

University of Navarra
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***The role of Business Associations as drivers
of strategic management of innovation***

Dissertation

submitted for the Degree of Doctor of Philosophy by

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“Dedico esta tesis doctoral a Dios quien todo me lo ha dado; a Vanessa mi loco amor, orgullo y compañera de camino; a mis futuros hijos por quienes lucho en el hoy; a mis padres quienes me enseñaron la belleza y sabiduría de la vida; a mis hermanos mi eterna inspiración; y a tantos familiares, amigos, profesores y alumnos que han iluminado mi camino”.

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Andrés Hernán Mejía Villa

Abstract

Traditionally, business associations have been representatives of the interests of companies. Additionally, they have become coordinators of business activity and facilitators of the flow of information in the industry. Currently, the associations go further, they are developing a new role as innovation intermediaries for their affiliated companies. This work, although very valuable is not evident, therefore, they suffer from invisibility for business and academic organizations. Consequently, this doctoral thesis aims to deepen the study of the role of associations as key agents of the processes of open and collaborative innovation in business ecosystems, that is denominated innovation intermediation.

In order to meet this challenge, we developed an Action Research project with three phases that comprise the articulation of a theoretical framework, and two fieldworks with a group of associations from the community of Navarra (northern Spain).

In the first phase, we present a robust theoretical framework on the strategic, innovation and creativity aspects that surround the dynamics of associations as innovation intermediaries. Likewise, we clarify the fundamental concepts of associations as organizations of a social and economic nature. Finally, we describe their new role as facilitators of the strategic innovation of companies in the industrial sectors.

In the second phase, we designed and applied a survey of 21 business associations, which allowed us to define their innovation intermediation functions, the types of innovation they tend to promote among their companies, and their dynamic capacities for innovation intermediation. Subsequently, we performed a cluster analysis to propose a typology of business associations.

Finally, as a result of the previous findings, in the third phase we carried out an interactive and participative work with managers from 16 associations that allowed us to propose a Maturity Model of Innovation Intermediation Capacity, and also to propose the concept of business associations as Communities of Collaborative Innovation.

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0. Introduction

0.1. Background

Although it is widely accepted that innovation is central to the growth of output and productivity (OCDE, 2015), and companies have discovered that innovation is the main differentiator in the competitive career (Roberts, 2007), our understanding of innovation activities and their economic impact requires a greater understanding and even more because innovation itself is changing (OECD, 2015). Therefore, academics and practitioners should strive to know whether firms are innovative or not, but also to discern how they innovate and what types of innovation they implement (OECD & Eurostat, 2005). This is an important challenge because less than four percent of the innovation projects undertaken by companies are successful (Kumar, 2012).

Entrepreneurs and academics have recognized that the change and constant adjustment of the value proposition of companies come from innovation (Day & Schoemaker, 2016). For this reason, the companies have traditionally developed and managed their own innovation activities under a closed model. However, due to new challenges in the environment, this model has given way to an open form, the "open innovation model" (Chesbrough, 2003a; 2003b), in which cooperation with external agents has a crucial role, because knowledge to innovate is distributed into both inside and outside the companies.

Under this new open model, organizations develop common platforms from which to reflect, share resources and provide joint innovation solutions. Collaboration in innovation is driven by factors such as: (1) increasing investments in public-private partnerships (e.g. incubators of ideas, science parks and programs for small and large companies); (2) relaxation in the application of antitrust legislation to promote collaborative research; and (3) the enactment of laws, such as the Bayh-Dole Act and the Stevenson-Wydler Act, for faster technological diffusion between universities, laboratories and companies (Link & Siegel, 2007).

In this scenario emerge the role of innovation intermediaries or "innomediaries" (a term coined in 2003 by Sawhney et al., 2003), which are organizations that play a leading role because they have the capacity to establish connections between actors in the innovation system (Van Lente et al., 2003; Lee et al., 2010), and also, they can be powerful catalysts of innovation (Klerkx & Leewis, 2009). For Håkanson et al. (2011, p.261) the innomediaries are attracting growing attention both in

academic research and in public policy. Recognition of the importance of intermediaries for technological and business process innovation parallels a recent emphasis on the “systemic” and “distributed” nature of innovation involving the interplay of multiple actors connected through social, industrial, scientific and technological “networks” (Chesbrough, 2003b, 2006; Fleming & Waguespack, 2007; Lee et al. 2010). However, in spite of the importance of the topic, and in spite of the oftentimes considerable government support obtained by innovation intermediaries, present understanding of their roles and significance remains fragmentary (Sapsed et al. 2007; Dodgson & Steen 2008; Dalziel 2010).

According to various authors, a Business Association (BA) or Industry Association is more than an organization that represents the interest of a group of firms, it is a kind of innomediary that facilitates the innovation of its members (Van Lente et al., 2003; Dalziel & Yao, 2010; Howells, 2006). In that sense, from the perspective of open innovation, a new role for BAs emerges, which goes beyond the mere representation of interests of its affiliated companies (ACs).

However, although associations promote innovation, these types of organizations suffer from invisibility in the academic and professional spheres (Dalziel, 2006). This lack of recognition is due to the fact that it is a type of institution that is scarcely analyzed, both theoretically and empirically (Dalziel, 2006; 2007; Marques, 2017). In response to this gap between the benefits of these organizations and their lack of academic knowledge, our research team¹ has been investigating these agents since 2013, under a research line framed in an Action Research (AR) methodology, through which we work hand-in-hand with associations' managers (called practitioners).

0.2. Research questions and objectives

The general objective of this research is to deepen the understanding of business associations as agents of innovation intermediation for their companies. Therefore, knowing their characteristics, functions, services, capabilities, dynamics, etc., is fundamental for this study. With that in mind, we propose an AR Project with three phases, which have their general and specific questions and objectives as presented in Table 0.1.

¹ The research group is composed by professors from the School of Economics and Business; School of Communication, and Tecnun, School of Engineering of University of Navarra. They are José Antonio Alfaro (coordinator), Mónica Recalde, Mabel Rodríguez, Elena Sanjurjo and me as doctoral student. It is denominated “Innovation decisions in the Business Environment” (<http://www.unav.edu/web/facultad-de-ciencias-economicas-y-empresariales/innovation-decisions-in-the-business-environment>).

Table 0.1. Research questions and objectives of three phases of doctoral thesis

Thesis General Research Question:	<i>What are the characteristics and the dynamic of strategic management of innomediation of BAs with their ACs?</i>	
Thesis General Research Objective:	<i>Understand the features and the innomediation dynamic of BAs with their ACs</i>	
AR project phases	Research Questions	Research Objectives
Phase 1: (Applies for Chapters 0, 1, 2 and 3)	GRQ1.0: What are the concepts and models that support the dynamic of innomediation of BAs?	GRO1.0: Establish the main concepts and models that support the dynamic of innomediation of BAs
	SRQ1.1: What concepts and models of strategic management are needed to understand the innomediation of BAs?	SRO1.1: Define the concepts and models of the strategic management needed to understand the innomediation of BAs
	SRQ1.2: What concepts and models of innovation and creativity are required to understand the innomediation of BAs?	SRQ1.2: Propose the concepts and models of the innovation and creativity required to understand the innomediation of BAs
	SRQ1.3: How has the role of BAs changed from a representative activity to an innomediation activity?	SRQ1.3: Describe the transformation of the role of BAs that has allowed them to move from representation activities to innomediation activities.
Phase 2: (Applies for Chapter 5)	GRQ2.0: What extent and in which way BAs perform the role of innomediation?	GRO2.0: Identify the drivers which make the BAs strategic innovation intermediaries.
	SRQ2.1: What are the functions of BAs as strategic innovation intermediaries of their ACs?	SRO2.1: Identify the functions of BAs as strategic innovation intermediaries.
	SRQ2.2: What are the types of innovation from ACs in which the BAs give support to them?	SRO2.2: Describe the innovation activities from ACs in which the BAs are involved.
	SRQ2.3: What are the specific dynamic capabilities of BAs as intermediaries of strategic innovation process of ACs?	SRO2.3: Identify the BAs' dynamic capabilities as strategic innovation intermediaries of their ACs.
Phase 3: (Applies for Chapter 6)	GRQ3.0: What is the maturity process of the innomediation capacity of a BA?	GRO3.0: Define a maturity model of the innovation intermediation capacity for BAs.
	SRQ3.1: What are the determinant factors of the maturity of innomediation capacity?	SRO3.1: Define the factors that determine the maturity of innomediation capacity of BAs.
	SRQ3.2: What are the maturity stages of these factors?	SRO3.2: Establish the stages of maturity of innomediation capacity of BAs.
	SRQ3.3: How should the maturity of innomediation capacity be evaluated in BAs?	SRO3.3: Design a methodology to assess the capacity of innomediation applied to the BAs.
Note:	GRQ: General Research Question GRO: General Research Objective	SRQ: Specific Research Question SRO: Specific Research Objective

Source: own elaboration

0.3. Thesis structure and research methodology

In order to solve these questions and to reach the objectives, with the support of my thesis director and colleagues of the research group "Innovation decisions in the business environment", I developed this doctoral thesis as it is showed in Figure 0.1.

This research is an AR project with three phases: (1) preliminary, (2) diagnostic, and (3) participative and diagnostic (a deeper one, more specific and less exploratory). Therefore, the first phase is composed by Chapter 1 to 3, second phase by Chapter 5, and third phase by Chapter 6. Chapter 4 explains the methodology, and Chapter 7 presents the general conclusion of this thesis.

Specifically, the first phase has the theoretical framework and it is composed of three chapters. *Chapter 1* is about the internal and external dynamic of strategic management, innovation, and organizational creativity. There, an explanation of the relationship between strategy, innovation, and creativity and their models is presented. It is possible to discover that they have a multilevel interaction to create and capture value for the organization in the short term, to reach an organizational change in the medium term, and to increase the competitiveness of the organization and its industry in the long term.

Chapter 2 is a description regarding our study object, “the business association”. In this section is presented the traditional role of BAs. Thus, it is composed by topics like their definitions, features and emergence, the theoretical background behind them, and their managerial characteristics. In contrast, *Chapter 3* goes beyond of BAs’ traditional role. Therefore, it shows the role as “innovation intermediaries”, thereby associations become relevant agents that facilitate the innovation of their ACs and boost the productivity of the industry. In consequence, they develop new capabilities to offer special functions that change their value propositions.

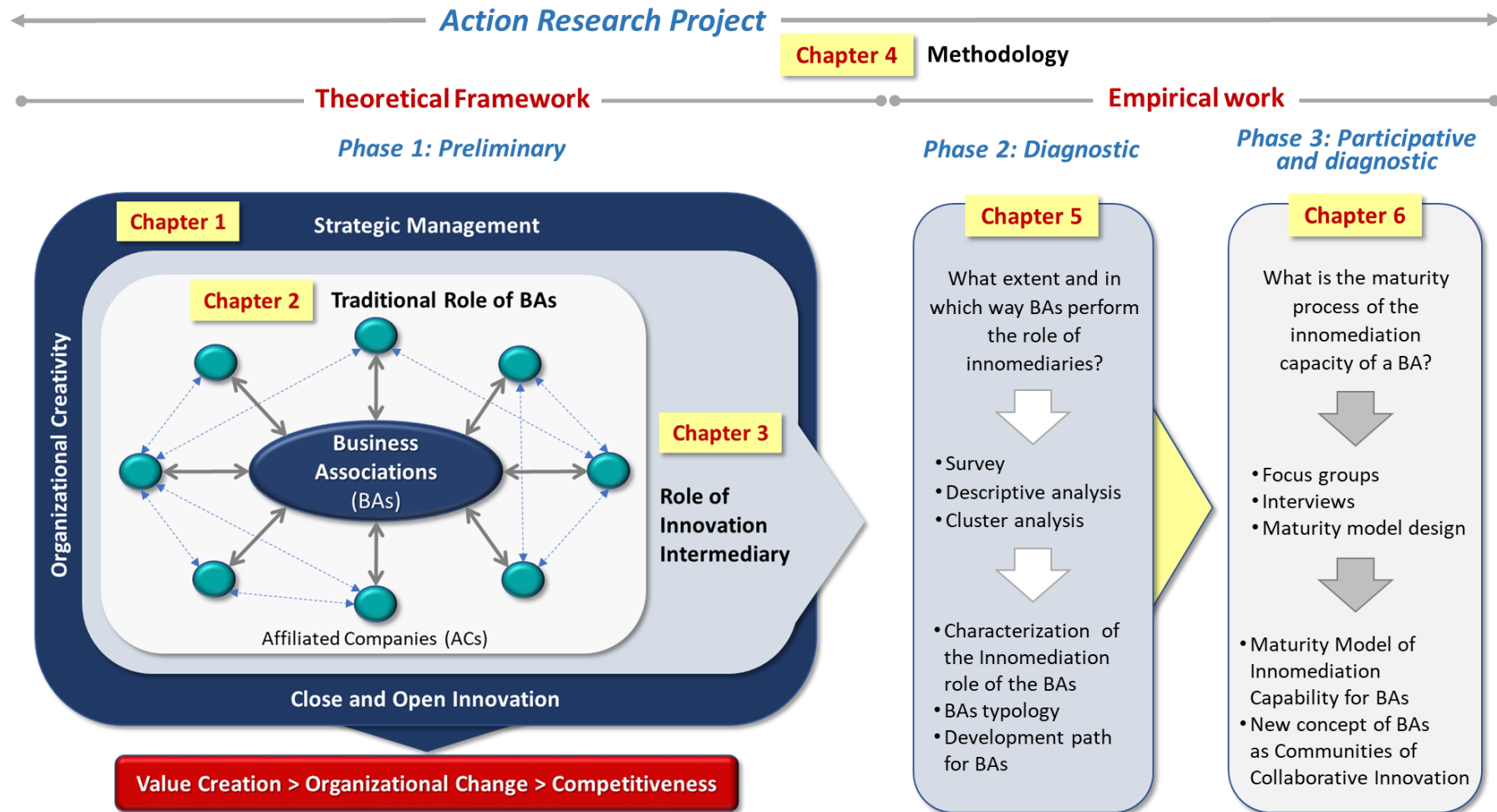
Chapter 4 describes the AR Project methodology which was applied throughout the whole doctoral thesis (see Figure 0.1). It is a participative methodology different to the traditional research because it includes the associations’ managers like “practitioners”, which interact with researchers to obtain academic results and effective solutions for their associations. This AR project has been developed since September 2013 until now. Even it will continue in 2018 with the joint work between Navarra’s associations, new associations that want to enter, and us.

The diagnostic phase of our AR project is presented in *Chapter 5*. There, we show a statistical analysis as a result of a survey of 21 BAs from Navarra. These results allowed to us to characterize the role of BAs as innovation intermediaries, likewise, it allowed to define a typology of associations based on their functions, capabilities and innovations in which they offer support to their ACs.

Chapter 6 explains the participative and diagnostic third phase of the AR project. It describes a complete qualitative process to design a Maturity Model of Innovative Capacity for BAs, which offers a path of growth to associations. This path leads to associations to move from “Representative Role” to an “Innomediation Role”, and after that, to a role of “Community of Collaborative Innovation”. Finally, we present it as a much more advanced concept about associations.

Finally, *Chapter 7* explains the general conclusions of the thesis. Thus, our theoretical and managerial/social approaches about the topic of BAs as innomediarities are clarified and expressed in a concrete way.

Figure 0.1. General structure of the thesis



Source: own elaboration

0.4. Thesis contributions

This doctoral thesis offers contributions in two aspects: academic and managerial / social. As academic contribution, we present a theoretical framework that enriches the literature on innovation intermediation thanks to an exploration on strategic management, open innovation, and organizational innovation and creativity fields. The integration of these topics represents a novel cross fertilization between these three disciplines. As an example, we propose *The Multilevel and Interactive Model of Innovation and Creativity (MINC)*, which is a frame to understanding the dynamics of strategic innovation intermediation of the association at different levels. Likewise, we propose a new definition of BA as innomediary that we have called "*Community of Collaborative Innovation*".

This research contributes to the understanding of the problematic of the associations identifying different sources of confusion and invisibility of their important role in the industry. Another contribution corresponds to the clarification of various economics and social definitions of management and governance of BAs, and specific concepts to their innomediation activity (e.g., their value proposition, competitive advantage, functions and capabilities).

The AR project as the methodology of this study represents another academic contribution and a novel aspect of it, because it brings together practitioners (managers) and researchers to investigate in parallel to solve problems of associations. Therefore, the research group and the practitioners grow and co-evolve together, in a formula where both university and association act as intermediary for the other and enhance their situation at the regional level.

Along the thesis, many products have been developed (see Table 4.4). These include seven academic papers (one published, one under review and five in development), one book, one book chapter (awarded by ICSC²), five international conferences and six national conferences. These products have nurtured and dynamized our research group "*Innovation Decisions in the Business Environment*". Even, this has driven a joint work with the group "*Communicative innovation in institutions*" (INCOMIN) from School of Communication of our university at the project "*Relational management with stakeholders in collaborative innovation processes in the company*". Likewise, this work has impacted the research group "*Innovation and strategy*" from EICEA³ at University of La Sabana (Colombia), where I work as professor. Besides, this research has allowed us to develop specific studies like the paper "*ECO-labels as a multidimensional research topic: Trends and opportunities*" (Prieto-Saldoval et al., 2016) and the conference paper "*The growing acceptance of eco-labeling: an empirical analysis in Spain*" (Prieto-Sandoval et al., 2017) where we contributed

² The original paper was the big question in creativity "What might be the design of a new generation of innovation models?" (Mejia-Villa, 2016), which was awarded in 2017 by the International Center for Studies in Creativity (ICSC) from Buffalo State, SUNY, as one of the best big questions in creativity 2013-2016 (Mejia-Villa, 2017).

³ EICEA: Escuela Internacional de Ciencias Económicas y Administrativas

with the eco-innovation perspective and methodology in a joint work with the Department of Industrial Management from Tecnun, School of Ingeneering of our university; and also, the study "*Desarrollo del Eje Atlántico: impacto en el empleo de Navarra*" (Observatorio Navarro de Empleo, 2015) in which we contribute with our experience about business associations and industries in the region.

On the other hand, this thesis has allowed the development of one short research internships in Colombia (Pontifical Javeriana University) and a long research internship in United State (International Center for Studies in Creativity - ICSC, Buffalo State, SUNY). Also, some meetings with professors from the Università Carlo Cattaneo - LIUC (Italy) to develop a joint paper and a future research project.

On the managerial / social side, this thesis has proposed different things. For example, two management models that will allow to association's managers develop a management of innovation intermediation much more effective. The first is *The Innomediation Model*, an innovation process based on Creative Problem Solving (CPS) process that helps the association to creatively solve a problem or seize an opportunity for and with their ACs. The second is *The Maturity Model of Innovation Intermediation Capacity for BAs (MMIIC)* that represents an evolutive sequence of stages of maturity to develop the innomediation capacity of BAs. Thus, the first one is for the daily activity of BA's innomediation and it is designed for personal, team work and organizational levels. The second model is developed for a long-term management, more strategic, for diagnostic and planning tasks. This is designed for organizational and the inter-organizational levels.

Other kind of contributions were the different workshops developed with the association's managers, because there we taught the key concepts identified in the literature, and we presented the findings of the second and third phases of the AR project. Likewise, our book "*Las asociaciones empresariales como motores de la innovación estratégica en las empresas*" (Alfaro et al., 2017) synthesizes a big part of these teachings and therefore, it was not only an academic product, but also a managerial product for them.

During 2015 and 2016, we develop the project "*Las asociaciones empresariales como agentes impulsores de la innovación estratégica en las empresas de Navarra: análisis y propuestas de mejora*" which was funded by Fundación Caja Navarra. This allows us to undertake the second phase of the AR Project and to impact positively the region, since we worked hand in hand with 21 Navarra's associations belonging to 15 different industries.

Chapter:

1. Strategy, Innovation and Creativity

“Most of us understand that innovation is enormously important. It's the only insurance against irrelevance. It's the only guarantee of long-term customer loyalty. It's the only strategy for out-performing a dismal economy”

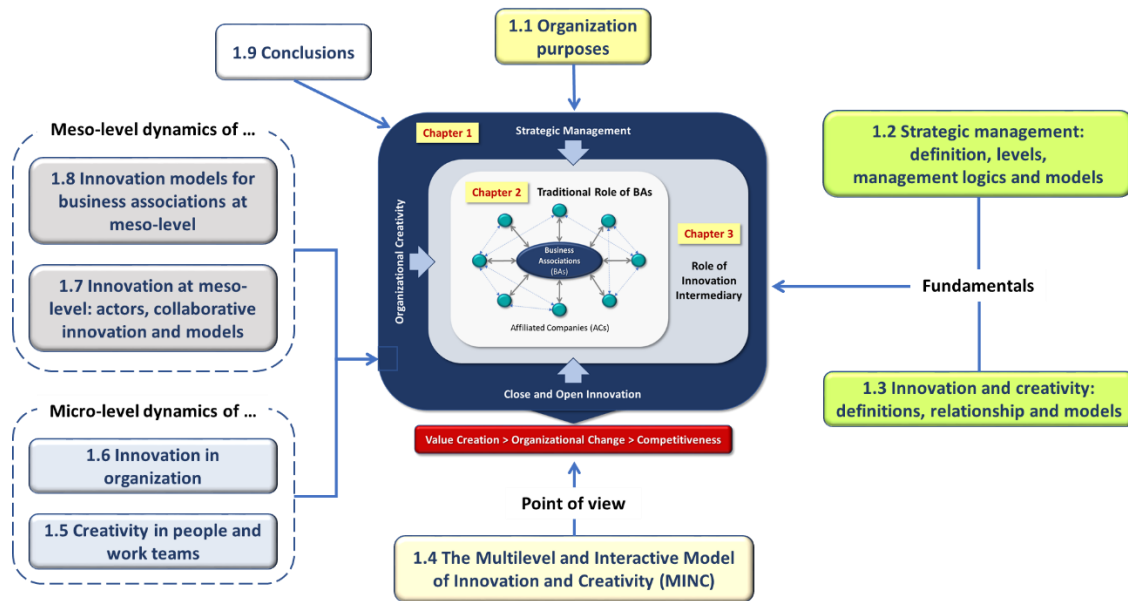
Gary Hamel
Business thinker

This first chapter pretends to introduce the answer to the general research question GRQ1.0 raised by the Phase 1 of this thesis (see Table 0.1): *“What are the concepts and models that support the dynamic of innomediatioon of business associations (BAs)?”*. Therefore, this chapter answers the two first specific research questions SRQ1.1 and SRQ1.2: *“What concepts and models of strategic management are needed to understand the innomediatioon of BAs?”*, and *“What concepts and models of innovation and creativity are required to understand the innomediatioon of BAs”* respectively.

According to the above, in this chapter we present a theoretical and conceptual framework on strategic management, innovation and organizational creativity that enables a deep understanding about the dynamic of strategic management of innovation in which BAs and their affiliated companies (ACs) are immersed. For this reason, as shown in Figure 1.1, the chapter begins with section about a definition of the general purposes of any organization. Then, through second and third sections, it presents the fundamentals behind strategic management, innovation and organizational creativity. At these sections, not only are presented their definitions, but also the relationship between them and the key concepts of “management logics”.

