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The impact of Digital Platforms on Business Models: an empirical investigation on innovative start-ups

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Abstract. *Digital platforms have the ability to connect people, organizations and resources with the aim of facilitating the core interactions between businesses and consumers as well as assuring a greater efficiency for the business management. New business concepts, such as innovative start-ups, are therefore created based on innovation, scalability and the relationships within the community around them. The purpose of this work is to deeply understand the evolution of business models brought by innovative and dynamic companies operating through online platforms. In order to achieve the objectives set, an exploratory multiple-case study was designed based on in-depth structured interviews. The aim was to conduct a mixed analysis, in order to rely both on qualitative and quantitative data. The structured interview protocol was therefore designed to collect and then analyse data concerning the company profile and managers' perspectives on the phenomenon of interest. The interview protocol was submitted in advance and then face-to-face interviews were carried out with the following professional figures: Chief Executive Officer (CEO), General Manager, Chief Technology Officer (CTO), Marketing Manager and Developers. Collected data were analysed and processed through the Canvas Business Model in order to clearly outline similarities and differences among the sample. Results can be considered under two viewpoints. On the one hand, this work provides a detailed overview of the companies interviewed, according to the dimensions of: reference market dynamics, type and number of customers, scalability. On the other one, they allow to identify some success patterns regarding key activities, key resources, channel mix strategy, costs management, value proposition, customer segmentation, key partners and the way to obtain revenues. Results from the multiple-case study with 15 Italian start-ups provide interesting insights by comparing the innovative business models developed and highlighting key differences and similarities. Overall, the start-ups analyzed, operating in several sectors, showed great growth prospects and the possibility to create value for their customers through innovative products and services offered through digital platforms.*

Keywords: digital transformation, digital platforms, business model innovation, multi-sided platforms, digital economy, platform economy, co-creation, canvas business model.

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Introduction

In recent years there was a conspicuous increase in web-based services with the common feature of connecting demand and supply for a specific purpose, enabled by the rapid spread of digital and mobile technologies (Breidbach and Maglio, 2016; West et al., 2018). Within the many and profound changes brought by the Digital and Social transformation, the advent of companies-platform, namely new digitally-enabled business models, is emerging as one of the most compelling at a global level.

Platform businesses which bring together producers and consumers in high-value exchanges have been recently recognized with the term of "Platfirms" (Harvard Business Review, 2016). In the literature, these models have been given different names: some call them *vertical search engines* (Chau and Chen, 2003), others *multi-sided platforms* (Evans, 2003) or *two-sided markets* (Evans, 2002). Overall, these companies act as intermediaries, developing and managing an aggregation platform for goods and services of the same type. They mainly operate on web sites or mobile applications, and in recent years as well as growing in their number, they have also considerably increased their value. Their chief assets are information and interactions, which together are also the source of the value they create as well as their competitive advantage.

Understanding this, Apple conceived the iPhone and its operating system as more than a product or a conduit for services. The company imagined them as a "window" to connect participants in two-sided markets—app developers on one side and app users on the other—generating value for both groups. As the number of participants on each side grew, that value increased—a phenomenon called "network effects," which is central to platform strategy. By January 2015 the company's App Store offered 1.4 million apps and had cumulatively generated $25 billion for developers. Although the digital transformation gave them a new boost through a renovated concept, platforms have existed for years. For instance, malls link consumers and merchants; newspapers connect subscribers and advertisers. What is changed in this century is that information technology (IT) has profoundly reduced the need to own physical infrastructure and assets. IT makes building and scaling up platforms vastly simpler and cheaper, allows nearly frictionless participation that strengthens network effects, and enhances the ability to capture, analyse, and exchange huge amounts of data that increase the platform's value to all (Van Alstyne et al., 2016). Booking.com, for example, which operates in the hospitality industry, does not have any hotels, but is worth more than the Marriott hotel chain, which has more than 4,000 properties spread all over the world. Uber, a company operating through a smartphone application that connects demand and offer of taxis in different cities, has an estimated value equal to that of a giant like Eni (Austin et al., 2016). The Alibaba group, a marketplace born in China that exports all over the world, is worth more than Visa or double McDonald's.

It is evident that in many sectors there is a revolution in the way demand and supply meet and, given the enormous success of this type of platform in recent years. From the user's point of view, it is evident that multi-sided platforms (MSPs) reduce transition costs, allowing a quick search among the solutions that satisfy their needs. But from a business point of view, why firms should decide to build up their business on this type of digital and mobile platforms? (Van Alstyne et al., 2016).

