



WHITE PAPER

Developing Digital Dexterity in Your Organization



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DIGITAL IS EVERYWHERE

An array of digital technologies is transforming organizations in every industry, around the world, with unprecedented speed. (See “Spotlight on Digital.”) Indeed, digital is everywhere, and it’s catalyzing the creation of new products and services, along with radical new business models that are rewriting the rules of competition in industry after industry. Consider these examples of novel business models that have upended expectations about the kinds of assets companies must own to compete successfully: Airbnb, the world’s biggest accommodations provider, owns no real estate. Facebook, the most popular media owner around the globe, creates no content. Bitcoin, the world’s biggest bank, has no actual cash. Alibaba, the most valuable retailer in the world, has no inventory. And Uber, the world’s largest taxi company, owns no vehicles.¹

SPOTLIGHT ON DIGITAL

TECHNOLOGY	DEFINITION	EXAMPLE OF USE IN ORGANIZATIONS
Artificial intelligence	A branch of computer science dealing with the simulation of intelligent behavior (such as pattern recognition and decision making) in computers ²	A computer memorizes all research papers related to cancer to help doctors predict which combinations of drugs will be most effective for each patient.
Big data analytics	The process of examining large and varied data sets—big data—to uncover information including hidden patterns, unknown correlations, market trends, and customer preferences that can help organizations make informed decisions ³	A wind-farm operator analyzes turbine data to program its turbines to pitch themselves properly to optimize specific levels of wind and thus produce more energy.

¹ “The Battle Is For The Customer Interface.” Tom Goodwin, *TechCrunch*, 2014.

² “Artificial Intelligence.” *Merriam-Webster*, retrieved November 2018.

³ “Big Data Analytics.” *Search Business Analytics*, *Tech Target*, retrieved November 2018.

TECHNOLOGY	DEFINITION	EXAMPLE OF USE IN ORGANIZATIONS
Robotics	The branch of technology that deals with the design, construction, operation, and application of robots ⁴	A company programs a software robot to do basic, multi-step tasks across applications just as human workers do, such as taking received forms, sending a receipt message and checking forms for completeness.
Machine learning	An application of artificial intelligence (AI) that enables systems to automatically learn and improve from experience without being explicitly programmed ⁵	A video-on-demand company uses data on customer ratings and engagement levels from a huge volume of content to predict what any given user might want to watch next.
Internet of Things	The network of devices, vehicles and home appliances that contain electronics, software, actuators and connectivity that lets these things connect, interact and exchange data ⁶	An agribusiness collects data from an array of devices on temperature, rainfall, humidity, wind speed, pest infestation, and soil content, and uses the data to automate farming techniques to minimize risk and waste.
Social media	Websites and applications that enable users to create and share content or participate in social networking ⁷	A consumer products company uses social media platforms to strengthen its brand presence and to enable consumers to easily learn about and purchase its offerings.

⁴ "Robotics." Google Dictionary, retrieved November 2018.

⁵ "What is Machine Learning? A Definition." Expert Systems, retrieved November 2018.

⁶ "Internet of Things." Wikipedia, retrieved November 2018.

⁷ "Social Media." Google Dictionary, retrieved November 2018.

TECHNOLOGY	DEFINITION	EXAMPLE OF USE IN ORGANIZATIONS
Mobile	A form of technology used mostly in cellular communication, leveraging a platform whereby many transmitters can send data at the same time on a single channel ⁸	A business uses direct messaging to customers' mobile devices to alert them to upcoming deals and uses tap-and-pay technology with mobile wallets to facilitate payment for goods purchased.
Digital twin	A dynamic virtual representation of a physical object or system across its lifecycle, using real-time data to enable understanding, learning, and reasoning ⁹	A mining company creates a digital twin simulating its end-to-end operations, and uses the twin to identify ways to improve productivity and reduce waste.
Blockchain	A digital ledger in which transactions made in bitcoin or another cryptocurrency are recorded chronologically and publicly ¹⁰	A mining company uses a blockchain solution to track responsibly sourced gold from its origin to the vault.
Cloud computing	The practice of using a network of remote servers hosted on the internet to store, manage and process data, rather than a local server or a personal computer ¹¹	A business pays a small monthly subscription fee to a third-party cloud computing service provider, reducing its capital expenditure and improving its ability to scale use of computing power up or down to reflect seasonal changes in its business.
Augmented reality	A technology that superimposes a computer-generated image on a user's view of the real world, thus providing a composite view ¹²	A furniture company uses an augmented-reality app to enable customers to build a comprehensive view of how furnishings will look in a particular room or space.