In the fourth section, we propose the MINC model that reflects our integrative, multilevel and interactive viewpoint to understand strategy, innovation and creativity. Then, in sections five and six we describe the dynamics of creativity and innovation at the micro-level, it means to describe the creative and innovative process at person, team work and organizational levels. Then, the seventh section describes the dynamics of innovation at meso-level, where the definition of the actors involved in it, collaborative innovation, and the systemic, evolutionary and milieu models generate a broad and flexible view on the subject. In section eight we present two complementary models to understand innovation at the meso-level of associations and their members, they are: games of innovation and innovation communities. Finally, we present the chapter conclusions.

Figure 1.1. Focus of Chapter 1



Source: own creation

For the accomplishment of this chapter, we articulate mainly three investigations developed during the doctoral studies (see Table 4.4, Chapter 4). The paper entitled "*Strategic Management Models and Management Logics: an integrative typology*" (Mejia-Villa et al., 2016b); the book chapter "*What Might Be the Design of a New Generation of Innovation Models?*" (Mejia-Villa, 2016, 2017); and the first two chapters of our book "*Las asociaciones empresariales como motores de innovación estratégica en las empresas*" (Alfaro et al., 2017). Likewise, we use sections of the paper in development "*PR as enablers of creative and innovation process: A multilevel proposal*" (Recalde & Mejia-Villa, 2017) and also, sections of the following conference papers: "*Modelos de dirección estratégica: Entre la lógica directiva y la complejidad del entorno*" (Mejia-Villa et al., 2014); "*The role of Industry Associations as drivers of strategic management of innovation in industry*" (Mejia-Villa & Alfaro, 2015); "*Analysis of the role of IAs as strategic innovation intermediaries: an empirical study in Navarra, Spain*" (Mejia-Villa et al., 2016a).

The knowledge articulated in this Chapter was identified and analyzed with the use of the following research methodologies and techniques (see Table 4.2): *Literature Review* (Adams et al., 2007; Webster & Watson, 2002); *Systematic Literature Review* (Keupp et al., 2012; Thorpe et al., 2005; Tranfield et al., 2003; Clarke & Oxman, 2001) specially used in the identification of strategic management models - SMMs (Mejia-Villa et al., 2016); *Content Analysis* (Krippendorff, 1989; Duriau et al., 2007) to analyze different papers to build this theoretical framework; *Constant Comparison Analysis* (Glaser et al., 1967; Leech & Onwuegbuzie, 2007) to describe the SMMs; and *Investigator Triangulation Technique* (Denzin, 1978; Jick, 1979) to contrast those SMMs. Additionally, *Creative Problem Solving – CPS* (Puccio et al., 2011, 2012) was used like guide to design our Innomediation Model (Annex 2 or Chapter 10 from our book Alfaro et al., 2017).

1.1. Purposes of the organization

Traditionally it has been stated that the purpose of a company is to generate returns above its costs, expenses, and investments. For this reason, the profitability has become a classic indicator for measuring this purpose. However, the simplicity of the formulas of profitability (e.g., ROS, ROE, EBITDA, etc.) and the sources of information for calculating them imply serious difficulties, which represent “myopic” strategic analyzes for companies. Generally, the profitability is calculated with accounting information that does not differentiate between cash movements and accounting. Therefore, profitability calculations do not represent cash flow movements. On the other hand, this information arises from partial results focused on the short term, so they do not reflect the situation of the company's trajectory. Additionally, these are indicators formed by company-specific situations and do not take into account the influence of the environment. Likewise, they do not consider the opportunity costs of investors, forgetting the multiple investment options that they have in the markets. Finally, profitability considers only the economic vision of the company and leaves aside the purposes of all the company's stakeholders (e.g., employees and their families, suppliers, customers, etc.). In conclusion, companies are complex and their purposes cannot be simplified to their economic situation, in the short term and in isolation to their context (Alfaro et al., 2017).

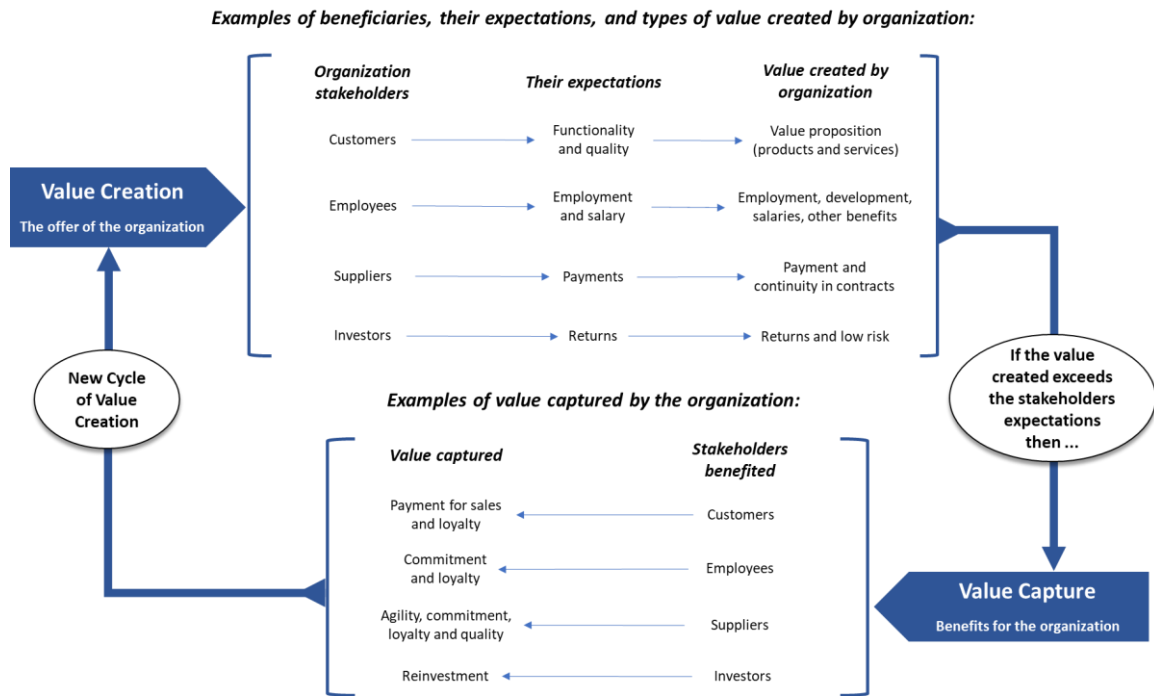
On the other hand, if we broaden the focus and refer to organizations in general, as well as for-profit companies and non-profit institutions (e.g., NGOs, foundations, cooperatives, and associations among others), it is necessary to raise broader and higher purposes, which include not only the economic dimension but also the social and the environmental dimension (Alfaro et al., 2017).

In this sense, according to Levy (2013, p.32) "value creation (understanding "value "in the broadest possible sense) is the "reason for being" or the "ontological restraint" or the fundamental propose, and “sense of existence”. Thus, the organization has the general purpose of creating economic and social value, which implies for the organization to generate and deliver benefits that exceed the expectations, contributions, efforts, investments, and payments made by its different interest groups (internal and external stakeholders). However, the organization should not only "create value", but also "capture value", which means receiving returns or benefits as a reward for having delivered value to its stakeholders (Lepak et al., 2007). That is, the organization creates value to obtain different types of benefits, as shown in Figure 1.2.

This process of creation and capture of value generates impacts in the medium and long-term. Thus, when the organization increases its competitiveness, this increases the level of competitiveness of its sector and region. Therefore, Carayannis and González (2003, p. 588) explain that “competitiveness is the capacity of people, organizations, and nations to achieve superior outputs and outcomes, and in particular to add value while using the same or lower amounts of inputs”. Thus, the continuous process of creation and capture of value in the organization has

positive effects on different levels: the people in the companies, the organizations in their industrial sector, region and country.

Figure 1.2. Dynamic of value creation and capture



Source: own elaboration

According to the above, a series of questions arise for the management of firms and non-profit organizations. For example, how should an organization create and capture value?, what kind of value should it create and how should it be captured?, who should create value?, who is responsible for creating and capturing value?, and who should guide and drive this dynamic?. Strategic management has clear answers to these questions. Next, we will present what it consists of and how it develops.

1.2. Strategic Management

Strategic Management is a developing field of knowledge that has had a maturity process of approximately fifty years (Azar & Brock, 2008; Boyd et al., 2005; Herrmann, 2005; Rumelt et al., 1994). According to Nag et al. (2007, p. 944), “the field of strategic management addresses the major intended and emergent initiatives taken by general managers on behalf of owners, involving utilization of resources, to enhance the performance of firms in their external environments”.

In this field, two issues have been relevant along this time, the concept and process of strategy. On the one hand, there have been many definitions of strategy but none as broad as that presented by Mintzberg (1987) and denominated as the 5 P's of the strategy. This states that the strategy can be understood as a plan, a pattern, a position, a perspective and a ploy. On the other side, there has been a great interest in defining the best process to formulate and implement the strategy.

Therefore, various ways of developing the strategy have been explored and deliberate and emerging processes have been defined to do this (Mintzberg et al., 1998). In consequence, Hax and Majluf (1988, p. 102-103) point out that “it is impossible to comprehend the difficulties encountered in the formulating and implementing strategy if one ignores the fact that the concept of strategy and the strategy making process are a reality inseparable in any actual organizational setting”.

Understanding strategic management is important for any type of organization because it defines the direction of it, and the focus towards the creation and capture of value as a general purpose. To achieve this, the organization must develop a strategy on three levels: the corporate, the competitive, and operational or functional. Likewise, the strategy consolidates all the efforts that are made in the organization, such as the efforts in innovation.

1.2.1. Levels of the organizational strategy

In practice, defining the strategic direction of the organization entails thinking at several levels of the strategy. Schendel and Hofer (1979) proposed the corporate level, the competitive or business unit level, and the functional or operational level. The corporate level corresponds to the highest-level decisions, which must answer the questions, where and how should the organization grow? The competitive level refers to the decisions related to the question how are we going to compete where we have decided to grow? Finally, the functional level of the strategy responds to the question, how will we function to grow and compete?

At the *corporate level*, there are decisions regarding various aspects. One of them is the "organic" growth, related to the own growth that is achieved through the expansion of markets and the increase in sales. At this point, the Product - Market Matrix proposed by Ansoff (1965) presents four possible growth options: the penetration strategy, the product development strategy, the market development strategy and the diversification strategy. From another perspective, the organization can also grow through the acquisition or merger with other organizations, or it could decrease by the sale or excision of a part of it. Another aspect of this level refers to decisions associated with geographic growth: at regional, national, international, multi-local or global levels (Duarte & Camarero, 1995).

With regard to "how to grow", corporate strategy can decide between multiple business models. Osterwalder and Pigneur (2010) present some possible types of these, such as: Unbundling Business model, the Long Tail model, the Multi-Sided Platform, the "Free" model, and the Open Business model.

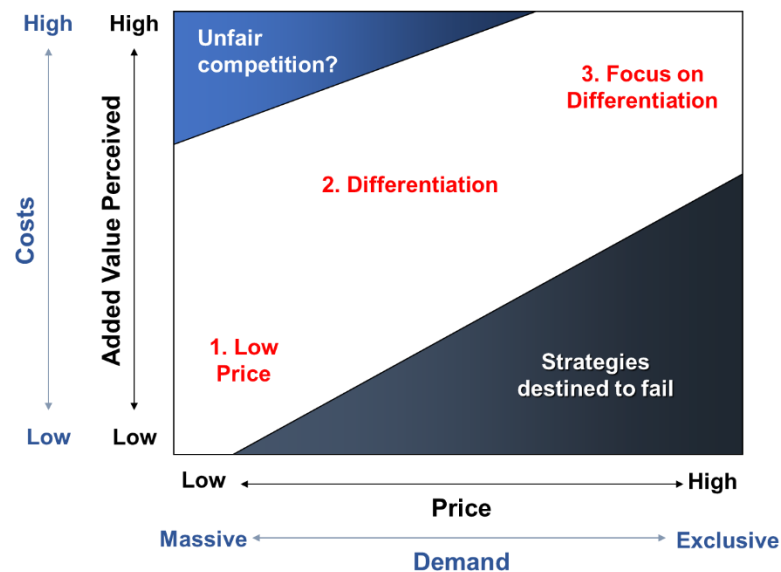
These models not only take into account competitive relations among organizations, but also cooperative relationships. Thus, decisions regarding the development of alliances, clusters, associations, confederations, consortiums, joint-ventures, franchises, networking, and licensing

among others correspond to this corporate level (Alfaro et al., 2017). In consequence, many organizations choose the strategy of “coopetition”, term coined by the founder of Novell, Ray Noorda in 1980s, to describe the simultaneous pursuit of cooperation and competition by firms (Afuah, 2000; Ketchen et al., 2004; Zhang & Frazier, 2011).

Finally, the corporate strategy can also be found in the integration of the organization with the companies of its industry and sector. Thus, when integration is with organizations of the same value system, then there will be vertical integration backwards or forwards. Whereas if there is integration with organizations that perform the same work, in the same chain link, then there will be horizontal integration.

The objective of the *competitive strategy* is the definition of the value proposition of the organization. According to Kaplan and Norton (1997) the value proposition describes the unique combination of product, price, service, relationship and image that a company offers to the target customer. The value proposition must communicate what the company expects to do better for its clients, or what it wants to do differently for them.

Figure 1.3. Competitive strategies



Source: own elaboration based on “the watch of the strategy” by Bowman and Faulkner (1997)

For this purpose, the organization must define the combination of price and perceived added value (quality, guarantee, functionalities, availability, agility in service, etc.) that it wishes to offer its clients, according to the resources and capacities with which account. This combination must be concretized in a competitive strategy similar to the generic strategies proposed by Porter (1980): strategy of leadership in costs, differentiation and market segmentation or approach. Figure 1.3, based on “the watch of the strategy” (Bowman & Faulkner, 1997), presents possible competitive strategies and their parameters. Thus, every decision will always be a combination of perceived value added and price, which has an impact on the costs and demand of the product or service. It

is important to note that the path of successful strategies is established by the three strategies named above.

The competitive strategy must be consistent with the corporate level, therefore, the value proposition designed here focuses on competing and cooperating in the markets and products previously defined in the corporate strategy.

After being clear on how and where to grow, and how to compete, it is necessary to define how it will be achieved. In response, the *functional or operational strategy* raises the process, the actions to be performed, the times and those responsible for carrying them out (Schendel & Hofer, 1979). At this level, the functional areas of the organization (human resources, systems, marketing, finance and accounting, production, logistics, etc.) are responsible for realizing the two previous levels of the strategy, which until now have only been ideas and approaches. At this level, leadership is vital to start the activities and continue with constant support that allows the various teams to learn from experience, mistakes and successes. At the same time, management's monitoring and evaluation activities are vital.

In summary, firms and non-profit organizations (in our case BAs) raise aligned strategies for each level, with the proposal to create and capture value through internal and external actions in a competitive and/or cooperative frame.

1.2.2. Management logics and strategic management models (SMMs)

In the heart of the strategy formation is the manager (or management team) and his/her initiatives, which respond to a management logic (intuitive or rational) that provides a sense of unity, direction and purpose, and facilitate the changes induced by the environment (Hax & Majluf, 1988). In the case of BAs, it means that strategies to create and capture value depends on the management logic of the board of directors and the manager, which implies the alignment of the logic of both, and additionally, that this is according to the environmental challenges.

Dijksterhuis et al. (1999, p.570) define the management logics as “sets of macro-level beliefs and values that strongly influence management practice and theory”. Thus, these management logics influence the ways of understanding the management, strategic process, the organization and its internal and external environment. Therefore, managerial action depends on, relates to and develops in parallel with their environment. For this reason, it is possible to use the concept of “co-evolution” which refers to the combined results of managerial intent (Daft & Lewin, 1990; McKelvey, 1997) and the effects of the environment. However, the context not only influences the way to understand the direction and organization design, but also (specifically the management and type of organization) triggers the emergence of new challenges in the business environment (Dijksterhuis et al., 1999). In summary, the management logics generate different approaches,

interpretations or perspectives that define the style and ways of leading and manage the organization in tune with their business environment.

The four management logics behind the strategy

According to the above, Mejia-Villa et al. (2016) propose four management logics based on Dijksterhuis et al. (1999), and Torres and Mejia-Villa (2006), which are: *Productivity logic*, *Alignment logic*, *Processes logic*, and *Complex Networks logic*. Table 1.1 shows their fundamentals, authors, and their different approaches about the management, the strategic process, the organization and the environment. Under one or several of them, a manager or the management team will define the organizational strategic management. Consequently, the specific objectives, the approach to levels of strategy, the type of strategic process, the strategic tools, etc. will change because the analysis and formulation will be different in each case. In Annex 1, we will briefly explain what each one consists of (to see the full explanation see Mejia-Villa et al., 2016).

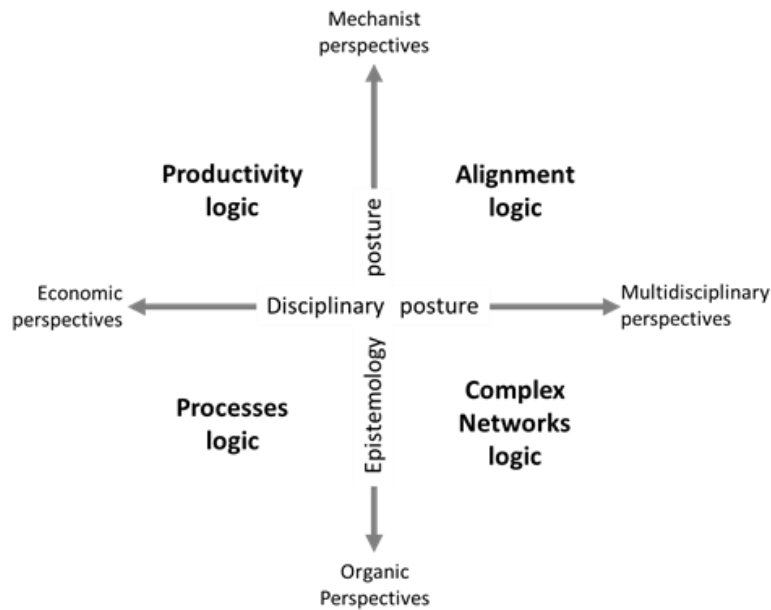
According to Mejia-Villa et al. (2016) the approaches of four logics emerge from two criteria (Figure 1.4). The first one is the epistemology posture, whereby Productivity and Alignment logics have a mechanistic perspective. Their assumptions about organizations are underpinned by the objectivity of reality, the causal relationships of facts, and human behavior, which is considered to be determined by external circumstances (Jackson, 2000). As a consequence, the process is seen as linear and time is not important. In contrast, as organic perspectives, Process and Complex Network logics share a subjective view about organizational reality. Organizational life is interpreted in different ways by the members of the organization. The creation of the organizational knowledge and reality will be the result of an attempt to understand the point of view of organizational members (Jackson, 2000). The second criterion is the disciplinary posture. It could be narrowed to technical and economic factors as occurs with Productivity and Processes logics (Whittington, 1993). Conversely, manager intention from Alignment logic and Complex Networks logic could be broad when taking into account factors of multiple disciplines to make a decision or to define relations in organizations.

Table 1.1. Synthesis of management logics

Variables	Productivity logic	Alignment logic	Processes Logic	Complex Networks logic
Theoretical and conceptual basis	Scientific management, classical management theory, classical economic theory, bureaucratic theory, and first wave of strategic management	School of human relations, organizational theory, contingency theory and Porter strategy proposal	Evolutionary economics, logical incrementalism, resources based view, economy of innovation, bounded rationality, behavioral theory of the firm.	Neo-institutionalism theory of economics and organizations, complexity science, political science, knowledge management, dynamic capabilities, cognitive psychology, creativity discipline, design thinking.
Authors	Taylor (1914); Fayol (1916), Weber (1947), Chandler (1962), Learned et al., (1965), Ansoff (1965)	Mayo (2003), Simon, (1947), Woodward (1958), Burns & Stalker (1961), Porter (1980, 1981)	Penrose (1959), Cyert & March (1963), Nelson & Winter (1982), Mintzberg & Waters (1985), Quinn (1980), Wernerfelt (1984), Whittington (1993)	Eisenhardt (1989), Holland (1995), Stacey (1996), Weick, (1995), Teece et al., (1997), Brown & Eisenhardt (1998), Choo, (2001), Chesbrough (2003), Xu & Rickards (2007), Brown (2008), Verganti (2009), McCracken (2009)
Rationality concept	Technical rationality	Organizational rationality	Substantial and historical rationality	Substantial and interpretative rationality
Managerial approach	Planning, organizing, directing and controlling. Division and specialization of labor. Profit maximization.	Collective unlimited rationality cover by prediction and planning systems, not by flexibility. Alignment between strategy and structure. Coordination, rules and procedures.	Learning perspective to define strategies. Processes of innovation, change and adaptation. Configuration of capabilities, routines and procedures. Managerial paths.	Management is a social contract of cooperation to integrate individual knowledge, skills, insights and interpretations. It is based on science of complexity, culture and symbolic management, dynamic capabilities of strategy perspective, narrative perspective, innovation management, organizational creativity and knowledge management.
Strategic process approach	Focus on planning and control. SWOT analysis. Process by stages is centralized in analysis.	Alignment of strategy and structure. Strategy of positioning. Generic strategies.	Incremental formation of strategy. Constantly adjusted by feedbacks. "Natural" selection of strategies. Strategic management of innovation	Handling of meanings and construction of shared symbols, experiences and cultural knowledge. Creating change. Organized chaos. Strategic improvisation. Creative problem solving that uses thinking and affective skills. Open strategy and innovation
Organizational approach	Rational system. Closed system. Bureaucratic system.	Closed / open system. Organizational coordination. Multidisciplinary perspective.	Open System. Coordination routines. Adaptation and selection. Organization with capabilities like its sources of competitive advantage.	Complex adaptive system. Interactive, iterative and emergent. Decentralized and simple structure. Autonomy.
Metaphor of the organization	Organization as 'Machine' (transforms resources in specific products).	Organization as "social machine", which tries to survive adapting to a better position.	Organization as "alive organism" with the ability to adapt and respond to external stimuli.	Organization as "Carnival", which has the ability to create a space for creativity and innovation that enables strategic improvisation
Approaching to the environment	Static and predictable	Changing but predictable	Changing and not predictable	Volatile, uncertain, complex, ambiguous and hypercompetitive

Source: Mejía-Villa et al. (2016)

Figure 1.4. The Management Logics



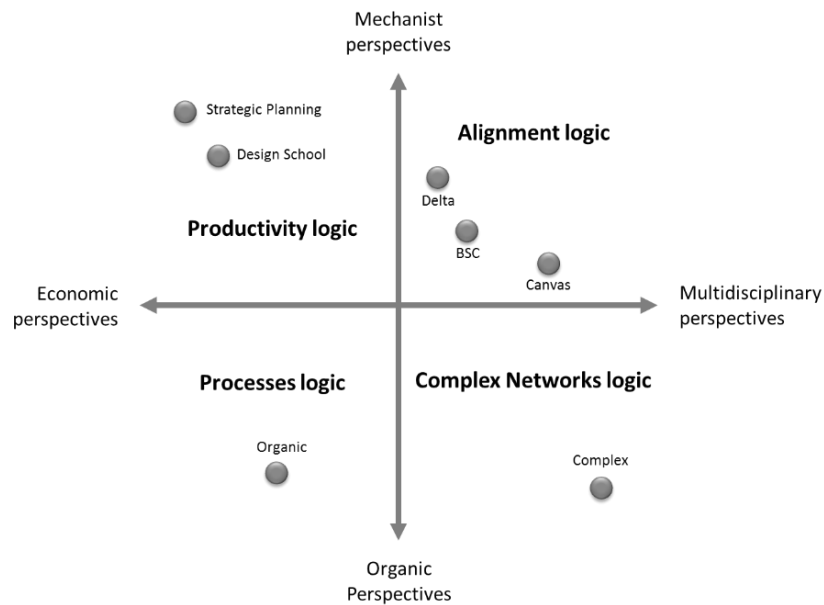
Source: Mejia-Villa et al. (2016)

The Strategic Management Models (SMMs)

As we saw earlier, the management logics guide the intention behind strategic decisions. However, these need to become reality in the day to day of the organization, for that reason, the managers implement strategic processes. Thus, Mejia-Villa et al. (2016) explain that strategic processes represent different ways of strategy formation, i.e., formulating, implementing and changing strategy (Chakravarthy & White, 2002). Likewise, they point out that these processes have been synthesized through strategic management models (SMMs) that try to explain features of them such as activities, phases, information flows, and logical direction, among other issues (Van de Ven, 1992; Frigg & Hartmann, 2009). In consequence, Mejia-Villa et al. (2016) identified seven SMMs in the academic literature: (1) Strategic planning, (2) Design school model, (3) Business model canvas, (4) Organic model, (5) Model of the complex strategy process, (6) Delta model, and (7) Balanced Scorecard -BSC- and its strategic maps. Their explanation is synthesized in Table 1.2.

