

# BUSINESS MODEL INNOVATION AND VALUE CO-CREATION IN DIGITAL ENTREPRENEURIAL ECOSYSTEMS

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**Abstract** This study describes the process of value co-creation between platform-based start-ups and investors in terms of operant and operand resources exchange. A qualitative research is conducting throughout semi-structured interviews to Spanish start-ups that have been funded in the last three years, in order to identify the key resources, actors and interactions within the process of value co-creation within a B2B digital entrepreneurial ecosystem. Our preliminary findings demonstrate that offline platforms, personal interaction and negotiation ability enable and support the co-creation process between entrepreneurs and investors. Additionally, the exchange of operant resources between entrepreneurs, investors, and partners foster the process of business model innovation improving the current business models.

**Keywords:** value co-creation, digital ecosystems, start-ups, business model innovation.

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## **INTRODUCTION**

The relationship between entrepreneurs and investors would be seen as a resources exchange process in which tangible and intangible resources are required to co-produce value (Vargo & Lusch, 2004). From a service-dominant logic perspective, we describe the resources exchange and interactions within a digital entrepreneurial ecosystem for co-create value and innovate business model given by the exchange of operant and operand resources between entrepreneurs and investors. Grounded in the Service-Dominant Logic of Marketing literature (Vargo & Lusch, 2004, 2008, 2016) and the nascent field of digital entrepreneurial ecosystem (Sussan & Acs, 2017) the purpose of this paper is to describe the process of value co-creation among start-ups and investors within a digital ecosystem, identifying key strategies, elements, and success factors to get funding in B2B settings.

The fast-paced business environment and the digital economy demand different strategies and approaches to compete in the market. The co-creation process and business model innovation have risen as a new way to create value offering more competitive products and services, in an entrepreneurial ecosystem this processes are given by the exchange of resources between entrepreneurs, investors and partners, and a new form of interaction that promotes the collaboration (de Oliveira & Cortimiglia, 2017). Moreover, innovative and competitive business models are required especially for start-ups that want to grow fast in the market and achieve a strong competitive position compared to their competitors (Magretta, 2002). The digital economy has changed the way to create, deliver, and capture value (Osterwalder and Pigneur, 2010) transforming the traditional business model to a new digital business model (Schwab, 2016) changing the interactions within the ecosystem. Nowadays, one of

the most popular digital business models are the online platforms, due to the boom of e-commerce the firms are adopting emerging technologies in order to remain competitive in the market, and adapt their business models to match demand and supply providing innovative solutions (OECD, 2017). These new business models need more attention for its analysis and get a better understanding about they can be improved to benefit from value co-creation.

The value co-creation between firms and customers has widely explored by the scholars (Jaakkola & Hakanen, 2013; Pongsakornrungrungsilp & Schroeder, 2011; Prahalad & Ramaswamy, 2004; Vargo, Maglio, & Akaka, 2008). However, there is still a lack of research about how to apply this process in a digital entrepreneurial ecosystem in which the start-ups act as a product and the investors as industrial customers in a B2B marketplace. In this regard, our study attempts to answer the following question. What are the key resources deployed by start-ups and investors for value co-creation within a digital entrepreneurship ecosystem?

The paper consists as follows. First, we briefly review the literature of value co-creation and digital ecosystems to provide a conceptual framework for our analysis. Secondly, we conducted face-to-face interviews for collecting the data. In third place, based on the conceptual framework presented in the first section, we discussed the main findings. Finally, We provide practical implications for value co-creation in a B2B digital ecosystem.

## **Value co-creation in a digital ecosystem**

### **Service-dominant logic and value co-creation**

Since the introduction of the concept of value constellations (Normann & Ramirez, 1993) to describe the collaborative nature of value creation, researchers have acknowledged that the value-creation process has changed. In 2004, the seminal work of Vargo & Lusch, (2004), proposing the Service-Dominant Logic for Marketing, once more brought the focus to a new form of value creation. Based on previous research by Normann & Ramirez, (1993); Prahalad & Ramaswamy, (2000, 2004), researchers coined the term 'value co-creation' to describe the changing nature of the customer role in the value creation process.

