

Platform-Driven Innovation: Unveiling Research and Business Opportunities

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Abstract

An increasing number of businesses have adopted a platform business model. Platform companies such as Airbnb, Amazon, Facebook, Google, Salesforce and Uber are among the world's most valuable companies and have revolutionized their respective industries. But what are platforms? Is there a unique definition? How do they innovate, and what is their place in the innovation literature? This editorial article considers those questions. First, it provides an overview of platform definitions, their evolution, and increasing relevance in today's economy. Then, it presents and contextualizes the six papers of this special section that lie at the intersection of platforms and innovation literature streams. In doing so, a framework contextualizing the emerging concept of "Platform-Driven Innovation" is proposed. It shows how platforms may have very different roles in the innovation processes acting as Simplifiers, Catalyst, or Enablers. Finally, this paper contains some suggestions on how future research may explore the intersection between innovation and platforms.

KEYWORDS

Two-sided platforms; Multi-Sided Platforms; Digital platforms; Innovation; Business Model Innovation

1. The rise of the platform economy

Over the last two decades, platforms have transformed the way we search for information (e.g., Google), buy goods (e.g., Amazon), consume news and media (e.g., Facebook and Twitter), travel and move around (e.g., Airbnb, Bookings.com, Uber, TripAdvisor). Consequently, it is one of the most discussed topics in the tech and management literature (see Parker, Van Alstyne, and Choudary, 2016).

As we are writing this editorial in January 2021, platforms are yet again under the spotlight. Twitter and Facebook's decision to ban the – now-former – United States President Donald Trump illustrates the extent of their power and the role they play in modern democracy (Santarino, 2021). The Facebook decision to delay the introduction of a new privacy policy for WhatsApp users illustrates the tension between the business desire of data harvesting and the general public's unease with the use of their data (Statt, 2021). 2020 has already been rich in controversies relating to platforms and the platform economy: a commercial war against TikTok – the first global Chinese social media (Leskin, 2021), the decision of Apple and Google to block Fortnite on their respective app stores (Paul and Sweney, 2020). On Netflix (another platform that has transformed our lives), the documentary "The Social Dilemma" revealed to the mass audience the increasing power that platform companies have over our lives. Hereby described, the trends gain further momentum thanks to the spread of COVID-19 and confinement measures across the globe. Again – platforms have a massive role in this new socially distanced life. Netflix, Disney +, Amazon Prime, and all their competitors have become the leading entertainment options in a world where movie theaters cannot open. Zoom, Microsoft Teams, Google Meet, and so on have become our daily habits to collaborate with our colleagues, teach, or even have digital dinners with friends. Delivery companies like Just Eat and Deliveroo play a critical role in sustaining restaurants' revenues while guaranteeing food delivery during lockdowns for those who cannot leave their houses.

The examples above form a short, non-exhaustive list of platforms that have played a role in the last few years and increasingly so in the last few months. 2020 illustrates a paroxysmal evolution of a decade that had already seen industries being turned upside down by platforms like Airbnb, Uber, Spotify, WhatsApp, and many others. But what is a platform? All of these cases are platforms, but they are not all alike. Notwithstanding, "platform" may be considered a common word, if not a very popular buzzword. What is the role of platforms for innovation scholars? How can platforms help innovation scholars and practitioners in unveiling new opportunities? The special section aims at providing answers to some of these questions. The editorial is structured as follow. In the second section, we provide an overview and definition of platforms. The third section then provides a conceptual model that aims to answer our question while positioning the six papers that comprise the special section. Finally, the last section offers insights and reasonings that look ahead, hoping that this editorial may open avenues for future research at the intersection between the platforms and innovation literatures.

2. A brief history of platforms in the management literature

In the management literature, the platform concept can be rooted in technological innovation and new product development (Gawer and Cusumano, 2014; Meyer and Lehnerd, 1997). The concept of product platforms emerged long ago, illustrated via famous cases such as the Sony Walkman from

the 80s (Sanderson and Uzumeri, 1995). Platforms are conceived as internal or product platforms when *"a firm, either working by itself or with suppliers, can build a family of related products or sets of new features by developing these components"* (Gawer and Cusumano, 2014, p. 418).