This means that exist different ways to develop the strategy to create and capture value in an organization, through which the managers reflect about the economic and social environment situation, they take decisions and they translate them into practical actions. For this reason, Mejia-Villa et al. (2016) point out these seven SMMs have a direct relationship with the four management logics, therefore they group the models into the logics as shown in Figure 1.5. In that sense, *Strategic Planning* and *Design School* models belong to Productivity logic; *Delta Model*, *BSC and its Strategic Maps*, and *Business Model Canvas* are grouped in the Alignment Management logic; the Organic model is in the Processes logic; and the *Model of The Complex Strategy Process* belongs to Complex networks logic. For a better understanding of this topic see Annex 1.

Figure 1.5. Classification of Strategic Management Models (SMMs)



Source: Mejia-Villa et al. (2016)

In summary, the SMMs respond to a specific management logics from managers, who adjust and change them as a response to the environment complexity and dynamism. For example, they can pass from Strategic Planning to Canvas model, or from BSC to Organic model. Therefore, it is possible to argue that the organization, the management logics, the strategy and the environment co-evolve along the time. Thus, this approach argued by Mejia-Villa et al. (2016) question us regarding what is the best strategic management model required for a BAs? and what factors influence the definition of that model? We think that the key to giving an answer to these questions is related to understanding the environment. Therefore, today in the middle of the change, the models based on logics of Processes and Complex Networks are more necessary than ever, because they use innovation and creativity to face the uncertainty, while the other models and logics do not use them due to their underlying assumptions. In consequence, through next sections, we will explain the dynamic of creativity and innovation as important strategic issues to answer these questions.

Table 1.2. Synthesis of Strategic Management Models (SMMs)

Variables	1. Strategic planning	2. Design school	3. Business model canvas	4. Organic model	5. Model of the complex strategy process	6. Delta model	7. BSC and its strategic maps
Base discipline	Some links to engineering, urban planning, systems theory, cybernetics	None (architecture as metaphor)	Information systems and industrial design	New ideas in natural and social sciences. Organic developments in strategy. Some mechanistic ideas.	Complexity theory	Micro-economics (industrial organization) and evolutionary economics. It is a reinterpretation of Porter's thought.	Micro-economics and corporate finances
Authors	Ginter et al. (1985); Blair & Boal (1991); Hoffman et al. (1991); Schäffer & Willauer (2003); Bracker & Kinicki (1988); Chon & Olsen (1990); Mintzberg et al. (1998); Mintzberg & Lampel (1999)		Osterwalder & Pigneur (2013); Osterwalder (2004); Osterwalder and Pigneur (2010)	Farjoun, M. (2002)	Pina e Cunha & Vieira da Cunha (2006)	Hax & Wilde (1999); Hax & Wilde (2001); Hax (2010)	Kaplan & Norton (1996a, 1996b, 2000, 2004a, 2004b, 2007); Munive-Hernandez et al. (2004)
Strategic process	<ul style="list-style-type: none"> - External and internal analysis - Mission, objectives and politics - Long-term, middle-term and short-term programming - Plan execution - Evaluation 	<ul style="list-style-type: none"> - External and internal analysis - Creation - Election and Strategy implementation 	<ul style="list-style-type: none"> - Environmental Analysis - Forecasting future scenarios - Prototyping of business model. - Definition of current model. - Adaptation of current business model. 	<ul style="list-style-type: none"> - Formulation based on the exploration of problems, analysis and evaluation, negotiation and invention - Implementation with feedback, learning and emerging strategies 	<ul style="list-style-type: none"> - Definition of minimal structure and simple rules of action - Implement the strategic improvisation and turn it into a dynamic capability - Ensure rapid learning processes - Constant generation of creative strategies 	<ul style="list-style-type: none"> - Analyzing industry - To decide the relevant strategic positioning - Focused on: operational effectiveness, customer and Innovation - Performance measurements for the strategy. - Experimentation and feedback 	<ul style="list-style-type: none"> - Definition of mission, vision and values - Definition of the strategy and its map - Definition of the BSC, indicators and initiatives - Definition of personal goals - Evaluation of strategic results
Emphasis on the process	Analysis stage, formulation and budgeting	Analysis stage and simple and particular formulations	Analysis of the current environment and anticipating the future. Design and prototyping. Participation and verification.	Continuity of the process, feedback, learning and integration process	Definition of a minimal structure that allows the constant improvisation of creative strategies	Determining one of the three strategic options, developing capabilities	Definition of mission, vision, objectives, indicators, initiatives and their consistent alignment
Process objective	Profit maximization	Profit maximization	Creation, proposal and capture value	Improving the quality of the continuous alignment of the company with its environment in the short and long term.	Take advantage of flows of environment opportunities and constantly adapt	The creation of economic value = superior and sustainable financial performance, measured in long-term profitability.	Creating long-term value for shareholders (productivity and growth)
Organizational approach	Closed and bureaucratic system	Open and bureaucratic system	Open system constantly reconfigured	Organization that co-evolves with the environment. Its strategy affects the environment	Complex adaptive systems interactive, iterative, emergent, and self-organized with simple rules that co-evolve with their environment	Organization develops capabilities and has the best talent to understand its industry. This seeks to adapt to the environment, thereby developing measurement and constant feedback.	Open system and bureaucratic
Environmental approach	Static and predictable	Static and predictable	Dynamic and moderately predictable	Dynamic and uncertain	Turbulent, hypercompetitive, complex, unpredictable.	Dynamic and unpredictable	Dynamic and predictable

Source: Mejía-Villa et al. (2016)

1.3. Innovation and organizational creativity

The organization uses strategy to achieve its purposes and guide its movements in the environment around it. Currently, this context is called "VUCA" environment because it is characterized by volatility, uncertainty, complexity and ambiguity (Lawrence, 2013). Under these conditions, long-term planning based on a Productivity logic does not work, and models based on Alignment logic are not the best options. For these circumstances, organizations must be agile to change and adapt to the environment using concepts, models, and tools from the creativity and the innovation fields.

The above mentioned highlights a very close relationship between strategy and innovation. For this reason, Keupp et al. (2012, p.367) expressed that "firms can use innovation strategically in order to achieve competitive advantage (Hitt et al., 1998; Ireland & Hitt, 1999), compete effectively in local and global markets (Subramaniam & Venkatraman, 1999), adapt their strategy to changing market and customer demands, create value and growth (Amit & Zott, 2001) and achieve superior performance (Grimm & Smith, 1997; Lee et al., 2000; Roberts, 1999; Zahra et al. 2000)". Therefore, it is possible to talk about the strategic management of innovation as a concept which, according to Keupp et al. (2012, p.367), "represents an important component of a firm's strategy (Hamel, 2000) and a major contributing factor to a firm's competitive advantage (Elenkov & Manev, 2005; Lengnick-Hall, 1992; Porter, 1985). Consequently, it has become a central topic within the strategic management field (e.g. Herrmann, 2005; Nag et al., 2007)".

Due to the importance of innovation in strategic management, we based on our study Mejia-Villa (2016) present the foundations, the relationship and the models pertaining to innovation and creativity as complementary disciplines. Predominantly, the literature has defined creativity as the generation of novel and useful ideas, while innovation has been conceived as the production of creative ideas, which is followed by implementation (Amabile, 1996; Shalley & Zhou, 2008; West & Farr, 1990). At the organizational level, creativity is described as "the creation of a valuable, useful new product, service, idea, procedure or process by individuals working together in a complex social system" (Woodman et al., 1993, p. 293). Meanwhile, the first definition of innovation was coined by Schumpeter (1942) who pointed out that innovation refers to novel outputs; a new good or a new quality of a good; a new method of production; a new market; a new source of supply; or a new organizational structure—all of which can be summarized as "doing things differently." According to Crossan and Apaydin (2010, p.1155), innovation is "the production or adoption, assimilation, and exploitation of a value-added novelty in economic and social spheres; renewal and enlargement of products, services, and markets; development of new methods of production; and establishment of new management systems. It is both a process and an outcome"⁴.

⁴ This definition is an abridged version of the current and up-to-date understanding of the concept of innovation as described in the European Commission's (1995) Green Paper on Innovation (pp. 1-2). The

Yet, Anderson et al. (2014) noted the complementary nature of these two constructs. They proffered the following definition: “creativity and innovation at work are the process, outcomes, and products of attempts to develop and introduce new and improved ways of doing things. The creativity stage of this process refers to idea generation, and innovation refers to the subsequent stage of implementing ideas toward better procedures, practices, or products. Creativity and innovation can occur at the level of the individual, work team, organization, or at more than one of these levels combined but will invariably result in identifiable benefits at one or more of these levels of analysis” (Anderson et al. 2014, p. 1298).

According to Mejia-Villa (2016) the above definition is novel because it incorporates interesting aspects of a systematic view. First, it contains the classic four Ps of creativity (person, process, product and press) presented by Rhodes (1961) and their innovation counterparts (people; repeated creative thinking processes; product introduction and implementation of strategies; and internal press of creation and external press of the marketplace) proposed by Vehar (2008). Second, this new proposal is in agreement with the creative change model described by Puccio et al. (2011), a systems approach that highlights a set of variables related to organizational creativity (Puccio & Cabra, 2010). Third, this system’s view approach is also supported by a multi-dimensional (Crossan & Apaydin, 2010) or multi-level view (Drazin et al., 1999; Sears & Baba, 2011) of a creative-innovative process. Finally, the results and benefits of this integrated creative-innovative process are present at all levels (individual, team, organizational, and societal), hence there are partial and final innovation results in each of these levels.

However, according to Mejia-Villa (2016), the Anderson et al.’s (2014) definition does not explicitly consider four relevant topics as seen in the literature review, which is related to a true integration of both concepts:

1. *Big purposes:*

The academic literature positions big purposes in two areas: *competitiveness and organizational change*. As we showed in Section 1.1, competitiveness is a capacity at different levels to achieve superior outcomes and to add value (Carayannis & Gonzalez, 2003). From this viewpoint, creativity, innovation, and competitiveness are operationalized at three levels of integration: creativity functions at the individual or micro-level, innovation functions at the organizational or meso-level, and competitiveness emerges mostly at the national or macro levels (Carayannis & Gonzalez, 2003; Tidd, 2001). Similarly, Sears and Baba (2011) pointed out that “creativity” results from individual innovation, “invention” from group innovation, “adoption” from organizational innovation, and “organizational and technological change” from societal innovation. To be clear, although each level produces its respective outcome, they

original modifier “successful” present in the source was replaced with “value-added” as it would have prevented us from defining innovation ex-ante, before its implementation.

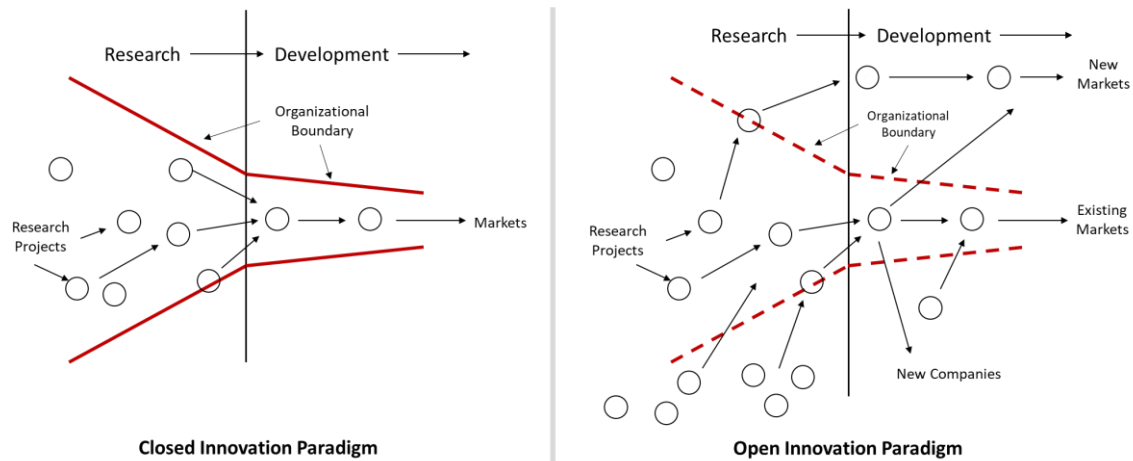
are integrative and serve the general well-being of the economy. Therefore, it is necessary that this definition has a macro purpose—an all-encompassing view.

The second big purpose is organizational change. Creativity and innovation are strategic responses that confront environmental complexity; hence they are considered part of strategic decision making in organizations (Dewett, 2004). Under this perspective, creativity, innovation and organizational change are also integrated. Woodman (2008) presented a domain model under which these concepts are integrated in three concentric circles. In the center is organizational creativity, which is surrounded by innovation; and outside this perimeter is organizational change. In this sense, organizational creativity is innovation; all innovation is organizational change; and consequently, all organizational creativity is also change. In summary, innovation and organizational creativity support organizational change; and this is vital to support the competitive advantage of organizations (e.g., Damanpour & Schneider, 2006; Damanpour & Wischnevsky, 2006).

2. *Open dimension:*

According to Mejia-Villa (2016), the integrative definition by Anderson et al. (2014) does not consider the organizations' relationships with other organizations. Their definition leaves a space available to recognize the inter- and intra-organizational dimensions of these processes (Camisón & Villar-López, 2014). Traditionally, organizations have managed their innovation in a closed way using their own assets and knowledge. This classic model assumes that success requires an internal control of the whole innovative process (Chesbrough, 2003 a, b). In contrast, the open innovation (a term coined in 2003 by Professor Henry Chesbrough) arises as “the use of purposive inflows and outflows of knowledge to accelerate internal innovation, and expand the markets for external use of innovation, respectively” (Chesbrough et al., 2006, p.1). Thus, open innovation entails a new innovation management model that places organizations in a collaborative setting outside their internal boundaries. In this new scenario, cooperation with external agents plays a fundamental role. As we can see in Figure 1.6, this new paradigm assumes that organizations must make use of both internal and external knowledge. Also, they must use the different access ways to the markets to offer their results (Chesbrough et al., 2006). What is more, organizations also need an open strategy, which leads them to make strategic sense of innovation communities, ecosystems, networks, and their implications for competitive advantage (Chesbrough & Appleyard, 2007). In sum, a creative-innovative process requires a closed and open thinking that involve strategy and innovation.

Figure 1.6. Closed Innovation Model vs. Open Innovation Model



Source: Chesbrough (2003 a, b)

3. *Dynamic Interaction:*

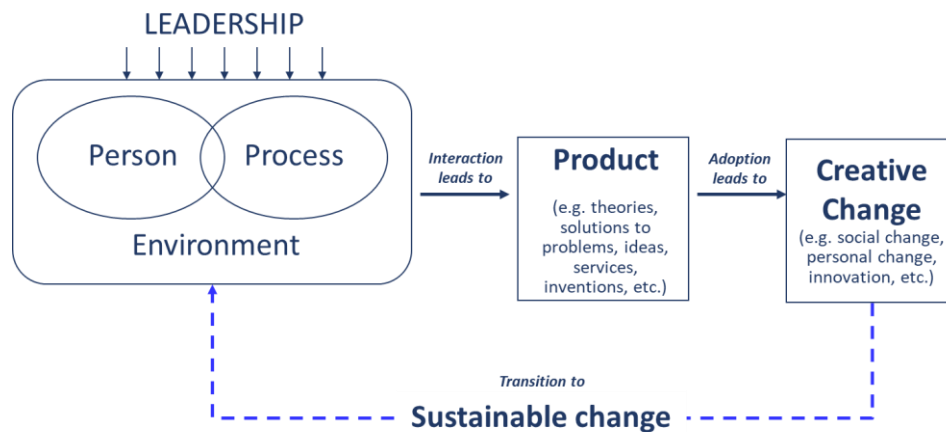
Mejia-Villa (2016) continues explaining, although Anderson et al.'s (2014) definition attempts to integrate the creativity and innovation constructs, it does not achieve this objective completely. Cropley and Cropley (2012) explained the classic formula that links both definitions: creativity as the first stage of invention, and after it, innovation as the second stage of exploitation. According to Rickards (1996), to demarcate creating and implementing is to deny the possibility of organization-wide innovation cultures of "empowered" individuals. For that reason, Rickards (1996, p. 22) asserted that organizations must "stop thinking of the process as divided into the creative bit and the routine bit; start thinking of one unified process in which actions from start to finish are influenced by ideas, and in which ideas are modified by actions and experiences". Rickards also noted that ideas and actions should occur and interact as long as innovation is being pursued. Van de Ven et al. (2007) proposed viewing innovation as a nonlinear dynamic system that consists of a cycle of divergent and convergent activities that may be repeated over time and at different organizational levels. Benner and Tushman (2003) and Burgelman (2002) asserted that creativity and innovation may alternate or occur simultaneously.

4. *Leadership and Entrepreneurship:*

Anderson et al.'s (2014) integrative definition also does not explicitly include leadership or entrepreneurship (Mejia-Villa, 2016). The academic literature has highlighted the relevance of leaders for group and organizational creativity (e.g., Gumusluoglu & Ilsev, 2009; Rickards & Moger, 2006; Sternberg, 2003). According to Puccio et al. (2011), leadership is the lubricant that allows the other elements to effectively interact or, in some cases, not. Effective leadership begins by establishing a creative atmosphere that supports people as they engage in creative thinking processes. For that reason, Puccio et al. (2011) positioned leadership as a fundamental part of their Creative Change Model (see Figure 1.7). To be clear, the authors defined Creative Leadership as "the ability to deliberately engage one's imagination to define and guide a group

toward a novel goal—a direction that is new for the group. As a consequence of bringing about this creative change, creative leaders have a profoundly positive influence on their context and the individuals in that situation” (Puccio et al., 2011, p. 28).

Figure 1.7. Creative Change Model



Source: Puccio et al. (2011)

In parallel, Berkhout et al. (2006, p.397) explained that entrepreneurship plays a central role: “without entrepreneurship there is no innovation” (see Figure 1.12). Drucker (1998, p.3) also highlighted the importance of this topic when he pointed out that “innovation is the specific function of entrepreneurship (...) it is the means by which the entrepreneur either creates new wealth-producing resources or endows existing resources with enhanced potential for creating wealth”.

Summarizing, the proximity of both constructs requires a cohesive definition that shows creativity and innovation as integrated, interactive, iterative, closed and open processes, guided and motivated by a creative leadership, with different inter- and intra-organizational levels, which work together for the purpose of creating and capturing value (Mejia-Villa, 2016, p. 14).

1.4. The multilevel and interactive model of innovation and creativity (MINC)

The previous three sections have presented the fundamentals of strategy, innovation and creativity needed to understand the dynamics of the strategic management of innovation of a firm or non-profit organization such as BAs. However, we still have to understand how to integrate these three themes. In response, we propose the “*Multilevel and Interactive Model of Innovation and Creativity (MINC)*” for organizations, as shown in Figure 1.8. The multilevel approach of MINC model is based on Drazin et al. (1999), Sears and Baba (2011), and Carayannis and Gonzalez (2003). This model has four levels (person, work team, organization and level of inter-organizational relations) divided between the micro and meso dimensions (Esser et al., 1996). The first dimension is composed of person, team work, and organizational level, which according to the sensemaking approach proposed by Weick (1995) can be composed by the “intrasubjective level” represented

by the personal cognitive processes; the “intersubjective level” because exist frames of references shared by several people; and the “collective level” that represents the unfolding of change across intersubjective levels that compose the organization. The Meso dimension groups the inter-firms and inter-organization relationships, where competition, collaboration and coopetition occur between them. Therefore, this is the space where the open innovation flows.

Also, MINC model considers the need of “organizational actions” for each level (Figure 1.8). Therefore, while at person and team work levels the creative problem-solving process is developed, at the organizational level, the innovation implementation occurs with help of innovation intermediaries and other kind of organizations. At the same time, the creative ideas and innovation adoption arise inside and outside of the organization. Equally, this interaction between creativity and innovation is constant and it is not sequential because any creative idea requires an immediate implementation at any stage of the innovative process (e.g, a R+D idea needs a plan and a budget, or a novel idea from a client that is implemented quickly). Hence, it is difficult to differentiate creativity from innovation, whereby, we prefer talking about one concept: creativity + innovation (C+I). Again, it is relevant highlight the role of creative leadership as the engine driving the C + I in the firsts two levels.

In the middle of the MINC model (Figure 1.8) we present various models, which allow the development of each level. However, it is possible to note that some of them are on two levels because their actions interconnect agents of both levels. Additionally, in practice, these levels are interrelated, and some models constantly nourish others. At this point several questions arise, for example, why do we use these models of creativity and innovation and not others? and how do we select them to be part of the MINC model? The answers are in our study Mejia-Villa (2016), where we identify and classify the models of creativity and innovation.