The Service-Dominant Logic challenges the paradigm based on Adam Smith's economic foundations (Smith, 1776), in which products are embedded with value and exchanged in the market (i.e. value-in-exchange) (Vargo & Lusch, 2004, 2008; Vargo et al., 2008). Instead it proposes, that firms cannot create value isolated, but only provide a proposition of value, which will be subjectively experience by the beneficiary (i.e. customer) through the value-in-use influenced by the social and cultural context in an extended network, i.e. value-in-context (Akaka, Schau, & Vargo, 2013; Chandler & Vargo, 2011; Vargo & Lusch, 2008). This occurs via the application of resources (operant and operand) of each actor participating in the process. 'Operant resources' are those that are capable of acting on other resources (i.e. skills and competencies), which are the source of strategic benefit; and 'operand resources' are those that are acted upon to create value, such as tangible assets (i.e. economic resources, computers, Internet) (Kaartemo, Akaka, & Vargo, 2016; Vargo & Lusch, 2008, 2016). The Service- Dominant Logic adopts a resource-based

perspective of marketing (Akaka & Vargo, 2014; Vargo & Lusch, 2016), in which organizations and customers possess different types of resources, which are integrated to co-create value (Arnould, Price, & Malshe, 2006)

### **Premises of Service-Dominant Logic**

The firms have factors of production (largely operand resources) and technology (an operant resource), converting their operand resources into outputs at a low cost. In a digital entrepreneurial ecosystem funding provided by investors become something to be captured or acted on by entrepreneurs. However, unlike the tangible resources, there are intangible as well such as skills and knowledge that are needed to produce value (Vargo & Lusch, 2011). Operant resources are often invisible or intangible. They are the core competencies and organizational processes being dynamic and infinite and not static and finite, as is usually the case with operand resources (Vargo & Lusch, 2004), in which interaction and networks play a central role in value creation and resources exchange (Vargo & Lusch, 2008).

Our analysis is centered mainly in four foundational premises of the Service-Dominant logic paradigm applied to the digital entrepreneurial ecosystem in which entrepreneurs and investors interact for co-create value.

- Skills and knowledge is the fundamental unit of exchange.
- Knowledge is the fundamental source of competitive advantage.
- The customer (investor) is always a co-creator of value.
- Value creation is a process of integrating and transforming resources, which requires interaction and implies networks.

In this regard, we assume that the actors exchange both operand and operant resources, which are transferred directly through, funding, training, coaching, advising, or indirectly throughout collaboration and

partnership provided by the network's actors. In our analysis, we distinguished between the operand and operant resources as well as the elements and actors within the network and its interactions in online and offline platforms.

## **Engagement platforms**

In digital environments, platforms such as Websites or applications (apps) serve as the channel that enables actors to engage in mutual value creation through the integration of resources. These channels act as “engagement platforms” which are the ‘how’ of value co-creation, the means of value creation which enable and support “two-sided” interactions between actors, in this case, start-ups and investors (Prahalad & Ramaswamy, 2004). These platforms establish an open dialogue between actors and allow access to each other's information.

There is evidence that Service Oriented Architecture (SOA) (a new generation of IT systems) supports value co-creation by creating solutions depending on specific situations and contexts. Ordanini & Pasini, (2008) analyzed two case studies of companies that used SOA (as a platform of collaboration between a service provider and user to co-create value) to demonstrate how these platforms help firms to align IT and business domains. Recently, scholars have analyzed how users of social networks sites (e.g. Facebook) can define and co-create value with service providers (Marandi, Little, & Hughes, 2010) and how these channels can be used to establish a dialogue with customers (Hatch & Schultz, 2010). Web 2.0 tools like social networks, wikis and blogs, support company-customer and customer-customer interactions to co-create value (Desai, 2009). The Internet is an engagement platform that enables customer-to-customer interactions (Gummesson, 2008) hence value co-creation. In the case of

the B2B marketplace the engagement platforms support the interaction between the investor, providers, start-ups, and customers.