⁸ "Mobile Technology, Its Importance, Present and Future Trends." Finextra, April 24, 2017.

⁹ "Digital Twin." Wikipedia, retrieved November 2018.

¹⁰ "Block Chain." Google Dictionary, retrieved November 2018.

¹¹ "Cloud Computing." Google Dictionary, retrieved November 2018.

¹² "Augmented Reality." Google Dictionary, retrieved November 2018.

DIGITAL NATIVES, IMMIGRANTS AND DINOSAURS

In response to the advent of digital tools and technologies, three types of organizations have arisen in the marketplace. *Digital natives* are companies that have possessed the technologies needed to create new offerings and business models from the organization's inception. Examples include Amazon, Netflix and Airbnb. *Digital immigrants* are enterprises that initially had a traditional business model but recognized the need to transform themselves into digital organizations. Examples include Kaiser Permanente, a large managed-care organization that made strides in telemedicine, and outdoor retailer The North Face, which uses IBM Watson via IBM Expert Personal Shopper to personalize product recommendations, such as selecting the best jacket for an expedition to the Amazon during a specific time of year.¹³ Finally, *digital dinosaurs* are those organizations that have failed to transform, and thus have lost out on the advantages on offer from digital technologies; some have even gone out of business. Examples include Polaroid, which didn't adapt to the rise of digital photography, and Blockbuster, the brick-and-mortar movie rental company.

DIGITAL DELIVERS

In addition to transforming themselves to survive and even thrive in the digital age, successful digital natives and digital immigrants are generating impressive business results on multiple fronts. For instance, in an Altimeter Digital Strategist Survey conducted in 2017, 58% of the participating digital-savvy companies said they had achieved improvements in operational efficiency (in areas such as productivity, cash flow and gross margin). Nearly 54% cited improvements in business performance on metrics such as sales, revenue and profitability. The same number said they had boosted customer satisfaction, on indicators such as net promoter score. And nearly 43% said that smart use of digital tools had helped them enhance their ability to innovate.¹⁴

In discussing the benefits of digital, it's worth taking a moment to focus on customer satisfaction. Why? Thanks to digital, customers—for both business-to-consumer and business-to-business enterprises—have ever-rising expectations of the organizations they interact with. For example, they take for granted that they will be provided with convenience, speedy service and information, and constant connectivity. They assume they'll receive personalized services and communications from—as well as 24/7 access to—the companies they do business with. And they expect a seamless experience across the multiple channels an enterprise uses, such as brick-and-mortar stores and online

¹³ "10 Companies That Are Spearheading Digital Transformation in Their Industry." Alison DeNisco Rayome, TechRepublic, January 25, 2018.