Regarding *creativity models* and under functional paradigm (Mejia-Villa, 2016), Drazin et al. (2008) pointed out that in the early 1980s and into the 1990s, creativity researchers extended their models beyond the study of individuals (Ford, 1996; Woodman et al., 1993) to include the effects of group or team-level variables (Amabile, 1988). Thus, the Componential Model of Creativity and Innovation in Organizations developed by Amabile (1988) is based on individual creativity and also describes the impact of that creativity on organizational innovation. Likewise, Creative Problem Solving (CPS) is a model based on individual and team work with impact at the organizational level. In contrast, Woodman et al. (1993) linked culture, resources, technology, strategy, and rewards to creativity in a process called the Interactionist Model of Creativity, which considers creativity at the organizational level like a sum of efforts from the group level, and this like a sum of individual creativity. From sensemaking paradigm, we consider the proposal by Borghini (2005), who showed a dynamic creative process based on processes of cultural integration, the creation of new knowledge, and the codification of knowledge through integration and sharing (this will be explained later too).

About *innovation models*, our study discovered that several authors have subdivided into generations the innovation models. Generally, they present a chronological classification of technological innovation models. In this sense, Rothwell (1994) pointed to the existence of four generations (Technology Push, Market Pull, Couplin Model, and Integrated Innovation), and proposed a fifth one (Systems Integration and Networking models), which was formalized and explained by Hobday (2005). Marinova and Phillimore (2003) described six generations: Black Box Model (Hobday, 2005; Rothwell, 1994); Linear models (Technology Push and Market Pull); Interactive models, and Systems models (similar to Systems Integration and Networking models from Hobday, 2005); Evolutionary Model; and Innovative Milieu. Berkhout et al. (2006) recognized the first three generation of models by Rothwell (1994) and they proposed a fourth generation: The Cyclic Innovation Model (CIM). This is characterized by open innovation partnerships, interaction between science and business, hard knowledge of emerging technologies complemented by soft knowledge of emerging markets, new organizational concepts such as skills for managing networks with specialized suppliers and early users, and a central role of entrepreneurship. Finally, from another point of view, Chesbrough (2003) presents the Closed and Open Innovation (see also Herzog, 2011).

In summary, we decide to use the CPS as a model for individual and team work levels, which is supported by the FourSight model (Puccio, 2002), specifically to understand the cognitive style of people who practice the CPS (e.g., in our case, associations managers, their team, and managers and employees of ACs). Likewise, at teamwork level, the CPS is enriched by Borghini's (2005) proposal to obtain a conscious process of the need for learning, to comprehend the culture and to value the knowledge. At the organizational level, the adoption of new opportunities or solutions is implemented under one or more kinds of Innovation proposed by Keeley et al. (2013) in their model of Ten Types of Innovation. Finally, to understand the dynamic between organizational and meso levels, we used two models. The first is the CIM because their cycles reduce the gap between internal and external knowledge of the organization; and the second is the model of Games of Innovation (Miller & Floricel, 2007), based on the interaction between rules of action and subsystems of value creation. The detail of each model will be presented in the next sections.

Finally, the theoretical framework of the MINC model (see Figure 1.8) is presented by levels. Although, the different studies not only consider their own level but also explain aspects of various of them. This frame will be used along this doctoral work, especially in the three first chapters.

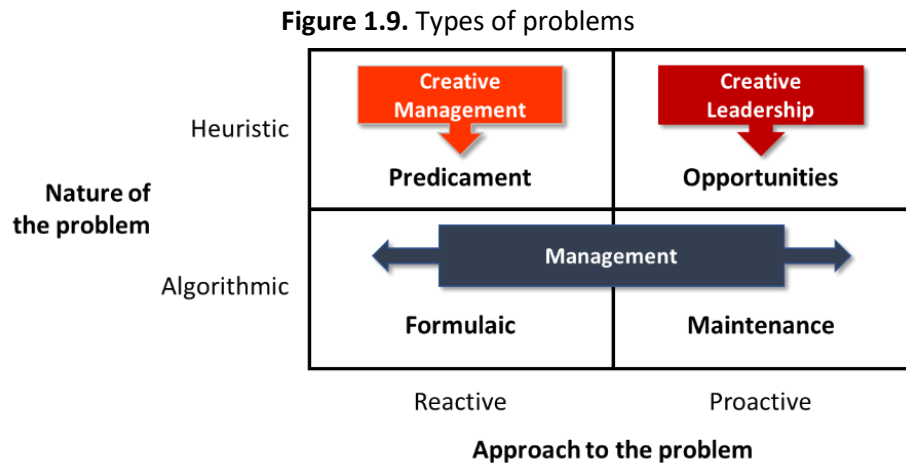
Figure 1.8. Multilevel and Interactive Model of Innovation and Creativity – MINC

Level:	Organizational actions:	Models:	Results:	Theoretical framework and multi-level dynamic: Drazin et al. (1999); Carayannis & Gonzalez (2003); Sears & Baba (2011)
Meso: Relations between companies and organizations 	<ul style="list-style-type: none"> • Definition of Innovation Game: Definition of rules and subsystem of value creation • Definition of participants in competitive, collaborative and cooperative dynamic • Surveillance of interrelation between science, industry, technology and markets changes. 	<ul style="list-style-type: none"> • Games of Innovation model. Miller & Floricel (2007) • Cyclic Innovation Model. Berkhout et al. (2006) 	Competitiveness organizational and technological change	<ul style="list-style-type: none"> • Sitemic, Evolutionary and Milieux innovation models. Marinova & Phillimore (2003) • Communities of innovation. Lynn et al. (1996) • Collaborative and cooperative innovation. Ketchen et al. (2007)
Micro: Organization: (Collective level) 	<ul style="list-style-type: none"> • Definition and implementation of open and closed strategy and innovation management • Definition of Value Proposition • Definition of innovation sources • Definition of ten types pf innovation (Functions, processes, relationships, services, financing and intermediation providers) 	<ul style="list-style-type: none"> • Games of Innovation model. Miller & Floricel (2007) • Cyclic Innovation Model. Berkhout et al. (2006) • Ten types of innovation model. Keeley et al. (2013) 	innovation adoption or implementation	<ul style="list-style-type: none"> • Innovation intermediaries. Howells (2006); Gassmann et al. (2011) • Open and closed strategy and Innovation. Chesbrough & Appleyard (2007)
Micro: Team Work (Intersubjective level) 	<ul style="list-style-type: none"> • Shared mental models (organizational knowledge) • Cultures integration • Develop of dynamic competences 	<ul style="list-style-type: none"> • Borghini's (2005) organizational creativity model. • CPS: Thinking skills model. Puccio et al. (2005) 	Creative solutions or inventions	<ul style="list-style-type: none"> • Knowledge management and organizational learning. Basadur & Gelade (2006) • Dynamic capabilities for innomediation: Absorptive capacity, Sensemaking and Ambidexterity. Zahra & George (2002); Neill et al. (2007); O'Reilly & Tushman (2008) • Constant interaction between creativity and innovation. Mejía-Villa (2016); Rickards (1996)
Micro: Person (Intrasubjective level) 	<ul style="list-style-type: none"> • Development of affective and thinking skills for each CPS step • Development of affective skills across CPS • Decision making 	<ul style="list-style-type: none"> • CPS: Thinking skills model. Puccio et al. (2005) • FourSight model. Puccio (2002) 	Creativity	<ul style="list-style-type: none"> • Creative change model. Puccio et al. (2011) • Management logics. Mejía-Villa et al. (2016) • Creative leadership. Puccio et al. (2005)

Source: own elaboration based on Mejia-Villa (2016)

1.5. the dynamics of creativity in people and work teams

As we explained above, creativity is a fundamental component of innovation, for that reason, any firm or non-profit organization must manage its basic concepts and models. In consequence, we think that a good starting point to understand the dynamics of organizational creativity is to explain the types of problems that exist and which of them require creative solutions. Puccio et al. (2011) presents a matrix (Figure 1.9) that relates two dimensions to this: the nature of the problem and the way in which a person or work team confronts it.



Source: Puccio et al. (2011)

As Puccio et al. (2011) show in Figure 1.9, if the nature of the problem is algorithmic, the reaction is through a formula, with a specific method, and known variables and magnitudes. In order to be proactive against the algorithmic problem, the key is to make an adequate and constant maintenance of the variables of the situation. In short, to deal with algorithmic problems, organization must have excellent management. In contrast, if the problem is heuristic, solutions require learning and discovery processes. Thus, if the difficulty is already present, it needs a reaction from creative management field. For a proactive approach against heuristic problems is necessary a creative leadership which can mobilize the team to transform that situation into an opportunity for the organization.

The above paragraphs described the problem and where to apply the creativity, but how is the leadership and management of creativity developed in the business context? How could an organization (e.g., a BA with one of their ACs) develop a creative process to obtain concrete results? In the business reality, there are various models that allow to develop creativity and innovation. Some of them are: Stage-Gate (Cooper, 2008), Design-driven Innovation (Verganti, 2009), Design Thinking (Brown, 2008), TRIZ model (Mann, 2001) and Creative Problem Solving - CPS (Osborn, 1953).

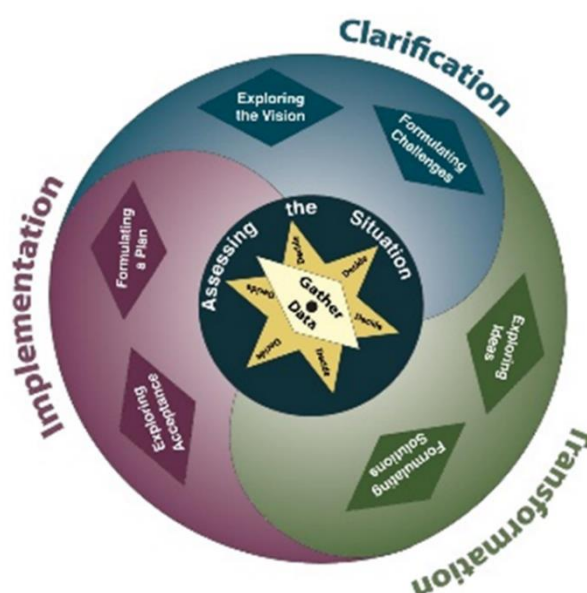
The Creative Problem Solving (CPS): The Thinking Skills Model (TSM)

According to Mejia-Villa (2016) the CPS is a group of models that are evolving from the original work by Osborn (1953) and which has been extended by Parnes and others, comprising at least ten developments and spin-offs (Puccio et al., 2005). CPS can be thought of as a cognitive process with applications for individuals and groups. The original CPS model presented by Osborn (1953) included seven steps: (1) orientation, (2) preparation, (3) analysis, (4) hypothesis, (5) incubation, (6) synthesis, and (7) verification.

One of the most recent versions was developed by Puccio et al. (2011), and is called CPS: The Thinking Skills Model (CPS: TSM). It has three major stages (clarification, transformation, and implementation) and six discrete steps (from Exploring the Vision to Formulating a Plan) as shown in Figure 1.10.

In each of steps of CPS: TSM there are two steps. The first, always corresponds to the "exploration" of various factors, issues, dimensions, ideas, themes, etc; and the second step refers to the "formulation" of concrete challenges, solutions or plans. This means that the first step of each phase corresponds to the moment of "Divergent Thinking", through which there are brainstorms about each subject. Subsequently, comes the moment of "Convergent Thinking" where people must define, specify and synthesize. However, there is a transversal activity called Assessing the Situation, which allows obtaining and interpreting varied information that helps in each of the other six steps. The matrix of types of problems (Figure 1.9) is a good example of this activity of evaluation.

Figure 1.10. Structure of the *CPS: The Thinking Skills Model*



Source: Puccio et al. (2011)

Due to the emphasis on cognitive psychology of this CPS model, during the process, people need to develop seven thinking skills and seven affective skills to increase the potential of the creative process (see Table 1.3).

Table 1.3. Thinking and Affective skills

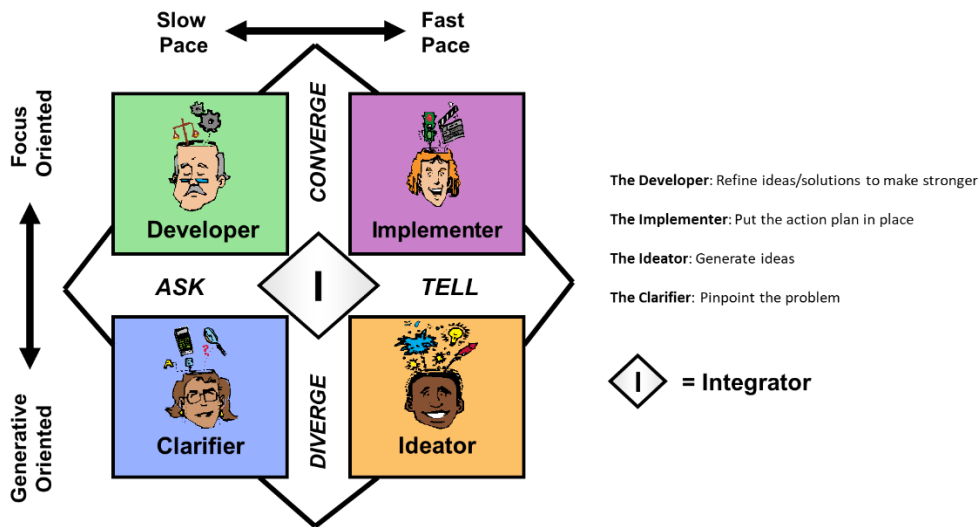
Main Steps		Thinking Skills	Affective Skills
Assessment of the situation		Diagnostic Thinking	Mindfulness
Clarification	Exploring the vision	Visionary Thinking	Dreaming
	Formulating challenges	Strategic Thinking	Sensing gaps
Transformation	Exploring ideas	Ideational Thinking	Playfulness
	Formulating solutions	Evaluative Thinking	Avoid premature closure
Implementation	Exploring acceptance	Contextual Thinking	Sensitivity to environment
	Formulating a plan	Tactic Thinking	Tolerance for risk

Source: Puccio et al. (2005)

With the idea to enhance the effectiveness of the CPS, Professor Gerard Puccio and his colleagues began in 1994 the development of the model originally called Buffalo Creative Process Inventory (BCPI), today called the FourSight model (Puccio, 2002). It pretends that individuals and teams can better understand how they approach solving problems through creative thinking. FourSight helps individuals recognize their natural strengths when solving problems creatively, and it allows to them learn strategies to enhance their creative problem-solving skills. FourSight is also useful for teams, where a profile of team members' helps individuals become more tolerant and appreciative of different styles of problem solving. Therefore, FourSight evaluates the thinking styles of people regarding their divergent or convergent thinking, and likewise, it evaluates if they are passive or active agents in the creative problem-solving process. With the results, as shown in Figure 1.11, they can appreciate their profile (developer, implementer, clarifier, ideator, integrator or a special mix between them), to recognize their strengths and weaknesses, as well as their level of complementarity with their teammates.

The general results of this creative dynamic generated by CPS: TSM and FourSight are divided into person and teamwork levels. Thus, as we express in our MINC model (Figure 1.8), the creativity of people is the outcome of the individual cognitive process, while the proposals of creative solutions and opportunities are the expected results of teamwork in the organization. It is important to highlight that personal creativity nurtures the teamwork to solve problems and to take advantage of opportunities. Therefore, if this interchange is developed through a creative process like the CPS and it is driven by a creative leadership the quality of proposals will be much better. In consequence, both outcomes are fundamental parts of the sequence of value creation and capture.

Figure 1.11. Thinking styles of FourSight Model



Source: based on Puccio (2002)

On the other hand, at teamwork level, the Borghini's (2005) model enriches the previous dynamic with its sensemaking approach. It explains that inside of creative process the solution of problems generates new knowledge, which develops new competencies, which in turn are shared with different cultural groups within the organization. Consequently, the integration among the different cultures of the dominions in question represent the necessary condition for generating the stock of new knowledge and essential competencies to problem-solving (Nonaka, 1991). However, this process represents at the same time the generation of core rigidities as a result of codifying knowledge in the organization. These become organizational rigidities that mean the inability to abandon rules and consolidated knowledge which have proved to be effective in the past. In a negative way, this affects the creative process. Reason by which the organization requires another kind of process: the destruction of previously- acquired competencies and the manifestation of changes in the cultures of the business sub-systems (Borghini, 2005).

1.6. The dynamics of innovation in the organization

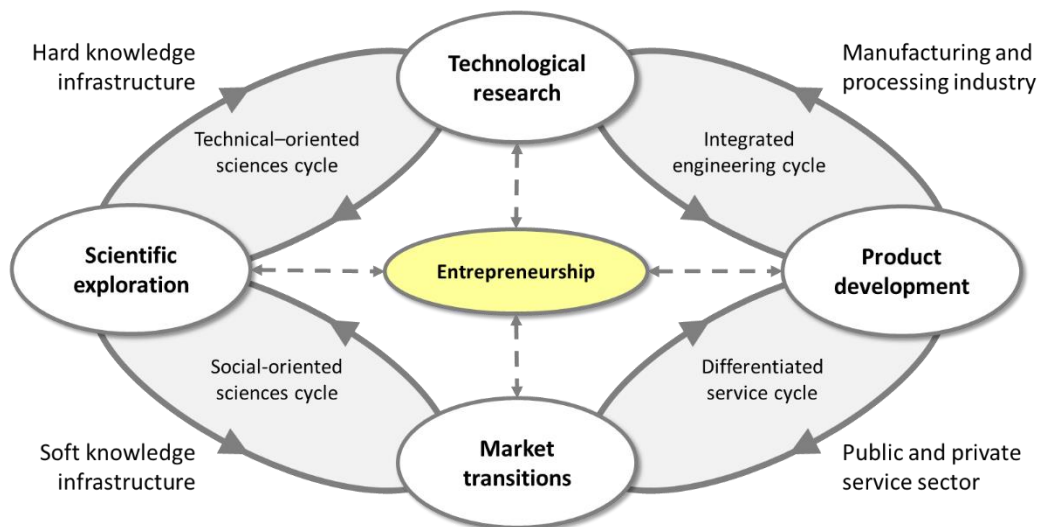
The CPS: TSM is given at the level of individuals and work teams who generate different types of creative products. However, these will only be innovations if they generate value for the organization's stakeholders and serve them to capture value from them. This means that there is innovation only if the creative products of those two levels become solutions or opportunities adopted or implemented at the organizational level. This implies that these creative products must enter into a technological and market dynamic.

To understand this dynamic in which are immerse the different firms and organizations like the BAs, we will use the Cyclic Model of Innovation (CIM) proposed by Berkhout et al. (2006). In the model presented in Figure 1.12, the products and services developed by the organization are in the circle on the right. These are adjusted, improved or changed by the organization thanks to the

influence of two sources of knowledge: technological research applied to industry (upper circle) and/or change in markets (lower circle). This means that the emergence of new technologies in companies (for example, new software, new types of brake for cars, new paintings, new mobile) leads organizations to update their products and change themselves to face the competition. On the other hand, changes in the demand of markets, such as new trends in fashion, the emergence of new cultures, changes in the way products are consumed, etc.; they also pressure organizations to innovate. Also, the scientific exploration (circle of the left) applied to hard technologies like electronics, biochemistry, physics or nanotechnology; influences the technology developed by the industries (upper circle) and indirectly affects the innovation of organizations. At the same time, that scientific exploration (circle of the left) applied to soft technologies based on social and humanistic sciences such as sociology, psychology, administration, economics, architecture, design, etc.; influences the markets (lower circle) and generates changes in them, which produce currents of change that require the organizations to adjust and innovate.

Although the CIM seems to be focused on product and service innovation in organizations, it represents many more types of innovation behind its dynamics. Thus, it not only uses closed innovation but also open innovation is present in its foundation and practices. Therefore, Berkhout et al. (2006, p.393) affirm "innovation is embedded in partnerships: open innovation", which is clearly observed in the knowledge flows among diverse agents present in its four cycles (see Figure 1.12).

Figure 1.12. The Cyclic Innovation Model - CIM

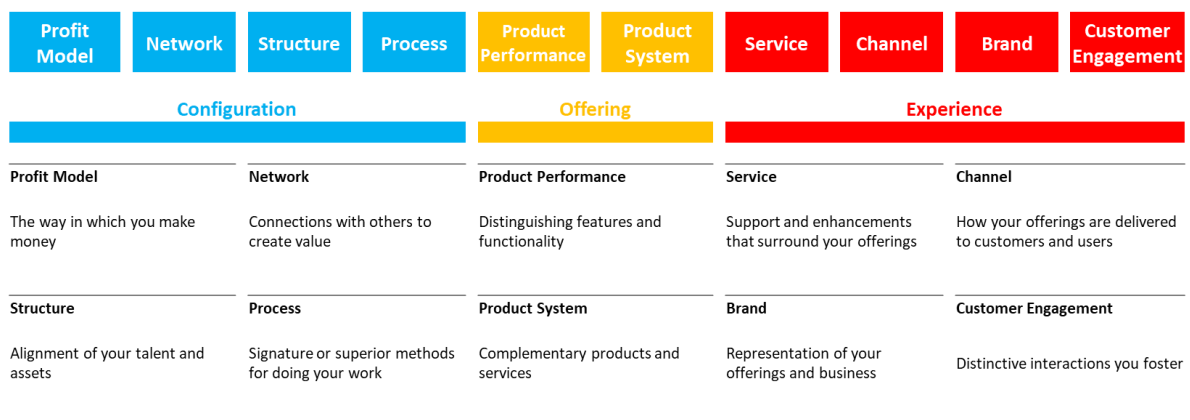


Source: Berkhout et al. (2006)

Additionally, it is possible to infer that results of CPS combined with the CIM dynamic allow to organizations adopt or implement different kinds of innovations, which we can schematize using the Ten Types of Innovation model proposed by Keeley et al. (2013) through the Figure 1.13.

Ten Types of Innovation model (Keeley et al., 2013) has been developed by Doblin consultancy, part of the Deloitte group. As shown in Figure 1.13, its 10 types of innovation are grouped into three major categories: business configuration elements (types 1 to 4); offer of products and services (types 5 and 6), and customer experience (from 7 to 10). In the configuration category are grouped the types of innovation related to the business and the internal operation of the organization. In the category of products and services offered are included the innovation types related to the design of value proposition. Finally, the customer experience category includes all elements of service, channel, brand and commitment to the customer.