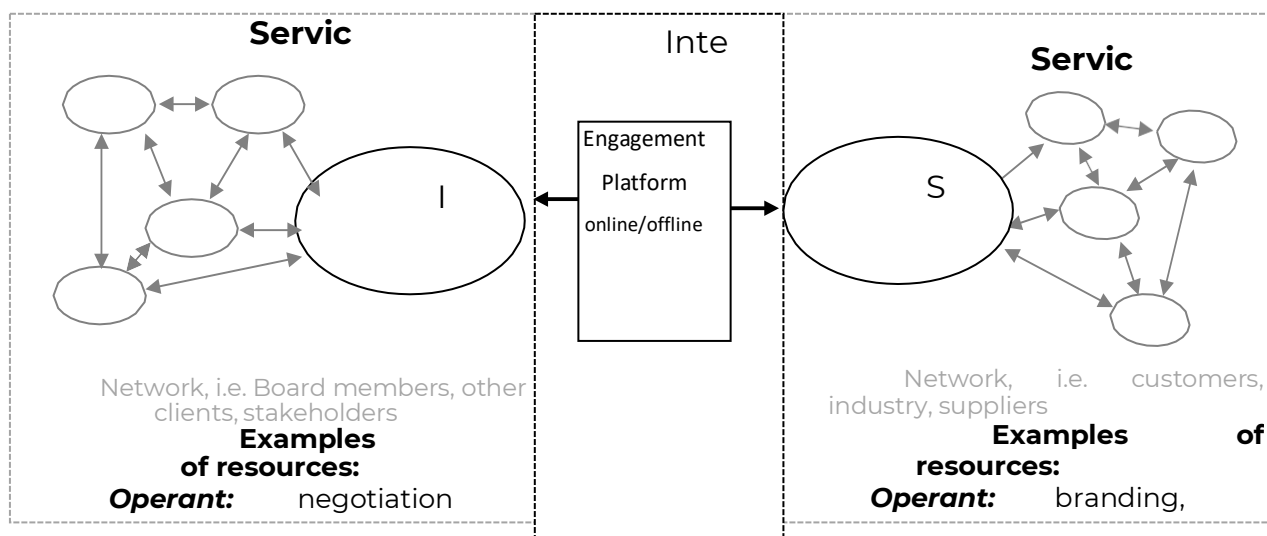
## **Service Ecosystem**

The Service-Dominant Logic (SDL) shifts the focus into the interactions among the multiple actors involved in the co-creation process and emphasizes the importance of a systemic understanding of the creation of value within a specific context (Akaka et al., 2013; Chandler & Vargo, 2011). The multidisciplinary development of the collaborative nature among actors has evolved into what is called “the service-ecosystem” perspective (Chandler & Vargo, 2011; Kaartemo et al., 2016; Vargo & Lusch, 2016). Which is a metaphor of the biological literature (Lusch et al. 2016), and can be defined as a “relatively self-contained, self-adjusting system of resource-integrating actors connected by shared institutional arrangements and mutual value creation through service exchange” (Vargo & Lusch, 2016, p. 11).

Since online platforms are dynamic entities, composed by different actors that interact to each other, such as firms, investors, developers, IT consultants and financial institutions, among others, it fits into the service ecosystem conceptualization. The interconnected perspective implies that all actors participating in the process, have the same role: to be engaged in the service-for-service exchange through the resource integration for value co-creation, therefore a more applicable manner to designate these relationships is the actor-to-actor (A2A) orientation, which is a more broaden and dynamic system-oriented approach (Chandler & Vargo, 2011; Vargo & Lusch, 2016). The understanding of the service ecosystem requires the analysis of both, the relationships at the individual level and among system entities (Wieland, Polese, Vargo, & Lusch, 2012).