Despite the increasing interest in this topic, academic research on business platforms results still scarce (Hamalainen et al. , 2018). Thus, the objective of the present research is to get an higher level of understanding of this phenomenon, i.e. on how the business models of innovative startups and SMEs based on digital platforms have evolved, by analysing key elements and recurring patterns within a sample of successful Italian firms, and being able to shed light on similarities and differences among them. From here the research question that guided our study emerged as follows:

RQ: What are the recurring patterns of successful innovative startups based on digital platforms?

To answer this research question, after an initial literature review, an empirical qualitative study was carried out through a multiple-case study design as described in the *Methodology* section. The collected data were then analyzed and processed by using a structured framework recognized by scholars and practitioners as one of the most complete tool in order to analyse and build up a business: the Canvas business model. The aim was to highlight similarities and differences between the companies considered.

This paper is structured as follows. In the first chapter a literature review is provided, focused on studies concerning the concepts of business models and digital platforms. In the second section the methodology used and the evidence obtained will be explained. Conclusions and elements of discussion will follow.

Literature review

The rise of business platforms

The interest in the evolution of this phenomenon is highlighted by the growing literature concerning the aforementioned emerging business models. Parker et al. in their book of 2016 write about "Revolution platform" to identify the era in which we live, characterized by platforms are dominating the market in the most varied sectors transforming people's lives. The authors introduce the concept of "platform power" and define a business platform as a new business model that connects people, organizations and resources through technology in an interactive ecosystem in which incredible amounts of value can be created and shared (Parker et al. 2016). A business-platform is an architecture, based on hardware and software, that works as an aggregator (a hub) organizing, in an ecosystem and with network effects, resources, transactions and relationships between individuals and various actors such as consumers-users, professionals, businesses, institutions, business partners, etc. to co-create value. Another peculiarity is that in a Platfirm, both assets and output value have moved outside the organisation and are derived from the ability to orchestrate interactions among the actors of the ecosystem. This orchestration requires new styles of leadership, new approaches to storytelling, new business disruption strategies and new service logics, in constant connection with consumers thanks to pervasive devices (Harvard Business Review, 2016).

Dufva et al. (2017) provide some examples of successful platforms like Airbnb and Uber. In their work they define the platform economy as "the value creation system consisting of platforms" (Dufva et al. 2017; p.6). Existing studies on this topic also consider the platform economy beyond the concept of an infrastructure that connects users and producers. Platforms can use resources more efficiently and generate value through network effects. Indeed, when new users access a platform they create additional value for every other user on the platform, network effects (demand-side economies of scale) start to kick in. In essence, the more a product or service is used, the better it gets (Rethans, 2016).

Platforms necessitate the rethinking of strategies and business models and they pose new challenges for regulators and markets (Dufva et al. 2017). Other authors, such as Kenney and Zysman (2015), argued that digital platforms are generating a deep reorganization in the economy and more specifically in the creation of value. The same authors provided examples of digital platforms such as Google, Facebook, Amazon Web Services, and Uber assessing the effects of the various digital platforms will on the different sectors of the economy (Kenney and Zysman, 2015).

The concept of business model

Modern platform businesses introduce many innovation in the traditional structure and core activities of firms, namely in their business model. Zott at al. conducted a study in 2011 with the aim of examining the concept of a business model. To achieve this goal, the authors carry out a careful analysis of the literature, looking for articles concerning this topic published between 1975 and 2009 in academic and professional-oriented journals. They subsequently expanded their research through an in depth literature search using the EBSCOhost database and selecting the most representative definitions of business model found in the literature. In their article, the authors also cite the work of Chesbrough and Rosenbloom who studied the concept of business model in the technology sector, describing the case study of Xerox Corporation (Zott et al., 2011). In particular, Chesbrough and Rosenbloom in their article indicate a series of functions of the business model. These functions include: the creation of value for technology users, the identification of the market segment to which the technology is directed, the indication of the mechanisms for generating revenues and the definition of the entire value chain, the structure of the costs and revenues and business strategy (Chesbrough and Rosenbloom, 2002). In the various articles examined by the authors, there is the work of Giesen et al. (2007) on the innovations of business models. From the analysis of the article, Zott et al. (2011) identify three types of innovations in the business model that reflect the innovations in the supply chain, in the company's ways of creating value and in the role that the company structure has in the value chain. (Giesen et al., 2007; Zott et al., 2011). Furthermore, according to the authors the literature examined in their study does not provide a clear definition of a business model but rather focuses on defining the system of activities. The authors conclude that in recent literature the concept of business model mainly concerns the analysis of three specific phenomena that are as follows: (1)The concept of e-business enabled by the use of IT in organizations; (2) The strategic decisions concerning the concepts of performance, value creation and competitive advantage; (3) Technology and Innovation Management (Zott et al., 2011).

