Digital Platformization and Effects on Corporate Branding

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European Sports and Cultural Networks

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Cambridge
Scholars
Publishing

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This book first published 2025

Cambridge Scholars Publishing

Lady Stephenson Library, Newcastle upon Tyne, NE6 2PA, UK

British Library Cataloguing in Publication Data
A catalogue record for this book is available from the British Library

ISBN: 978-1-0364-4214-9
ISBN (Ebook): 978-1-0364-4215-6

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Acknowledgements

This work is the result of the study in the intense years until the conclusion my Ph.D. programme in Marketing and Social Communication. Such a result would not have been without the stimuli, the teachings, and the suggestions of all those who have been a reference along this way. My thanks go, firstly, to Professor A. Rea for always standing alongside us and a mentor of my research, a big thank you. I had the opportunity and thanks to approach to research with the relevant European Professors such as Professor J. Falkheimer, Professor M. Heide in the Department of Strategic Communication at Helsingborg Campus, Lund University. My thanks go, then, to ECOS Association with Dr. V. Di Tommaso, EPSI Network, the ULB University in Brussels with Professor S. Rothenberger, and ENCATC Network, NEMO Network, supported my theoretical study and the experimental framework. I want to thank, moreover, University "La Sapienza", Professor F. Sfodera and Professor M. Canevacci; Fondazione Giancarlo Pallavicini with Professor G. Pallavicini and C. Pallavicini; my family, my father and my mother with the love and the patience have made a priority to support in my studies, always.

Introduction

The digital transformation has driven, in recent years, growing attention by all those who, in various ways, are interested in the issues of deciding and acting in organized contexts.

This thesis proposes a reflection on the developments that are taking place in these years around the theme of digital platforms and towards their added value in terms of sustainability, by using the leverage of corporate branding.

The platform-based model is now embedded in everyday life, bringing technological, social, and trade changes. Assessing the performance of the Sports, Cultural, and Creative Sectors remains a challenging task, particularly when dealing with different networks.

I found greater evidence in the two clusters, given that the samples to which I subjected the surveys have responded with interesting values and growth in the mainstream of European design and thinking.

During this study, I will explore with my research questions, *"is the corporate branding model (W. Von Mettenheim) influenced by sustainability?"*.

This is a model that I would like to study and test through the analysis of two European clusters: sports and museums.

I have been working on a detailed bibliography which, over several years of studying and research on branding and corporate branding, allowed me to dwell on a model to be demonstrated and expanded by adding the concept of sustainability.

Why sustainability?

Since the concept is very spread, a lot of discussion goes on about it, but nobody understands yet all the aspects which link sustainability to the digital world. The obvious saving of interactions through digital, and the less consumption that occurs through sustainability, allows the achievement of great results. These results improve and broaden the perspective. I have chosen two clusters to analyse closely, and get deeper through the analysis into the network theory in the platform system. In particular, I have tried to

give a current European approach to my research on these clusters by showing the development of their functioning through digital networks, as highlighted also in my bibliography.

The first chapter will describe the functioning of platforms in the connection generated among users, able to create a network both online and phygital in which to exchange resources, information, and/or products. The changes brought by platforms cross social activity with the three main processes put in place: *datafication, commodification, and selection*. If digital has put into practice the elimination of intermediation processes, the presence of the platforms confirms how their role is precisely that of intermediary between what they seek and what they receive. The Platform in the Network Theory is a set of new creations of value.

In the second chapter, the theme of platforms will be explored, as a network starting from the transition between analogic and digital with the possibility of interaction in clusters such as sports industries and creative industries. The lever of Corporate Social Responsibility evolved in sustainability increases the branding values and tries to rule the debate on the relation between sustainability and social dimensions.

The third chapter analyses the reference clusters and their features in the sports industries and cultural industries with the first survey. The analysis of the sports industries and operators of sports networks (Sports Network) as well as the cultural and employee industries (Cultural Network) goes through the transition from the bottom-up to the network of networks approach. The simplification of the functions of the sustainability lever model demonstrates influence in the analysis of branding variables.

In conclusion, the study of Italian and international academic literature highlights a lack of attention to the issues of corporate branding and sustainability linked to the reference clusters.

The final aim of my thesis is not to draw up a list of all strategy models already existing in the literature, but to identify those that have been adopted in the organizations – in my case, sports associations and creative industries – and that have provided a concrete contribution to the corporate strategy.

The identification of the impact on corporate branding was fundamental to looking beyond the current borders and seeing the signs of possible new trends and needs that could predict the evolution of the concept in more advanced and more effective business practices. To this purpose, the reference context in which this research is developed is highly competitive.

In addition, *corporate branding* is currently a "*hot topic"* that is heavily debated. More and more companies around the world are approaching corporate branding with a sustainable approach.

Who are the beneficiaries?

The potential beneficiaries of this research are primarily professionals of both human and economic resources, who are committed to finding new solutions to respond to difficulties in these times of crises. They can develop in local or European contexts, but the study certainly requires further reflection appropriate to the contexts of reference, not always validated in all of the appropriate dimensions. This incipit represents the connective basis of the structures analysed and of most of the European systems, and therefore, deserves an even more advanced study to highlight specificities and conditions of applicability of the results put in evidence in larger contexts.

The observed reality has organized dimensions, namely structures that form relationships. This was my aim: to analyse the causes and effects through the pillars of platformization and sustainability. The multilevel model is mandatory: it is necessary to detect the influence and characteristics, passing from a macro level to a micro level of analysis of the branding variables. Moreover, this result takes into consideration several structures and, simultaneously, since the units of analysis are "nested hierarchically", it allows the multilevel approach.

