

## Upcoming Special Issue on Technology Commercialization and Entrepreneurship

*For publication in early 2019*

The recent exponential growth in digital technologies has made it easier, as well as more challenging, for entrepreneurs to create successful startups. On the one hand, digitalization has effectively reduced entry barriers across most industries, making it easier for entrepreneurs with promising new venture ideas to secure support and launch their ventures. And, a new wave of digitally enhancing technologies (e.g., artificial intelligence, blockchain, quantum computing, 3D printing) promises again to open disruption options for technology entrepreneurs, enabling them to successfully challenge mainstream industry incumbents. On the other hand, the same digitization effects that have lowered the entry barriers for new entrants can trigger a global competition to identify and successfully exploit application cases of such technologies. Overall, this creates an unbalanced market: just as there is ample supply of technology enthusiasts eager to unlock a viable business model, there is often passive, if not deterring, demand from potentially adopting industry incumbents.

At the core, this is a re-enactment of the “chasm” concept (Moore, 1991), which separates early innovators willing to experiment with new technologies from industry incumbents that continue to rely on existing technical solutions. Digital technologies nevertheless introduce additional tensions in these dynamics:

- 1) the core elements of the “digital technology” are often available and known, even for those that do not implement them (Lucas & Goh, 2009)
- 2) there is an interdependency between the new technology and the existing IT infrastructure and architecture: code matters (Lessig, 2006)
- 3) the pace of change triggered by digital technologies is not constrained by physical rules/boundaries (Cohen, Amorós, & Lundy, 2017)
- 4) established players need to reimagine business models to cope with the digital technology changes (Porter & Heppelmann, 2015) and/or find coopetition strategies with new start-ups (Brandenburger & Nalebuff, 1996).

Against this background, technology entrepreneurs face a novel situation. Instead of being constrained by knowledge or access to key technological components, they now face attention scarcity from established players and associated commercialization scale-up capacities. In other words, they need to decide whether they want to engage in full commercialization of their technology products/services, thus competing directly with established players, or instead focus their attention on creating a new concept/market. Or, they must even decide whether or not they wish to get the established players’ attention and seek partners in the exploitation of a new technology they have come up with. This dilemma is captured in the question on whether the entrepreneur wants to offer a complete new product or a feature that is part of an existing solution; this decision can have implications for the future development of the startup, full product commercialization, or licensing – generating distinct strategic growth options and learning opportunities for the new venture (Marx, Gans, & Hsu, 2014). For example, Dropbox became a stand-alone product although several software giants tried to bring them in as a feature to their existing solutions. In contrast, Beats Audio became a feature of HP computers until they were acquired by Apple.

New technology developments open up opportunities for new entrants to transform existing industries, or to trigger the emergence of whole new industries (Giones & Brem, 2017) or entrepreneurial ecosystems (Autio, Nambisan, Thomas, & Wright, 2018). Given this flux and complexity surrounding digital technologies, it is not

an easy decision for the entrepreneur to work with and commercialize an idea based on a new technology. Notwithstanding such diversity, a common denominator across all types of technology entrepreneurship is the specific uncertainty ingrained in the commercialization process (Dutta & Hora, 2017; Gans & Stern, 2003). In most cases successful commercialization strategies might require combining different approaches (sequentially or in parallel) that take into account the specific characteristics of the technological solution being offered, the dependencies that it has with existing IT infrastructures, the technology adoption trajectories of established players in the industry (and their response to technological innovations), and other aspects such as the industry regulatory frameworks for commercialization of new technology.

This special issue of TIM Review proposes to revisit the core elements of technology commercialization and entrepreneurship, taking into account the new dynamics created by digital technologies. Although the novelty of a technology can become the key differentiator, it can also be a “curse” if the technology is so novel that its potential users are reluctant to adopt it (Chiesa & Frattini, 2011). Trying to commercialize technology that is “too novel” is a frequent cause of startup failure (Hyytinen, Pajarinen, & Rouvinen, 2015), even if being innovative is seen almost as a requirement for market success (Calantone, Chan, & Cui, 2006).

In this special issue, we propose to revisit the central elements of technology entrepreneurship, with specific attention to the impact of ever new variants of digital technologies sweeping across markets and industries on technology commercialization. As a starting point, we call for insights from practice and research on the complexity behind the phenomenon. We are looking for manuscripts that explore the interactions, tensions, dilemmas, and challenges in the commercialization of new technologies by entrepreneurs. New and novel perspectives examining the characteristics of the technology, the market dynamics, the capabilities of the entrepreneur or entrepreneurial team, as well as organizational routines and processes that lead to successful technology commercialization are highly solicited. We welcome both hard-won lessons from practitioners in the private and public sectors who are involved in technology commercialization and entrepreneurship as well as contributions from researchers using case-studies, multiple cases, surveys, datasets, or experiments to capture the interactions between the different elements of the complex phenomenon.

For example, it would be helpful for authors to address questions such as:

- How do the characteristics and maturity (i.e., readiness-levels) of new technology influence commercialization strategies? Does the answer depend on the entrepreneur’s prior experience or background?
- How do established organizations create mechanisms (such as corporate venturing programs or corporate entrepreneurship programs) to interact with new technologies and promising startups? What are the long-term effects of such initiatives for the startups and the established players?
- What is the relationship between the technology innovativeness of the products/services and the evolution of a new startup? How do entrepreneurs adjust their market strategies in order to capitalize on new technologies?
- How does digitization change technology commercialization for entrepreneurs? How do digital markets (i.e., digital markets, crowdfunding platforms, etc.) contribute to the creation of new technology-based entrepreneurial opportunities?
- How can policy makers facilitate the generation of entrepreneurial activity around a promising new technology? What role does market and intellectual property regulation play in this process?
- How do technology entrepreneurs interact with existing players to explore and exploit new opportunities? What are the antecedents and consequences of their commercialization choices?

This special issue aims to express this emerging discussion on the multiple facets of technology entrepreneurship in an accessible manner such that academics, industry, and the public sector can adopt the frameworks, models, and ideas presented in each article.

We invite submissions on technology entrepreneurship from academics, practitioners, public policy makers and civil servants, and from around the world.

## References

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## Timeline:

- July 1: Interested authors submit 1-paragraph outlines or abstracts
- September 1: Full articles due – see author guidelines: [timreview.ca/authorguidelines](http://timreview.ca/authorguidelines)

- November 1: Reviewer feedback sent to authors
- December 1: Revised articles due
- Early 2019: Articles edited and ready to publish

## Contact

*Questions about the issue theme and topics*

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*Submissions and questions about the journal*

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## About the TIM Review

The *Technology Innovation Management Review* (TIM Review) provides insightful content about the issues and emerging trends relevant to launching and growing technology businesses. The TIM Review focuses on the theories, strategies, and tools that help small and large technology companies succeed.

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