SDL emphasizes a more holistic view by highlighting the influence of institutions (i.e. rule, norms, beliefs, meanings) and institutional arrangements (interdependent assemblages of institutions) that shape the interactions within the system in the process of co-creation (Vargo & Lusch, 2016). These relationships occur in a specific context, which is determinant to frame the process of value co-creation. Figure 1 describes the elements of the value co-creation process within a digital ecosystem.

Figure 1. Value co-creation process in digital ecosystems



*Network resources: e.g. firm politics, government policies, financial regulations, industry relationships - Value-in- context. Source: Based on Chandler & Vargo, (2011) and Vargo & Lusch, (2008)*

## Methodology

This study employs a qualitative research method through face-to-face interviews of Spanish start-ups, analyzing the business model, investor profiles, their relationship, interactions and benefits within the value co-creation process. We selected a sample of start-ups according to the following criteria: First, we selected the Spanish start-ups with a platform-based business model. Second, the start-ups have received



funding in the last three years at least for one investor. We made multiple case studies selecting five start-ups with these characteristics for our analysis, conducting semi-structured interviews for collecting the data. Then, We identified homogenous elements for its categorization and analysis (Flick, 2014; Shelley & Krippendorff, 1984). We analysed the topic under three dimensions, operand, and operant resources, context, and network.

Following Bengtsson, (2016) we employ the qualitative analysis as research methodology since it is:

- The aim of the study is to describe which are the key operant and operand resources deployed for start-ups and investors during the co-creation process in a digital ecosystem.
- The unit of analysis is platform-based business model start-ups that have been funded in the last three years.
- Since it is an exploratory research in nature, we applied an inductive reasoning, based on the data collected we made conclusions putting together new information into theory.

## **Results**

Based on the data collected, we categorized the information in three different resources providers, start-ups, investors, and engagement platforms. We found as the main actors the start-ups and investors. However, we identified other actors such as partners and advisors as participants of the process of value co-creation. We identified the most relevant resources that start-ups and investors exchange during the process of value co-creation according to the type of funding, seed and venture capital, and the level of development of the start-up. Table 1 describes the resources deployed by the start-ups and investors for the value co-creation process within a digital entrepreneurial ecosystem, and their interactions within a network system.

*Table 1. Classification of resources within the co-creation process between start-ups and investors*

Category	Operant	Operand	Network	Context
Start-ups' resources	Business model (innovation and transformation) Talented and high skilled team Innovative idea Negotiation and sales skills	Infrastructure and technology KPIs and performance	Partnership Strategic alliances	Potential growth New product development New market development
Investors resources	Expertise and knowledge in the industry or start-ups related	Economic resources (funding)	Networking Introduction of others potential investors	Equity Participation
Engagement platforms resources	Knowledge and expertise Idea and business development Validation Branding Mentoring and advising	Infrastructure and technology Quality in workplace environment Seed capital Funding	Entrepreneurs Angel Investors Venture Capitalist Mentors Advisors Networking Financial Institutions Community Start-up ecosystem	Offline platforms: Entrepreneurship centres, business incubator and accelerators, co-working spaces, events Online platforms: social media, websites, and competitors Government initiatives University programs Contests

*Source: Constructed by the authors.*

## Operant and Operand Resources

It is important to highlight that the innovation of the idea is a key operant resource for the start-up to attract investors and get funding. The innovative ideas are those that offer new ways to satisfy a need or solve a problem through an innovative technology infrastructure. An innovative business model and a talented and skilled team support this idea and convince the investor to invest in the start-up. The financial and market indicators and future plans are important for the investors as well, for making decisions regarding how and where invest. Usually, the investors set the goals of the start-up during the negotiations for the next round of funding focusing on market growth, and financial performance.

The most relevant resource from the investor side is the funding itself invested in the start-up according to its requirements. This operand resource is used to develop the company and its scalability, hiring new employees, and developing new products and services. Besides the economic resources, the investor provides intangible resources such as knowledge and information about the industry and sector through advising and coaching. In this resources exchange interaction, the entrepreneurs are responsible to develop and innovate the business model, making strategic decisions for its success, taking into account that they are the owners of the idea and experts in their business. The engagement platform also provides resources that are crucial for co-create value involving other actors such as advisors, mentors and potential investors. These platforms provide information and networking for start-ups and investors in which both can get benefits of each other. For example, a co-working space is a meeting point of start-ups, investors, and advisors allowing exchange operand resources such as knowledge, expertise, information and technology infrastructure fostering the co-creation of value and collaboration.