The structure considered for the hypothesis is a hierarchical structure (of the reference cluster), where individuals are nested within social groups (networks) and grafted within specific contexts of society. However, a bottom-up pressure generates a similar structure that produces a sample of collective phenomena that are triggered by the action exerted by individuals through a process of interaction that generates the emerging construction. The contrast of the vision of platformization, holistic vs individualistic, loses importance in the name of a necessity-purpose combination.

In conclusion, the diversification and increase in levels of social and economic cohesion (Durkheim, 1983) still constitute a mechanism to produce added value – in this specific case of the diversity of the Italian (micro)system compared to the European (macro)one – through the instrument of fundraising (within platformization) and the possibility of exploring an alternative but current lever, such as social sustainability.

Chapter 1

Exchange and Interaction, Role of Digital Platforms

> "*The platforms are the spectrum of other platforms and coordinate, monitor and adjust in almost every element of the exchanges of their network." (Perren and Kozinest, 2018)*

The concept of a platform is not new, in the physical world for example, there are organized forms of interaction and exchange that can be localized in a geographical area such as local markets, a country, or a neighbourhood. In these organizations, there is the exchange between supply and demand of products that follows the rules of an "authority" that exercises supervision service. Digital platforms are connected activities that allow commercial interfaces between at least two different actors, one of which is normally a supplier and the other consumer (Faik and Asadullah, 2018).

They are centred web platforms capable of providing content (such as Facebook, Twitter, blogs, and websites) and can develop a commercial network or a market that allows transitions of goods and services. Its definition can be better understood in respect to the definition of "analogy platforms" which includes: billboards, direct mail, telemarketing, events, and word of mouth. This difference, however, does not mark the transition from one phase to another, nor does it mark today a type of platform that can be said to be extinct. Both are essential and coexist within the panorama.

To simplify, we can recognize the two most important players acting within the ecosystem of platforms: the *producers* (creators of the platform offers), and the *consumers* (buyers or users of the offer) interacting on a platform. Moreover, the latter consists of *providers* (interfaces for the platform such as Android that is an operating system for mobile devices) and *owners* (owners of platforms that play the role of arbitrators, determining who can participate and how).

For years, an increasing number of companies have been moving their business model to platform-based models, giving this new economy various names such as “sharing economy”, “peer economy”, or simply “platform economy”.

1.1 Digital Platformization and Platform Society

The term “platformization” has become dominant in studies and public debate for tech companies dealing with shaping participation and sociality, and promoting the disintermediation of sectoral markets such as Amazon, Uber, etc.

In the present, extremely volatile context, even the company business is seen as “liquid”, and subject to continuous changes. This revolution is changing the way to manage relationships with customers, operations, organizational structures and, above all, business models. It is undeniable, however, that the platform-based model is now also embodied into everyday life, bringing technological, social, and trade changes together (Van Dijk et al., 2018).

At the operational level, in fact, individuals use technologies for private and political purposes, as do companies and the media. At the social level, more connected users participate in the construction of new communication dynamics both at a public and private level. Finally, as far as trade is concerned, the change in platforms has led to the production of a new commodity: data.

The process of platformization “*has saturated every area of the web and in which institutional actors, publishers and users move, performing a new intermediation function, that structures the flow of information and commerce through the use of user behavioural data by subjecting them to the logic of algorithms”,* (Boccia Artieri and Marinelli, 2019). To demonstrate how this saturation of the web is already happening, we can look at platforms like Google, Amazon, Facebook, Airbnb, and Uber: they do not own the assets or the means of production, but enable a flow of data that are extracted, stored, analysed, and above all, monetized thanks to disruptive technologies such as big data, business analytics, and cloud computing (Polito, 2020).

Being able to access such a huge amount of data, has led scholars to redefine society: from network society to connective society, up to platform society. The authors also point out that it is not platforms that generate a revolution, rather, they are progressively infiltrating and converging with institutions

(offline and traditional) and the practices that structure the organizational level of democratic societies.

Therefore, it is not the platforms that reflect the social structure, but they produce brand new social structures in which they have become accustomed to living.

In this process of generating multilevel platforms, three processes take place in turn: *datafication, commodification, and selection*.

Datafication "means the ability of platforms to translate characteristics and aspects of reality that were not previously quantifiable" (Boccia Artieri and Marinelli, 2019, p. 18). This activity involves metadata taken from daily behaviour, such as time spent on the platform, localization, etc. In addition, platforms always process new systems to facilitate the translation of social behaviours into data. To better understand, we can think of the reactions to posts that Facebook has added, like ("Love, Wow, Sad, Angry, Haha"), with the function of measuring the emotions of users more effectively, and being able to profile them.

The term "*datafication"* describes the ability of platforms to transform world aspects into data previously quantified (Mayer-Schönberger and Cukier, 2013). Among these, we can mention demographic data and behavioural meta-data derived from smartphones, such as GPS times and locations.

Through this mechanism of the translation of behaviours into data platforms:

1. collect data
2. analyse them
3. make them circulate among third parties (through the "application programming interfaces", APIs) and among users (allowing them, for example, to follow the activities of friends).

Datafication revolves around the capturing and circulation of data.

C*ommodification* regards the ability to transform contents and emotions in goods that can be exchanged inside and outside the platforms» (ibidem). These goods are valued through at least four different types of currency: attention, data, users, and money.

Commodification concerns the transformation of online and offline objects, activities, emotions, and ideas into tradable commodities. It involves the development of multisided markets and new business models.