Figure 1.13. The Ten Types of Innovation



Source: Keeley et al. (2013)

1.7. The dynamics of innovation at meso-level

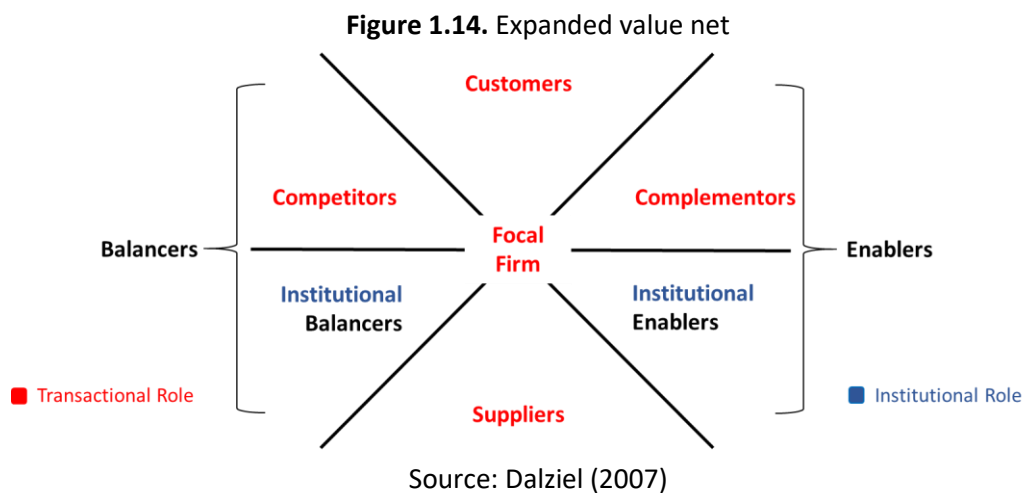
According to the previous section, in response to the VUCA environment, organizations (in our case BAs with their ACs) make internal efforts to develop processes of creativity and innovation to continuously update their competitive advantages and redefine their strategies. However, like this is not enough to face the high level of change, organizations need external knowledge to adapt and survive, as well as cooperative, competitive and co-competitive relationships with a diversity of business and institutional actors. Therefore, we will present the agents that make up the innovation dynamics at the meso-level, their fundamentals, and concrete models that explain this situation.

1.7.1. The actors in the meso-level dynamics of innovation

Miller and Floricel (2007) point out that in the interaction of innovation four types of organizations participate: companies, government, universities and non-profit organizations. According to Dalziel (2007) these organizations have a transactional and / or institutional role (see Figure 1.14). Under the transactional role, agents can perform one of the following functions vis-à-vis the focal company: customer, supplier, competitor or complement (Brandenburger & Nalebuff, 1996). On the other hand, there are organizations with institutional functions of economic or social nature, or both. Business associations are examples of organizations with an institutional role, as

well as governments, universities and professional associations. Also, according to Dalziel (2007), these organizations can be facilitators and/or balancers of innovation opportunities for a focal company.

As shown in Figure 1.14, organizations with a transactional role (with red letters in the graph) perform purchase and sale of products and services. Among the clients, the focal company and its suppliers there are vertical relations of cooperation that aim to add value to the product and / or service offered, through the value system. On the other hand, the competitors, the focal company and the complements develop horizontal relations based on the competition and the complementarity of the products and services of that focal company.



Under the institutional role (see blue letters in Figure 1.14), the activities performed are economic and/or social. Facilitators (in our case BAs), are focused on helping focal companies (their ACs) increase their opportunities so that they can create more value for their current or future customers or reduce their costs. In contrast, an institutional balancing organization is one that restricts opportunities for the focal company by reducing the value of its offer to its current or future customers, or by force or induces it to increase its costs (Dalziel, 2007). In general, companies and organizations that complement and facilitate the activity of the focal company are considered facilitators that drive their creation of value and/or decrease of costs; while organizations such as competitors or balancers (e.g., tax organizations and other governmental or European organizations) generate costs for the focal company or diminish its value creation. In summary, Figure 1.14 presents a model that represents the expanded value network of a focal company (in this point are located the ACs of the BAs).

1.7.2. Collaborative innovation: a type of innovation at the meso-level

At meso-level, the agents presented above are related to innovate. Therefore, is there a particular type of innovation at this level? what are the characteristics of this type of innovation?

The answer to these questions lies in collaborative innovation. In this section, we will present its fundamentals and characteristics.

Miles et al. (2005) define collaborative innovation as “the creation of innovations across firm (and perhaps industry) boundaries through the sharing of ideas, knowledge, expertise, and opportunities”. So, the project of collaborative innovation, according to Baldwin and von Hippel (2011), involves collaborators that share the design and the results of the work, openly presenting their individual and collective efforts for anyone to use. To do that, the properties that define this model are two: (1) the participants are not rivals in regard to innovative design (on the contrary, they would not collaborate), and (2) they do not plan to sell products or services that incorporate innovation or industrial property rights related to the same. For example, several software, open code projects have these characteristics.

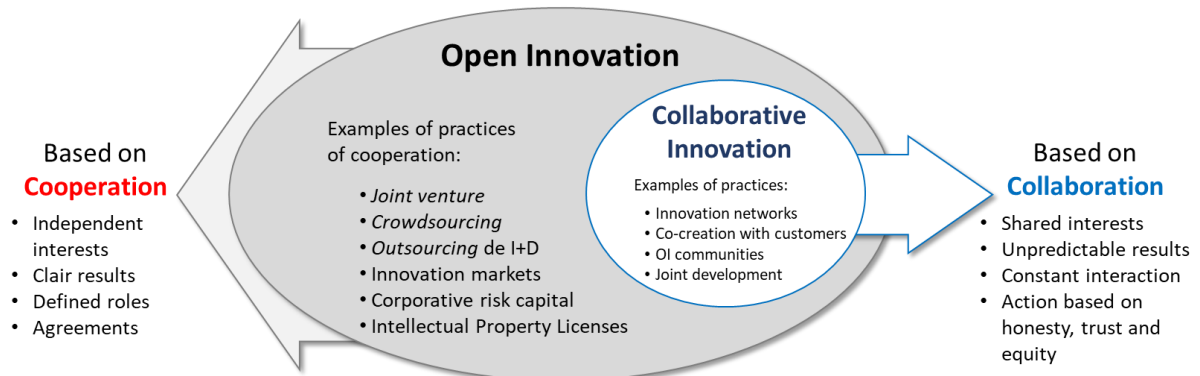
The concept of collaborative innovation does not present an alternative model to the well-studied open innovation (Chesbrough 2003a, 2003b; Chesbrough & Appleyard 2007). Rather, the collaboration is a concrete type of open innovation whose particularities reside in that agents (1) contribute with resources and different and complementary capabilities to the process of innovation; (2) they orient themselves towards a mutually desired objective (for example, to identify and solve a problem, improve a concrete process, create a new product or business, etc); (3) the common interest prevails; (4) often implies unpredictable results; (5) the grade of interdependence in interactivity among the collaborators is higher than in any other kind of innovation practice and, as a consequence, (6) the success depends, great part, of the trust and commitment to the values of honesty and equal treatment (von Krogh 1998).

Therefore, collaborative innovation gathers some of the practices of open innovation. Using like base the classification of 19 practices of Open Innovation proposed by Rodriguez-Ferradas (2014), it can be affirmed that practices like innovation networks, open code communities, conjoined development, co-creation with users and open codes community are examples of open innovation based on collaborative practices. Meanwhile, joint venture, crowdsourcing, innovation markets, outsourcing of R&D, budget of corporate risk and licenses for intellectual property, among others, are clear examples of practices of open innovation based on cooperation (see Figure 1.15).

As observed in Figure 1.15, collaborative innovation, as a proposal, generates differences between practices associated to open innovation. Thus, there are practices based on collaboration and other based on cooperation. Collaboration is a philosophically different (and, arguably, more demanding) process than cooperation, where desired outcomes are relatively clear, the distribution of future returns can be negotiated in advance, and the cooperating parties act essentially in their own self-interest. Collaboration often involves unpredictable outcomes and relies heavily on trust and a joint commitment to values of honesty and equitable treatment (Ketchen et al. 2007). In contrast to cooperation, collaborating parties take each other’s interests into account as much as

their own (von Krogh, 1998). Collaboration can be directed toward any mutually desired objective: identifying and then solving a problem, resolving a conflict, creating a new product or business, and so on (Ketchen et al. 2007).

Figure 1.15. Relationship between open innovation and collaborative innovation



Source: own elaboration

For Ketchen et al. (2007) multi-business collaborative innovation complements the efforts of internal innovation of a company. For that reason, the development of collaborative innovation helps small and medium enterprises (SMEs) to preserve their creativity and flexibility mitigating the difficulties inherent to its size (as is the case of BAs). Generally, an SME that designs a valuable innovation runs the risk that larger companies imitate its innovation and gain significant market share before that SME can develop its idea completely and capture value by successfully bringing it to market. Through collaborative innovation, the Innovations developed by an SME can be implemented at a scale that allows the entry to the market as quick and effective as that of the big companies. Likewise, collaborative innovation facilitates the efforts of big firms to exploit their abilities of advantages creation, while they simultaneously exploring opportunities related to innovation outside of their actual domain. This suggests, that collaborative innovation can feed the strategic renovation that big companies often find difficult to achieve (Floyd & Lane 2000).

Nonetheless, it is not easy to find studies in the academic scope which address the properties of collaborative innovation as a practice. Rather, there exists some efforts to classify it, as Shah's (2002) study on the grade of formality: unstructured or structured collaborative innovation. The first one is focused in promoting the creativity among teams, a fact that allows the members to exchange ideas freely through instruments like unplanned meetings or brainstorming sessions (face to face or virtual). The technologies which gives support to this unstructured collaboration include emails, attendance notice, notice boards, video conferences, and simultaneous document working systems. In contrast, the structured collaboration implies planning and practice of predetermined procedures and guidelines, such us, the way to share the information or established steps to review designs and proposals. Furthermore, this structured collaboration includes the following tools: classification systems based on group technology for components or providers, instruments that identify functions, and responsibilities and scheduled routes for the supervision of workload.

Shah (2002) adds that these categories do not result exclusive, since the projects of collaborative Innovation alternates less and more structured practices, as they move on. Thus, unstructured collaboration is necessary for the first steps to boost creativity, while it becomes more structured as the project is developed. Regarding the management of collaborative innovation, Swink (2006) provides in-depth analysis about benefits and barriers. On the side of the benefits, these practices allow companies to capture valuable knowledge, information and resources thanks to collaboration with other agents. Even in recent years, collaboration takes on a strategic dimension as a way of creating value, giving sustainability and gaining a competitive advantage in the market. In response, companies acquire new organizational structures, communication technologies and work on incentive systems that enhance collaboration in innovation.

Swink (2006) explains that collaboration in the creation of new products and development of processes (1) reduces the time to go into the market; (2) promotes the reutilization of previous development works; (3) allows collaborative teams to find better solutions quickly; (4) reduces the development and delivery costs of the product and, finally, (5) improves the quality of development. However, Swink (2006) affirms in his study that 80% of enterprises face great barriers in the management of this type of projects. Hence, he enumerates the following barriers: (1) physical and temporal (location, management of ICTs); (2) organizational and hierarchical (access to information, organizational structures of silos); (3) relational and cultural (differences in values, incentives, social norms); (4) knowledge, information and data management (disparate criteria in coding, expert identification).

Although there are certain advances, the academy recognizes a clear lack of comprehension of the mechanisms of collaboration, inside and outside of the organization. For example, Kemeter et al. (2016, p.1) point out that "little is known about the specific challenges faced by innovation project teams that have to deal with a heterogeneous set of stakeholders". In the same line, Randhawa et al. (2016, p. 18) argue that this topic has not been addressed in all its complexity yet with the purpose of "exploring how companies can perceive, exploit and reconfigure complementary resources and relational capabilities to capture value".

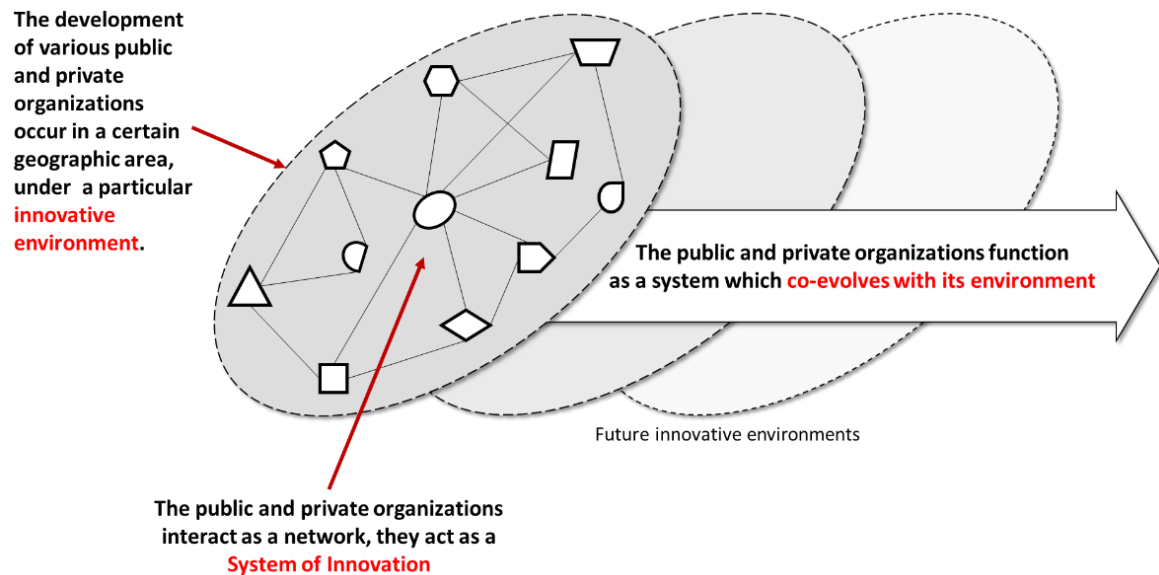
1.7.3. Models that frame innovation at the meso-level

As we have mentioned, understanding the dynamics of innovation of firms and non-profits organizations implies acquiring a multilevel view. Then, as the first levels (individuals, work teams and organization) were studied in the previous sections and the macro level or society corresponds to a very broad dimension, this chapter will focus on the inter-organizational and inter-institutional level, which is called the meso-level (Esser et al., 1996).

The last three generations of models proposed by Marinova and Phillimore (2003) explain the innovation in this meso-level, these are: Systems model, Evolutionary models, and Innovative

Milieux. Each one presents a series of key concepts and variables that can be integrated and complementary with the other two models to offer a better understanding of the innovative dynamics at this level (see Figure 1.16).

Figure 1.16. The integrated view of innovation dynamics as Systemic, Evolutionary, and Innovative Milieu model



Source: own elaboration based on Marinova and Phillimore (2003)

Systemic Model

Under this view, the complexity of innovation requires the interaction between different agents within the organization and cooperation between organizations. Its main focus is to understand innovation as a system which emphasizes interactions, interconnections and synergies (Marinova & Phillimore, 2003). According to Hobday (1991) under this perspective innovation has the following advantages:

- Small business groups can maintain state-of-the-art technologies using the support of other organizations within the network.
- The accumulation of skills and collective learning takes place within the network and benefits all participants.
- The network promotes flows of key individuals among companies.
- Skills can be combined and recombined to solve bottlenecks.
- Innovation time and cost can be reduced.
- The network provides the entry of innovative small firms into the industry.
- Individual companies in the network operate with high flexibility and low cost.

According to this, the key to this conception lies in explaining how small firms play a role in innovation and how they can survive the competition and pressure from large companies

(Marinova & Phillimore, 2003). The effect of synergies on innovation networks explains their ability to produce positive effects for all participants (DeBresson and Amesse, 1991; Freeman, 1991). These networks are also flexible and can be easily adapted to the changes required by customers and markets. Systems facilitate communications (Tisdell, 1995), the flow of information and the transfer of formal and tacit knowledge.

Evolutionary Model

In this vision innovation is considered a dynamic and "live" process that adapts and changes with the environment, rather than as a fully synchronized machine (Hodgson, 1993). According to this, Saviotti (1996) identifies the key concepts in this evolutionary perspective of innovation:

- Innovation generates variation. Innovations are like "mutations" in organizations, sometimes they fail and sometimes not. In general, these serve organizations to not be extinguished.
- The processes of selection of products, technologies, structures, etc., generate a mechanism of survival for the organizations.
- Through continuous learning, organizations "reproduce and inherit" knowledge to make better decisions over time and thus adapt to their environment.
- The interactions are not only competitive, but also collaborative among organizations.
- The present environment, both the business environment and the natural environment, should be considered a fundamental part of the dynamics of innovation.

Innovative Milieu Model

This perspective is also known as Innovative Milieux, which emphasizes the importance of geographical location as an explanation of the innovative processes of organizations. The objective is the location of the organizations around the place where the technologies are developed. This process must be constructed in a natural and social way (Marinova & Phillimore, 2003). According to Bramanti and Ratti (1997, p. 5) the innovative milieu model states that "innovation stems from a creative combination of generic know-how and specific competences" and "territorial organization is an essential component of the process of techno-economic creation". According to Longhi and Keeble (2000, p. 27) "the innovation process is not spaceless. On the contrary, innovation seems to be an intrinsically territorial, localized phenomenon, which is highly dependent on resources which are location specific, linked to specific places and impossible to reproduce elsewhere". An early description of the components of this type of model was presented by Camagni (1991) as follows:

- A productive system, e.g. innovative firm;
- active territorial relationships, e.g. inter-firm and inter-organizational interactions fostering innovation;

- different territorial socio-economic actors, e.g. local private or public institutions supporting innovation;
- a specific culture and representation process;
- dynamic local collective learning process.

Camagni and Capello (2000) emphasize that the interactions creating the innovative milieu are not necessarily based on market mechanisms but include movement and exchange of goods, services, information, people and ideas among others. They are not always formalized in cooperative agreements or any other contracts. The major features of this environment are the ease of contact and trust among partners, which reduce uncertainty in the development of new technologies and prove to be a source of exchange of tacit knowledge.

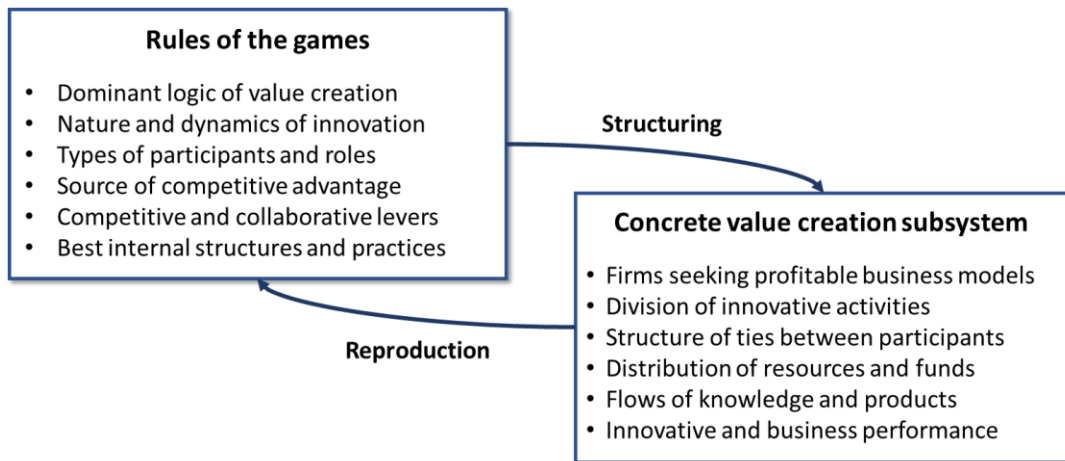
1.8. Reference models to understand the innovation of business associations

In the previous section, we have explained the general dynamics of innovation at the meso-level through the systemic, evolutionary and milieu models. Below, we present specific innovation models for the BAs and their ACs at that same level. They are the "Games of innovation" and the "Innovation communities" that although they have different approaches, each one compliments with the another for a better comprehension of the reality of associations.

1.8.1. Games of innovation: an integrative dynamic for value creation

According to Dalziel (2007), the dynamics of value creation of associations and their members can be explained using the framework proposed by Miller and Floricel (2007) based on innovation systems, the role of shared cognitive frameworks in the structuring of social systems and in the sources of heterogeneity in innovation processes. Miller and Floricel (2007, p.2) present the concept of "innovation game" and defined as a dual meso-level configuration consisting of (1) a stable and coherent set of "action rules" that interacts with (2) a concrete value-creation subsystem, involving actors that participate in interrelated activities, to generate a typical and sustained innovation dynamics. Additionally, they argue that there are multiple games, and each game has a different dynamic. Together, the rules form a system of meaning and a practical theory that define, among other things, a dominant logic of value creation, important complementary roles, sources of competitive advantage, effective competitive and collaborative strategies, and the most effective organizational structures and practices. Figure 1.17 presents the specific topics covered in each of the two parts of a game.

Figure 1.17. The Games of Innovation concept and its dual nature



Source: Miller and Floricel (2007)

Rules of the games

The rules influence the dynamics of the value creation system because they frame the strategic decisions, the actions of the companies and the daily activities of the workers dedicated to the innovation. Thus, this set of rules is a reflection of specific exogenous conditions that affect the creation of value in the subsystem. According to the above, there are four sets of rules that an organization must define at different levels (see Table 1.4).

Table 1.4. Groups of rules of Games of innovation

Groups of rules		Level of application
1	Rules concerning the construction and maintenance of organizational capabilities necessary to innovate in a particular game. For example, the creation of work teams to listen ideas and discuss innovative solutions in the BAs and/or their ACs.	Micro: • Organization • Teams • Person
2	Rules for nesting, adjusting, and fitting the organization within networks. These are rules regarding interactions with third parties. As an example, would be the relationships of BAs with their ACs, and other organizations such as centers of entrepreneurship and research, and universities.	Meso (inter-firms)
3	Rules related to competitive and collaborative strategies. The definition of competitive strategy and cooperation agreements with other organizations would be examples of this point.	• Meso (inter-firms) • Organization
4	Rules regarding internal organization and management practices for innovation according to the game. For example, the implementation of a specific innovation process in a BA.	Micro: • Organization • Teams

Source: own elaboration base on Miller and Floricel (2007)

These rules of the game are ideas built through social processes within the organization. Under the leadership of the executives, they should conduct discussions, listen to proposals, reach consensus, define ways to follow and make decisions. This set of rules must become definitions, ideas, criteria and norms shared by the whole work team, which seek to serve as a framework for action for the logic of creating value defined by the organization. Therefore, it is important to note that these rules are a version of the "management logics" by Dijksterhuis et al. (1999) (explained in

Section 1.1.2.) applied to strategic management of innovation focused on to create and capture value.

The concrete value creation subsystem

According to Miller and Floricel (2007) to define the logic of creating value, there are four vectors or ways to achieve it:

1. *Scientific production*: this way encourages the creation of value through the transformation of ideas and scientific theories into products, through R & D activities and their legitimation. For the customer, value is created by developing products that offer superior functionality to existing or new applications.
2. *Alignment*: this factor aims to develop interactions and design standards in products. This allows interoperability, increased uses of a product and stabilizes markets. This reduces the uncertainty of customers.
3. *Engineering*: represents the analysis and design of technical systems to make products more efficient, reliable and safe for customers.
4. *Customer proximity*: this is the way in which the customer's needs and the use of products are studied and characterized to design products and variants that are very close to their specific requirements.

It is worth noting that these four vectors are directly related to the four cycles presented by the CIM model by Berkhout et al. (2006) (described in Section 1.6.): technical-oriented sciences cycle, social-oriented sciences cycle, differentiated service cycle, and integrated engineering cycle.