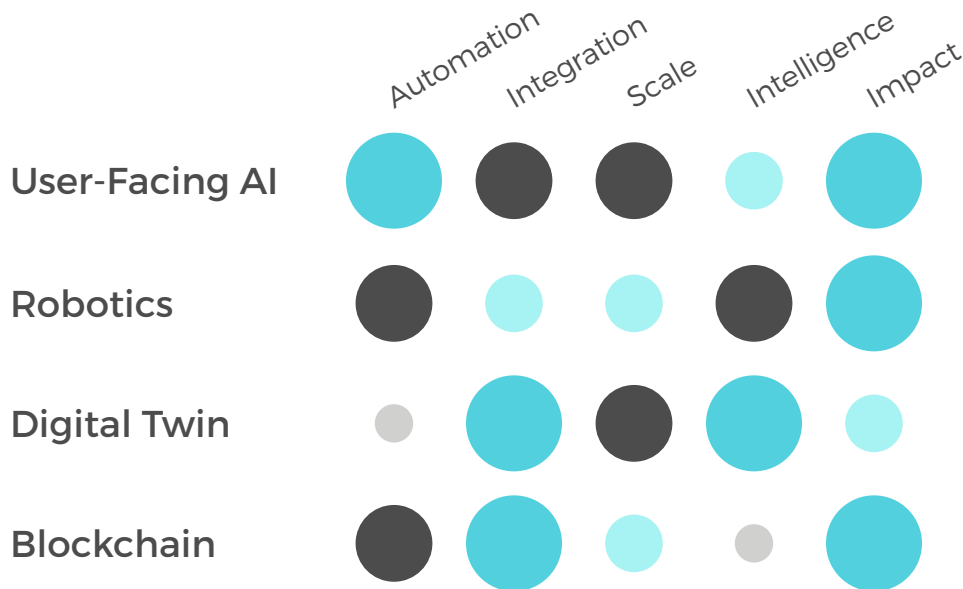
¹⁴ "The 2017 State of Digital Transformation." Brian Solis and Aubrey Littleton, Altimeter, October 2017.

platforms. Companies that can make smart use of digital to satisfy these ever-rising expectations will pull ahead of the competition in their industry—and stay ahead.

Not surprisingly, organizations in all industries understand the power of digital (see “Top CIO Digital Trends”), and they’re investing heavily in it. Indeed, findings from one recent survey suggested that as much as 31% of companies globally are assigning more than 15% of their revenues to digital investments. Yet as much as 70% of siloed digital transformation initiatives are expected to ultimately fail.¹⁵

TOP CIO DIGITAL TRENDS¹⁶

Each trend was scored to its potential for impact against five key business outcomes.



¹⁵ “What’s Your Digital ROI? Realizing the Value of Digital Investments.” Nadir Hirji and Gale Geddes, Strategy&, PwC, October 12, 2016.

¹⁶ “CIO Trend Report 2018.” Info Tech Research Group, 2018.

WANTED: DIGITALLY LITERATE TEAMS AND LEADERS

What explains the discouraging statistics on digital investments? In large part, it's digital illiteracy among teams and leaders. The same Altimeter study referenced earlier showed that the biggest mistakes managers and leaders make with respect to digital include weak or nonexistent understanding of digital trends and their implications for the company, lack of a clear strategic direction for digital transformation programs and resistance to the changes that come with digital transformation.

The fact is, digital illiteracy prevents teams and leaders from exploring answers to questions that are vital for extracting maximum business value from digital. Examples include:

- “How can we best harness this technology?”
- “In what ways could this technology help us win against our traditional competitors and our new competitors?”
- “How might we use this technology to enter new markets or explore new partnerships with other organizations?”
- “What are the best ways to use this technology to enhance our agility as a business?”
- “What steps should we take to ensure that we reap the expected outcomes from our technology investments?”

Equally troubling, gaps have widened between the skills and mindsets that teams and leaders need to help their organizations excel in the digital age—and those that they currently possess. To illustrate, required new skills include algorithmic thinking, data literacy, deep collaboration and critical thinking. Essential new mindsets include a willingness and ability to continually learn and to tolerate change and risk. And new roles that need filling in organizations include cloud engineer, data scientist, experience designer, digital marketing professional and cybersecurity specialist. On this last note, many of these new roles are hard to fill. And if an organization does manage to recruit and hire experts into the roles, these professionals are hard to keep on board because they have a wealth of other job opportunities to choose from.