Selection refers to those processes through which the platforms guide you to specific content. While experts and institutions guided by professional standards have traditionally played a key role in these dynamics, today's platforms replace expert-based selection with user-driven selection and algorithms. The users themselves are evaluating, searching, sharing, and filtering content and services. Therefore, due to the selection of platform "*you can define how the ability of platforms to activate and filter user activity through interfaces and algorithms, while users interacting with these encoded environments, can affect the visibility and online availability of certain content, services or people*" (*Van* Dijk et al., 2018).

From the users' point of view this type of selection may seem more democratic than the expert-driven one, but one must consider that the transparency of the processes of platform selection largely only appears to be so. The selection, in fact, is shaped not only by user practices, but also by the functionality of interfaces and algorithms, whose logic and preferences remain unknown to most users. In practice, we are witnessing a paradox whereby "*what is visible depends on an intraevident technological structure that produces evidence on the relational and sociocultural level*" (Boccia Artieri and Marinelli A., 2019).

In essence, it is the entire ecosystem of platforms that is anchored to contradictions: it seems equal but it is hierarchical; it is almost entirely corporate, but it seems to be at the service of public value; in appearance, it is neutral and disinterested, but its architecture contains a specific set of ideological principles; its repercussions appear local, while its scope and impact are global; it seems to replace the logic "top down" and the strong presence of the state with the logic "bottom-up" and empowerment of consumers, but it leads there through a highly centralized structure that remains opaque you have its users.

To identify the elements that make up the anatomy of a single platform, one must consider that: "a platform is powered by data, automated and organized through algorithms and interfaces, formalized through ownership relationships oriented by precise business models and governed by specific terms of use".

The essential elements in the definition of platform are:

1. *Data:* platforms automatically collect a large amount of data relating to both content and users. This collection is allowed and modelled by hardware and software and affects user behaviour. These are the elements that make up big data. Through the API (Application Programming Interfaces), platforms offer third parties the possibility to access, albeit limited, their data. In this way, they provide detailed information about users useful to third parties to develop new applications or platforms.
2. *Algorithms:* These are automated instructions that transform input data into desired results. A useful example is the Google algorithm PageRank, that defines the relevance of a web page based on calculating the number and quality of hyperlinks that link to that page. Algorithms are used by platforms to automatically filter collected data and store it to connect users, content, and advertising. They have become very complex and represent one of the opaquest areas of the platforms, referred to by the expression "black box".
3. *Interfaces:* external interfaces are used by end-users who can view and access the contents of the platform. They are constructed in such a way as to facilitate connections between people and to guide user consumption behaviour, according to a predictive logic in which algorithms are fundamental.
4. *Owner status*: Each platform has a specific legal-economic status, and therefore operates through a specific economic and legal structure (ivi, p. 38). Platforms can be operated for profit or non-profit purposes. However, these labels often make it difficult to clearly delineate who actually profits from a platform's activities. Think, for example, to the taxation of global companies that act in very different local contexts, subject to different regulations.
5. *Business models:* refers to the way in which economic value is created. In the digital environment there are various types of currency through which economic value is measured: money, attention, data, and user evaluation. The latter implies that the more (regular) users a platform has, the more value it acquires; evaluations of the number of users have increased the share value of the platforms, acting as a bait for acquisitions. One of the myths of the network, exploited by platforms, is that of gratuitousness. This is a strategy that involves the transfer of personal information in exchange for services to the user. Monetization is produced through the increasingly faster and hyper-profiled connection between users, content, data, and advertising.

6. *The terms of use:* are usually defined as terms of service, and constitute a kind of contract that regulates and shapes the relationships between platforms and users, and the possibilities for their use. They are often long, difficult to understand, and constantly subject to change.

Digital platforms, therefore, play an intermediary role between what people seek and what they receive, this intermediation takes place thanks to the use of algorithms that allow to organize and govern the flow of user data. Touching on the hot topic of privacy, the data collected are protected by industrial law to generate a competitive advantage, trying to recreate a user profile, and its use has consequences on social, political, and economic dynamics. Many companies today rely on new business models that, thanks to the platforms, enable interactions and transitions between different groups, deciding to participate in a model created by the platform itself; and that's why we can talk about the platform economy.

2020 was a crucial year to return to the discussion of digital platforms, considering the possibilities that they offered to generate connections and exchanges during the period of the pandemic – almost as new city squares. All the digital places have become new spaces of aggregation, a sure window into the world capable of returning a semblance of pre-pandemic sociality.

The emergency from Covid-19 has enormously increased the wealth of the platforms, but this last one does not fall back on the workers. It is in this context that cooperative platforms have emerged to describe an increasingly widespread model in the world. They overturn the power relations within the platform because the workers gather in a cooperative and organize themselves democratically, creating a coincidence between owners and workers. They base their activity on the principle of disintermediation, and therefore a surplus value generated by the optimization of the app. This brings wealth that, in this case, returns to members who are also workers.

In an ecosystem of platforms, there are three distinct levels, according to various studies on the techno-economic and socio-economic literature about digital platforms and innovation ecosystems, which form a network configuration of value:

- Layers of a property.
- An activity.
- An enterprise.

On a property level, the physical and digital assets of a platform manifest as properties, and the links between each property pair manifest as a property relation, i.e., technical interoperability and functionality (Casey et al., 2010).

The technology choices and knowledge of it are crucial for innovation activities, and that is why it is important to make a distinction between the *underlying properties* of a platform and the organizational activities that utilize them, because underlying assets can be leveraged in multiple ways (Casey et al., 2010). For example, based on the asset ownership, with access to knowledge or strategy, the activities may take different configurations on how they are positioned and what the linkages are between them.