The necessary capabilities in the work teams to achieve the creation of value by any of the above routes are:

- *Scientific production*: capacity to produce and transform scientific knowledge into specific products.
- *Develop alignment*: management capacity.
- *Engineering*: capabilities focused on optimizing processes, products, costs and seeking trust and safety for customers.
- *Customer proximity*: the ability to interact with customers and judge product performance to be consistent with customer expectations.

Types of Games of Innovation

According to Miller and Floricel (2004, 2007) there are several types of games, and each game has a different dynamic. This variety arises from the combination of multiple external and internal factors of the organization that can be grouped in three dimensions and their level of intensity (see Table 1.5): a) the dynamism in the production of knowledge, refers to the extent to which the sector faces technological opportunities for value creation; b) the structuring potential, which determines the extent to which industry participants can capture value; and c) the specificity of demand, in relation to the value creation opportunities provided by the client's needs and their degree of specialization. These dimensions are related to three fundamental requirements for innovation:

technical opportunity, the appropriability of the value created, and the market opportunity (Dahmén 1970, Metcalfe 1981, Pavitt 1984).

Table 1.5. Dimensions and intensity of factors influencing innovation

Dimension	High intensity	Average intensity	Low intensity
Dynamism in the production of knowledge that creates opportunities for value creation.	Strong scientific influence that creates new operating principles	Fertility in the technological advances that add and transform the knowledge base	Stable knowledge base with incremental advancements based on accumulated experience
Potential structuring that allows the capture of value	Strong regulations that allow appropriability with low competition response.	Underlying technical and economic logics which favor the appropriability, but maintain competitive response	Weak appropriability and strong response from the competition.
Specificity of demand	Very high specificity demands complex customer needs and high internal specialization	High specificity demands special customer needs accompanied by greater specialization create opportunities for value creation and capture	Low specificity demands ordinary needs and knowledge

Source: based on Miller and Floricel (2007)

According to the above, Miller and Floricel (2007) propose the 11 types of games of innovation that appear in Table 1.6, which arise from the possible combinations between the three dimensions and their degrees of intensity.

Table 1.6 shows that each innovation game has a certain intensity of innovation factors. Thus, for example, there are games based on a high knowledge production, a high structuring potential that allows it to capture value and a low specificity of demand; as is the case of biotechnology and nanotechnology companies. In contrast, there are games with low intensity in the three dimensions, where innovation is based purely on the perceived novelty in sectors with mature technologies.

Table 1.6. Games of innovation

Type of game of innovation	Dynamism in the production of knowledge	Potential structuring that allows the creation of value	Specificity of demand
1. Science to technology races	High	High	Low
2. Science-based safety journeys	Average	High	Low
3. Asset-based problem solving	Low	High	Low
4. R&D tools and services	High	Average	High
5. Battles for architectures	Average	Average	Average
6. Learning and marketing	Low	Average	Low
7. Innovation in packs	Low	Average	High
8. Research programs	High	Low	Very High
9. Systems engineering and consulting	Average	Low	High
10. Niche craft problem solver	Low	Low	High
11. Short-lived news	Low	Low	Low

Source: based on Miller and Floricel (2007)

1.8.2. Innovation communities: relationships and knowledge interchange

The perspective of innovation communities is focused on relational aspects rather than on the process of value creation. Thus, from an organizational ecology approach, Lynn et al. (1996) explain that development and commercialization of technology must be explained from a framework that considers not only the market relationships but also the relationships outside it. Likewise, they highlight the relevance of structures of coordination appropriated for this dynamic, which go beyond markets. Examples of this coordination structures are professional societies, trade associations, industry consortia's, university-industry relationships, and in some situations government develop this role.

Under this logic, Lynn et al. (1996, p.97) propose “the term innovation community to refer to the organizations directly and indirectly involved in the commercialization of a new technology”. This entails paying attention to the relationships between the components of the community, and the interactive development of technologies and communities. Development that covers the entire process of innovation and the flow of knowledge it requires.

Lynn et al. (1996) explain that the first characteristic of an innovation community is that it has a certain technology as center, and therefore, its members are defined as those organizations that are significantly involved in the commercialization of a new technology. In this sense, the community is defined by certain sources of complementary assets, and their sources and flows of information. Consequently, a community of innovation is by definition a group of populations that interact immersed in a dense web of social and economic relations.

As a second feature, Lynn et al. (1996) point out that an innovation community is composed of a sub-structure and a super structure. The *sub-structure* corresponds to organizations that produce key and complementary components of marketed technology. While the *super-structure* provides collective assets to its members, it is often specialized in coordinating information flows or coordinating activities of sub-structure organizations. Hence, Howells (2006) classifies super-structures as a kind of innomediary. In many cases, associations as superstructures influence the emergence of dominant designs for a technology because they connect diverse bodies of knowledge, competencies and techniques, thereby facilitating a convergence of interdependent and complementary technologies.

In summary, it is possible to affirm that the innovation community suggests that the actors involved in the commercialization of a new technology should be seen as a limited structure that encompasses (1) a superstructure of organizations' coordination (in our case, the BA) (2) a substructure of organizations that produce key components of the marketed technology (the ACs belonging to the association) and (3) the links between the sub-structure and the super-structure, and between the various actors. Consequently, this dynamic reflects a co-evolution of the community with the technology it commercializes.

1.9. Conclusions

The conclusions of this chapter focus on solving the following question: *how are the concepts and models of strategic management, innovation, and creativity articulated to explain the dynamics of innomediation of BAs?*

According to the different sections developed in this chapter, we can affirm that the BAs as organizations have as a general purpose the creation of social and economic value and likewise, the capture of value for their different stakeholders. Therefore, they need effective strategic processes that guide their actions and give them concrete answers to the fundamental questions of the different strategic levels such as: how and where should the association grow? How and with whom should the association cooperate and collaborate to grow and compete? How and with whom should it compete? What should be its added value and its competitive advantage? and how should it work daily?

To solve these questions, it is necessary that both the managers and the boards of the associations understand the high complexity and dynamism of the environment in which their organization operates. For this reason, they need a mindset with management logics such as Processes logic and Complex Networks logic, which give them the flexibility and adaptability necessary for new challenges. Likewise, these conditions require specific SMMs such as the Organic Model or the Model of the Complex Strategy Process that offer a strategic management that understands the importance of innovation for the organization, that is, that understands the relevance of strategic management of innovation.

In addition, the complexity and dynamism also arise from the nature and functions of the association, for which management logic of the managers must be nourished from a multilevel perspective of the activity of the management of the association. For this reason, they should not only consider models and actions at the organizational level but also, they should use models of innovation management at the level of the person, the teams, the organization, and the inter-organizational relationships.

Thinking and implementing innovation at the level of people and work teams in an organization definitely leads thinking in terms of organizational creativity. Because it is clear that creativity is a human ability, this is a mental process that generates solutions or serves to seize opportunities. Likewise, in the organizational context, "personal" creativity dialogues with the creativity of other people and thus all of them are combined, complemented and strengthened to generate viable creative solutions. Finally, at the organizational level, these solutions are implemented and therefore are transformed into real innovations. In summary, creativity is a fundamental part of innovation, which is presented in parallel to it and not prior to it. In the context of the partnership, this activity of "creativity + innovation" is much more complex, because the

people and the work teams that face the challenges of innovation, in many cases, are made up of personnel of the association, its affiliated companies, and from external organizations.

On the other hand, the managers of BAs must understand that their own innovation and the innovation of their companies constantly demand to exchange knowledge with other organizations in their environment, which implies that they must think in terms of open and closed innovation. Likewise, this means that they must think and decide under a scheme of systemic, evolutionary and milieu innovation. Therefore, once again, the Processes and Complex Networks management logics represent the mindset required to strategically direct the associations, and under which, models such as the CPS, the CIM, the Games of Innovation and the Innovation Communities can be really useful to their managers and boards of directors.

It is worth highlighting that the union of strategy management, innovation, and creativity have no other purpose than to promote the sequence of value creation and capture from associations. Process in which the creative solutions of people are transformed into innovations adopted by affiliated companies, which subsequently generate organizational and technological changes in these, and finally, increase the competitiveness of the sector and the region where the association operates.

Chapter:

2. The Traditional Role of Business Associations

“Unity is strength... when there is teamwork and collaboration, wonderful things can be achieved”

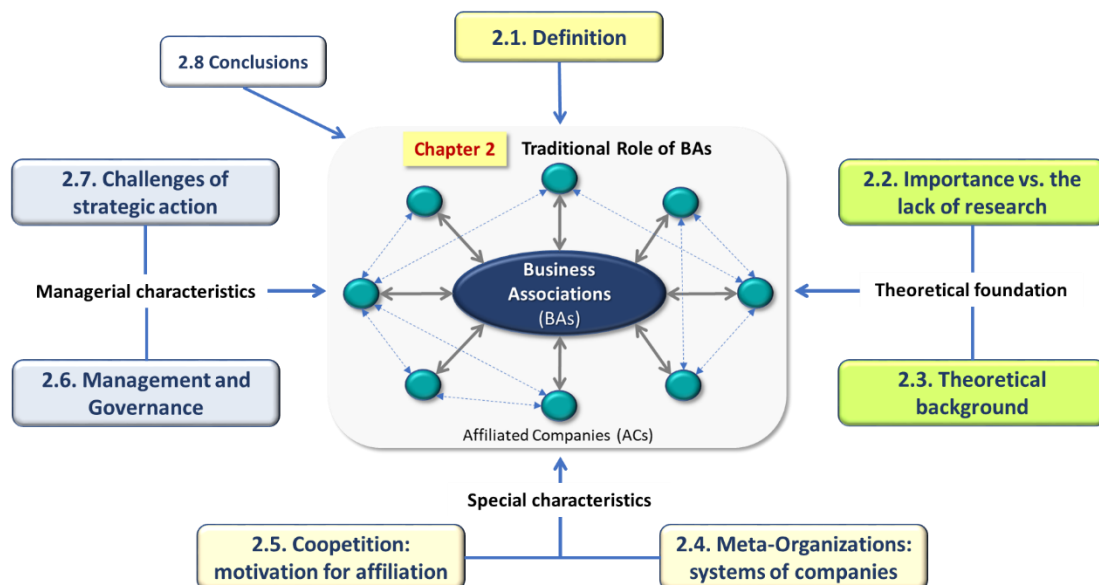
Mattie Stepanek

Poet

This second chapter, together with the first and third chapters offer an answer to the general research question GRQ1.0 (see Table 0.1) of Phase 1 of our AR project, “*What are the concepts and models that support the dynamic of innomediation of BAs?*”. Specifically, this chapter offers a partial answer to the specific research question SRQ1.3 defined as “*How has the role of BAs changed from a representative activity to an innomediary activity?*”, because this chapter only focuses on the characterization of the traditional role of associations like research object of this doctoral thesis. Consequently, next chapter address the innomediation role of BAs.

To understand the traditional role of the association entails studying the representation actions of companies of an industry, likewise diverse issues about their members or affiliated companies (ACs). In that sense, Figure 2.1 shows the seven sections of this chapter as a result of an extensive Literature Review (Adams et al., 2007; Webster & Watson, 2002) and a Content Analysis (Krippendorff, 1989; Duriau et al., 2007).

Figure 2.1. Focus of Chapter 2.



Source: own elaboration

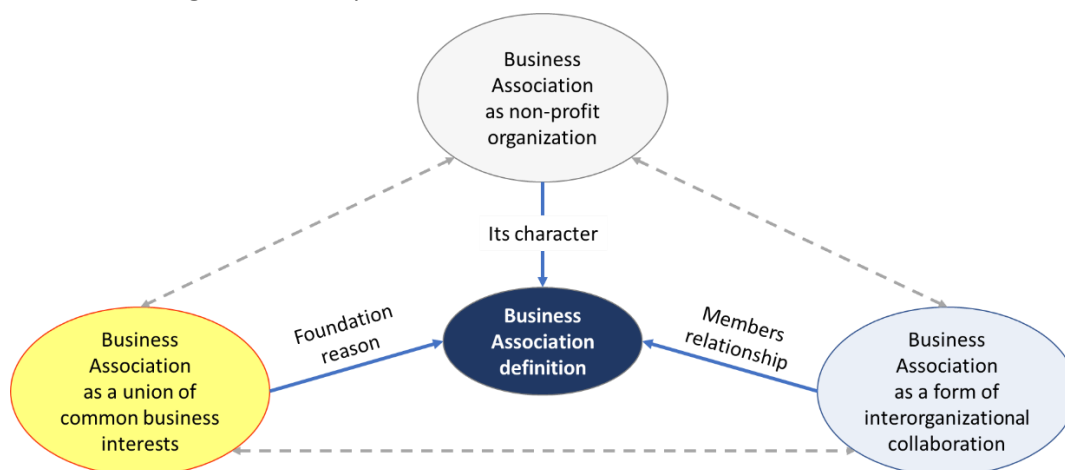
The first section describes the BAs' definition from different perspectives. The second section presents the contrast between the practical importance of BAs and the lack of research about them. Section three offers a broad vision regarding theoretical branches that explain the existence of BAs from different sciences and disciplines. After that, two special characteristics are presented through sections 4 and 5; the first one is the BAs like "meta-organizations" thank to their complex relationship with their members, and the second feature is the motivation to belonging to a BA, which we explain with the concept of "coopetition". Sections 6 and 7 talk about managerial topics of BAs. Thus, in the sixth section, we describe the particular management and governance of associations, while in the seventh section, we present the eight challenges that delimit the strategic management of BAs. Finally, we present the conclusions of the chapter.

This chapter is based on the following intellectual production developed during the doctoral studies (see Table 4.4, Chapter 4). The fourth chapter of our book "Las asociaciones empresariales como motores de la innovación estratégica en las empresas" (Alfaro et al., 2017). The conference papers titled "The role of Industry Associations as drivers of strategic management of innovation in industry" (Mejia-Villa & Alfaro, 2015); "Analysis of the role of IAs as strategic innovation intermediaries: an empirical study in Navarra, Spain" (Mejia-Villa et al., 2016a); and "Las Asociaciones Empresariales como Comunidades de Innovación Colaborativa: desarrollo de un modelo teórico" (Mejia-Villa, 2017c).

2.1. Definition of business association

The analysis of BAs literature has allowed us to understand the concept of BA from three perspectives: the BAs' character, the reason for its foundation, and the dynamic of relationship among their ACs (see Figure 2.2). The first one highlights the non-profit character of a BA to define it. The second perspective is focused on the common interests of companies associated; while the third perspective is focused on interorganizational collaboration.

Figure 2.2. Perspectives of the Business Association's definition



Source: own elaboration

On the other hand, it is necessary to clarify that BAs are also denominated as industry associations (e.g., see Dalziel, 2006; Athreye & Chaturvedi, 2007; Nordqvist et al., 2010) or industry business associations (Marques, 2017).

First perspective: the business association as a non-profit organization

According to Dalziel (2006, p. 297) BAs are nonprofit organizations that generally do not receive funding from governments, except in circumstances where they are seen to contribute to national priorities.

The manual of the System of National Accounts of the United Nations (2003, p12) points out that “Nonprofit institutions are legal or social entities created for the purpose of producing goods and services whose status does not permit them to be a source of income, profit, or other financial gains for the units that establish, control or finance them. In practice, their productive activities are bound to generate either surpluses or deficits but any surpluses they happen to make cannot be appropriated by other institutional units”. Within the 12 groups of the International Classification of Non-Profit Organizations – ICNPO (United Nations, 2003), BAs are in the eleventh group together with professional associations and unions.

Additionally, Dalziel (2007) classifies BAs or industry associations as nonprofits with “business mandate”, which differentiates associations from other kind of nonprofits organizations. In that sense, Salamon (1995, p.54) clearly differentiates between member-serving nonprofit organizations (such as professional societies, labor unions, cooperatives, and trade associations, that provide goods or services to their members rather than to society at large) and nonprofits that serve society at large, and he presents a typology of nonprofit organizations.

In sum, BAs are nonprofits organizations with a business mandate focused on member-serving, whose origin and dynamic have special conditions. For instance, as Nordqvist et al. (2010) explain, industry associations are voluntary organizations (Aldrich & Staber, 1988), meaning that they rely on the survival of their members to continue to exist (Ahrne & Brunsson, 2005). Also, associations need to understand the demands and interests of their members in order to legitimize their existence continuously (Ahrne & Brunsson, 2005).

Second perspective: The business association as a union of common business interests

From this perspective, a BA is a private, formal, noncommercial organization designed to promote the common business interests of its members (Pyle, 2005, 2006). According to Prüfer (2015, p. 306-307) “throughout the last millennium traders have formed associations to represent themselves vis-a-vis other parties and to facilitate collective action. Associations offer members a platform to meet and to exchange views about other industry participants (Doner & Schneider,

2000; Pyle, 2006) and to learn about the latest technologies, foreign markets, and standardizations (Nugent & Sukiassyan, 2009) and about prospective trade partners (Macaulay, 1963; Johnson et al. 2002). Some associations offer their members arbitration services and help to resolve disputes, which mitigates transaction costs (Woodruff, 1998; Pyle, 2005)".

Aldrich and Staber (1988, p.111) point out that BAs are "organizations created to represent business interests within specific domains, mobilizing firms within their domain so that collective action can be taken on common problems". For them, the *specific domain* is an important element because it offers the unit sense and it defines the group of members of the association. About this, Boch (1987) explains that BAs have three dimensions or spheres of attention that focus on their scope and activity, as shown in Table 2.1.

Table 2.1. Dimensions of Business Associations

Dimension	Description	Scope
Horizontal	It refers to how wide the association defines its potential field of operation	<ul style="list-style-type: none"> • Narrow scope, e.g., accepting truck companies only. • Broader scope, e.g., members come from transportation in general.
Vertical	It defines the degree to which the association recruits its members among a specific class of companies	<ul style="list-style-type: none"> • Narrow scope, e.g., accepting only small and medium sized enterprises suppliers or large suppliers (Sako, 1996). • General scope, e.g., accepting all kinds of companies within some line of business.
Geographical	It refers to the geographical range of the association	<ul style="list-style-type: none"> • BAs operate within some region or on a national scale, while others seek to unite across nations and continents.

Source: own elaboration based on Boch (1987), and Damsgaard and Lyytinen (2001).

Third perspective: the business association as a form of interorganizational collaboration

Under this perspective, BAs are defined by Barnett (2013, p. 214) as "organizations through which a group of interdependent firms, typically in the same industry, pool their resources and coordinate their efforts so that they may 'speak with one voice' on matters of shared interest". According to Marques (2017), BAs differ from other forms of interorganizational collaboration such as alliances (Gulati, 1998), business groups (Granovetter, 2005), and multi stakeholder partnerships (Selsky & Parker, 2005) in the fact that they have a formal membership composed exclusively of companies and enforcement mechanisms to ensure that members abide by the collectively agreed-upon norms and rules (Hollingsworth & Boyer, 1997a; Parmigiani & Rivera-Santos, 2011).

For Meyer (2004), there are self-purposive organizations and organizations that function as regulatory for others, and he puts BAs within this last type. He argues that they are organizations founded by other organizations to fulfill their collective purposes. In this process, the founding organizations renounce to some of their sovereignty, and with it, the association as an organization depends on its members (Boch, 1987).

2.2. Importance of business associations vs. the lack of research on them

Athreye and Chaturvedi (2007) state that much empirical works show that industry associations fulfill important developmental roles in developing countries, often compensating for inadequacies in the business environment. As examples, Athreye and Chaturvedi (2007) present the positive effects of the associations through some cases in India; Lucas (1993) shows the role of associations in the defense of the Nigerian industry; the Brazilian associations of the Sinos River Valley how suppliers of technological information and train to their members in order to compete effectively in the footwear industry (Nadvi & Schmitz, 1994); the industrial associations in China and Vietnam focused on commercial searching (McMillan & Woodruff, 1999); Nadvi (1999) highlights the support that associations provide to industry clusters. Also, Crespi et al. (2014) present the relevant role of the Colombian Association of Flower Exporters (Asocolflores) in solving problems such as air transport and access to US markets.

In developed countries, the role of BAs is also relevant. This is demonstrated by the studies carried out by Dalziel (2006) for Canadian BAs; Damsgaard and Lyytinen (2001) who wrote about BAs from Denmark, Finland, and Hong Kong; Heidenheimer and Langdon (2012) whose book is about BAs from Germany, Norway and Japan. Likewise, Kautto (2007) shows how companies work with prominent European BAs to build coalitions.

However, although there are empirical works of BAs and they are important for the economy, Marques (2017) argues that exist difficulties to find research on BAs within the management literature by three reasons:

- The first is due to the fact that such organizations figure prominently in both organizational theory and business ethics. BAs are key actors in institutional theory (DiMaggio & Powell, 1983; Wooten & Hoffman, 2008), in resource dependence theory (Pfeffer & Salancik, 1978) and in population ecology (Aldrich & Ruef, 2006; Aldrich & Staber, 1988). Similarly, within the corporate social responsibility literature, BAs are granted prominence in stakeholder theory (Emshoff & Freeman, 1981; Freeman, 1984) and industry associations, along with professional associations, are highlighted as an important means by which to establish new norms and deal with ethical issues (Carroll & Buchholtz, 2014).
- A second reason is concerning the prevalence and influence of such organizations in both national and international governance spheres. While every industry has at least one BA, many have several, and most firms belong to one or multiple associations (Barnett, 2013). Moreover, BAs have played and continue to play an instrumental part in the governance and political economies of many countries (e.g. Crouch & Streeck, 2006; Hall & Soskice, 2001).
- Finally, the third reason is the fact that in recent decades a proliferation of such organizational coalitions focusing on dealing with social and sustainability issues has emerged (Abbott et al.,

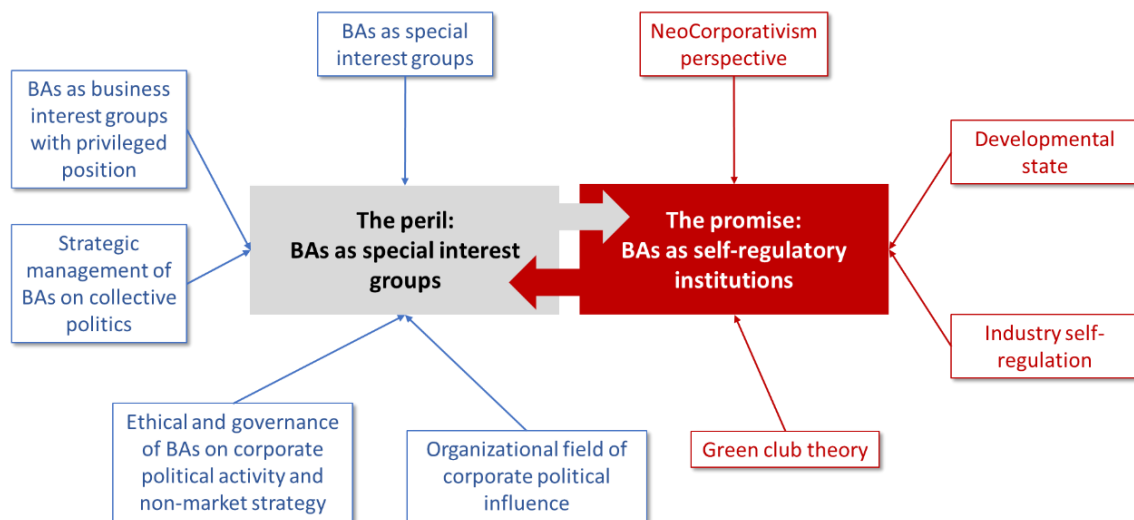
2013). Grayson and Nelson (2013) talk about “corporate responsibility coalitions”. This growth has been both along industry lines and across industries, at both the national and international levels (e.g., D’Hollander & Marx, 2014; Kinderman, 2015).