This initial concept of platforms relates to firms opening up their organizational boundaries and enabling external players to foster innovation on a common ground, like Intel, Microsoft and IBM. These are industry-wide platforms (Gawer and Cusumano, 2014), then re-labeled as innovation platforms (Cusumano, Gawer, and Yoffie, 2019).

Still, in the economic domain, platforms can also structure markets (Rochet and Tirole, 2006). Initially, Rochet and Tirole (2006) focused their attention on given markets, phrasing the concept of *"two-sided markets", "in which one or several platforms enable interactions between end-users and try to get the two (or multiple) sides 'on board' by appropriately charging each side"* (Rochet and Tirole, 2006, p. 645). The concept evolved in two and multi-sided platforms (Hagiu and Wright, 2015), to encompass all businesses that generate indirect or cross-side network externalities among various groups of customers – defined as sides.

With the digital revolution and, later, the advent of smartphone and technologies, this type of business configurations grew exponentially as it can now enable interactions and value creation with users anytime and wherever they may be (Täuscher and Laudien, 2018). Many successful cases belong here, such as Airbnb, Uber, BlaBaCar and many others. Indeed, the emergence of phenomena like the sharing economy and the gig economy (Trabucchi, Muzellec, and Ronteau, 2019; Sanasi, Ghezzi, Cavallo, and Rangone, 2020) were further evidence of the widespread diffusion of new forms of production and/or consumption. This last type of platforms has been recently re-labeled as transaction platforms (Cusumano et al., 2019), focusing on their ability to act as friction-fighters on the market.

This very brief overview reveals two main points. First, the concept of platforms has evolved to describe very different cases and situations. Yet, they all seem to share an underlying characteristic: a structure that enables extended value creation by enabling third parties to either participate in creating complementary products or new products or transact directly with another market or side. The second point relates to the theoretical domain. Initially, the concept was strongly associated with the new product development literature (e.g., Meyer and Lehnerd, 1997). It was then more broadly associated with the technological domain (Baldwin and Clark, 2003; Baldwin and Woodard, 2009). In parallel, platforms as multi-sided markets were also discussed in the economic literature (Parker and Van Alstyne, 2005; Rysman, 2009). Their business models were analyzed in the strategy field (e.g., Gawer and Cusumano, 2002; Eisenmann, Parker, and Van Alstyne, 2011) and marketing literature (e.g., Muzellec, Ronteau, and Lambkin, 2015)

Those different fields look at platforms from different angles. Yet, they commonly agree on the notion that platforms are, more and more, associated with digital innovations that have significantly affected or even transformed markets, industries and, eventually, our society. So, what is the place of platforms in the innovation literature? What can be the academic contributions of innovation scholars on our understanding of platforms? Reciprocally, how does platform-driven innovation impact the academic innovation literature?

3. Platform-Driven Innovation: different pillars to leverage platform thinking to foster innovation

Our special issue call for papers focused on digital multi-sided platforms, i.e., the market configuration behind companies like Airbnb, Uber, BlaBlaCar, Netflix, and many others. Taking an innovation perspective, we can see how two and multi-sided platforms take entirely different roles in the papers included into this special section. Platforms can act as Simplifiers, Catalysts, or Enablers. We'll go through the three types, providing a definition, some examples and contextualizing them in the papers that are part of this special section.

3.1 Platforms as Simplifiers: homogenize pre-existing transactions

Amazon is often presented as one of the leading players in the platform economy. Amazon, however, did not start as a platform.

In the mid-90s, Amazon was sending books all around the USA, following a very traditional linear value chain. Amazon was an online seller. It had suppliers – mainly editors, and it exploited assets of traditional distribution activities such as logistics and fulfillment to reach final customers. Today, Amazon is a multi-sided platform with buyers and independent sellers on the two main transactional sides along with a set of additional service providers (e.g., Amazon home services). Amazon moved from a linear value chain to a two-sided platform (with the marketplace's creation) and then to a multi-sided platform. From a platform perspective, where is their innovation? Well, Amazon has taken an existing transaction – such as the ones between sellers and local buyers – and erased any potential frictions to highlight sellers' reciprocal presence to buyers and vice-versa.