The included activities in the literature are platform design and management (e.g. Fürstenau et al., 2019); ecosystem management (e.g. de Vasconcelos Gomes et al., 2022); service development and delivery (e.g. Kapoor et al., 2021); platform market governance (e.g. Boudreau and Hagiu, 2009); resource development and knowledge development (e.g. Clarysse et al., 2014); and service acquisition and deployment (e.g. Jaworski and Patel, 2020). Although all these constructs exist in the current literature, no study focuses on inspecting the relationships and structures between these constructs.

The activities included in the literature:

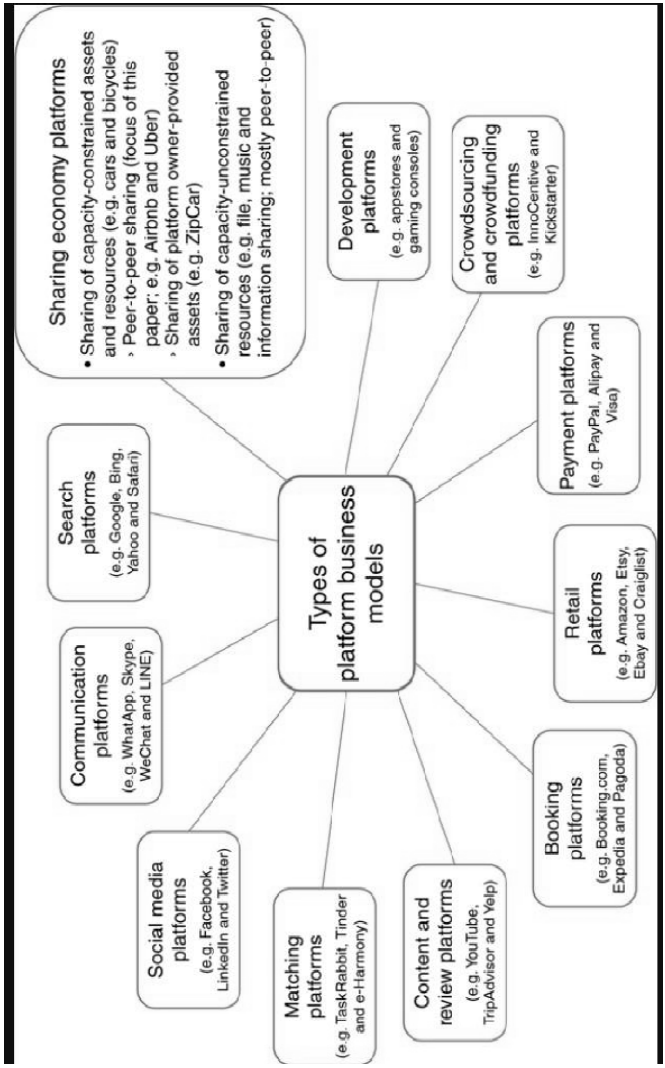
Tab 1. Elaboration (Perlangeli and Rea, 2022)

Platform Design & Management	Fürstenau et al., 2019
Ecosystem Management	de Vasconcelos Gomes et al., 2022
Service Development and Delivery	Kapoor et al., 2021
Platform Market Governance	Boudreau and Hagiu, 2009
Resource Development and Knowledge Development	Clarysse et al., 2014
Service Acquisition and Deployment	Jaworski and Patel, 2020

The Platform businesses emerged as a viable alternative to fulfilling a range of customer needs, including transportation, accommodation, meals, and even investments and personal loans. Other platform services created completely new markets. Evidence is gathering that the sharing economy

and platform business models are significantly changing ecosystems, markets, and consumption patterns (Caldieraro et al., 2018; Lamberton and Rose, 2012; Zervas et al., 2017).

Fig. 1. Types of platform business models



There are many types of platform business models, including search, communication, social media, matching, content and review, booking aggregator, retail, payment, crowdsourcing and crowdfunding, and also development platforms in addition to those that exist in the sharing economy (for examples of these different types of platform business models).

The scheme is interesting to the right side: Sharing Economy Platforms, Development Platforms, Crowdsourcing, and Crowdfunding Platforms. These are the themes of the research in the creation to generate new aspects of the digital platform in the creation of value.

1.2 Digital Platformization Classification

A first classification of the platforms is possible by taking into consideration the ultimate purpose that this offers. For this, there needs to be recognition of product platforms (e.g. marketplace), service platforms (e.g. Uber, Airbnb), payment platforms (e.g. PayPal), investment marketplace (to support start-ups through the logic of collective investment as crowdfunding phenomena), and social platforms or meetings of people (e.g. Facebook, WhatsApp, Instagram).

Over time, scholars have tried to classify platforms into multiple categories, for example, by size: governance (open vs closed) or proprietary structure (open-source vs proprietary). It is interesting, for research, the classification of Boudreau and Lakhani that subdivide them according to the business model, for this to recognize integration platforms, product platforms and multilateral platforms.

In the first case - integration platforms - the platform owner has high control over it and the platform acts as an intermediary. In its privileged position, the owner can choose how to sell products to customers, for example by setting additional costs on transactions. For example, Apple is among application developers deducting 30% of transactions as profit, and WordPress and Spotify are further examples of this.

In the second case - product platforms - the owner of the platform has less control over it. External parties can determine the price of products and services and keep the rights of their technical developments, while the owners keep the rights of the design of the basic technology. An example would be all of the platforms that offer marketplace possibilities, such as Amazon, eBay.

The third model - multilateral platforms - gives high autonomy to each part. If some platforms follow only one category more schematically, others can instead fall into several categories simultaneously for the features that make them versatile.