Indeed, one recent Capgemini study found that only 39% of companies have the digital capacities and just 35% have the managerial capacities needed to successfully implement their digital transformation programs. These meager numbers are surprising. But even more shocking, the study revealed that companies' overall readiness for digital transformation actually declined from 2012 to 2018.¹⁷

17 “Organizations Struggle to Make Progress with Their Digital Transformation Investments.” Michele Moore, Capgemini, July 3, 2018.

IT'S ALL ABOUT THE "T"

As organizations seek to strike a balance between developing companywide capabilities required for today and in the future, they can benefit from considering who is at the heart of these development efforts: employees. In honing the skills and mission-critical roles essential for taking their organizations forward, learning and development professionals need a blueprint for cultivating the employee of the future.

And as digital dexterity becomes even more imperative, companies will have to develop digitally literate employees and leaders who are "T-shaped." That is, such individuals must continue bringing to the table their deep knowledge and expertise in whatever function or field they work in (such as IT, marketing, finance, supply chain management and specific industries). At the same time, they have to be able to converse in the language of a broader range of disciplines—across the organization, and up and down the hierarchy. Such conversations need to center on what digital tools are being used in the organization, how those tools work and how they can create more value and drive growth for the organization. Meanwhile, employees and leaders also have to know how to analyze data and use it to conceive of new business models, envision better ways of performing processes and imagining innovative offerings the organization could provide.

Excelling at being T-shaped isn't easy. It requires an unprecedented depth of collaboration and coordination throughout the organization. And it calls for mission-driven teams that have several defining characteristics. These include a strong belief that teams, not individuals, are heroes; distributed decision making; leaders at all levels, regardless of formal title; transparent goals and projects; incentives based on skills and abilities, not formal positions in the company; and a free flow of information and feedback among team members.

Of course, organizations can try to recruit people who have the required skills and mindsets essential for digital literacy. But such people can be hard to find, expensive, and (as noted earlier) difficult to keep on board. So reskilling and upskilling—swiftly—is vital for building the T-shaped teams and leaders essential for accelerating digital transformation in an organization.

How can organizations foster such reskilling and upskilling? They need to design the right digital-dexterity training programs.

DESIGNING FOR DIGITAL DEXTERITY

The best digital dexterity training programs have distinctive characteristics. For one thing, they cover the basics of digital technologies and their strategic use in organizations. They also address digital transformation and its related technical and behavior-based topics. And, they use some of the very tools and technologies under discussion to help learners extract maximum value from the training. We explore each of these in greater detail below.

DIGITAL BASICS AND STRATEGY

Great digital-dexterity training helps teams and leaders understand what digital technologies are out there in the world and why using them is important for the company, its employees and its customers. Through training, learners also come to understand where specific technologies could deliver the most value for the organization, and how to leverage them.

Equally crucial, exceptional training sheds light on what new opportunities digital tools and technologies present for learners' organizations, and which opportunities could best help them improve performance on key metrics such as revenue generation as well as product and service quality and profitability. Ideally, training-program participants will also discover how to reframe, extend, or even reinvent their organization's traditional business models to include a stronger digital dimension. And they'll learn how to use digital technologies to good effect internally; for instance, to enhance operational efficiency and to foster innovation of new offerings that delight customers and differentiate the company from rivals.

KEY ELEMENTS OF DIGITAL TRANSFORMATION

Effective digital-dexterity training covers key components of digital transformation along with a combination of technical and behavior-based topics. (See "Covering All the Bases.")

COVERING ALL THE BASES

TRAINING COMPONENT	TECHNICAL AND BEHAVIOR-BASED TOPICS
Essentials of digital transformation	<ul style="list-style-type: none"> • Disruptive technologies • Infrastructure and architecture • Digital transformation strategy • Digital automation
Data science	<ul style="list-style-type: none"> • Data visualization • Big data
Digital experience	<ul style="list-style-type: none"> • Designing digital experiences
Agility for digital transformation	<ul style="list-style-type: none"> • Agile methodologies • Agile mindset and culture
Digital marketing and communications	<ul style="list-style-type: none"> • Social media marketing
Virtual work	<ul style="list-style-type: none"> • Virtual collaboration
Digital competencies	<ul style="list-style-type: none"> • Computational thinking • Cross-functional collaboration • Continuous learning

LEARNER-CENTERED TRAINING

Great digital-dexterity training itself leverages digital's power to meet the needs of today's learners and organizations. Of course, it prepares workers to build the digital capabilities essential for today and tomorrow. And it has relevancy—exerting an immediate impact on learners' jobs and/or the projects they're working on.