### **Interactions and network**

Within a digital entrepreneurial ecosystem, the interactions and network are important to co- create value, the new technologies and IT serves as a mechanism between firms that enables interactions for value co-creation (Grover & Kohli, 2011). The findings show that in a network system the start-ups can make strategic alliances and partnerships more easily. Usually, the interactions and networking support this collaboration between start-ups and other actors within the ecosystem, especially in B2B settings.

The network provides information to the investors about a potential investment opportunity, creating a community of investors and advisors to reach the innovative and successful start-ups. The community of investors provides to start-ups new contact for potential investor within the sector or industry. The offline and online engagement platforms become a key source for interactions between the actors within the ecosystem serving as a meeting point for entrepreneurs, angel investors, venture capitalists, mentors, advisors, financial institutions, community, and so on fostering the collaboration and networking that is crucial for the value co-creation process.

## **Context**

Regarding the digital entrepreneurial ecosystem context, we identified that the first contact between start-ups and investors, and the previous assessment and communication is doing through online platforms, however, the offline platforms such as entrepreneurship centers, co-working spaces, business incubator and accelerators, and events are crucial for present and sale the ideas and business models to potential investors, and start the process of value co-creation. The government initiatives, university programs, and contest are part of this context in which investors and start-ups can interact and negotiate for future collaboration and funding. Internet and digital sources for promoting the company are still crucial, not only because the start-ups are based on platforms and IT, but also because the internet and the digital ecosystem offer a lot of information regarding the customers, users, suppliers, and potential investors. Other resources such as the negotiation and sale abilities, the documentation and business proposals are crucial to convincing to the investor.

The entrepreneurial ecosystem allows promoting the start-ups for its growth and development, and for the investors, allows assessing their investment opportunities to finance the most innovative ideas getting equity of participation of the start-ups. From the start-up's side the online platforms become a pure source of information and visibility. However, the offline activities such as public relations, events, and cooperation are the most effective ways to attract investors and face-to-face contact with potential investors increase the probability to get funding. The use of online and offline platforms is a strategy to promote and get funding within the ecosystem. The informal conversations with colleagues and references between them help to find and present their business ideas to potential investors. Being in this ecosystem allows developing the branding and image, participating in events, meeting and special visit committee of investors.

#### **Business model innovation as an outcome of value co-creation process.**

The findings of our research demonstrate that operant resources such as knowledge, know-how, expertise, and skills are primary resources for co-create value between start-ups and investors, producing an exchange of intangible resources for improving the current business models. We identified that high-skilled teams are crucial for the success of the company not only in terms of financial and business performance but also as an asset that the investors take into account their investment decisions. The process of business model change and adaptation is defined by (Aspara, Hietanen, & Tikkanen, 2010; Casadesus-Masanell & Zhu, 2013) as business model innovation. The improvements and changes in the business models considered as a process of business model innovation, in which the start-ups adapt and transform their business

model to fit with the customer's need and market changes after the validation phase. Most of the start-ups funded stated that investors knowledge and expertise and access to advisors and partners helped to improve the current business model. The 75% of the companies interviewed said that they changed their business model after they got the funding. The start-ups started to improve and adapt their business models when they get funded and starting to grow and develop their business.

In this phase, the investors set the new goals for the start-ups including KPIs that the entrepreneurs must reach in order to get to another round of funding. The start-ups implemented a process of business model innovation to improve their business performance in order to achieve a competitive way of offering their new/improved products and services. The improvements made on the business model focused on developing or shift the technology platform, providing a better customer experience, and change their revenues models.