There are similar classifications that offer much food for thought, such as the subdivision proposed by Osterwalder and Pigneur (2010) to the business model (Mishra and Tripathi, 2020) and their ability to monetize, establishing an agreement with the user. They identify the first freemium/subscription model: where a segment of customers can benefit from free services.

The idea of getting something free at a sufficiently high quality generates huge demand, allowing the platform to make profits by showing advertising to customers and not directly asking them a share. They then offer the option of being able to purchase a premium version of that service, for example by stopping receiving advertisements or obtaining additional services not provided in the basic version. The ability to subscribe, however, generates new revenue for the owners of the platform. An example of this would be Spotify, a free music streaming service which offers the opportunity to listen to a large number of songs at any time, and gives freedom in user creativity and identity with the creation of playlists and sharing content with their friends. This free streaming is interrupted by advertisements affiliated with the platform, or advertisements of the platform itself that recommend switching to the premium version. Among the advantages of the premium version of Spotify, there is the ability to listen to music offline, it no longer displays advertising, and the user gets a sound quality three times higher than the free version. Many start-ups are emerging with this freemium model because it attracts many customers that consequently generates a large demand and value around the platform.

The third classification is called the *Google Business Model*. It starts from the possibility that Google offers external companies to enter an advertising network called *AdWords*, which allows you to associate their keywords to sell products or services. Most of the revenue, over 95%, comes from advertising through its search engine. The logic behind this is that Google is like an auction where they sell words, the greater the demand for that word, the greater the collection. Google is a winning model because it offers the solution to multiple needs and does so for free through the *SERP* (Search engine result page), it is the page that is accessed on a search engine, after searching for a certain keyword or phrase. The results are nothing more than the result of continuous negotiations between Google and advertisers because all aim to be first in the results, of which obtains 80% of clicks. In

return, users produce data that will be used for statistics and information that will be recorded in the search engine.

1.3 Digital Platformization and Network Effects

From the 1990s until today, digital platforms have completely changed our consumption, use, and living habits, centralizing most of the services that the internet offers. For example, extreme centralization can collect data about users and know their tastes and interests.

What is a platform?

There are three main areas:

- the first strand of research is based on classical studies that define the platform as a whole, within which several subsets and interfaces coexist, characterized by a common structure from which a company can develop and produce a product family (an example is the Sony Walkman in the 80s that allowed increasing scalability for the company);
- the second strand focuses on technology management and is therefore referred to as an "industrial platform", meaning a product, service, or technology that serves as a basis for companies to build complementary products, services, or technologies on (an example is the Intel microprocessor understood as an industrial platform);
- the third strand sees the platform as an intermediary activity between two or more distinct groups of users, combining supply and demand and allowing interactions between them. The expression multilateral platforms are used for this .

The internet has allowed the spread of platforms, allowing more effective management of trust between parties, ensuring greater satisfaction, greater transparency, and safety.

A multilateral platform is therefore:

- based on the presence of a virtual or physical location, enabling and facilitating interactions between two or more user groups.
- characterized by interdependence between the parties with positive indirect and bilateral network effects.
- able to track interactions between the users involved.

Think of Amazon marketplace and how facilitates the exchange between sellers and buyers: the former uses the platform and its traffic as an online showcase, and the latter looks at the products as if they were in the streets of this large shopping centre.

Many start-ups now become successful and have adopted this type of model, especially in cases where the meeting between supply and demand seems to be more complicated or longer. The creation of a platform also includes the need to make a website that is intuitive and simple from a graphic point of view and optimized for search engines.

To understand how platformers can evolve, start from a distinction between super-platform or parent platforms, and platform-enabled activities, namely daughter platforms. The first includes leading search engines, marketplaces, and social media such as Google, Amazon, and Facebook. The latter, instead, expand their activities starting from the founding platform.

An interesting case is that of WeChat, the main social media in China. It is an instant messaging app, which over time has gradually increased its activities (Ardolino et al., 2020), functions, and consequently, its popularity. Users can book taxis, restaurants, and flights, transfer money to other contacts, and make online and offline purchases. It is also made available to host third-party services that can be used without leaving the platform, thus becoming a "platform of platforms" (Coppola and Negri, 2018), capable of presenting itself as a new internet, determining the existence and operation of other economic actors and the modes of interaction among users. Among the effects to consider is the network effect and positive feedback.

The possibilities of meeting are amplified by triggering a network externality or network effect: as the number of users and relationships increase the size and value of the network.

Phones are an example of a network effect because multiple users have this device, plus, others will have to use it, until it becomes the main means by which to keep in touch. The increase in the number of users of a platform or a device is not an added value in itself, as the value also depends on the quality of other aspects. If everyone had a phone but the quality of the reception was non-existent, then the result would be zero. Let's consider Uber: market demand grows, such motivation drives drivers to join the Uber platform, therefore expanding the network. Thus, it increases the travel offer, geographical coverage of the service, and by default, you can guarantee a quality service in which there is a reduction in waiting times by

the user and a reduction in downtime, and therefore no gain, by the driver. This circle, supported by the efficiency of the service, increases demand allowing this perpetual motion to start from time to time.

Consider two network effects: direct and indirect.

In the first case, as with the phone example, the value of a service simply increases as the number of users increases. In the second case, platforms also benefit from positive effects: the two groups of actors, producers, and consumers, exchange value for each other. These are called indirect effects because the effects are crossed. The value of the service also increases for a group of users when a new user joins the network. Take Airbnb for example: more and more renters join the platform, which will become more useful and valuable for hosts because they will have more revenue opportunities. On the other hand, the more hosts increase, the greater the chances of this network, the more the tenants will have more choice and comparable rates, increasing the value of the platform. There is no lack of possible negative implications, such as what happened in 2017 in Bologna where there was a tourist boom of 1,397,976 tourists in a single year. According to data collected by the Bologna Chamber of Commerce, earnings in the housing sector amounted to 30 million with 5,494 properties advertised by Airbnb.

