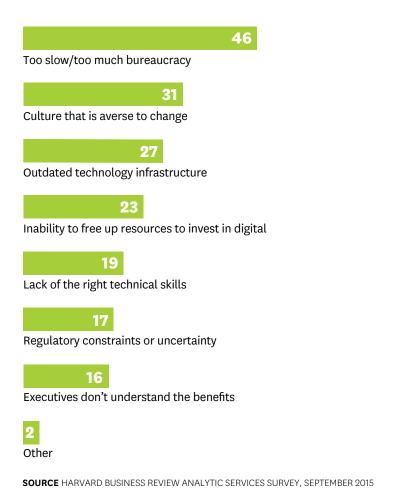
22

Hire more digital-savvy executives

14

Appoint a chief digital officer

14

Acquire software companies to gain expertise and technology

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FIGURE 2

OBSTACLES TO ORGANIZATIONS' ABILITY TO WIN IN THE APPLICATION ECONOMY

46
Too slow/too much bureaucracy

31
Culture that is averse to change

27
Outdated technology infrastructure

23
Inability to free up resources to invest in digital

19
Lack of the right technical skills

17
Regulatory constraints or uncertainty

16
Executives don't understand the benefits

2
Other

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HOW FRONTRUNNERS SPEED DEVELOPMENT

Frontrunners are making speed a competitive advantage. More than two-thirds (68 percent) say they are adept at developing new technology capabilities quickly, compared with only a quarter (25 percent) of Stragglers. As an example of that, close to half of Frontrunners (48 percent) develop mobile apps in less than four months compared with only 31 percent of Stragglers, while Stragglers are twice as likely to say it takes more than 6 months to roll out a new mobile app—47 percent of Stragglers compared with 23 percent of Frontrunners.

To facilitate that speed, Curran advises companies to start a "mobile factory" or "new-technology factory" to crank things out at a different pace that doesn't require massive transformation and change management for the whole organization. "Trying to do this quickly for the whole organization doesn't work," he said. "Not everyone is ready or able to change."

Frontrunners are significantly more likely to use an agile approach to software development—42 percent describe themselves as advanced practitioners of agile development while only 8 percent of Stragglers do.

These practices require more teaming between IT and various parts of the business, said Curran. Business leaders will need to plug the right people with the right skills and aptitude into those teams. "This is not just about remaking IT," he said. "These are multidisciplinary teams."

It's also not about circumventing IT. "A lot of companies say digital is too fast for their IT department," said Westerman. In research he conducted for Leading Digital, organizations that were identified as "digital masters" all found a way to engage IT. "Not only did business folks wake up to the importance of this, but the IT folks found a way to operate at digital speed."

FACTORS DRIVING INDUSTRY CHANGE

46	
Changes in customer behavior and expectations	
25	
Disruptive new competitors	
23	
Oversupply/commoditization of our products/services	
16	
Government policies that increase regulatory requirements	
14	
Competition from other industries that have relationships with our customers	
14	
Increased availability and use of market/customer insight	
11	
Substitution of new digitally enabled products or services	
8	
Government policies that encourage/enable new services and business models	

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BUILDING DIGITAL CAPABILITIES

To capitalize on digital business opportunities requires change in many dimensions. While respondents' primary focus is on creating a great digital customer experience (42 percent), this was followed by investments in transforming core business operations and processes (34 percent) and employee work processes (31 percent). figure 4 "There's tremendous opportunity to use digital to transform the way we work internally," Westerman said.

There is a huge discrepancy between Frontrunners and Stragglers when it comes to having what it takes to compete in the digital economy. Three-quarters of the Frontrunners (74 percent) say they have the people, processes, and technologies to successfully compete compared with only one-quarter (25 percent) of the Stragglers. Clearly the Stragglers have a lot of work to do to catch up.

Frontrunners do things differently. They make decisions based on data and experiments rather than past experience and gut feel, according to Westerman. They tap into new sources of innovation,

FIGURE 4

DIGITAL BUSINESS INVESTMENT PRIORITIES

42
Digital customer experience

34
Transformation to our core business operations and processes (e.g., finance, supply chain)

31
Transformation to employee work processes (e.g., more mobile/remote work, collaboration)

24
New digital products/services

24
Digital product/service delivery

18
New channels to market

10
Expanding our partner ecosystem

2
Not applicable (we are not investing in digital business)

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such as incubators, labs, the open source community, and more, said Curran. More than half of Frontrunners (55 percent) say they have flexible, often ad hoc relationships with suppliers and other trading partners—but that doesn't prevent them from deepening and strengthening relationships that are strategic.

