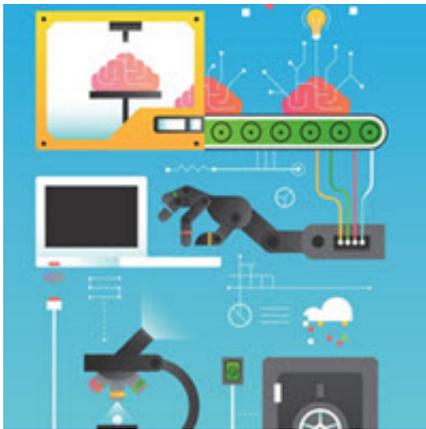


Originally Published April 7, 2015, 12:01 AM ET

Exponentials Changing the Competitive Landscape

Exponentials are technologies for which performance relative to cost and size increases rapidly. When combined with new business methods, like crowdsourcing, and new trends, like the “sharing economy,” they create the potential for true disruption.



Dr. Peter Diamandis, co-founder and chairman of [Singularity University](#), coined the term “exponentials” to describe a category of technology innovations that are accelerating faster than Moore’s law; that is, their performance relative to cost and size is more than doubling every 12 to 18 months. The rapid and deceptive growth of exponentials has significant implications. These powerful technologies—including [artificial intelligence](#), [robotics](#), [additive manufacturing](#), and synthetic or industrial biology—are ushering in new and disruptive competitive risks and opportunities for enterprises that have historically enjoyed dominant positions in their industries.

With all of the “shiny objects” that accompany exponentials, it’s natural to be amazed and even bewildered by them. That’s why organizations need to focus not only on understanding the implications of any individual technology breakthrough, but also on the interconnectedness and overarching impact of exponentials as a category of disruptors.

More nimble and agile research labs, startups, and incubators are wired to capitalize on exponentials. Large global organizations can also harness these forces with dramatic effect, but in an era of exponential change, more traditional “linear” business practices and models will likely prove ineffective and unsustainable. Larger enterprises should develop the organizational capabilities to navigate the rapid pace of change and the strategies that can help them understand and pursue innovation in ways that add real value for their organizations. Within a

[structured framework](#) of innovation, organizations can establish a deliberate and measurable approach to identifying, experimenting, and investing in exponentials, while also cultivating an environment for organic and creative, entrepreneurial discovery and invention.

Leading companies are crafting effective strategies around exponentials that encompass four dimensions:

Trend sensing. The rapid pace of change challenges organizations to stay on top of advancements in exponentials. Companies can leverage their existing partners, vendors, and alliances to better identify and understand exponential forces; however, companies can also forge new relationships with nontraditional partners, such as [startups](#), scientists, incubators, [venture investor communities](#), academia, and research bodies. Emerging institutions such as Singularity University also provide continually updated educational programs on the trends across a portfolio of exponentials.

Ecosystems. As the pace of change from disruptive technologies increases exponentially, traditional notions of ecosystems may need to be redefined and, in many cases, dramatically recast. Consider an established automotive manufacturer focused on traditional manufacturing processes. Suddenly, due to exponentials such as artificial intelligence, robotics, and [sensors](#), the most highly valued components of an automobile shift from engine performance to in-car technologies such as self-driving controls and augmented reality infotainment systems. This shift will likely shake up the classic automotive ecosystem, making way for new agile, adaptable, innovation-minded partners.

Experimentation. Exponential organizations foster and embed a culture of experimentation into the process of learning and growing—failing fast and cheap, yet moving forward. They do not constrain ideas to only new core products and business offerings, but instead also look at [strategies](#) to capitalize on exponentials in adjacent and transformational plays. In the early stages, they may forego exhaustive business cases, focusing instead on the impact, feasibility, and risk associated with new technologies and approaches. They may also consider co-investment models—engaging with vendors and partners to collectively shoulder risk—to explore emerging concepts. Larger organizations, which do not traditionally have a culture of experimentation through trial and error, should start with smaller teams on the “edges” versus in the core business.

Scaling edges. Even as disruptive forces loom, company executives may underestimate the pace of change. In their early years, exponentials have little discernible impact. Their effect is often dwarfed by the impact of incremental changes to existing forces. Meanwhile, core businesses continue to require care and feeding, and executives who attempt to exploit exponentials to promote large-scale internal change and transformation may face the “antibodies” of the core business putting up resistance. John Seely Brown and John Hagel have conducted extensive research on achieving innovation at an institutional level¹ and recommend establishing new teams on the fringes of the organization, or at “the edge,” to foster exponential

innovation.²

Exponentials will continue to alter the landscape for many industries. Beyond understanding the technologies coming online, organizations need to understand the wider context of their industries, markets, and business models. For example, new disruptive business models have emerged that combine exponentials with crowdsourcing, crowdfunding, the sharing economy, and collaborative consumption. These trends, in combination with exponentials, offer an unprecedented opportunity for innovation and growth as work is reshaped, the customer experience is reimagined, and the ability for an idea to scale is accelerated. These are conditions in which startups and entrepreneurial marketmakers can thrive. Large enterprises that have historically dominated their industries can also flourish by recognizing the opportunities at hand, and taking deliberate action to evolve, in many cases disrupting themselves before they are disrupted.

— by [Bill Briggs](#), CTO, Deloitte Consulting LLP, and [Marcus Shingles](#), principal, Deloitte Consulting LLP.

1. Deloitte Development LLP, [Scaling edges: A pragmatic pathway to broad internal change](#), 2012, accessed January 15, 2015.

2. Ibid.

Related Content

[“3 Leadership Tips for Unleashing Innovation”](#)

[“By Any Measure: A Disciplined Approach to Innovation”](#)

This publication contains general information only and Deloitte LLP and its subsidiaries ("Deloitte") are not, by means of this publication, rendering business, financial, investment, or other professional advice or services. This publication is not a substitute for such professional advice or services, nor should it be used as a basis for any decision or action that may affect your business. Before making any decision or taking any action that may affect your business, you should consult a qualified professional advisor. Deloitte shall not be responsible for any loss sustained by any person who relies on this publication."

As used in this document, "Deloitte" means Deloitte Consulting LLP, a subsidiary of Deloitte LLP. Please see www.deloitte.com/us/about for a detailed description of the legal structure of Deloitte LLP and its subsidiaries. Certain services may not be available to attest clients under the rules and regulations of public accounting. Copyright © 2015 Deloitte Development LLC.

Copyright 2015 Dow Jones & Company, Inc. All Rights Reserved

This copy is for your personal, non-commercial use only. Distribution and use of this material are governed by our [Subscriber Agreement](#) and by copyright law. For non-personal use or to order multiple copies, please contact Dow Jones Reprints at 1-800-843-0008 or visit