This has resulted in an increasing number of owners preferring to rent rooms or entire apartments to tourists, rather than students, reducing the amount to offer for those who decide to study in the capital, Emilia.

How can platforms grow as there is an increase in users? Improving the quality of the service provided.

Direct network effects mean that the user of a service creates an increase in the number of other users (Duch-Brown, 2017). These effects are highlighted for social media and communication platforms where value for users tends to increase as family and friends join a network. For large-capacity activities, the direct effects of the network are significant. Service providers have limited inventory. A low number of people can access a platform at any given time (Moazed, 2017). Only a few people can book with Uber or rent an apartment with Airbnb at a particular time. Indirect network effects are critical for multi-party platforms. Indirect network effects mean that the value of a service increases for a group of users when a new user from a different user group joins (Johnson, 2018). For example, a new host that joins Airbnb adds value to guests looking for accommodation as it provides them with more options to choose. This attracts more guests to the platform,

which, in turn, attracts more hosts. The indirect effects, rather than direct effects, of the network serve as an effective means of boosting business.

The example of Uber shows that with the increase of demand, more and more drivers will be inclined to become drivers on the platform, generating an increase in geographical coverage, a faster service, and cheaper rates that allow to maintain a quality service.

To all this, it must be added to the importance of the positive feedback effect that is the key to growth and stable life of successful platforms. This, however, does not exclude the possibility of attracting lower-level users such as attackers and scammers. Using Facebook as an example: it was born as a digital yearbook for Harvard students, an opportunity to stay in touch both during and after university. Its programmers then placed more and more attention in safeguarding the digital identities of subscribers, especially after its explosion at the world level.

The monetization of a platform can be summarized in the following macro-categories depending on the chosen business model:

1. Commission model (charging a transaction fee). The model of commission is a revenue model in which a user is charged a fee for each transaction. It is by far the most popular model in the online market. When the customer pays the provider, the platform charges a fee for its services, in percentage or fixed rate. The platform can charge both the seller and the buyer. Another scenario is to take a commission from both. This revenue model is the most common because the commission is considered justified: the parties can operate free of charge and pay only when they get a value from the platform usage. In a few words, platforms that want to capture and monetize interactions must create tools and services for the benefit of both parties by removing friction and mitigating risk to keeping them on the platform. Examples include companies like Amazon, eBay, and Airbnb. All of these companies charge a fee per transaction and have sellers offering various products on their platforms.
2. The subscription model consists of charging a fee to one or both buyers and sellers to access the market. The positive point for customers is that they get access to a great experience, or they can simply save money. Sellers, on the other hand, can acquire customers more likely to increase their revenue. The biggest challenge in charging a recurring subscription is that the platform must become

valuable enough, so that both customers and sellers get sufficient benefits from using it. You need to have a large number of users to convince sellers to pay, but at the same time, potential customers will not sign up until they see immediate benefits. LinkedIn, for example, allows recruiters to present job opportunities to their members and gives companies the ability to target candidates based on their CVs. This, therefore, encourages users to update their profiles more often, in turn encouraging recruiters to use the platform.

3. Freemium model. The freemium business model is based on providing two or more variants of the same product or service to choose from. The first version, the basic and more widespread version, is completely free and offers great value to users who are not forced to buy anything. However, if someone wants to have even more value, they can pay to access a higher-quality version of the product. The challenge is to find the right balance between free and premium features, so that people will not drop immediately for poor quality and are then pushed to upgrade to the premium version. A great example is Spotify, as previously mentioned.
4. The payment model for improved access. Sometimes a platform that facilitates a monetary transaction may not be able to monetize that transaction for themselves, however, they can charge producers for better access to the consumer base. Often, in the presence of many rival producers and strong competition, attracting the attention of consumers for a producer is complicated. The advanced access monetization system generally does not harm the network effects, since (as seen in the freemium model) producers and consumers can participate in the platform on an open and unpowered basis. But for those who believe that the value of improved access is particularly relevant, they can pay for this extra, allowing part of that value to be captured by the platform. As mentioned above, a good monetization strategy will capture the value that the platform generates the most, transforming it into revenues following one of these modes.

Untreated evaluations, too much haste to monetize, and wrong modes can limit, slow down, or even interrupt the exponential benefits of the network effect. If users are not satisfied with these “changes”, they will leave the platform or pass to the competition; and the value of the interactions they created in the platform will dissolve, and with it, the monetization of the same. The imperative of creating and growing network effects often guides platform founders to start by offering their services for free. Creating value for users without asking for anything in return is often a great way to

encourage participation. In other words, only after a value unit has been created and exchanged with satisfactory results for both the manufacturer and consumer, a platform must try to capture a share of that value. Several promising platforms failed because they ignored this rule and instead rushed to monetize their offers prematurely.

1.4 Digital Platformization in the Cluster Networks

The characteristics of the cluster represent exactly the requirements that I have described above, which brings the value from sustainability and platforms to corporate branding. They then make liquidity as an important value-creation mechanism for platforms.