In consequence, Marques (2017, p.735) points out that numerous scholars in various streams have both recognized the importance of the phenomenon (the BAs) and the lack of research on the topic, which has recently led to numerous calls for research on BAs (e.g., Barley, 2010; Barnett 2013; Djelic & den Hond, 2014; Greenwood, 2008; Lux et al., 2011; Parmigiani & Rivera-Santos, 2011; Rajwani et al., 2015). As a response, next section presents the fundamentals of BAs, according to different theoretical disciplines.

2.3 Theoretical background of business associations

Marques (2017) points out various theoretical branches that explain the BAs’ phenomenon. In general, he argues that there are two perspectives which group those branches: BAs as special interest groups, and BAs as socially beneficial and self-regulated institutions. He denominates the first group as “the peril” of BAs and the second one as “the promise” of BAs (see Figure 2.3).

Figure 2.3. Theoretical perspectives that explain the Business Associations



Source: own elaboration based on Marques (2017)

2.3.1. The “peril” of BAs as special interest groups

Marques (2017) identified five negative effects (perils) that the academic literature points out about the collective action of associations in the economic and social environment (see the left side of Figure 2.3).

Business associations as special interest groups

The most influential line of theory on BAs came from the ranks of economists working in the public choice and economic transaction cost tradition in the 1950s and 1960s (Olson, 1965; Buchanan, 1965; Arrow, 1951; Downs, 1957; Friedman, 1953). A branch of rational choice theory, public choice uses formal economic models and methods to study phenomena in the domain of political science. Two theories were particularly influential in conceptualizing BAs as special interest groups: the theory of collective action (Olson, 1965), and the rent-seeking theory of government policy-making (Maxfield & Schneider, 1997b; Krueger, 1974).

Business associations as business interest groups with privileged position

According to Marques (2017), the public choice perspective on collective action challenged the dominant paradigm at the time, known as pluralism. The challenge resulted in a reformulation of the pluralist perspective and the literature on special interest groups within political science that became known as neopluralism. Its focus was the special status of organized business (Lowery & Brasher, 2004). First, neopluralists assert that business benefits from greater ease in organizing for collective action (Wilson, 2003). This is because, as Olson (1965) pointed out, the benefits will be more concentrated and the ease of free riding will be less. Second, firms' command over significant material resources, particularly in comparison to other noncommercial interest groups, allows them to expend comparatively greater resources on promotion of certain policy positions—lobbying, donating money to politicians and parties, funding think tanks, public relations experts, etc. (Wilson, 2003; Lowery & Brasher, 2004).

Strategic management perspectives of business associations on collective politics

According to Marques (2017), although the relationship between business firms and government has been traditionally conceptualized in terms of representative democracy and the relative policy influence of different interest groups, the analysis of business–government relations has also been developed within a managerial, firm-centric framework. BAs figure prominently in two closely related, and increasingly overlapping, streams of literature within management strategy, corporate political activity (CPA) and non-market strategy (NMS). Both of these have focused on how firms “shape” their socio-political environment, both individually and collectively, via business associations (Marques, 2017, p.740).

The NMS literature focuses on the study of how firms address socio-political issues and institutions that affect them. Baron (2006, p.2) defines the non-market environment as: “the social, political, and legal arrangements that structure interactions outside of, although in conjunction with, markets and private agreements”. The nonmarket environment encompasses those interactions between the firm and individuals, interest groups, government entities, and the public, that are intermediated not by markets but by public and private institutions (Baron, 2006). Non-

market strategy is thus the analysis, development and deployment of strategies intended to shape “the rules of the game” to the firm’s advantage (Bach, 2007; Baron, 1995, 2006; Baron & Diermeier, 2007). Market strategies (such as those presented at the levels of the strategy in Section 1.2.1.) and non-market strategies should be understood as complements and, at times, substitutes for each other (Baron, 1995, 2006).

CPA is understood to be intentional business efforts to influence government in ways favorable to the firm (Baysinger, 1984; Shaffer, 1995). The focus of CPA research has been the investigation of the antecedents of firms’ political behavior (e.g., firm, industry, issue, and institutional characteristics) (Bonardi et al., 2005; Lenway & Rehbein, 1991) and the outcomes of their efforts (e.g., policy decisions and firm performance) (Bonardi et al., 2006; Kim, 2008; Lord, 2000; Lux et al., 2011). It has also studied how firms organize internally for CPA (Oliver & Holzinger, 2008; Shaffer & Hillman, 2000) and the political strategies employed by firms (Bonardi & Keim, 2005; Hillman & Hitt 1999; Lord, 2003; Schuler et al., 2002).

Ethical and governance perspectives of business associations on CPA and NMS

Marques (2017) explains that there has some noticeable consternation over the lack of a normative dimension within CPA and NMS research. In that sense, Baron’s (2006) textbook on NMS discusses CSR and the ethical implications of corporate political activities to some length; and Oliver and Holzinger (2008, p. 516) suggest that “further investigation... may help firms to develop competitive and political strategies that serve both public and private interests”.

In a critical way, Oberman (2004) asks what can be done to safeguard democracy given the fact that powerful business actors are a political reality that is unlikely to change. Consequently, he develops an ethical framework, based on a series of questions for business leaders to follow when approaching government. Likewise, Mantere et al. (2009) contend that the CPA literature may be promoting sociopathic and anticompetitive behavior by firms. Their critique of CPA echoes criticisms of the five forces framework (Porter 1980) by strategy scholars who argue that the structure–conduct–performance (SCP) analytical framework was transformed into a strategic tool for firms to create market barriers and reduce competition (Barney & Hesterly, 1996; Mintzberg et al., 1998).

Organizational field of corporate political influence

Within the management literature, concerns over the negative consequences of corporate collective action have been voiced by several prominent organizational scholars who have suggested the need to examine the institutionalization of corporate power. Spearheading this push has been Stephen Barley (2007, 2008, 2010), who has argued that corporations and their representative associations may be undermining representative democracy and damaging the

public good, by capturing government regulatory agencies, promoting legislation that serve their interests at the expense of citizens', and privatizing key government activities.

2.3.2. The promise of BAs as socially beneficial and self-regulated institutions

In a similar way, Marques (2017) identified five positive effects that the academic literature highlight about the collective action of the BAs (see the right side of Figure 2.3).

The NeoCorporatism perspective

According to Marques (2017) the literature on comparative capitalism argues that there is no one best institutional arrangement for national economies. It highlights the fact that many countries have relied less on market forms of coordinating economic activity and more upon other institutional arrangements, each demonstrating its own strengths and weaknesses (Amable 2003; Hall & Soskice, 2001; Hollingsworth & Boyer, 1997b). The BAs play an important role in this literature, rather than special interest groups or colluding capitalists, BAs are argued to be an effective form of industry self-regulation.

The origins of this comparative literature stream can be traced back to the concept of neocorporatism (Molina & Rhodes, 2002), originating in an empirical political economy research in Latin America and Europe. According to Schmitter (1979) this literature suggests that in contrast to liberal political systems where competition for representation occurs, governments in neocorporatism countries clearly established the desirability of strong unions and BAs as policy-making partners, ensuring their unique representational authority within a process of "political exchange".

Developmental State

BAs are a common form of governance in the developing world as well (Marques, 2017). There is a vast literature that examines the widespread use of such interorganizational forms in countries that have experienced successful economic and social development. BAs have played a pivotal role in processes of consultation and cooperation between the state's bureaucracies and the private sector (Maxfield & Schneider, 1997a; Woo-Cumings, 1999). Institutionalized processes of information exchange and dialogue were crucial for agreement and joint goal setting, ultimately serving as a basis for policy formulation and implementation and ensuring that the espoused policies reflected true developmental goals rather than narrower interests (Cumings, 1999; Doner & Schneider, 2000; Onis, 1991).

Industry self-regulation

Two key aspects stand out from this stream of literature—one empirical, one theoretical. Empirically, the self-regulation literature is predominantly based upon studies of environmental

initiatives. It draws particularly heavily on the chemical industry's experience in developing the Responsible Care program (see e.g., Barnett & King, 2008; Conzelmann, 2012).

Theorists in this stream have conceptualized self-regulation institutions as solutions to the classic collective action dilemma (Olson, 1965) as applied to the commons. Their adaptation of the collective action dilemma suggests that because enhancing the industry's reputation carries a cost, the rational thing for an individual firm to do is free ride and let other firms carry the burden of investing into improving the collective reputation, thereby benefiting without incurring any costs. Consequently, if all firms act rationally, all firms are worse off. However, resource common management theories (Ostrom, 1990) have been drawn upon to explain industry dynamics where the collective action problem is overcome. Ostrom's work, which won her the Nobel prize, suggests that common pool resources such as forests, fisheries, and public lands used for grazing cattle, can be effectively managed by collective action that does not involve government regulation or market mechanisms.

Green Club Theory

Related to the strategic self-regulation literature is another research stream exploring self-regulation on an international level—green club theory (see Berliner & Prakash, 2014; Prakash & Potoski, 2006; and Schuler, 2012; among others). The starting point for this theory is the observation that firms will sometimes voluntarily joint programs that require them to abide by a form of non-state regulation and invest into improving their environmental performance. The “club” that is being referred to is the institution that is created by the system of voluntary rules. Green club theory was developed in large part by studying ISO14001, a voluntary environmental set of standards for environmental management that has experienced widespread adoption (Prakash & Potoski, 2006).

2.4. Meta-organizations: a systemic view of business associations

This section focus on BAs are unions of companies and not of people, which implies specific features as organizations. This entails thinking about the members and the relationships among them, more than internal management issues of these associations. Likewise, this entails to understand BAs as systems of companies, their coordination and control.

Berkowitz and Dumez (2016) argue that increase of contemporary societal problems, such as sustainable development in its environmental, economic and social dimensions, human rights, and corporate social responsibility, call for more collective action at a global level. As a response to this challenge, the organizational management is changing. About it, Gulati et al. (2012) affirm "the world of organizations has evolved substantially" and consequently, they explain that organizational theories must coevolve with these new challenges. As an example of this, the

concept of “meta-organization” appeared independently in the mid-2000s (Berkowitz & Dumez, 2016).

Ahrne and Brunsson (2005) coined the term “meta-organization” (MO) to define organizations that arrange their mutual relations in the specific form of a formal organization. Whereby, an MO is an organization whose members are organizations, rather than individuals. They present many types of MOs which include the BAs or industry associations. Likewise, Ahrne and Brunsson (2005) highlight the role of members because they distinguish meta-organizations from individual-based organizations. In that sense, members are not only fundamental assets for their organizations, they also represent constraints. In consequence, Ahrne and Brunsson (2005) give a special attention to the decision to participate in a MO, the identity behind MOs, the MOs’ capability to create members, the conflicts among members, and the stability of MOs.

From other point of view, König et al. (2012) affirm that MOs play an important role in the evolution of almost all social fields, and exert significant influence on technological, social, and economic change. This is because organizations form an MO to collaboratively eliminate some of the uncertainty and uncontrollability inherent in the environment (Ahrne & Brunsson, 2008).

According to König et al. (2012), MOs create a higher level of order at members’ interaction and between them and their environment. It is possible because they promote mental models and definitions related to domain boundaries (Zietsma & Lawrence, 2010), quality and ethical standards, value dimensions, and processes of value creation. As Greenwood et al. (2002, pp. 61–62) note, MOs “serve as arenas through which organizations interact and collectively represent themselves to themselves [. . .] and act as the means whereby communities represent themselves to others in the field”. Thus, MOs encourage the networking and knowledge sharing between members, and are engaged in the collaborative build-up of knowledge and trust (Greenwood et al., 2002; Alter & Hage, 2003). Furthermore, MOs establish and coordinate competition and collaboration between the members. MOs also coordinate interactions between members and outside stakeholders through such activities as lobbying for innovation friendly government policies (Sako, 1996). In sum, MOs contribute to the resolution of some of the major market coordination challenges (Beckert, 2009; Prokopovych, 2011).

2.5. Coopetition: the motivation to associate

The previous section focused on association members and their relationships, but why do independent companies want to be affiliated with an association? what is the motivation behind this strategic decision? In this section, we propose the “coopetition” as the answer to these questions, recalling that this is a corporate-level strategy of organizations, as we raised in Chapter 1, Section 1.2.1.

To argue this, we take the study by Berkowitz and Dumez (2016), where they explain the coopetition as a strategic action of MOs' companies and also, they claim for more research in this issue. Although the term coopetition was coined by Ray Noorda in 1980s, its study arose with the book by Brandenburger and Nalebuff (1996) and seminal works such as Bengtsson and Kock (1999, 2000), and Dowling et al. (1996) among others.

Reflecting about the concept of coopetition, Bouncken et al. (2015) express that the *competitive perspective* is based on divergent interests, as each firm's goal is to earn above normal profits at the expense of its competitors (Padula & Dagnino 2007). While, the *cooperative perspective* relies on a "diametrically opposite assumption" (Bengtsson & Kock 2000, p. 416) and it is based on convergent interests (Padula & Dagnino 2007). Here, the main interest is to achieve common and not individual goals by means of collective instead of single actions. Through strategic alliances, networks, and other partnerships firms seek to enhance their performance as resources, capabilities, and risks can be shared (Gnyawali & Park 2009, 2011; Bouncken et al. 2014, 2015).

According to Bengtsson and Raza-Ullah (2016) the coopetition has been conceptualized in multiple ways such as value net (Brandenburger & Nalebuff, 1996), dyadic relationship (Bengtsson & Kock, 2000), paradox (Raza-Ullah et al., 2014), business model (Ritala et al., 2014), and ecosystem (Daidj & Jung, 2011), and studied on multiple levels like network, dyadic, triadic, and intra-firm levels. Therefore, its understanding needs the construct of coopetition with respect to different levels, to integrate the diverse major themes of coopetition into a coherent whole, and to develop an overarching and dynamic multi-level model of coopetition. In that sense, Bengtsson and Raza-Ullah (2016) present two definitions belong to two perspectives: The Actor School of Thought, and the Activity Schools of Thought.

Bengtsson and Raza-Ullah (2016) explain that the first school defines coopetition in a broad sense, i.e. as a context, and divides cooperation and competition among actors (Brandenburger & Nalebuff, 1996). Its main concept is the "value-net", a schematic map designed to represent different actors including customers, suppliers, complementors, and competitors, as well as the interdependencies between them (Afuah, 2000). These actors collaborate to bake a bigger cake and then compete to take a maximum share of that cake (Vapola et al., 2008). Thus, a focal firm cooperates with some actors and competes with others in the network. Note that this approach is the same of Games of Innovation model explained in Section 1.8.1.

In contrast, to meet the limitations of The Actor School of Thought scholars have proposed the Activity School of Thought (Bengtsson & Kock, 2000). According to Bengtsson and Raza-Ullah (2016), the latter focuses on coopetitive relationships instead of the network context. This school suggests that firms simultaneously cooperate in some activities but compete in others. In brief, the focal firm engages in one-to-one, direct, and simultaneously cooperative and competitive interactions with the other firms (Gnyawali & Park, 2011). For these contradictory logics of

cooperative and competitive interactions between the same pair of firms at the same time, Bengtsson and Raza-Ullah (2016) talk about the *paradoxical nature of coopetition*.

Understanding that a collective association can control the conflicts between coopetitive firms and define how to cooperate and compete (Bengtsson & Kock, 2000; Osarenkhoe, 2010), we propose that company's motivation behind its affiliation with an association is based on the implementation of a *coopetition strategy* to create and capture value, where the firm uses the BA as a space for making beneficial strategic alliances with the other members (Zhang & Frazier, 2011).

According to the above, this BAs' coopetition dynamic is better explained under the Activity School of Thought. Because, sometimes the AC cooperates with another member, and other times it competes with this same. Dahl et al. (2016) explain this dynamic through a game of strategic practitioners at external (BAs in our case) and internal level (ACs for us). From it, the strategy practitioners are defined as individual actors "who do the work of making, shaping and executing strategies" internally at different organizational levels as well as in the external environment (Whittington 2006, p. 619; see also Jarzabkowski & Spee 2009). Thus, Dahl et al. (2016) explain that external coopetitive practitioners are institutional actors and associations that influence the cooperative activities through requirements and support (Bengtsson & Kock, 2000; Okura 2007; Tidström 2009) or through the formation of legitimate practices (Jarzabkowski & Whittington 2008, p.102). Internal coopetitive practitioners embrace organizational members (ACs in our case) engaged in the formulation of the cooperative and competitive activities.

2.6. Management and governance of business associations

The purpose of this section is to present a basic theoretical framework of BAs' management and governance. Therefore, below we explain the complexity of the emergence and development of an association considering that its management and governance are different to a traditional company due to its non-profit and democratic character. Regarding to this, the Center for International Private Enterprise and the World Chambers Federation (CIPE & WCF, 2011) propose seven Governance Principles for BAs as Table 2.2 showed.

For a better understanding of these issues we use the fundamentals of cooperatives and their conceptual framework. It is possible to develop this analogy between both types of organizations for the following reasons: first, because a cooperative is an association by definition, according to the International Co-operative Alliance (ACI, 1995); second, because although the association is a legal figure different of the cooperative, its philosophy, values, management style, and general structure are similar (as will be seen below); third, because the cooperatives are the nonprofit organizations with the greatest theoretical foundation of all, which have a tradition of more than 150 years (Rothschild & Whitt, 1989); fourth, because experts like Ricardo Dávila⁵ was consulted

⁵ Recognized expert and researcher at the field of cooperativism at Ibero America

about it issue and they advised to use this analogy. Finally, because this doctoral thesis is not focus on legal particularities and issues, but it is focus on topics about BAs' strategic management of innovation.

Table 2.2. Governance Principles for Business Associations

Principle	Description
1. Creating independent, mission- and member-driven associations	The association governance framework should create independent, effective, mission-driven business associations that represent their members' interests, create value, and fulfill their broader role in society.
2. Members as owners of the association	The association governance framework should recognize that members are the foundation of its existence and enable them to act as informed and active owners, ensuring that governance is carried out in a transparent and accountable manner, with the necessary degree of professionalism and effectiveness.
3. Equitable treatment of members.	The association governance framework should ensure fair and equitable treatment of all members.
4. The role, structure, and responsibilities of the board	The association governance framework should create a board that ensures strategic direction, develops policy, and monitors implementation; ensures compliance with organizational and national laws, regulations, and relevant ethical standards; ensures proper management by professional staff; and ensures accountability and openness.
5. Disclosure and transparency	The association governance framework should ensure that timely and accurate disclosure is made on all material matters regarding the association, including financial situation, performance, membership, and governance.
6. Relationship with stakeholders	The association governance framework should ensure that relationships with key stakeholders are properly disclosed and are initiated in the best interest of all members of the association.
7. Ensuring effective institutional framework for governance of business associations	Effective association governance rests upon an institutional framework that promotes fairness, transparency, accountability, and responsibility in the private and public spheres and is consistent with the rule of law.

Source: CIPE and WCF (2011)

According to Dávila (2004, p.34) “cooperatives are the expression of a management style, they are a particular organizational practice that has been given under the tutelage of a specific doctrine, the cooperative doctrine”. Applying the analogy between cooperatives and associations, the common features of their management are:

- *The Associative Advantage:* Ramírez (2002) argues that the particularities of identity of this kind of organizations offer an advantage in front of capitalist firms. Thus, the service and its quality are the main purpose of organization, and features like participation in ownership, participation in power, participation in results, community participation, and specific values (mutuality, autonomy, distributive justice and trust) are differentiating factors with respect to traditional companies. To a better understanding of this point Table 2.3 shows a comparative view of the basic paradigms of strategic management of organizations.

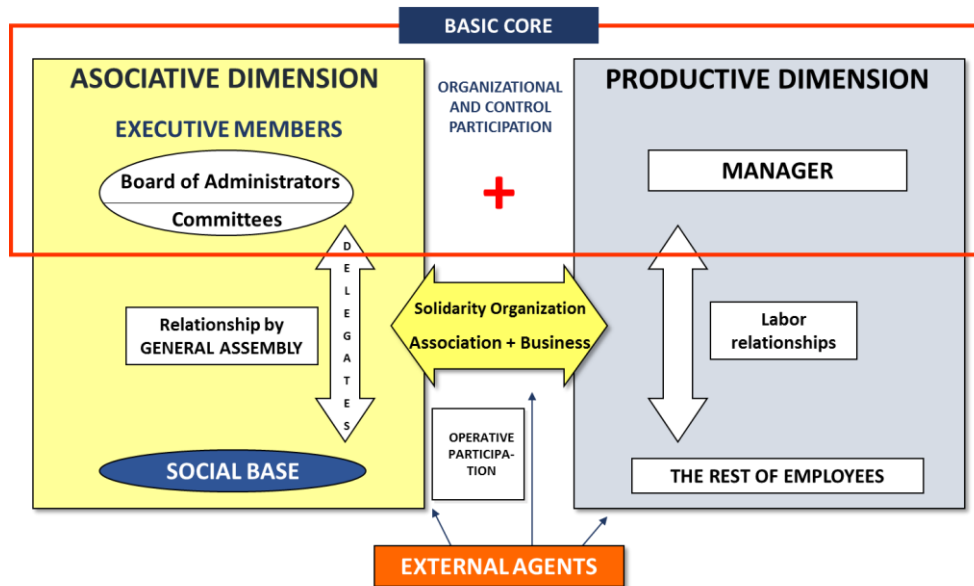
Table 2.3. Basic paradigms of strategic management for associative and traditional organizations.