Zott and Amit in a previous work gave a definition of business model describing it as *"*a system of interdependent activities that transcends the focal firm and spans its boundaries*".* The authors provided indications regarding the design of the business model and more specifically the indications related to the system of activities that allows the company to create value (Zott and Amit, 2010; p.216). A further definition is given by Fielt, who links the concept of business model to that of value, and more specifically to the creation and capture of value by the organization (Fielt, 2014).

The advent of the internet has played an important role in the concept of business model. Indeed, this concept became popular since the mid-1990s, when it started to be an object of study in the economic sector both for academic scholars and practitioners, as demonstrated by the numerous publications (Zott et al., 2011). Particularly, starting from the '90s, literature focuses on the concept of a digital business model defined as a business model affected by the changes brought by digital technologies. These changes affect the business structure and the way revenues are generated (Veit et al., 2014).

A complete and exhaustive definition of business model is proposed by the recent study of Müller et al (2018), which argued that "Business models show how organizations design and conduct activities in order to provide value to their customers, how they interact with their suppliers, partners, and customers, and how they are compensated by customers (Müller et al., 2018).

In agreement with these research streams, the present study seeks to deeply understand from evidences based on primary data, if the business model dimensions modified by the digital transformation, as highlighted by the analysed literature, are confirmed by the actual businesses in the form of innovative startups.

The importance of digital platforms in new business models

The pervasive penetration of digital technology has exposed the key role of a platform as one the most important traits of innovation processes and made it the central focus of many firms' innovation activities (Yoo et al., 2012).

The literature provides various definitions of digital platform. For example, Sedera et al. (2016) define a digital platform as "a technology architecture that allows development of its own computing functionalities and allows the integration of information, computing, and connectivity technology platforms available to an organization*"(*Sedera et al. 2016; p.367). A further definition is as follows: "software, which can be used exclusively online, generally performing simple applicatives functions, which exploit the principles of digital convergence of hypermedia and ubiquity of the network, in order to implement contents sharing practices (multimedia sphere) and data structures (hypertext sphere) practices, such to be used also by users inexperienced in technology and computer science*"* (Ciracì, 2013; p.114).

Parker et al. (2016) distinguish traditional systems, named "pipelines" with a "linear value chain", from platforms. In pipeline-type businesses, a company designs a product or service on the one hand and the consumer purchases the product or uses the service on the other. Instead, the platform facilitates interactions and complex relationships between producers and consumers and value is co-created in the same relationship process. Moreover, the most important activity in the platform is the core interaction that involves three fundamental elements: (i) participants: the producer who creates value and the consumer who consumes value; (ii) the value unit: the producer who creates a value unit at

the beginning of the core interaction; (iii) the filter: filters allow delivery of the value unit to selected consumers. An algorithmic software-based tool enables the exchange of appropriate units of value among the users of the platform (Parker et al., 2016).

Korhonen et al. (2017) investigate the way in which startups through digital platforms connect producers and users in creating value and the ability that they have to acquire value from these "core interactions". According to Parker et al. the core interaction of the platform is creating and capturing value (Korhonen et al. 2017, Parker et al., 2016).

The present paper is based on the analysis of innovative startups operating by digital platforms, in order to identify similarities and differences in the business model using the Canvas Business Model. It is the most used framework and is considered "a shared language for describing, visualizing, assessing and changing business models" (Fielt, 2014; p.93). This model, introduced by Osterwalder and Pigneur (2010), describes the company through nine building blocks: key resources, activities, and partners on the providing side; the value proposition (i.d. the offering); customer relationships, segments, and channels on the sales side; together with revenue streams and cost structures. Key resources, activities, and partners describe what is needed to produce the company's services or products, and whether part of these are outsourced to other companies. The value proposition reflects the bundle of products and services that create value for specific customer segments. It represents the reason why customers turn to one company over another. It includes the product, price, extended product, etc., and is what creates the competitive edge of the company's offering by solving a customer problem or satisfying a customer need. The way a company communicates with and reaches its customers to deliver the value proposition is described by the channels (for instance through mobile applications, websites, retailers, etc.), whereas customer segments describe what portion of the market the company aims to reach. Customer relationships reflect the relational or transactional characteristic of the connections that a company establishes with specific customer segments. Lastly, cost structures define the types of costs (fixed, variable, etc.) that the company's operations create, whereas revenue streams reflect structures of payments and financial deals with customers and partners (Öberg et al., 2018; Osterwalder and Pigneur, 2010).

Methodology

In order to answer our research question and find out practical evidences for contributing to literature with new insights, we conducted a multiple-case study research involving 15 successful innovative startups and firms operating in different sectors.