Frontrunners are twice as likely as Stragglers to say they have a collaborative work culture (74 percent versus 38 percent), while Stragglers are more likely to say their culture values stability and structure, often at the expense of innovation. This is significant, as the ability to collaborate effectively is a critical factor in this new more-connected, faster-paced world. "As smart as people might be, as many skills as they have, they're going to be more effective if they can collaborate well with others," said Hagel, adding that "software enhances that ability at scale."
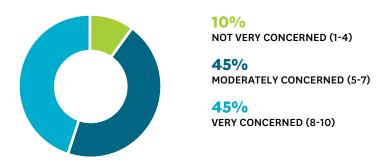
This need for greater collaboration extends beyond the traditional organization, Hagel says. Agility is amplified by the ability to mobilize third parties that have complementary expertise, products and services that can add value to any customer opportunity. "Rather than build [a new capability] yourself or acquire it, why not just mobilize it and add more value to the relationship with your customers as a result?" Companies that take this approach will be able to meet customer needs more quickly and at lower cost.

DIGITAL BUSINESS AND CYBER RISK

Most security experts agree that the more digital a business becomes, the more pervasive are the threats. For most, it is no longer possible to keep intruders out. Rather, security must be built into multiple layers of the enterprise, with the capability to detect intrusions once they've happened and to respond quickly and appropriately in order to prevent or limit real damage.

Nearly half of respondents (45 percent) say they are very concerned about a variety of security risks as their businesses become more digital. figure 5 These include the potential for data breaches, compliance issues, litigation, and more. Only 10 percent said they were not very concerned.

FIGURE 5

SECURITY CONCERNS

10%
NOT VERY CONCERNED (1-4)

45%
MODERATELY CONCERNED (5-7)

45%
VERY CONCERNED (8-10)

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Half of respondents (49 percent) believe that the most important thing industry and the government can do to improve security is to develop better technology tools to enhance cybersecurity industry wide. This was followed by providing more security education to consumers and customers (36 percent) and having their own organization invest in developing a more secure technology infrastructure (35 percent). Such investment has become a somewhat easier sell as CEOs and boards of directors have taken it upon themselves to better understand the cyber threats their organizations face.

This investment goes deep, and it requires a different approach from an organizational perspective. "Companies that are doing this the best have the security, compliance, and architecture folks involved in [the digital] conversation from the beginning," Westerman said. "You can be secure while working in an agile way," but it is different and calls for a different way of looking at things. "People have to learn to think through that process."

THE PATH FORWARD

Digital business and changes in customer expectations are disrupting companies in a wide variety of industries around the world. Companies increasingly compete on the quality of their software and the speed with which they can roll out new products and capabilities. But many companies lack the people, processes, and technologies to compete successfully in the application economy, and organizational inertia is a huge impediment. To overcome that inertia, executives must break down silos inside their organizations and push collaboration. They must be willing to sacrifice some stability in order to drive change. They will forge more flexible relationships with partners to exploit new business models and achieve greater agility and speed. And they will invest in modern technologies and new technology approaches to develop digital products and services faster.

Leaders who wait to see how things will develop before engaging in this make a mistake. As much as things have changed already, there's even more change ahead. The ability to intelligently connect any person or object on the planet through the Internet of Things will accelerate this disruption. For example, on the product front, "the next frontier is to design products using sensor technologies that give more visibility into how customers are using the product," Hagel said, with advantage going to those companies that can then quickly "redesign it to be more useful and add an array of services around it." The ability to do that will depend on having a network of relationships in place that can quickly satisfy those emergent needs—relationships that business leaders must cultivate today.

The application economy moves at a much faster pace than did business in the past. CEOs and boards must get comfortable moving from big planning efforts and long execution cycles to a more rapid test-and-learn approach, Westerman said, where some things get delivered and others get thrown away. The risk is great for organization's that get stuck in the past. Those that figure this out and are able to lead the change will not only survive disruption, they'll help write the rules for the new application economy.

METHODOLOGY

A total of 250 respondents completed the survey.

REGIONS

The survey audience is global with North America the leading region at 34 percent, followed by Europe/Middle East/Africa with 29 percent, Asia/Pacific with 27 percent, and Latin America with 10 percent.

SIZE OF ORGANIZATION

All respondents are from organizations with more than 500 employees, and nearly half (46 percent) are very large, with 10,000 or more employees.

SENIORITY

Slightly more than half (51 percent) of respondents are senior/executive management/C-level, 26 percent are middle managers, and 23 percent are from other grades.

KEY INDUSTRY SECTORS

The main industries represented are financial services (18 percent); manufacturing (16 percent); technology (13 percent); healthcare/pharma (7 percent); telecom (6 percent); and education (6 percent). Other industries are represented by 5 percent or less of the total respondent base.

JOB FUNCTIONS

Respondents come from a variety of functions, including sales, business development & customer service (14 percent); general/executive management (12 percent); IT (11 percent); R&D, innovation & product development (8 percent); and strategic planning (8 percent). Other functions are represented by 6 percent or less of the total base.