A good example of these characteristics is represented by the dynamics of the cluster EPSI and NEMO. In my analysis, the match is between two NEMO and EPSI networks. NEMO collaborates with European institutions for the defense of the museum sector. They work with the European Commission, the European Parliament, the European Council, representatives of the countries holding the Presidency of the European Union, and other stakeholders in the field of European culture. EPSI is a non-profit association (ASBL) based in Brussels (Belgium), they are a network organization. Its core is a network of national networks for sport and innovation which represent the partners of the sport-innovation ecosystem. Its core is a network of national networks for sport and innovation which represent the partners of the sport-innovation ecosystem across the EU.

These requirements make liquidity an important value-creation mechanism. An increasing transaction volume on a platform adds value as long as it translates into better quality, matching available assets, resources, and their attributes at a specific time and location with the heterogeneous needs of users.

A significant body of literature has examined various aspects of sharing platform-related behaviours which integrate and structure this literature using the three-stage model of service consumption as an organizational structure. Parallel to this, we deconstruct the user's journey in the contact phase of service (i.e. consumption) and post-meeting phases (Wirtz and Lovelock, 2016, p. 53; Tsiotsou and Wirtz, 2015).

After reviewing the literature on platform governance and trust, the next sections will focus on key actors who orchestrate and co-create value in a platform ecosystem.

Research on network effects and platform strategy has largely conceptualized platforms as *multi-sided markets* in which producers of complementary goods *("complementary")* on one side compete to sell to users on the other side (e.g. Adner and Kapoor, 2010; Cennamo and Santaló, 2013; Parker and Van Alstyne, 2005; Rochet and Tirole, 2003; Shankar and Bayus, 2003; Boudreau 2010; Zhu and Iansiti, 2011).

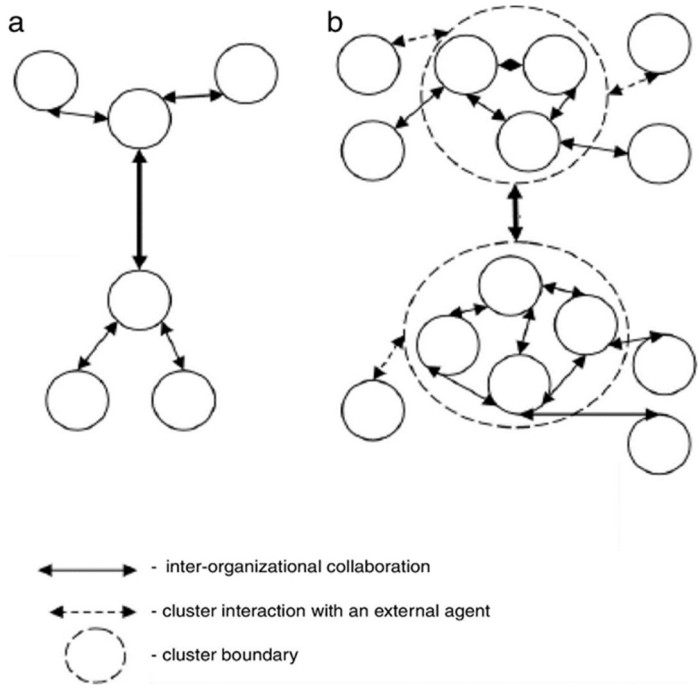
The globalization process and the change in the technological and communicative paradigm have significant effects on the competitiveness and sustainability of companies. In this context, according to Sohn (2015), the importance of clusters is highlighted as a type of inter-organizational network that contributes to development and competitiveness. Clusters have attracted researchers' interest for decades (e.g. Hoover, 1937; Scott, 2002).

Many of the studies done on business were built on early theories relating to agglomeration/cluster economies (Parr et al., 2002). However, according to Felzensztein, Stringer, Benson-Rea, and Freeman (2014), researchers do not have a single definition of clusters. For Porter (1998), although clusters are formed on any geographical scale, they are mainly localized and related organizations.

According to Zvjagina (2014), in the cluster typology, the effects of inter-cluster interaction as a whole or individually (organizations and enterprises), can interact with other cluster types. This interaction can lead to the creation of new competitive products, basically due to the synergistic effect (Fig. 2). The increased potential for cluster interaction is associated with *educational and infrastructure clusters* with the ability to perform functions of interest to any type of cluster.

In the *Cluster system* firms, other institutions such as universities, research centres, commercial associations, standardizing organizations, technical laboratories, and other institutions and suppliers that support the sector's activities are included; public assets in the surrounding community benefit from the cluster system too (Porter, 1998; Porter and Kramer, 2011; Sohn, 2015). In a knowledge-based economy, clusters of innovative firms emerge close to sources of knowledge. They are based on sophisticated infrastructure, where knowledge is created, developed, shared, and exchanged. Clusters are characterized by highly concentrated and effective links between business-people, investors, and researchers.

Fig. 2 Cooperation in Innovation



Clusters can take on a variety of forms, depending on their main technological and commercial areas of specialization. In most cases, they operate in localized geographical areas and interact in larger *innovation systems* at regional, national, and international levels. In *digital transformation*, the clusters have become more dynamic and are *key factors* in a country's capacity to attract international investment, which generates new technological knowledge (Kay et al., 2016).

Clusters are of interest to investors in *innovation* (*risk capital,* etc.) and benefit from the international mobility of qualified staff. According to the information available from the *Institute to Support Small and Medium-Sized Enterprises and Innovation (IAPMEI) and Ruling no. 2909/2015*, *" a cluster of competitiveness is an aggregating platform of knowledge and competencies, formed of partnerships and networks that include firms, businesses associations, public bodies relevant supporting institutions namely non-business entities of the Research and Innovation System (SII), which share a*

common strategic vision, through cooperation and obtaining agglomeration economies, to reach higher levels of competitive capacity" (DR no. 57, 2015).