In this context empirical case study research resulted the most suitable approach for our exploratory study. The need for case studies is generated by the desire to understand complex social phenomena (Yin, 2003). Find strong evidence for building theories from case studies is a research strategy that involves using one or more cases to build theoretical constructs, propositions and/or midrange theories from case-based, empirical evidence (Eisenhardt, 1989). Business case-studies are rich, empirical descriptions of particular instances of a phenomenon that are typically based on a variety of data sources (Yin, 1994). Cases are mainly used as the basis from which a theory can be developed inductively. The theory emerges from a practical case and is developed by recognizing patterns of relationships in constructs and cases. The use of an inductive theory building approach

from cases is relevant especially in the first stage of an analysis, because it can produce new theories that are accurate, interesting and testable. In addition, as Eisenhardt and Graebner (2007) highlight, publications using multiple cases can delineate constructs and relationships with higher degree of precision since it is easier to determine accurate definitions and appropriate levels of construct abstraction (Eisenhardt and Graebner, 2007). Thus, theory building from multiple cases typically yields more robust, generalizable, and testable theories than single-case research (Yin, 2003; Cautela et al., 2014). For this reason, face-to-face in-depth interviews were organized with managers and founders, in order to gain, through their perceptions, a deeper understanding of the company innovation strategy by obtaining a direct testimony from those people who work daily in this environment and collect the right information to analyse the business model of these firms operating through digital platforms and mobile apps. More in detail, semi-structured interviews involved Chief Executive Officer (CEO), General Managers, Chief Technology Officers (CTO), Marketing Managers and developers from a sample of 15 start-ups.

In depth interviews, which lasted about an hour each, were based on a semi-structured track with open-ended questions to solicit interviewees to describe objectives, insights and strategies of the innovative models under investigation in great detail and explanations. A data triangulation was also implemented combining data resulting from the interviews with direct observation and data gathered from secondary sources (websites, articles, industrial reports, magazines etc.) to guarantee greater validity to the investigation. This allowed for a more refined perspective on the value activities and structure of the analyzed organizations. In particular, the interview guideline was structured on the following topics represented in Table 1, that will be further reflected in the key results presented in the next section of this paper.

Table 1. *Interview guideline*

Section	Topics
Closed-ended Questions	– firm age – core business/sector – number of employees – interviewee's role in the organization – target customers (B2B/B2C)
Open-ended Questions	– firm's value proposition – business idea – sources of revenue streams – distinctive innovative characteristics – innovation brought by the new product/process – importance given to innovation in the company's culture – users' network – profitability of the market of reference – number and characteristics of customer touchpoints/channel mix – business partners – advantages/disadvantages brought by the use of digital platform – obstacles to growth

Source: Authors' own research.

As it is shown in the table above, on the one hand the closed-ended questions (based on binary or 5-points Likert scales answers) were developed in order to collect information about Startups' demographics and basic characteristics as well as the background and specific expertise of the subject interviewed. On the other hand, open-ended questions were designed with the purpose to have a clearer and more detailed picture of the companies involved in the study, by collecting both qualitative and quantitative data without limitating in any case respondents in their answers. Using this strategy we have been able, in the subsequent research phase, to make a comparison among the startups involved, by understanding common traits and peculiarities of these businesses.

Sampling and data collection

In such a dynamic and disruptive scenario, innovative startups represent central players for the growth of the business-platform model. The definition of "Innovative Startup" has been introduced on the Italian market by the so called Startup Act (i.e. the decree-law 179/2012), which finds its roots in the consideration of the extraordinary need and urgency to issue structured measures to promote growth, the development of digital economy and culture, by implementing incentive policies for digital services, as well as to boost research and technological innovations. These are essential factors for economic, cultural and civil progress and enrichment. At the same time, these factors stimulate the relaunch of business competitiveness. The most important characteristics to define an Innovative Startup are as follows: (1) New capital company or established from no more than 5 years; (2) Annual turnover of less than € 5 million; (3) Not listed on the stock exchange; (4) Corporate purpose characterized by a clear technological connotation; (5) Having at least one of the following three indicators of innovation: (a) R&D expenses of at least 15% of the highest value between turnover and cost of production; (b) Employs highly qualified personnel (including Ph.Ds, Ph.D students or researchers, individuals with at least the Master's Degree); (c) Being the owner, depositary or licensee of at least one patent or registered software.

This law has the purpose to support startups throughout their life cycle (birth, growth, maturity) and in all their relationships with the innovation ecosystem (investors, incubators, universities).

According to the data of the recent census carried out by ISTAT, published in the report "Startup survey 2016" about Italian innovative startups, at the end of 2017 in the Italian market resulted 8362 of this companies (see Figure 1). The survival rate of these innovative startups is very high at the level of the entire ecosystem: at the end of 2017 only 6% of the innovative startups established in 2014 ceased its activity[1]. Moreover, the chart below clearly shows that the number of innovative start-ups in the Italian market grew up rapidly starting from the 2013.

