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GUEST EDITORS' PERSPECTIVE

The generative potential of emerging technology to support startups and new ecosystems

Boyd Cohen [a,*], José Ernesto Amorós [b], Lawrence Lundy [c]

[a] *EADA Business School & Universitat de Vic, Barcelona, Spain*
[b] *EGADE Business School, Tecnológico de Monterrey, Mexico*
[c] *Outlier Ventures, London, UK*

1. Introduction

A 3-D printer demonstration was held at a recent children's event organized by the university where one of us works. And while some of the children seemed interested in the technology in general, most anxiously awaited the little gift pieces that were being printed: fidget spinners. The 3-D printing laboratory administrator commented that the cost of printing one of these spinners is less than $1 USD, while the average retail price is about $10 USD[1].

Although this story of printed spinners is a seemingly simple example, the impact technology asserts on many of our day-to-day activities is profoundly important. Soon enough, 3-D printers will be capable of replicating themselves and the cost of personally owning a 3-D printer will make them accessible to a large population of makers and prosumers. Will we all have 3-D printers in our homes? What will the implications be for traditional manufacturing industries? It is difficult to predict. Only 10 years ago, most of us couldn't imagine that a smartphone would change the fortunes of one of the most important and highest-valued companies in the world (Apple), let alone that this technology and its subsequent applications would change the way we communicate, access information, and generate new business models with unlimited repercussions. Without smartphones, new ventures like Uber—which, through its business model, radically changed the transportation industry—would not have been possible. Thus, Joseph Schumpeter's (1912) ideas about how innovative entrepreneurs provoke a creative destruction are more relevant today than ever. In recent years, the pace of technological innovation—particularly digital innovation—has accelerated at unprecedented rates (Nylén & Holmström, 2015).

With this special issue of *Business Horizons*, we aim to highlight emerging transformational technologies and their capacity to serve as generative mechanisms for disruptive innovation and entrepreneurial opportunities. Our main objectives are twofold: We want to (1) contribute to the knowledge dissemination and discussion regarding the role of emergent new technologies and entrepreneurship activities in the creation of business models that are changing the traditional approach of the industrial economy, and (2) try to close the gap caused by lack of research on some of the most important emerging trends and technologies shaping entrepreneurship in the coming decades.

* Corresponding author
E-mail addresses: bcohen@eada.edu (B. Cohen), amoros@itesm.mx (J.E. Amorós)

[1] Henceforth, all figures in this piece are given in U.S. Dollars.

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2. Disruptions due to digitalization

It is impossible to miss the rapid acceleration of digital technologies that are reshaping markets and society globally (Nambisan, Lyytinen, Majchrzak, & Song, 2017). Increasing digitalization is not considered wholly positive, however, as the unprecedented rate of disruptive digital innovation is leading to legitimate concerns about the future of work. Consider the case of Foxconn, Apple's major manufacturing outsourcer. In 2016, Foxconn automated one of its Chinese factories in a cost-savings measure, leading to the elimination of 60,000 jobs. Meanwhile, in early 2017, JP Morgan announced the layoffs of 600 financial analysts who are being replaced by automated trading systems. Of course, the hundreds of thousands of Uber drivers around the world are on course to be automated out of jobs in the coming years as well (Bansal & Kockelman, 2017).

Despite this gloomy picture of how digitalization may result in massive job losses across many industries, digitalization is opening up fascinating innovation opportunities for entrepreneurs. Most of this special issue focuses on these entrepreneurs, and the sectors and business models that are being disrupted. On a recent trip to Bangalore for immersion in the sustainable-valley-of-India entrepreneurial ecosystem, one of us visited the innovation arms of both Microsoft and GE. Executives from the two companies specifically stated that they are less concerned about what other major multinationals are doing, because this competition is more predictable; what concerns them most is how a startup could unexpectedly leverage disruptive technologies and totally reshape the industry overnight. Here's to the bold entrepreneurs who aspire to do just that!

2.1. Sharing platforms

Perhaps no other digital disruption has been more powerful in rapidly transforming industries than the emergence of two-sided platforms for sharing and exchange. The ubiquitous nature of the internet—and smartphones—in much of the developed world has helped to spawn a wave of disruptive platform technologies.

> *The world's largest taxi firm, Uber, owns no cars. The world's most popular media company, Facebook, creates no content. The world's most valuable retailer, Alibaba, carries no stock. And the world's largest accommodation provider, Airbnb, owns no property. Something big is going on.* (Hamish McRae, 2015)

Of course, some of these platform companies have come under national and local government scrutiny for their failure to meet regulations; mistreatment of independent contractors (often referred to as *gig economy entrepreneurs*, and who in some jurisdictions must be claimed as employees); failure to pay taxes; and negative local impacts on communities. How value is created and distributed amongst these platforms has become a significant topic within the sharing economy, leading to discussions of dichotomous platform types: platform capitalists (or *deathstars*) versus platform cooperatives (Muñoz & Cohen, in press).

To begin this special issue, Oliveira and Cortimiglia ("Value co-creation in web-based multisided platforms: A conceptual framework and implications for business model change") introduce a conceptual model aimed at unpacking the business models for value creation and exchange within two-sided platforms. They pay particular attention to co-creating value in such platforms, merging concepts from open innovation and business model design to introduce useful models for entrepreneurs pursuing startups in the platform space.

Speaking of business models and the sharing economy, Todeschini, Cortimiglia, Callegaro de Menezes, and Ghezzi ("Innovation and sustainable business models in the fashion industry: Entrepreneurial drivers, opportunities, and challenges") leverage data collected from eight innovative fashion startups to introduce the concept of 'born-sustainable business models.' These models leverage a combination of several key emerging sustainable paradigms, including the circular and sharing economies and materials innovation.

Finally, another business model that can have significant sustainability benefits is one that encourages private asset owners to share access to their resources (e.g., cars, boats, homes). In this category of sharing platforms, Wilhelms, Merfeld, and Henkel ("Yours, mine, and ours: A user-centric analysis of opportunities and challenges in peer-to-peer asset sharing") explore peer-to-peer (P2P) asset sharing schemes with a particular focus on P2P car-sharing startups. While car sharing has existed for decades, platform technologies and changing consumer preferences have opened up new approaches to the practice. Instead of a company acquiring vehicles to place in neighborhoods around the city using models we refer to as business-to-crowd (e.g., Zipcar), P2P car sharing changes the dynamic by having private owners of cars make their vehicles accessible to a P2P community platform during the car's downtime (most personal vehicles spend about 95% of the time parked). While more consumers are opening up to the idea of gaining