We found that business model innovation becomes an outcome of the value co-creation process since most the entrepreneurs said that after the exchange of operant resources it produced an effect on their business models, improving the performance of the start-up achieving competitive advantage through collaboration and partnership. Moreover, the innovative and improved business model supported the development and growth of the start-up, producing better financial and market results, it makes that the start-up become more attractive for investors for future funding opportunities.

## **Discussion**

The paper presents a conceptual framework to illustrate the interactions between start-ups and investor for co-create value within a digital ecosystem, describing the key resources of each actor involved in a digital entrepreneurship ecosystem, stressing the importance of the resources provided by the actors involved and the network itself within the co-creation process.

It is important to highlight that besides the main actors (start-ups and investors) within the process, there are other actors involved during this process such as advisors and partners, which have a key role within this co-creation process between start-ups and investors. The empirical evidence of our study demonstrates that the start-ups especially those with a platform-based business model co-create value not only with customers and users but also with investors, partners, and advisors, especially within a B2B marketplace. The theoretical background suggests that the value creation is not only from the company anymore supporting our evidence in this study. Indeed, the co-creation rules and interactions have changed due to the digital ecosystem in which the start-ups operate nowadays. Most of the start-ups have changed or innovated their business models after they got funded, the intervention of new resources tangible and intangible allowing develop the company improving their business model achieving better financial and market performance. A highly skilled team is crucial for this performance and is one of the key resources that the start-ups must invest if they want to attract more investors in the future.

Since the online platforms are still important for promoting the start-up and its visibility, the interviewed companies noted that besides the digital strategies, the most effective way to contact potential investors is

the offline platforms. The public relations, events, co-working spaces, and references are the most effective channels to get in contact with potential investors. The performance and resources management is still one of the most important aspects when the start-ups manage their resources and assets, no matter the amount of money invested in the company but the management of assets is more important for being efficient and reach the start-up's objectives. From the management aspect, the investor takes the role of advisor, transferring the knowledge and expertise but still the responsibility of use and manage the resources are from the CEO and the start-up's management team. This confirms the classification of operand and operant resources based on the conceptual framework, in which the combination of both types of resources provides better results within the process. The resources are complemented instead of excluded.

Our study could be used as a confirmatory analysis regarding the value co-creation process, in terms of actors, resources and interactions, providing valuable insights for the start-ups when they decide to seek external funding for the development of the company. The study contributes to the service-dominant logic literature demonstrating that operand and operant resources are primary units of exchange in a service-centered approach of value co-creation, the role of the actors and their interactions are active participants in relational exchanges and co-creation within a digital entrepreneurial ecosystem, becoming a source of economic growth for both investors and entrepreneurs. The value co-creation within an entrepreneurial ecosystem requires interaction and implies collaboration and networks, this process also fosters the process of new product and service development, and business model innovation. Regarding the authors involved in a process of value co-creation between start-ups and investors, there are more actors involved such as advisors,



partners, and institutions. The understanding of these interactions and exchange of resources would help to design more effective strategies to get funding, taking into account the diversity of investors' profile, meeting points, platforms, documentation and abilities required for negotiation. We also contribute to the business model innovation literature identifying different cases in which the start-ups innovative their business model, changing elements such as technology infrastructure, revenue models and target markets, creating a more competitive business model.

Besides the confirmatory approach of the conceptual framework, our study would contribute to developing the field of value co-creation and business model innovation, getting a better understanding of the process within a digital entrepreneurial ecosystem. We identified new actors such as partners and advisors that will need an in-depth analysis of their profile and roles in further research. The article provides practical implications and valuable insights for entrepreneurs identifying the key factors that they should take into account for attracting investors, and for the investors assessing the investment opportunities in terms of operant resources such as innovation of the idea, business models, and skilled team that are crucial factors for the success of the start-up. We present an innovative approach for the study of digital entrepreneurial ecosystem considering the start-up-investor interactions as service exchange system logic for the co-creation of value throughout operand and operant resources. Moreover, further research should be considered the internal and external factors, organizational structure, the country context, and other institutional actors involved.

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