[1] https://www.infodata.ilsole24ore.com/2017/12/19/startup-dieci-numeri-dieci-grafici-raccontano-2017/

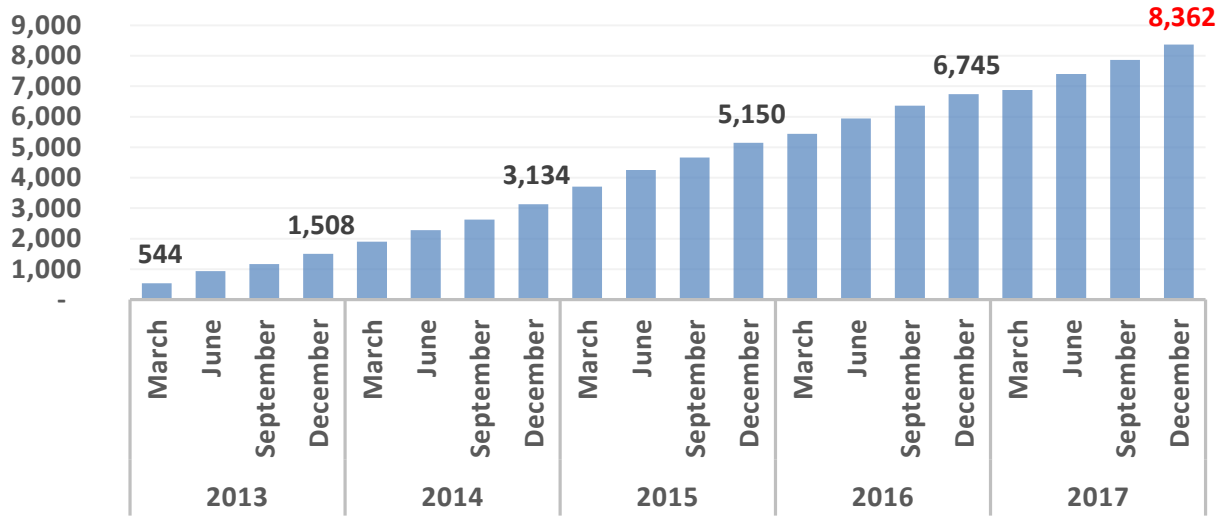

Figure 1. **Number of startups in the Italian market**
Source: Authors' elaboration based on data from MISE and ISTAT.

Considering this positive trend of growth, the present research was carried out focusing on a sample of innovative startups that resulted successful in different sectors, by following the sample strategy described below. After a meticulous market research, which allowed to collect the contacts of startups representatives (e.g. CEOs, Founders, Managers and developers) through professional social media (e.g. LinkedIN, etc.) and local startups incubators (e.g. Luiss EnLabs, etc.) we contacted an evenly distributed amount of enterprises with regard to industry sector, all of which start-ups, totalling 75 approached companies. Out of those, 15 participated in the study, representing a response rate of 20%. The nature of the study made it appropriate to use a non-probabilistic purposive sample. Thus, this paper does not attempt to draw statistical generalization from the results; instead it presents empirical evidence about how innovative startups in the Italian market developed their business models. The final sample, represented in Table 2, resulted sufficient for the exploratory investigation carried out through in-depth interviews.

Results and discussions

The first cluster of the paper was dedicated to the fundamentals of the topic of interest. A brief literature review showed the main characteristics of digital platforms and multi-sided businesses.

These finding were further confirmed by the interviews that were conducted with startups members and founders. Based on the information collected, it is possible to firstly identify some key common patterns characterizing the business-platforms, which find their acknowledgment and scientific support in several studies: crucial importance of the *community of users/providers of services and their participation*: value co-created with users (Oestreicher and Zalmanson, 2012; Spagnoletti et al., 2015); *Network effects/Demand-Side Economies Of Scale*: every new user on a platform creates additional value for every other user on the platform (Dufva et al., 2017; Parker et al., 2016 Rethans, 2016; Van Alstyne et al., 2016); *High scalability***:** it describes the ability to rapidly enhance the capabilities and performance of a business at low cost and easily (Nambisan, 2017).

