

Towards a Theory of Motivations and Roles in Business Ecosystems

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Abstract: Focusing on the role of networking organizational structure, the literature on innovation management has turned towards value co-creation. The need for value co-creation has emerged from the fact that, in order for firms to cater for their customers' needs, they cannot deliver on their own as single entities, but rather participate in business ecosystems. Ecosystems are a fundamental occurrence of the academic literature, as well as the managerial world. In order to gain insight to the operations of ecosystems, a systematic literature was carried out. The research question concerned the motivations that drive participants to join a business ecosystem. Several frameworks were explored with a focus on the roles that participants might fill and their specific attributes. The findings suggest linking the stakeholders' motivations to specific roles' attributes, thus leading to the filling of a certain role. The outcomes are then reflected in the luxury goods industry, which is one of the richest and unmanageable sectors and bears the characteristics of an ecosystem. The contribution of this research is fundamental for the ecosystems operations, as the exploration of stakeholders' motivations is essential for the sustainability of the ecosystem from a managerial perspective.

Keywords: business ecosystems, ecosystem stakeholders, motivations, roles, value co-creation, innovation

1. Introduction

The increasing dynamism in customer engagement which derives from the complexity of current business environments, has created the need for continuous innovation by organizations, aiming for value creation and competitiveness (Valkokari et al. 2017). Focusing on the role of networking organizational structure, the literature on innovation management has turned towards a collaborative nature of value creation, also known as value co-creation. The need for value co-creation has emerged from the fact that, in order for firms to cater for their current customers' needs, they cannot deliver on their own as single entities, but rather participate in networks, namely business ecosystems, consisting of multiple interdependent and interactive actors (Iansiti and Levien, 2004).

The emergence of business ecosystems is a fundamental occurrence of the academic literature, as well as the managerial world, as value co-creation is performed among several stakeholders with conflicting needs and goals, who contribute unique resources and capabilities, serving the generally agreed necessity for innovation and unique value propositions. Although the concept of business ecosystems is a common topic of interest in the academic literature (Song, 2019), there is a distinct lack of practical frameworks concerning ecosystem operations.

One framework that offers valuable insight into the operations of ecosystems is that by Bithas et al (2018). The contribution of this framework lies to the analysis of the roles that ecosystem participants might fill and their specific attributes. In the context of this model, the issue of what motivates participants to join a business ecosystem arises, as well as which role does each stakeholder engages in, led by its motivations. This is the research question of the current study, which is analyzed in the context of stakeholder management and explored through a systematic literature review.

More specifically the research question addressed is: *What is the relationship between a business ecosystem role and a new participant's motivation?* The findings suggest linking the stakeholders' motivations to specific roles' attributes and by making such combinations, each motive of joining an ecosystem leads to the filling of a certain role. The contribution of this outcome is fundamental for the

ecosystems operations, as the exploration of stakeholders' motivations clarifies the way each participant engages in a specific role. Furthermore, the exploration of stakeholders' motivations is essential for the sustainability of the ecosystem from a managerial perspective.

The rest of the paper includes the literature review, which provides a background for the concepts of ecosystems, value co-creation, and the conceptual model, the methodology followed, and its findings, the discussion and the conclusion, which includes future research potential.

2. Literature review

2.1 Business ecosystems and value co-creation

Value is co-created more and more in complicated networks, rather than in a single organization (Adner, 2017). Firms partner in so-called business ecosystems, where they each make a contribution, while one single entity does not have to develop all resources and capabilities itself (Cusumano et al. 2020). This is basically the concept of business ecosystems: "an economic community supported by a foundation of interacting organizations and individuals that produces goods and services of value to customers, who are themselves members of the ecosystem." The participants "work co-operatively and competitively to support new products, satisfy customer needs, and eventually incorporate the next round of innovations" (Moore, 1996).

Recently, interest in business ecosystems has increased, due to some big structural economic changes, concerning mostly regulatory and digital shifts. These changes blur the lines between products and services and enable the collaboration of firms and the development of product-service bundles (Jacobides et al. 2018). Given these changes, organizations are less likely to cater customer needs on their own. And so ecosystems are on the rise.