In other words, Platforms such as Amazon can be considered as innovators that simplify pre-existing transactions. Innovation in such context is the platform's ability to connect in a frictionless and homogeneous manner a multitude of sellers and buyers. Innovation lies in the system that simplifies those transactions, while enhancing Amazon's scalable revenues in an innovative business model. Amazon can be a flagship case, but many other platforms belong here. We may mention, for example, Booking.com that saw the difficulties for hotels to find travelers (and vice versa) and the creation of their matching platform, simplifying and magnifying those existing relations.

Two contributions could be included in this category. The first "*Exploiting incumbents' potentialities: From linear value chains to multi-sided platforms*" by Claudio Dell'Era, Daniel Trabucchi, and Stefano Magistretti relies on two literature streams – the incumbent's ability to foster innovation and the multi-sided platform literature. It presents the case of the Italian tour operator Alidays, and its platform Fluidtravel, which matches travelers, experience providers, and travel agencies. It shows how multi-sided platforms can help incumbents re-value existing assets. Moreover, the pre-existing relationships, assets and networks may reduce some of the platform creation phase's traditional challenges. This exploratory study shows how platforms can act as a magnifier of existing assets, recourses and transactions at the market level and at the incumbent's level, offering a relevant frame to foster business model innovation.

The second paper "*Growing with others: A longitudinal study of an evolving multi-sided disruptive platform*" by Alexander Lennart Schmidt, Neele Petzold, Norman Lahme-Hütig, and Florian Tiemann, builds on two complementary literature streams: platforms (focusing on the inception and growth phases) and disruptive innovation. The longitudinal study focuses on About You, a German

fashion retail entrant that relies on a multi-sided structure. As in the previous case, the platform is part of a more comprehensive project from an established fashion catalog retailer. The authors propose three main levers to develop and grow a disruptive platform. In particular, they highlight the role of a "guarded inception", showing the relevance of the right collaboration, the "activating force multipliers", referring to the strategic orchestration of complementors, and then "building on others" to ignite growth. In this case, the research shows the simplifier nature of platforms, focusing on the tactics to benefit from this feature.

3.2 Platforms as Catalysts: reveal idle assets on the market

Airbnb epitomizes this category of platform-driven innovation. Airbnb was founded in 2008 in San Francisco as a way for its founders to earn money relying on the space in their living rooms. A simple idea, while reaching financial stability in the years after their graduation from college. The core innovation here is to consider the living room as an idle resource that could be exploited. In turn, this implies generating transactions amongst participants who would not have otherwise participated in the market. Airbnb has unveiled an untapped market. Anyone could now rent someone else's room and go sleeping in someone else's spare bedroom. The multinational financial crisis between 2007 and 2010 played a significant role in the diffusion of this innovation, making it a paradigmatic case for the sharing economy. Similarly, Uber was initially thought of as a luxury service with black premium cars but got its actual relevance when they enabled anyone to become a driver. Again, unveiling possible transactions in the market that were not happening before. Another similar case is BlaBlaCar allowing any car owner to rent an idle seat in their car to a passenger and illustrates again this category of platforms.

As Catalyst, the innovative power of multi-sided platforms lays in their ability to reveal to potential providers/buyers the existence of an unexploited market. Like in the other category, the platform facilitates the matchmaking and remove frictions. However, prior to their innovative ideas, potential participants were not searching one another as they were unaware of owning an asset (e.g., a spare room, a spare seat in a car) and not exploiting the potential value of this asset for another party (the buyer-side).

Sharing economy and Gig economy are probably two of the most famous labels for this kind of platform-driven innovations. On the market, there are a lot of idle assets there are not used. Platforms enable them to be leveraged and captured (Trabucchi, Sanasi, Ghezzi, and Buganza, 2021). Non-transactional platforms, relying on crowd power on the one side for advertising messages or data power, are part of this type of platform-driven innovation.