Table 2. *Final sample*

Sector	Year of foundation	Role of the respondent (Gender)	Headquarter
Advertising	2013	Developers (M)	Rome
Donation	2017	CEO (M)	Rome
Food & Beverage	2015	CEO (M)	Rome
Food & Beverage	2015	CEO (F)	Milan
Food & Beverage	2016	Marketing Manager (M)	Milan and Rome
Gaming/Gambling	2014	CEO (M)	Rome
Healthcare	2017	CEO (F)	Rome
Photography/ Media	2015	CEO (M)	Rome
Professional training courses	2016	CTO (M)	Rome
Smart-Mobility	2016	CEO (M)	Rome
Smart-Mobility	2013	General Manager (F)	Milan
Smart-Mobility	2015	CEO (M)	Milan, Rome, Florence, Modena, Livorno, China
Smart-Mobility	2015	Marketing Manager (F)	Rome
Smart-Mobility	2014	CEO (M)	Rome
Software	2013	CTO (M)	Rome

Source: authors' own research.

Physical products are much less scalable in comparison to a new software or services offered through a digital platform, since for every piece being produced there are fixed costs to be sustained; The possibility to unlock *new sources of value creation*: through the provision of innovative services or improving an existing ones (Zott et al., 2011); The *high dematerialization* (digitalization) of business structure and processes (Harvard Business Review, 2016); Relatively *low initial investment* needed (especially if compared to manufacturers); The important role in the *intermediation between supply and demand* (Parker et al., 2016).

Furthermore, in order to analyse the information collected through the interviews, identify the most important patterns characterizing the startups' business models and carry out a comparison among them, it was necessary to adopt and apply a framework acknowledged and used both by academics and practitioners. The literature provides several ways to describe business models, often reflected as canvas and non-canvas models. The canvas models refer to visual representation of a company's different processes (e.g. resource provision, value creation, and customer offering, as in Osterwalder et al., 2005), spreadly used to describe, analyse and design business models. On the other hand, the non-canvas models refer to textual and detailed descriptions of, for instance, the company's activities (such as the description of content, structure, and governance of activities, as in Zott and Amit, 2010).

According to the nine blocks of the Canvas business model, the results of the interviews presented to companies in the various sectors show similarities and differences.

Similarities

Key activities. For all the analyzed startups in various sectors, the key activity is the construction of a platform and the algorithm (i.e. "the filter") at the base of it. The algorithm also allows to obtain a large availability of data and to manage them for the business purposes. This brings to a continuous improvement of their products or services.

Key resources. Another common feature among the analyzed companies is the key resource represented by the human factor. All of them employ highly qualified personnel who knows how to manage (i.e. improve and update) the algorithm at the base of the platform.

Customer relationships. For all the interviewed companies, another analogy concerns customer relationships that mainly take place through customer care, involving interactions with customers through e-mail, telephone and chat-bots.

Channels. Another similarity is the use of proprietary channels for the supply of goods or services.

Cost structure. Except for 13% of the analyzed sample, for the remaining companies the analogy consists in the presence of low fixed costs, almost negligible, especially related to the management of online activities.

Differences

Value proposition. There are some differences regarding the value proposition among the companies analyzed. Indeed, as summarized in fig. 2 it consists of 36,7% in providing a new solution to a problem (e.g. electric car sharing, food waste reduction, simplify donation process, etc.); 26,7% in increasing the number of users in the community to achieve better and more valuable services (driving to positive network effects); in providing a service at a lower price, usually with quality and performance increases through digitization ("value for money", 16,7%); in offering *custom-tailored* products or services (10%); and in offering training and education services (e.g. career coaching), sharing services (e.g. sharing of professional pictures) and gaming/entertainment platforms respectively for 3,3% each.

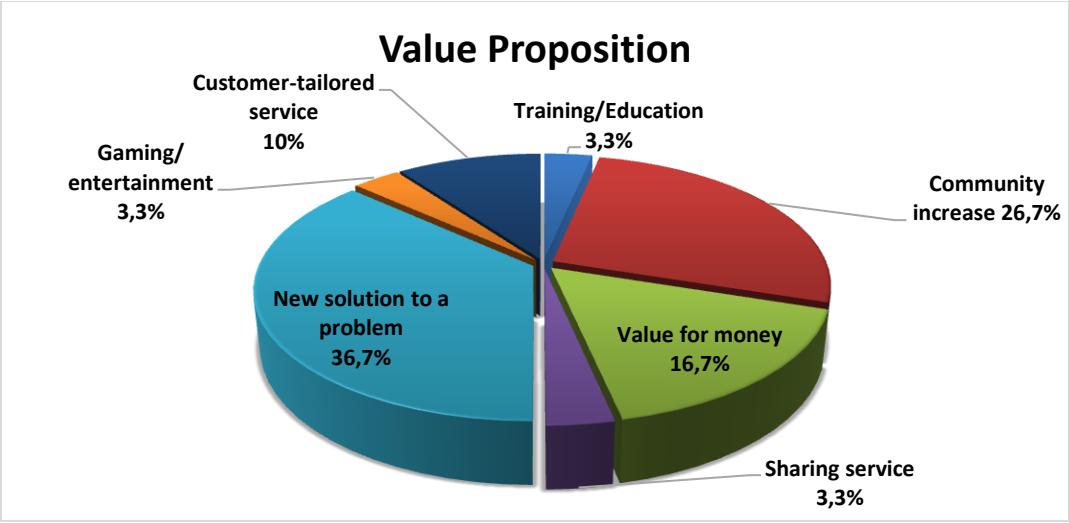

Figure 2. **Differences in the value proposition**

Source: Authors' own elaboration.