As technological and several other changes occurred, the organizational operations evolved. The supply chain turned into a value chain and ultimately a value network. The conceptualization of the ecosystem as a new type of value co-creation system, implies that the structure and interdependencies between different business actors has sprung to the forefront of analysis in understanding strategic activities in ecosystem contexts.

As a core part of the ecosystem concept, value co-creation links different kinds of ecosystem participants. It is defined as "the joint, collaborative, concurrent, peer like process of producing new value, both materially and symbolically" (Galvagno and Dalli, 2014). In reality, the value co-creation process initiates once the ecosystem participants agree in mutual terms, sharing their goals for innovation (Ketonen-Oksi and Valkokari, 2019). According to Frow et al (2014), exchange happens because no single entity possesses all the resources needed to operate efficiently on their own, and in order to co-create value, has to join the resource integration process. This is possible even when the stakeholders have conflicting priorities, values and goals.

There are two schools that analyze the concept of value co-creation. The traditional view is referred to as goods-dominant (G-D) logic and is based on the value-in-exchange meaning of value. The service-dominant (S-D) logic, is tied to the value-in-use meaning of value (Vargo and Lusch, 2008). In S-D logic, the roles of producers and consumers are not distinct, meaning that value is always co-created, cooperatively and collectively, in interactions among suppliers and beneficiaries through the integration of resources and application of competences.

2.2 Ecosystem stakeholders' roles and motivations

A key concern in business ecosystems is operations, with a distinct lack of practical frameworks. Actors interact continuously with each other and thus their relationships require certain management, in order to ensure the undistracted value co-creation process. One such conceptual framework is proposed by Bithas et al (2018).

The most important member of an ecosystem is the "keystone", which is essential (Iansiti and Levien, 2004). The keystone is backed by "niche players", which represent the majority of the ecosystem and

produce the most innovations and value. The role of niche players makes them “complementors” who assist the platform leader to expand the boundaries of its operation.

Based on the basic roles, Bithas et al (2018) have proposed a model where roles are described in terms of three sets of attributes; service innovation, collaboration and resilience. The four broader roles are defined according to the axes of this model, which include resource capitalization and value co-creation intensity. According to Bithas et al (2018), these four main roles include:

Role 1 can be performed by a stakeholder aiming at resource acquisition, but without any customization. Due to low co-creation intensity, this stakeholder can engage in value co-creation with other ecosystems as well. This loose collaboration within each ecosystem, makes the participant replaceable. The main goal of Role 2 is acquisition and integration of resources with its own. Although it engages in basic collaboration processes, it is more dependent on other stakeholders, due to its purpose for resource integration. Role 3 refers to a stakeholder that joins an ecosystem for acquiring resources, but without resource integration. Value co-creation intensity is high, meaning that the stakeholder collaborates closely with others. Thus, customization and generated value propositions are high. Role 4 is filled by a stakeholder that aims for resource acquisition and integration. Also, value co-creation intensity is high, meaning that in combination with the resource integration, collaboration with other stakeholders is high.

In order to sustain ecosystem development and understand the engagement with certain roles, it is essential to explore the motivations that drive existing and new stakeholders to join an ecosystem and fill a specific role. The existing literature has analyzed the reasons for stakeholder engagement, but from the strategy and organization aspect. These include an increasing interest for public matters, the possible cost of stakeholders to an organization, and achieving a better performance (Homburg et al. 2013). The identification of stakeholders’ motives is essential for the central organization in taking up efficient resource integration processes, which can lead to worthwhile value co-creation. Thus, establishing the connections between stakeholder motivations and resources is fundamental to triggering innovative possibilities. Based on the conceptual model, we connect the stakeholders’ motivations to the assigned roles.

3. Methodology

The above depict a summary of developing a systematic literature review in the context of ecosystems research. We deployed this methodology, because, apart from being the most transparent, inclusive and explanatory type of study, several systematic mapping studies have been already conducted, which are considered the ideal bases for a systematic literature review.

Initially the research concerned the broader topic of business ecosystems, their development and several ecosystem types. Then, the study explored the stakeholders’ interactions in a business ecosystem and the conflict management among stakeholders during a reconfiguration. On the other end, there is the chosen conceptual framework that analyzes the ecosystem roles (Bithas et al. 2018). Starting from the ecosystem concept, we combine the fields of ecosystem management, as well as stakeholder management in ecosystem networks in order make a key contribution.