Allowing the inclusion of different partners in international markets to increase added *value,* is also considered essential to create *diversification* and *innovation.* Regional clusters have been defined as "geographical concentrations of inter-related firms, specialized suppliers, service providers, firms in related industries and associated industries, in a specific field in which they compete, but also cooperate" (Porter, 1998). They have been considered a vital source of competitiveness in most sectors and an engine of economic growth (Delgado, Porter, and Stern, 2016). Clusters enable the emergence of local relational assets leading to technological spillovers which are central to the process of *learning, innovation, and economic growth* (Beugelsdijk & Mudambi, 2013).

Fig. 3

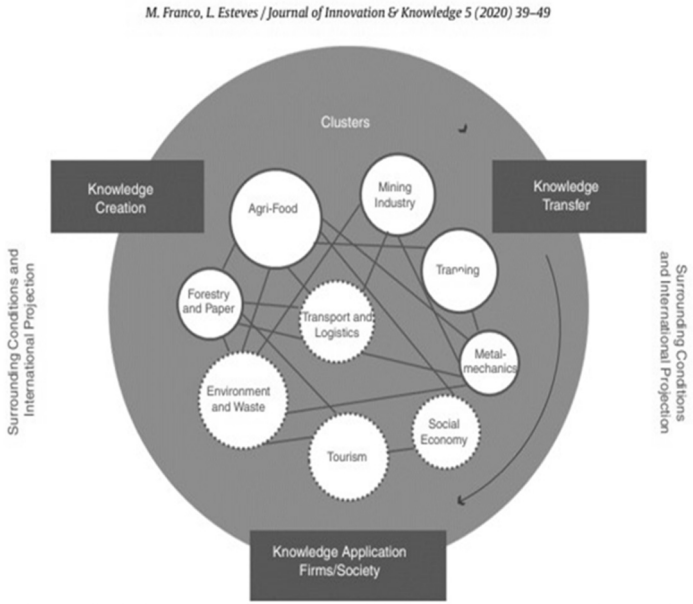


Fig. 2. Inter-clustering. *Source*: Portuguese Innovation Society – 20 years (2016).

In order to better specify the functioning of the greatly contested cluster concept (Martin & Sunley, 2003), research has paid attention to the real *networks* that are formed within (Visser and Boschma, 2004;) and also between different clusters (Asheim and Isaksen, 2002; Boschma, 2005; Lorenzen and Mudambi, 2013; Schüßler et al., 2013) (Fig. 3).

According to Penrose, the distinctive competence of the firm resides in making better use of its resources in the *Competence Theory* (Penrose, 1959; Richardson, 1972). Linkages established across firms can be explained by the firms' need to access external competencies and abilities. This perspective is useful in explaining recent dynamics of clusters, especially with respect to innovation (Parrilli and Sacchetti, 2008).

According to Morrison and Rabellotti (2009) and Kay et al. (2016), knowledge is distributed unequally in clusters. The authors found that knowledge flows in each sector are restricted to a strongly related local economy (e.g. the Italian wine sector), differing regarding knowledge assets, innovation behaviour, and economic performance. In network dynamics, larger firms are found to prefer to remain on the periphery of the knowledge network and strengthen their links to sources of knowledge outside. The clusters, with the smaller firms, are closely interlinked and communicate with external sources of knowledge (Boschma, 2005).

This analysis is necessary to understand how access to markets and sources of finance with knowledge transfer, in centralized and decentralized networks, strong and weak organizations, are based on people who support the development of shared, institutionalized mechanisms (Schüßler et al., 2013).

The emergence of knowledge within, and over, the different levels can be stimulated through interaction communities (or contexts).

A team, organization, or inter-organizational network represents contexts (or communities) of interaction favouring the creation of support platforms for their members for the articulation, sharing, and amplification of individual perspectives and ideas, as well as to build shared understanding, i.e., to create, develop, and expand knowledge (Boschma and Ter Wal, 2007; Inkpen & Tsang, 2005).

Knowledge represents an entry and exit resource. That's why it is defined as the main determinant of an organization's functioning, sustainable value, and performance (Pais and dos Santos, 2015).

The resource-based theory of the firm, subsequently extended through knowledge-based theory (Nonaka and Von Krogh, 2009), identifies, and emphasizes knowledge as potentially the most strategic and significant resource.

It is, indeed, a resource able to differentiate (or heterogenize) organizations' performance and success (Kogut & Zander, 1992). According to Balestrin and Verschoore (2010), *inter-cluster networks* can facilitate transfer knowledge joint actions and resource transactions to achieve organizational objectives.

When two or more clusters have common and complementary characteristics and areas (e.g. knowledge bases, resources, language, objectives, understandings, representations, and meanings), the emergence and continuity of cooperative links between them is more likely to occur (Broekel and Boschma, 2012; Das and Teng, 2003). Access to information and unintentional knowledge is facilitated by geographical proximity and why, as in the clusters studied (EPSI and NEMO), the cluster's actors have common cultural values, communication codes, and behavioural norms (Cusin and Loubaresse, 2018).

The literature on knowledge networks shows that indirect relations are crucial for the spread of knowledge and innovation (Stuck, et.al., 2015). Given the relevance of indirect relations, the structural characteristics of a complete system of relationships (i.e., the network) are also extremely important.

Yin (2015) states that case studies are a basis of knowledge, giving direction to future studies, an interactive and flexible project, taking a holistic approach to studying real-life events, and using multiple data-collecting sources and techniques. The relationship between social cohesion and economic vulnerability is evident in Europe, even more importantly it appears especially evident in my cluster analysis.