Key partners. Another difference among companies is that not all of them have partnership agreements and not all of them attribute the same importance value to the partnership.

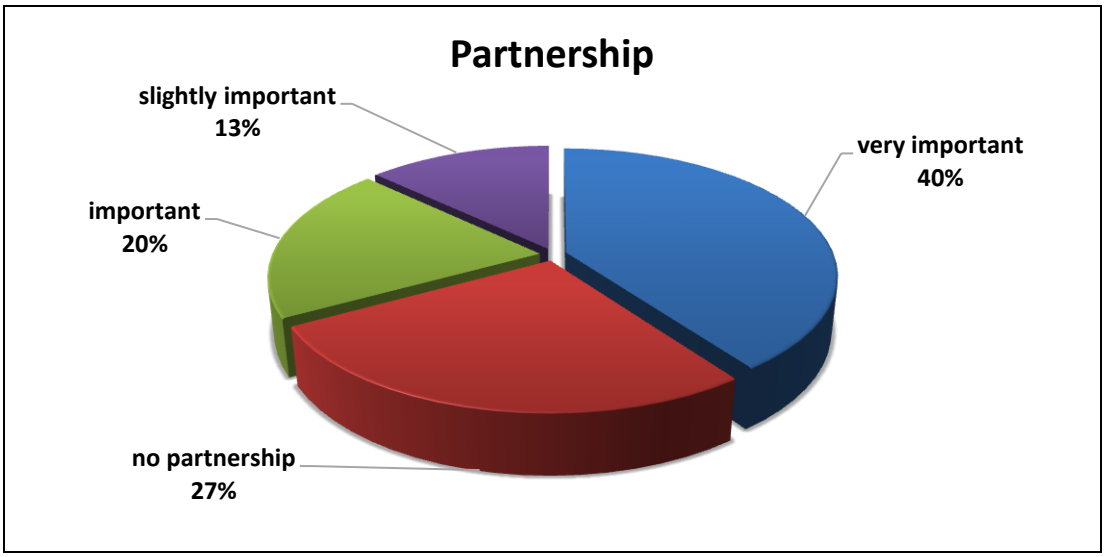

Figure 3. **The importance of partnership**

Source: Authors' own elaboration.

As summarized in Figure 3, we have found that for 40% of the interviewed companies the partnership is fundamental for the business ("very important"), for 20% of companies it is important, for 13% it is slightly important, and 27% has no partnership agreements.

Customer segments. Another difference between the companies concerns the market segment.

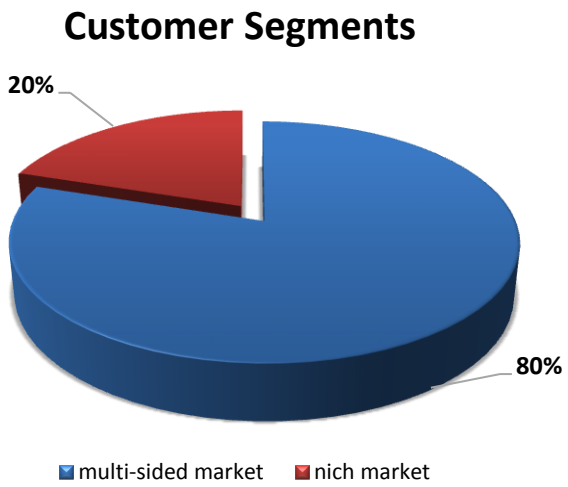

Figure 4. **Differences in the customer segments**

Source: Authors' own elaboration.

As we can see in Figure 4, 80% of the examined companies aim at the multi-sided market made by users who exploit the platforms in order to take advantage of a product or a service through innovative solutions; 20% of companies instead, turn to the niche market by offering a product or service for a very specific and narrow target-market.

Revenue streams. The analysis also revealed differences regarding to the revenue stream of companies.