3.1 Scoping

- Previous studies: the concepts of business ecosystems, value and stakeholder management in general have been analyzed in previous studies (Galvagno and Dalli, 2014; Rachinger et al. 2019).
- Purpose of the review: the analysis of these concepts from a different perspective and in combination with other ideas and the updating of previous outdated research. This information will be analyzed and combined, in order to overcome the knowledge frontier and lead to the exploration of new ideas.

3.2 Planning

Research questions: Following a systematic mapping study, where the research questions were broader, we now establish a more specific question, so that the contribution to the literature is novel, important and interesting. In order to conclude to the final research question, the CIMO- logic was followed (Denyer and Tranfield 2009). For the ecosystem’s sustainable development, the motivations of stakeholders have

to be explored, in the context of the roles that they fill. That said, and in agreement with the CIMO logic, the emerging research question is: *RQ: What is the relationship between a business ecosystem role and a new participant's motivation?*

Formulation of inclusion and exclusion criteria:

Inclusion criteria:

- Books or book chapters on ecosystem stakeholders and value creation or stakeholder management or ecosystem stakeholders' roles.
- Reports describing empirical studies on the research topic.
- Empirical studies with results based on observed and measured phenomena and derived knowledge from actual experience rather than from theory or belief.
- Papers that provide scientific research findings on the research question.
- Time- frame: 2008-2021. The topic of business ecosystem is mostly described after 2008 (Vargo and Lusch, 2008).

Exclusion criteria:

- Studies not available in full text
- Duplicates
- MSc theses
- Studies in languages other than English
- Studies that cover the topic of business ecosystems, definition and governance, but do not concern stakeholders.

3.3 Conducting the search

Search databases: The systematic literature review presupposes a systematic search of literature. In this particular review, the search strategy is sensitive rather than specific, meaning that all relevant papers are included (Nightingale, 2009).

Steps:

- In order to create the search terms, the research questions are broken down into individual facets (Kitchenham *et al.*, 2009).
- A list of synonyms is created.
- Search terms are identified.
- The database GoogleScholar is used.
- A backward and forward searching is performed.
- While performing the search, the publication year is selected as a filter.

Study selection:

- The title and abstract of the identified studies are reviewed and irrelevant papers are rejected.
- Full copies of the papers not previously rejected are obtained. These papers pass again the inclusion-exclusion criteria review. The included articles from this step were 20.
- At this point some modification and additions were made to the search terms, to find more results. 95 more studies were retrieved from this stage.
- The same process was followed and the final number of included studies is 53.

Quality assessment: For the quality assessment, the full texts of studies are carefully examined against the quality criteria, providing an opportunity for a final check on inclusion-exclusion (Xiao and Watson, 2019). All of the studies met the quality criteria. The quality assessment process includes several quality criteria,

which provide a measure of the extent to which a publication would make a valuable contribution to the review (Mikalef *et al.*, 2018). The quality criteria are defined as questions:

- Is there a clear statement of research aims?
- Is the research methodology described in the study?
- Is the data collection method described in the study?

In addition to the more general categorization of studies, a quality appraisal tool is also used, according to the type of each study. This additional tool is JBI. JBI is recommended for quality assessment by many authors as an appropriate frequently used tool (Bucheri and Sharifi, 2017; Xiao and Watson, 2019) and because, in comparison to most other appraisal tools, JBI provides a big selection of checklists, depending on the type of study-to-be-assessed, as well as a justification for each question and guidance for the assessment.

Each of the selected studies is categorized according to its type (SLR, report, qualitative study etc.), appraised according to the JBI checklists and finally being categorized again according to the number of positively answered questions.

Data extraction: Extracting data represents a crucial step in the systematic review procedure. In this step, after obtaining the list of papers from the literature search, information is taken from each paper to serve as the raw material for the synthesis step (Okoli, 2015).

The data extracted from each study are: (Kitchenham *et al.*, 2009)

- The source and full reference.
- Classification of the study Type (SLR, Meta-Analysis MA).
- Main topic area.
- The author(s).
- Quality evaluation.

The following data are presented in a table along with the evaluation from the previous step.