In this special section, the paper "*Tourism multi-sided platforms and the social innovation trajectory: The case of Airbnb*" by Angelo Presenza, Umberto Panniello, and Antonio Messeni Petruzelli illustrates this platform category. The research builds on the literature streams of multi-sided platforms, merging it with the growing literature of innovation in the tourism field. The authors build on the Airbnb case to show how multi-sided platforms can leverage and implement social innovation as part of a renewed business model. In particular, they highlight three main phases – namely: starting-up, diversification, and sustainable growth – showing how different focuses (trust, a proper meaning, and then sustainability) over time may help the platform in characterizing unveiled transactions in the market.

The second paper is *“Topology, typology, and dynamics of commons-based peer production: On platforms, actors, and innovation in the maker movement”* by Venkat Aryan, Juergen Bertling, and Christa Liedtke. The paper is rooted in the innovation ecosystems literature and the innovation platforms literature, taking a local community perspective. They challenge the common conceptualizations of value creation and competitive advantage in current economic models. In doing so, they study 200 collaborative innovations focusing on the concept of distributed innovation. In particular, they highlight the ability of platforms to unveil the willingness to innovate of specific communities, exploring the motivations as well (usually related to convivialist motives), the technological aspects (considered as an enabler), and highlighting the value creation dynamics enabled in the community from an innovation perspective acting as catalyst.

3.3 Platforms as Enablers: anyone can innovate on top of them

Instagram is a great example of this type of innovation enabled by two or multi-sided platforms. It was initially typical of a social network with strong direct network effects. Over time, however, differences between those who watch content and those who create content arise. On Instagram, the influencers phenomenon emerged as a kind of community-driven innovation, with users that started to provide different content and gaining popularity in the network.

Similarly, YouTube led to the emergence of YouTubers, users who decided to use the platform differently than regular users, often creating and receiving back much more value than most users. In these cases, users create new, revolutionary ways to create value using the platform, but capture it externally to the platform introducing innovations in different industries like fashion for example. Like all the typical transaction platforms, Instagram and YouTube "simply" enable a content transaction between parties. However, in these cases, innovations emerge from users who, through their intensive and different use of the platforms, create new forms of contents and interactions. These examples show platforms as enablers: innovation happens outside the company that created the platform, allowing others doing it. The users on one of the various sides can rely on the entire system to foster innovation, which enabled many entrepreneurial ventures in the digital economy. Two papers in the special section deal with platforms-driven innovation from this perspective. The first one is *"The future of digital platforms: Conditions of platform overthrow"* by Maxime Thomas, Pascal Le Masson, Benoit Weil, and Julien Legrand. Their study brings together the literature on platforms and the literature on innovation strategies. It highlights a gap in platform strategy during an overthrow. An overthrow is when a platform leader loses its architectural control of the platform for a challenger's profit that starts from a lower position. Their study shows how the modular nature of platforms embodies features and value propositions developed by other players (which may be both complementors and other platforms) that enables innovation for the platform itself.

The last paper of this special section, *"Customer entrepreneurship on digital platforms: Challenges and solutions for platform business models"*, was written by Hyunkyung Park, Sojung Kim, Yujin Jeong, and Tim Minshall. Building on the platform literature, they highlight the role of customers' entrepreneurial behaviors enabled in the platform. They use a mixed-method matching interview and simulation to show how the platform can support customers-entrepreneurs in the launch of their innovations while providing the results of a pricing simulation.

Thus, the papers presented in this special edition can be arranged in one of the three perspectives on platforms-driven innovation (summarized in Figure 1). They will hopefully help innovation scholars to continue exploring platforms from an innovation perspective. They may also inspire business leaders to leverage platforms to foster innovation by redefining value creation mechanisms at work in their businesses, launching a new platform startup, or becoming a complementor to an already existing platform.

One last note, these three approaches to foster innovation relying on platform models are not exclusive and can even co-exist within a single case over time. For the sake of simplicity the picture represents two sides for each platform, but they often lead to multi-sided platforms.