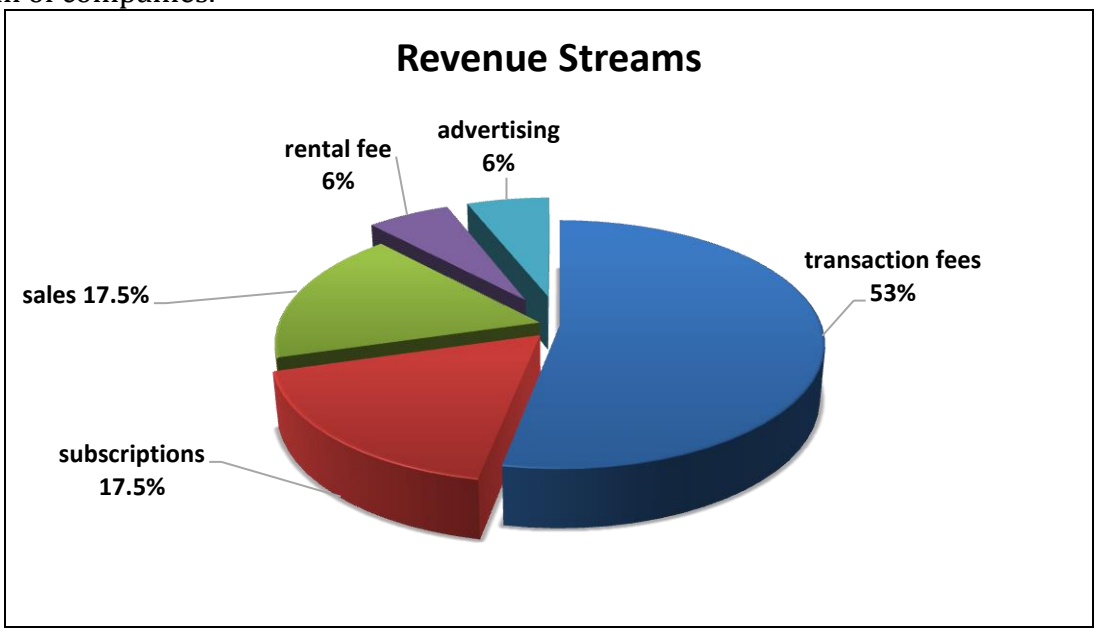

Figure 5. **Differences on revenue streams**

Source: Authors' own elaboration.

As summarized in the figure above, 53% of the interviewed companies get their revenues through a percentage on transactions (i.e. transaction fees), 17.5% through users' subscriptions, a further 17.5% through the sale of goods or services, while the same value of 6% was indicated both for rental fee and advertising.

Conclusion

Digital platforms is a collective term associated with technologies such as mobile devices and applications, cloud computing, in-memory technologies, and social media. They have been widely recognized as ''revolutionary'', ''innovative'', and at the same time ''cost-effective'' (Sheng, et al., 2005; López-Nicolás et al., 2008; Hofmann and Woods, 2010; Sedera et al., 2016).

The present study highlighted the role of business-platforms in driving innovative models in terms of value proposition and the intermediation between supply and demand, boosting in this way the ongoing transition to the digital economy.

Empirical evidence from our multiple-case study confirmed some common patterns and features of this type of business, in some cases already highlighted by the existing literature. Among them, the importance of the community of users/providers of services, the presence of network effects, the scalability of the business, the possibility to unlock

new sources of value creation, the strong dematerialization of the digital platforms and their important role in the intermediation between supply and demand.

Moreover, this work provided both academic and practitioner contribution. Through the application of the Canvas business model as a convenient lens to analyse our sample, we identified the main similarities and differences characterizing the investigated firms. More in detail, the analysed business-cases, operating in different sectors, showed many similarities according to the business structure (e.g. highly skilled human resources and distribution channels), the startup phase and the reliance of the key activities on the information gathered through the developed "filter". All these businesses were able to avoid inefficient gatekeepers in the management of the flow of value from the producer to the consumer, allowing the latter to achieve greater freedom to select products/services that suit his/her needs. On the other hand, they resulted highly differentiated in the relationships with key partners involved in their variegated value propositions as well as in the specific strategies used to get the highest revenues (e.g. transaction fees, subscriptions, advertising, sales, etc.). These results appear relevant in the perspective of providing empirical evidences consistent with the pattern highlighted by scholars in the analysed literature. Therefore, emerging innovative startups could take into account peculiar and common features hereby highlighted, in order to build up their business strategy and competitive position.

However, this study faces some limitations. Due to its exploratory nature, a non-probabilistic purposive sample was used. Thus, this paper does not attempt to draw statistical generalization from the results; on the contrary the purpose is to highlight patterns and best practices emerging from the empirical investigation. Future studies would need to consider these qualitative results, mainly based on top manager and developers perceptions, and compare them with objective secondary data collected on public-financial databases, in order to confirm or disconfirm the present results and get deeper insights about the success and evolution of this fast-growing phenomenon. In conclusion, it would be also interesting to expand this study by considering different countries and sectors inside or outside Europe.

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