4. Findings

The attraction of new organizations by an ecosystem is because of the benefits new participants perceive in collaborating on resource capitalization with other members of the ecosystem. These new members raise novel expectations and offer tools that have not been used in the network before, they are part of the management scheme of the ecosystem, and they must coordinate with the other projects. The ecosystem must be able to scale along multiple dimensions in order to meet these changing requirements and stay successful over time (Amorim *et al.* 2014).

Here, we analyze each stakeholder's motivation to join a business ecosystem and find the common ground between the motives and the roles' key attributes, by mapping the common points. From the conceptual model, we have picked some key attributes along with the intensity that characterize each role (Bithas *et al.* 2018) and presented them on table1. Some attributes make a better match, meaning that if the stakeholder is triggered by the certain motivation, it is more likely to engage with a role with the common attributes as the motivation. For simplification and length purposes, we pick the two most contrasting roles, role1 and role4 to analyze against the motivators. However, the same method can be applied to whichever role once chooses to explore.

Table 1: Attribute intensity and roles

Attribute intensity/ Roles	Role 1	Role 4
Collaboration	Low	High
Value co-creation	Low	High
Resource integration	Low	High
Collaboration with other ecosystems	High	Low
Customization	Low	High

First of all, value co-creation and resource capitalization are considered the two primary motivators, as they represent the two axes of the conceptual model, and indeed are key motivations for stakeholders. The rest motivations are considered secondary, but are equally important. The rest of the attributes remain as role characteristics and are not considered motivators.

Primary motivators:

1. Value co-creation: Value co-creation is a primary motivator for a stakeholder to join an ecosystem as through it, the stakeholder expects to gain insights about the marketplace (Bithas, 2020), meet better customer needs, develop new value propositions (Ramaswamy, 2011), build customer commitment and consequently customer contribution to the final product (Dong et al. 2008) and build customer loyalty and trust (Jaworski and Kohli, 2006). Furthermore, value co-creation emits a generally positive feeling to the stakeholders' employees, as well as the customers (Schneider and Bowen, 1995).

2. Resource acquisition: Resource acquisition is another primary motivation with some expected outcomes. First of all, the stakeholder expects material return on invested resources. Another expectation is the involvement in decision making. Furthermore, a stakeholder might want to join an ecosystem in order to make a resource contribution, so as to build innovative value propositions, or to gain access to other stakeholders' resources, in order to gain competitive advantage and of course to ensure its sustainability. Last but not least, when joining an ecosystem, the stakeholder might expect a lower cost for the resource acquisition, as well as shorter time to develop the resources (Bithas, 2020).

Secondary motivators:

1. Reputation enhancement: The ecosystem's positive image is expected to promote the individual identity and personal recognition of each stakeholder, making reputation a motivator for close collaboration (Pera et al. 2016). The findings indicate that the promotion of personal identity might encourage the individual transformation, which in turn requires resource acquisition and integration. Because the stakeholders' image depends on and derives from the ecosystem's positive image, the collaboration with other ecosystems might be low. Since a stakeholder is motivated to collaborate closely with others and co-create value, and since a stakeholder is vulnerable to resource acquisition and integration aiming for individual transformation, while collaborating on a low level with other ecosystems, we conclude that it is more likely to engage with role4, which entails these attributes.

2. Experimentation: Multi-stakeholder co-creation is driven by experimentation motives to develop new products/services within the shared ecosystem, and beyond it. Actors expect to hybridize solutions and tools from other actors and transfer them into their specific ecosystem (Pera et al. 2016). One aspect of this motive is the resource acquisition, where stakeholders acquire new resources as part of the experimentation. In the context of experimentation, collaboration with other ecosystems is open and individual transformation might be a deeper motive. Since a stakeholder is motivated to collaborate with multiple ecosystems, while acquiring new resources, we assume that the most potential role to pursue is role1, which entails these attributes, although individual transformation is not enabled, but as stated it might be a deeper and long-term motivation of the stakeholder.

