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**OFFICE BRANCH**

ZOZTECH | 9330 - 0325 Québec inc.

250, Vachon, 2e étage

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FROM THE EDITOR

# DIGITAL TRANSFORMATION IMPACTS

The pace of change we are experiencing is substantially faster than ever before, it is no longer incremental; it is disruptive and nonlinear.

Technological disruption is already affecting every part of our lives. Every business, every industry, every society and even what it means to be “human”. These changes show no signs of slowing down; in fact, they are accelerating rapidly.

Manufacturers ecosystem designers urgently need an evolved mindset and toolset to navigate through the maze of opportunity and overcome the potential challenges of disruption. I mean to shift from product-centric business models to creating and capturing other sources of value (table<sup>1</sup>).

Late 18th–19th century	Beginning of 20th century	1970s–2000s	2010 onward
First industrial revolution: Power generation	Second industrial revolution: Industrialization	Third industrial revolution: Electronic automation	Fourth industrial revolution: Smart automation... and exponential change

**From Deloitte report:** “There is a clear and compelling case for manufacturers to leverage exponential technologies and incorporate digital transformation throughout their organizations. Nearly 90 percent of respondents to a Deloitte and MIT Sloan Management Review global survey anticipate that digital trends will disrupt their industries to a great or moderate extent. Yet only 44 percent of respondents say their organizations are adequately preparing for the disruptions to come.”

The Digital Manufacturing Enterprises – DME organizations that use exponential technologies to transform via Industry 4.0 enable opportunities to create an efficient, real-time automated feedback loop – data flows from the physical space to digital; capabilities enrich that data and deliver information and insights back to the physical world – that can unlock step-change value and provide insights and visibility to solve for incredibly complex problems and/or previously unknown opportunities. And demonetized affordable now due to economies of scale.

Exponential technologies are also dramatically changing the “what” (technology and automation), “who” (talent and the open talent continuum), and “where” (workplaces, physical location) of work across manufacturing organizations.

Understanding the mechanics behind business models is one of the most important new skills that all innovative leaders must develop. Exponential business models are needed now more than ever. Leaders often encourage their teams to think big and be more disruptive – but to follow through, people need new tools. We believe that learning how to

design exponential business models is a discipline all leaders and entrepreneurs should learn<sup>2</sup>.

A new value proposition: Information-based services and platforms. As companies digitize their products and services, they aren’t just creating new versions of their traditional offerings, they’re creating entirely new marketplaces. Every business, regardless of industry, should be exploring how and what to digitize in their existing value proposition to not only serve existing customers better but to potentially open up foundationally new exchanges of value.

According to results from a recent MIT/Deloitte study, cultures of digitally progressive companies share important characteristics. They engage in rapid experimentation, take risks, invest in their own talent, and value soft skills in leaders more than they do technical prowess. Manufacturing organizations striving to become more digitally mature should consider designing these characteristics.

The exponential rate of change is creating new challenges and opportunities, the talent is key in closing the gap and increasing the rate of change. But we need to redesign the work-space to build up new talents, then how can we re-skill and retrain people to learn technology and tools faster, and how can we design technology so it requires less training? How can we redesign the workplace to be more digital, open, and collaborative, yet provide opportunities for employee development and growth?

Considerable research shows that the highest-performing teams (and leaders) are those that are the best-connected within and across a company. Does our organization have enough open, collaborative, physical and digital spaces to facilitate people-to-people engagement?

**What is our organizational and work design capability?**

1. Exponential technologies in manufacturing Transforming the future of manufacturing through technology, talent, and the innovation ecosystem.  
2. Deloitte and MIT Sloan Management Review, Aligning the organization for its digital future, July 2016, <https://sloanreview.mit.edu/projects/aligning-fordigital-future/>.  
3. Singularity University, An Exponential Primer, <https://su.org/concepts/>.



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