But such training might also use a consumer-grade UX to achieve a modern reflection of the digital economy we all live in—which helps keep learners engaged. Additionally, it may leverage browser integrations to support micro-learning, further fostering engagement. Finally, it uses an open platform, allowing users to include curated content and ensures regular updates to the best-in-class collections of assets that learners can choose from depending on their preferred learning style—such as videos, written thought-leadership pieces, podcasts and other audio presentations and interactive infographics.

INVESTING IN LEADERSHIP TRAINING

Organizations that invest sufficiently in digital-dexterity training for leaders can accelerate their digital transformation programs. Such acceleration enables them to swiftly capture the benefits of digital and turn those benefits into measurable business results. Why is acceleration so important? In organizations embarking on a path toward digital transformation, leaders and managers are in a uniquely challenging position. They have to excel at their function-level skills, to lead creation of results for the business—but they must also simultaneously lead people through the organization's digital transformation process.

The right training enables leaders to meet this dual imperative. How? It recognizes that leadership is shared in teams; anyone can be a leader, thus training is provided to everyone, not just a select few. What's more, to foster enduring behavioral change, effective training is ongoing—not “one and done.” It also features realistic behavioral scenarios and stories that are relevant for and familiar to participants. Relevancy helps learners better retain the insights they've gained from the training, and enables them to apply those insights to the real-world challenges and opportunities they encounter in their jobs.

In a further example of how companies can use digital to support learning about digital, great leadership training programs are mobile—and app-enabled—to meet participants where they are and to equip them for anytime, anywhere learning. Through such platforms, training programs can cover not only timeless competencies (such as how to lead people through the challenge of change) but also timely competencies (such as how to demonstrate agile leadership).

Finally, the best digital-dexterity training for leaders has powerful data collection and analytics to foster reflection on insights gained from training. It also encourages social interaction and sharing to enable learners to naturally and comfortably discuss among themselves what they're discovering—no matter how far-flung they are in the organization's operations.

IN CONCLUSION

As digital technologies continue gaining momentum, no organization can afford to ignore the trend. Those that do ignore it risk joining the ranks of digital dinosaurs. The right training—for employees and leaders throughout each organization—is vital for building the digital dexterity that companies need to not only survive but also thrive in the future.

Let Skillssoft help your organization develop digital dexterity today.

ABOUT THE AUTHOR

Kristin Shackelford is Skillsoft's Solution Principal for Business and Leadership training solutions for North America and EMEA. A seasoned strategist in the Talent and Learning industry, Kristin has over 20 years' experience and brings relevant industry insights and practical experience to many of the largest global enterprises.

Kristin is passionate about helping organizations recognize how developing Talent for the Digital Age brings new imperatives and opportunities to arm our workforce with the right knowledge and approach to ensure they are future proofing their organizations.

Kristin regularly speaks and consults on current topics including Women in Leadership, Gender Parity and its impact on business, Digital Transformation, Engaging the Modern Learner, and the World Economic Forum top 20 skills for 2020.

For the last 18 years, Kristin has worked for Skillsoft in a variety of capacities, including Customer Success Manager for the Southeast US, and as the Program Manager for the US Internal Revenue Service (IRS). In her current role, she works with Skillsoft's largest global strategic customers to help them provide optimized solutions for training their leaders, managers, and staff.

Kristin has served on the advisory board for the Center for Talent Reporting, is a member of various professional groups, and is a certified Power Pilates Instructor.




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