3. Relationship: Multi-stakeholder co-creation is driven by relationship motives to develop new partnerships and collaborations. The co-creation allows stakeholders to connect to others (Pera et al. 2016). Relationship development might be accompanied by the opportunity of new partnerships, alliances and access into other ecosystems. The more intense the relations, the more likely they are to exchange information, share expectations, and form coalitions. For the same reason, a stakeholder might want to collaborate with other ecosystems as well. Since a stakeholder is motivated to develop a close interaction with others and engage in value co-creation, while at the same time collaborating with other ecosystems, it is possible that it will adopt role4 which entails these attributes.

4. Communication: A multi-centered flow communication enables actors to co-create a shared storytelling and build a shared identity of the ecosystem (Pera et al. 2016), meaning that the collaboration and interaction among stakeholders is high. Shared identity provides a platform for "shared cognition, consensus, and coordination" (Postmes, 2003). In order to build these values, a behavior adjustment and

individual transformation is crucial. In turn, this enables value co-creation, resource acquisition and integration and customization. Since a stakeholder is motivated to engage in close collaboration and value co-creation with others, to acquire and integrate new resources and individually transform, while providing high customization, it is more likely to adopt role4, which entails these attributes.

5. Mapping practices: Multi-stakeholder co-creation is performed through encounter mapping practices, which identify and organize micro-specialized capabilities into complex resource integration (Pera et al. 2016). In this case, resource integration might be faced as a motivation, as well as the individual transformation. The variety of stakeholders, in terms of identities, conflicting values and purposes naturally leads to conflicts. These conflicts may often produce unexpected outcomes. In order to exploit this diversity, value co-creation is enabled so that new value propositions come up. Since a stakeholder is motivated to engage in intense value co-creation and to individually transform, through the resource acquisition and resource integration process, it is more likely to adopt role4 which entails these attributes.

6. Formalized processes: Multi-stakeholder co-creation is enabled by formalized shared processes, managed by dedicated teams, where decision-making is smoothed by a decisions maker. Implementation processes consist of recurrent and formalized touch-points among stakeholders whilst promoting more informal interactions. This could lead to resource integration and individual transformation and discourage collaboration with other ecosystems (Pera et al. 2016). Since a stakeholder is motivated to interact closely with others and proceed to resource integration, but without engaging with other ecosystems and without having a close investment to the said ecosystem, it is likely to adopt role4 which entails these attributes.

7. Individual characteristics: Multi-stakeholder co-creation depends on individual characteristics to build shared value: creativity, flexibility and negotiation. Creativity means finding authentic, efficient solutions and making them real. Flexibility means that co-creation enhances individuals' capacity to confront change and adapt, thus enabling customization. Negotiation occurs between actors making a joint decision about an issue where there are initial discrepancies in preference (Pera et al. 2016). This in turn implies some kind of close interaction and enables value co-creation. All these values have as a result the stakeholders' individual transformation. Since a stakeholder is motivated to collaborate closely with others and co-create value, while being vulnerable to transformation, as well as providing customization, it is more likely that it engages in role4 which entails these attributes.

8. Standardization: Ecosystem players have their own proprietary solutions. For a broader acceptability, they try to aspire their solution to evolve as de facto standards. Their aspiration toward standardization could go in their favor to capture bigger market share (Kar et al. 2018). Standardization is enabled by access to information which is an aspect of value co-creation (Bithas, 2020). Since a stakeholder is motivated to engage in intense value co-creation with others, it is more possible to engage in role4, which entails this attribute.

9. Social: Stakeholders aim to get products to market with a larger goal of bringing better quality of life to the society (Kar et al. 2018). In order to make a bigger impact, stakeholders have the motive to collaborate closely with each other, to co-create value and to invest more in the ecosystem. Since a stakeholder is motivated to have a high interaction and value co-creation with other stakeholders, it is likely to engage in role4, which entails these attributes.

10. Diversification: Stakeholders pursue diversification, meaning that a business goal is to exploit market potential by developing vertical solutions in various industrial sectors (Kar et al. 2018). In order to expand in other sectors, collaboration with other ecosystems is enabled. Since the stakeholder is motivated to collaborate with other ecosystems, it could engage in any role, but more likely to engage in role1 which entails this attribute.