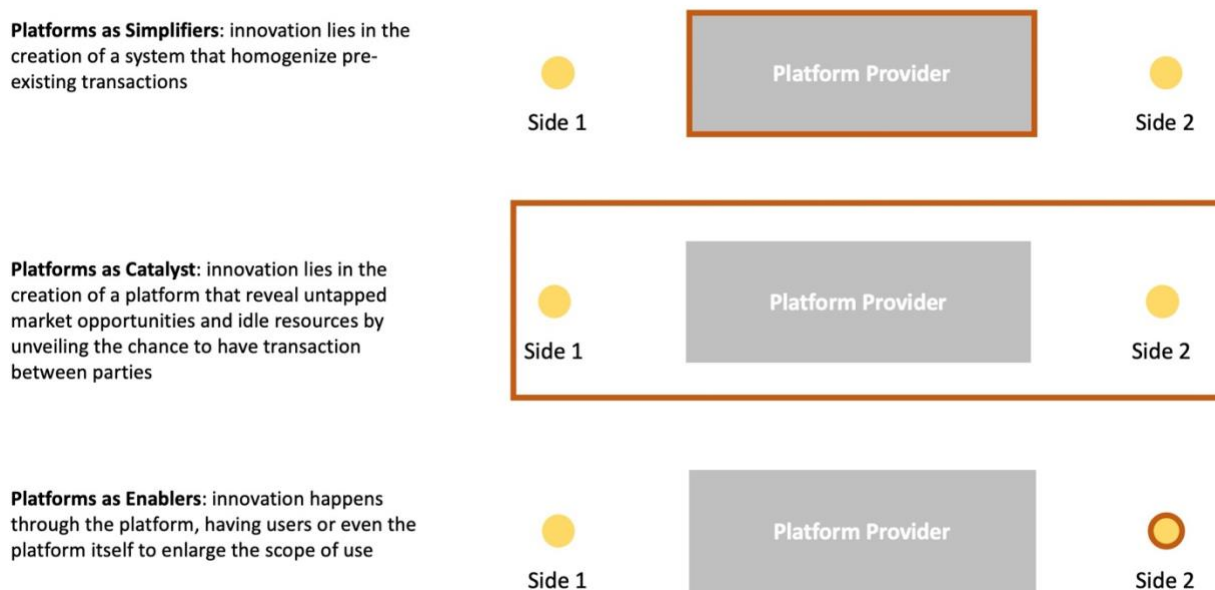


Figure 1 – Platform-Driven Innovation

4. Future steps

The collection of six papers in this special section provides an interesting outlook on how innovation and platform studies can converge in relevant outputs. They are heterogeneous from many perspectives, from the kinds of platforms they observe to the methodologies they adopt, and the innovation streams they leverage. These insights are important to show that there is much space to bring a platform perspective to innovation studies with many open questions that may be addressed in the future. Two – out of many – may be how innovation methods differ in a more complex situation involving different sets of sides as users and how innovation can help developing an understanding of more in-depth platform dynamics.

The original call for papers remained quite open to a large variety of contributions from many perspectives, and some of which are not part of this special section but may be addressed by future studies. So, let's bring them here as still open avenues for researchers to continue to pave our understanding of dynamics at work in (or enhanced by) these digital platforms.

At a processual level:

- How to design and implement a platform-based digital business model?
- How does the development of platform-based digital business differ from traditional product-based one?

At an organizational level:

- How to transform traditional business models in a digital ecosystem and platform-based perspective?
- Which forms of innovators are needed to manage these complex ecosystems of relationships?
- Which organizational forms are suitable to manage such businesses?

At an individual level:

- What are the motivational drivers of either side for joining the platform?
- How do customers perceive the complementary (or contradictory?) value propositions proposed by each side's platform?
- How can we assess the value appropriation by users and customers beyond the value proposition?

At network level:

- How those multi-sided digital platforms enhance the foundations of innovation ecosystems literature?
- What is the role of multi-sided platforms in the emergence of innovation ecosystems?

By this special section, we hope to bring interesting thoughts at the crossroads between the platforms and innovation literatures and open avenues for further research on this promising domain; and let's say it, the present framework for our daily lives as researchers and citizens.

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