5. Discussion

This paper begins by highlighting the increasing necessity for organizations to join business ecosystems, due to the current structural changes in the economy. In order for firms to be competitive and survive the rapidly changing market, they need to participate in networks, to offer their clientele unique value

propositions that they would not be able to deliver on their own. A core part of ecosystem operations is value co-creation, where participants exchange diverse resources and capabilities. For the sustainability of this operational model, the exploration of stakeholders' roles and motivations is fundamental. There lies the contribution of this paper to the current operational field of multi-stakeholder ecosystems by outlining the motivations of stakeholders to join the ecosystem and by identifying the links between each motivation and the roles that stakeholders fill when joining such a network.

The findings suggest that resource capitalization and value co-creation are the main motives that drive stakeholders into joining a business ecosystem. Furthermore, each of the rest motivators drive stakeholders into filling a certain role, depending on the intensity of value co-creation, collaboration, customization, collaboration with other ecosystems and resource integration processes. All of these parameters are combined on the purposes of the participant or the motivator.

If we would like to set this framework in a real ecosystem, a market that offers great potential is the personal luxury goods industry. This market is particularly interesting as it is a traditional sector, with a huge economic power and some luxury conglomerates that rule the majority of the industry. A case in point is Farfetch, a multi-brand online store, which in essence represents an ecosystem, as it includes players from different fields, each offering different capabilities and resources. Farfetch deploys a range of players such as the Restory, many luxury brands, Snapchat and influencers. These players represent certain roles, as depicted in table 2: the Restory, which repairs damaged goods, could have joined Farfetch triggered by its motivation for experimentation in new garments, as Farfetch offers a wide range of products concerning not only the type but the range category as well, including clothing and accessories and at the same time sports brands and high luxury. Another motive is diversification, as the Restory has the opportunity to expand in another field. Led by its motives for experimentation and diversification, the Restory proceeds to resource acquisition and is enabled to collaborate with other ecosystems, in order to achieve its goals and as a result, it could fill role1. Luxury brands on the other hand represent role4, driven by their potential motive for reputation enhancement as they join the most well-known luxury online shop, or by their urgent need for the digital competencies of the most tech-savvy app. This way, they develop new capabilities and individual characteristics. In order to achieve the positive image and the integration of new competencies, luxury brands participate in intense value co-creation with Farfetch, to gain the full potential of the ecosystem's benefits. Snapchat deploys a range of AR (Augmented Reality) tools, which Farfetch takes advantage on. Snapchat on the other end exploits the benefit of Farfetch, by adding shopping features. Led by its motivations for standardization for its AR tools, diversification to the field of luxury shopping and experimentation regarding its introduction of high technology features to a new audience, Snapchat joins the Farfetch ecosystem filling role1. Influencers, including Instagram and YouTube stars, join the Farfetch ecosystem seeking reputation enhancement by the best-selling platform, as well as relationship building, which might lead to new partnerships and collaborations. Thus influencers fill role4 which aligns with their leading motivations. All of the mentioned Farfetch ecosystem participants are primarily motivated by value co-creation and resource acquisition, in order to build customer commitment, build new value propositions, gain insights to a different market and ensure sustainability

Table 2: The Farfetch example

Farfetch ecosystem	Motivations	Roles	Role filling
The Restory	Experimentation	Role 1	ROLE1
	Diversification	Role 1	
Luxury brands	Reputation	Role 4	ROLE4
	Individual characteristics	Role 4	
Snapchat	Standardization	Role 4	ROLE1
	Diversification	Role 1	
	Experimentation	Role 1	
Influencers	Reputation enhancement	Role 4	ROLE4
	Relationships	Role 4	

6. Conclusions and further research

The contribution of this analysis aims at the optimization of the operation, as well as providing an assistance on the sustainability of the ecosystem by using the ecosystem roles, as motivations for attracting new stakeholders.

Until today the roles that actors engage in were explored, without considering the reasons for the engagement with certain roles. This paper fills this step and provides potential for future research. An extension of the current study could explore the stakeholders' relationships after they have adopted specific roles and driven by specific motivations. More specifically, the potential reconfiguration of ecosystems or the reconfiguration of motivations could be explored. From this emerges another key issue: what if the motivations change at the same time or in combination with a change in configurations.

The exploration of stakeholders' motivations and roles in such an organization provide some interesting insight on how a certain industry works, like the luxury industry, and would probably raise more questions to be answered on the concept of business ecosystems.

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