Distinctive fundamentals	Paradigm of associative management	Paradigm of company by shares
Purpose	<ul style="list-style-type: none"> • Service and quality • Association 	<ul style="list-style-type: none"> • Profit and quality • Capitals and shareholder
Management philosophy	<ul style="list-style-type: none"> • Mutuality • Autonomy • Trust-based loyalty 	<ul style="list-style-type: none"> • Opportunism • Dependence • Loyalty based on subordination
Management mode	<ul style="list-style-type: none"> • Management of service • Stakeholders empowerment 	<ul style="list-style-type: none"> • Management of performance • Power and authority from top managers

Source: Ramírez (2002, p.39)

- *The Associative Specificity:* according to Bastidas (2004) there are five peculiarities of this type of organizations: (1) they are an association and at the same time, a business with joint ownership and democratic management; (2) they are based on an autonomous association of people (who represent companies) which assumes the management and control of business activity; (3) they are jointly owned companies, where each member has same contribution and decision power, which expresses the democratic principle; (4) they transform individual responsibilities in social responsibilities because they face common needs; and finally, (5) they have no profit because their primary purpose is the provision of a service that meets the needs of their members. Bastidas emphasizes that "non-profit" is not contradictory with the logical desire to achieve better income and better living standards.
- *The Associative Governance and the Basic Core:* It is the set of institutions and norms by which the associates control the fulfillment of the objectives that the organization has set itself (Coque et al., 2000). According to CIPE and WCF (2011, p.i) "governance is generally defined as a set of policies, institutions, mechanisms, and practices by which an association is directed and controlled. Effective leadership is the central part of good governance – leadership that is representative of its membership, treats all members fairly, and acts in the best interests of the organization". Therefore, the government is constituted by the assembly of associates which elects the board of administrators and the manager. To highlight the collaborative work of these three organs, Dávila and Forero (1987) created the concept "*Basic Core*" used to represent the space of management, direction and control of the association. Figure 2.4 shows a schema of associative business with its dimensions associative and productive or operative that are articulated by the basic core.
- *The Criterion of Identity:* in the association, the associate assumes the double role of owner and user, while in private capitalist companies, the partners only assume the role of owner as is the case of shareholders in a corporation or even a limited company. From this criterion, it is considered that the associate is interested in participating in the management of his/her association and to ensure that it does not deviate from the objectives set by the collective. (Dávila, 2004, p. 42).

Figure 2.4. The Basic Core of Associative Organizations



Source: based on Dávila (2004) and Coque et al. (2000)

- *The Managerial Role in the Association:* According to La Flamme and Roy (1995) the managerial function is composed by five great functions: the socioeconomic function, the administrative function, the coordination function of the specific areas, the social mobilization function, and the business ability function.

2.7. Challenges of strategic action of business associations

As a result of a particular way of BAs' management and governance emerges requirements and limits for strategic actions of associations. Therefore, Lafleur (2003) raised the "Model of Co-operative Challenges" which summarizes and connects in a dynamic way eight single characteristics of the co-operative identity through the connection of four concepts: co-operative challenges, strategic actions, strategic results, and the environment.

He calls "challenges" to these eight single characteristics. Under the same reason presented in the previous section, we adapt his model to associations. Therefore, Lafleur (2003) would explain each challenge as follow:

1. *Challenge of Good Associative Governance:* Thanks to principles of cooperation and governance practices, these organizations have the structure for the good governance. According to CIPE and WCF (2011, p.i) "good governance is essential to creating BAs that are independent and mission-driven, can grow a broad membership base, can be responsible financial stewards, provide membership services, and effectively represent their member interests in the public policy process". In the same sense, CIPE and WCF (2011, p.i) add "putting democratic mechanisms into place for leadership selection, ensuring transparent and responsible decision-

making procedures, and separating governance and management functions within associations are the key elements of good governance”.

Strategically, this results by a right and an obligation of participation of the members and in a series of rules of the delegation of powers between the members, the administrators, the managers and the employees. Likewise, this participation produces concrete results: improvement of the members' fidelity, contributions in strategic information, a better feeling of membership, etc.

2. *Challenge of Inter co-operation:* The principle of cooperation between organizations testifies the dynamics of regrouping of them in federations or confederations mainly according to their sector by keeping a dynamic where the basic associations remain owners of the federation, and these latest owners of the confederations.

At the strategic level, this sectored inter cooperation must allow to organizations the development of projects of regroupings with an aim of controlling, for example, a new organization in order to offer to their members better and additional services to benefit from economies of scale, etc.

3. *Challenge of the Investment and Capitalization:* By the co-operative principles of the limited remuneration on the funded capital, of the inalienable reserve and the need for being member-user to sit at the board of administrators, the dynamics of the investment and capitalization pose a particular challenge in term of sources of financing and capitalization.

Strategically, this obliges to the association to find the money necessary to its starting and its development mainly among its members mainly with assets and/or their dues. This poses the challenge to adequately remunerate the investments of the members and to establish the bond between capitalization and cost price all while maintaining an investment internal and adequate for the development of the association.

4. *Challenge of the Values of Cooperation:* The basic idea of the association is to gather people who represent companies that have a common need. By doing this, these people gathered in associations want to build a project according to values of cooperation. This point makes that the association develops and applies the values of cooperation to the whole of its relationships (e.g., employees, suppliers, community).

Strategically, the decision-making vis-à-vis to the various actors of the association must reflect this engagement towards the project of cooperation and produce a differentiation marked of its products or services.

5. *Challenge of the Relation of Use:* All the dynamics of management of the associations aims at optimizing the relation of use or the associative advantages of its members. This characteristic is also used as a guide for a development centered on the needs of the members in a precise sector.

Strategically, the dynamics of development of the association will have to always be in bond with this relation of use and not with a financial relationship. Consequently, the strategic analysis for the development of the association will rest not on a maximum profitability, but on a maximization of the relation of use or, in a more associative vocabulary, on an optimization of the associative advantages. The strategic planning and objectives are, consequently, different from the traditional company.

6. *Challenge of the Development of Community:* The first objective of an association is to give the best products and services to the members. But, by carrying out this objective, the associations must also take part, according to their means, with a harmonious development of their community. Because they belong to the community where members come from.

Strategically, the development of the association will have also to be centered on its community. Thus, the manager will have to take into account the dynamic local work of his/her association and to evaluate the best ways of making a beneficial use of the potentialities of its identity.

7. *Challenge of Education in Cooperation:* This challenge exceeds the traditional horizon of the education of the principles of cooperation to become the prism through which the practices of management are built.

The association must strategically make that the leaders put at the center of their reflections and actions the association, the single identity and source of inimitable key competences. In addition, the members and its parts also must, in their daily relations with the association, to perceive and develop the associative differences. This education is the prism through which are analyzed the situations and through which the products and the services are offered to the members and other parts.

8. *Challenge of the Service/Product:* Associations are created with an aim of meeting a need by the offer of a product or a service within a framework for associative development. Thus, the product or service of the association goes beyond the traditional equation quality/price. Even if this equation remains an element impossible to circumvent of its provision of services, the association must also produce an appreciation of associative/cooperative character of them. The whole of the challenges of the model must thus concretely produce an appreciation in the offer of the product or the service of the association.

Strategically, the association must thus offer a product and/or service with a competitive price, a competing quality and a series of single associative/cooperative appreciations.

In summary, the first three challenges are focused on intern characteristics of associations which managers and administrators need to reflect, to evaluate and take strategic decisions. Thus, they are related to three keywords: “proximity” (decision, information, feeling of membership) for the challenge of the good associative governance; “financing” for the challenge of the investment and of capitalization; and “networking” for the challenge of the inter co-operation within the sector. Next three challenges are about the type of development that an association must produce. Strategically, three watchwords summarize these challenges: a development centered on the needs of the members (the challenge of the relation of use), on their vision (the challenge of the values of cooperation) and on their community (the challenge of the development of the community). The final two challenges are particular to the direction of the association, where a challenge is in the center of the model (the challenge of the service/product) and the another includes it (the challenge of education in cooperation).

2.8. Conclusions

The three perspectives of definitions of BA (see Figure 2.2) present a series of implications that are worth highlighting. Thus, the perspective of the BAs as non-profit organizations corroborates that their main purpose is the creation and capture of social and economic value (as we explain in the previous Chapter). Likewise, this implies that their priority is the provision of services to their members and not the obtaining of profits, which generates various management challenges for the associations in aspects such as financing, capitalization, dividend distribution and equity participation, among others.

The perspective on BAs as a union of the common interests of a group of companies has different implications. For example, the importance of the definition of the domain and scope of the association, which allows defining who can be its members and what their needs and interests are. Also, this entails what is the potential of the association to grow in the number of affiliates. Also, this union of common interests represents a government by participation and not by economic power. On the one hand, this implies a co-evolution of interests of the ACs and the association, which in turn is tied to the development of the technology used by that group of companies. On the other hand, this entails a constant search for the autonomy of the association in relation to its ACs.

The perspective where BAs are understood as specific forms of inter-organizational collaboration also represents implications of the structural, relational and strategic order. With respect to the former, the BAs are considered Meta-Organizations that coordinate the activity of groups of companies, and for this reason it is possible to relate them to concepts such as Games of Innovation and Innovation Communities (see Sections 1.8.1 and 1.8.2, respectively). Regarding

relational implications, this perspective denotes a diversity of interdependencies and interactions among the ACs and between them and the association. Likewise, this allows thinking about cooperative and collaborative relationships between ACs and BAs (as explained in Section 1.7.2), and about alliances for the Coopetition strategy.

The previous perspectives show that the nature and action of the BAs are complex, even these are more complex than the traditional companies. According to Marquez (2017), this situation has generated different points of view that study the associations and therefore, there are not many investigations in the field of management. For instance, they are studied by organizational theory, business ethics, governance, and social and sustainability disciplines. Additionally, there are conflicting positions between these points of view that study BAs. On the one hand, they are seen as interest groups with privileged positions that seek benefits for themselves; while on the other hand, they are considered effective self-regulatory organizations for the development of industries and countries. In line with this last interpretation, Dalziel (2006, 2007) and Watkins et al. (2015) present the benefits of BAs in innovation ecosystems, and at the same time, they show the difficulties in measuring and evidencing their impact, which entails the invisibility of their function and the lack of studies in this regard.

In order to manage this complexity, the members, the boards of directors and the managers of the associations must understand the special model under which the management and governance of this type of organization is developed. In general, they are developed under different principles and values than those of traditional companies. Hence, they are considered a different organizational paradigm. As such, associations must face a series of challenges for their strategic action (Lafleur, 2003).

These challenges directly influence the strategy of the BA. For example, its corporate-level strategy is subject to the challenges of interco-operation, which encourages the association to grow in interaction with the federations and create new organizations for the provision of specialized services; and also to the challenge of community development, which fosters it to grow in the place where its members are. At the competitive level of the strategy, the association is challenged to develop differentiated services, rather than low cost for its members, because BA is obliged to increase "the relationship of use" rather than to increase returns on investment. Finally, at the level of the functional strategy, on the one hand, the association face the challenges of scarce financing and capitalization, while on the other hand, it faces the challenges of good associative governance and the challenges imposed by the cooperative values.

Chapter :

3. Business Associations as Innovation Intermediaries

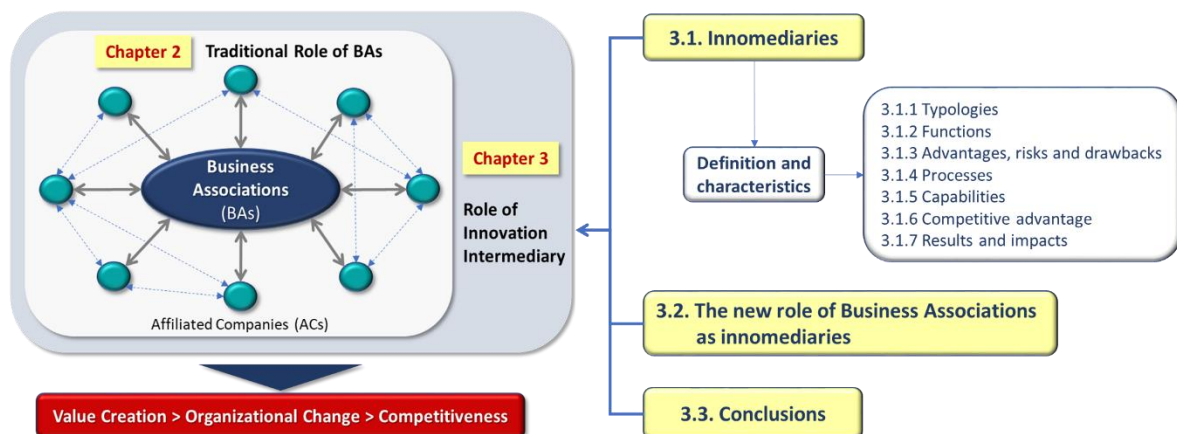
“Once you have an innovation culture, even those who are not scientists or engineers - poets, actors, journalists - they, as communities, embrace the meaning of what it is to be scientifically literate. They embrace the concept of an innovation culture. They vote in ways that promote it. They don't fight science and they don't fight technology”.

Neil deGrasse Tyson
Scientist and writer

This third chapter aims to go beyond traditional role of BAs to contribute, together with the two previous chapters, responding to the general research question GRQ1.0 “*What are the concepts and models that support the dynamic of innomediation of BAs?*” (see Table 0.1). Likewise, in this chapter, we pretend to complete the answer for the specific research question SRQ1.3 “*How has the role of BAs changed from a representative activity to an innomediary activity?*” which first was addressed by Chapter 2. With this third chapter, we finish the build of the theoretical framework of this thesis. Hence, we also finish the Phase 1 of the AR project.

As Figure 3.1 shows, the new role of BAs as innovation intermediaries is explained in this chapter. However, previously we present the definition and different characteristics of innovation intermediaries, and finally, we present the conclusions. For the development of this chapter, we carry out a *Literature Review* (Adams et al., 2007; Webster & Watson, 2002) under the *Snowball technique* (Wohlin, 2014) and a *Content Analysis* (Krippendorff, 1989; Duriau et al., 2007), which are explained in Chapter 4 (Table 4.2).

Figure 3.1. Description of Chapter 3



Source: own elaboration

This chapter is based on the following academic products (see Table 4.4, Chapter 4): the third and fourth chapters of our book *“Las asociaciones empresariales como motores de la innovación estratégica en las empresas”* (Alfaro et al., 2017); the conference papers *“The role of Industry Associations as drivers of strategic management of innovation in industry”* (Mejia-Villa & Alfaro, 2015), *“Analysis of the role of IAs as strategic innovation intermediaries: an empirical study in Navarra, Spain”* (Mejia-Villa et al., 2016a), *“Las Asociaciones Empresariales como Comunidades de Innovación Colaborativa: desarrollo de un modelo teórico”* (Mejia-Villa et al., 2017c), and *“Análisis del proceso de Capacidad de Absorción en las Asociaciones Empresariales como intermediarias de innovación”* (Mejia-Villa et al., 2017b).

3.1. Innovation Intermediaries: definition and characteristics

Edler and Yeow (2016, p.414) define *innomediation* as an activity of collaborative innovation: “intermediation in innovation serves to establish or enable the link between different actors with complementary skill sets or interests in order to support the generation and diffusion of innovation”. These authors distinguish the *direct intermediation*, which consists of gathering actors and supporting their interaction, from *indirect intermediation*, where the intermediary facilitates or supports the actors with the purpose of a better understanding of their preferences, interests and abilities, as well as the object of transference between them (e.g., knowledge, technology or products, among others).

According to some authors, innovation intermediaries represent a platform for collaborative innovation. In that sense, Gassmann et al. (2011) argue that intermediaries are external institutions that support companies in their innovative activities; and they also explain that intermediary is an all-inclusive term that includes a company that delivers an innovative service to a customer in a variety of industries. Nonetheless, this activity that goes beyond a momentary relationship, whereby Howells (2006, p. 724) points out that “innovation intermediaries, therefore, not only providing immediate, ‘one-off’ intermediary services to their clients, but are also seeking to offer long-term, ‘relational’ innovation capabilities to them as well. These collaborations can last for periods of years, not months”.

More precisely, Howells (2006, p.720) coined the concept of *innovation intermediary* and he defined it as: “an organization or body that acts as an agent or broker in any aspect of the innovation process between two or more parties. Such intermediary activities include: helping to provide information about potential collaborators; brokering a transaction between two or more parties; acting as a mediator, or go-between, bodies or organizations that are already collaborating; and helping find advice, funding and support for the innovation outcomes of such collaborations”. Continuing the idea of the innomediary as broker, Winch and Courtney (2007, 751) coined the term *“innovation broker”* to point out “an organization acting as a member of a network of actors in an

industrial sector that is focused neither on the generation nor the implementation of innovations, but on enabling organizations to innovate”.

From knowledge management point of view, Howells (2006) argues that intermediaries, as *knowledge brokers*, act during the innovation process based on the concept of obtaining and sharing new knowledge, as well as harnessing of a wide community of people in order to create and develop innovative ideas. Hence the literature underlines that the main proposition of value of an intermediary is to close the gap between internal and external knowledge (Burt, 1992; Quinn, 1999, 2000).

From a macro perspective, innomediaries can become powerful catalysts for innovation (Klerkx & Leewis, 2009) and change agents for the innovation ecosystems during each phase of the innovation process (Colombo et al., 2015; Gassmann et al., 2011). Hence, according to Dalziel and Yao (2010, p.5) the innomediaries are defined like “organizations, or groups within organizations that work to allow innovation, either directly by facilitating the innovation capacity of one or more companies, or indirectly through the improvement of the innovative capacity of the regions, nations or sectors”.

According to Howells (2006, p.724), in the previous dynamic “the assumption is that intermediaries operate in a simple triadic ‘one-to-one-to-one’ basis between, for example, a supplier and its customer in some kind of vertical relationship. However, in distributed innovation systems, intermediaries are increasingly involved in more complex relationships, such as ‘many-to-one-to-one’, ‘one-to-one-to-many’, ‘many-to-one-to-many’, or even ‘many-to-many-to-many’ collaborations, forming both vertical and horizontal relationships in increasingly distributed innovation networks”. In consequence, he argues that the context of these relationships and networks is becoming more important; and it is changing attributes such as power dependency between the intermediary and its clients (see Braun, 1993, p. 140).

Regarding to the position of innovation intermediaries in the business ecosystem, Klerkx and Leeuwis (2009, p.852) point out in the literature a number of central “values” or “design requirements” that are needed to maintain their position. A key premise of the facilitator role of innovation brokers is an impartial or neutral and independent position, i.e. that these do not adhere to certain preferred suppliers, network partners, or preferred development strategies (Laschewski et al., 2002; Johnson, 2008; Winch & Courtney, 2007). In the context of the provision of innovation brokerage services to SMEs, Kolodny et al. (2001) formulated a number of design requirements that they see as essential for the proper functioning of innovation brokers:

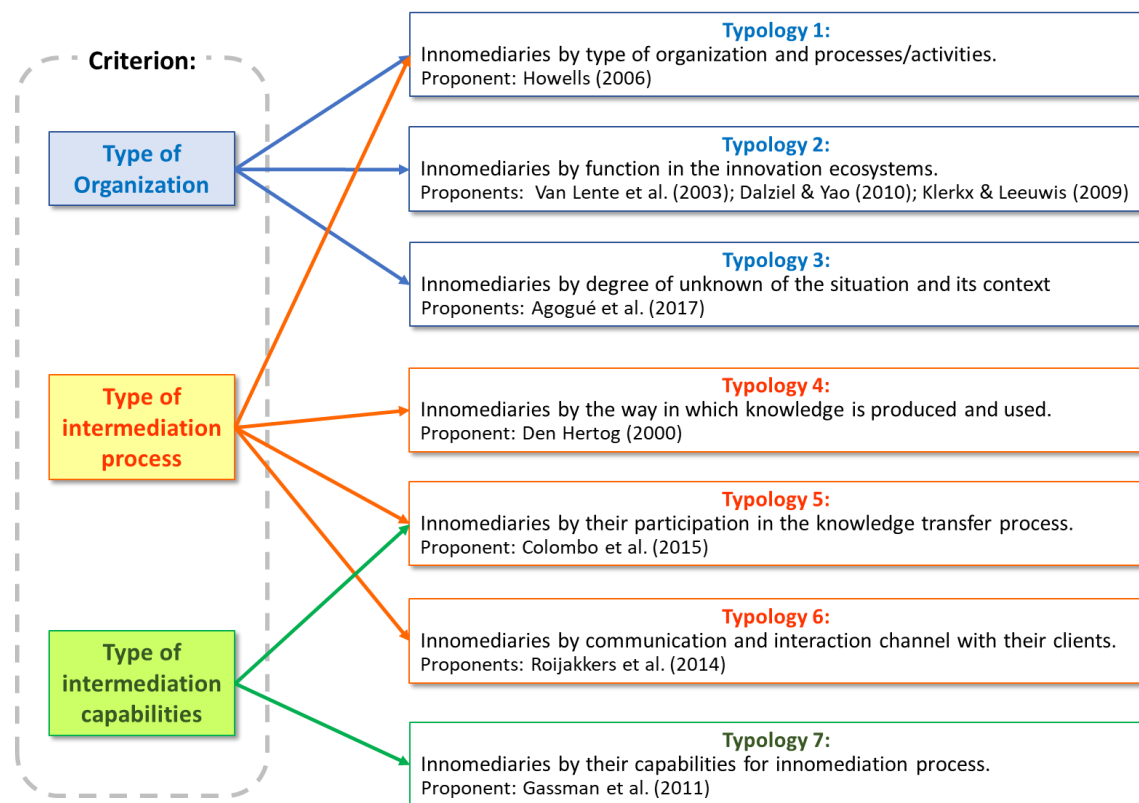
- Visibility and accessibility to SMEs
- Trustworthiness to SMEs

- Access to appropriate sources of knowledge and information relevant to the innovation process
- Credibility of the intermediary organization with these sources
- Quick response to the requests of SMEs
- Complementarity to the weaknesses of the SMEs it serves

3.1.1. Typologies of innovation intermediaries

In our opinion, innomediaries have been defined and classified by scholars in seven kinds of typologies as showed the Figure 3.2. This classification depends of three criteria: type of organization, type of intermediation process, and type of innomediatio capabilities. Below, we explain each typology and the relationship between them.

Figure 3.2. Classification of typologies of innovation intermediaries



Source: own elaboration

Typology 1: innomediaries by type of organization and processes/activities

Howells (2006) states a general classification of innomediaries according to kinds of organizations and types of processes/activities of innovation intermediation. Table 3.1 shows some examples of both types.

Table 3.1. Types of innomediaries by kind of organization and processes/activities

Intermediary	Definition
Organizations of innovation intermediation:	
Broker	Agents that facilitate the diffusion in social systems of new ideas from outside the system (Aldrich & von Glinow, 1992)
Intermediary agencies	Role of mission agencies in formulating research policy (Braun, 1993)
Consultants as bridge builders	Role of independent consultants as bridge builders in the innovation process (Bessant & Rush, 1995)
Bricoleurs	Agents seeking to develop new applications for new technologies outside their initial development field (Turpin et al., 1996)
Superstructure organizations	Organizations that help to facilitate and coordinate the flow of information to substructure firms (Lynn et al., 1996)
Intermediary level bodies	Help orient the science system to socio-economic objectives (Van der Meulen & Rip, 1998)
Technology Brokers	Actors filling gaps in information and knowledge in industrial networks (Provan & Human, 1999)
Regional institutions	Provide 'surrogate ties' by serving as functional substitutes for a firm's lack of 'bridging ties' in a network (McEvily & Zaheer, 1999)
Boundary organizations	Role of boundary organizations in technology transfer and 'co-production' of technology (Guston, 1999)
Processes or activities of innovation intermediation:	
Innovation consultancy services	Role of consultancy firms specifically to promote innovation; involves a variety of actors, including consultancy firms and intermediary agencies (Pilorget, 1993)
Technology brokering	Technology brokering is where an organization routinely creates new products by making connections between existing solutions in other sectors or technologies (Hargadon & Sutton, 1997)
Innovation bridging	Provision of knowledge or services that are complimentary to firms (Czarnitski & Spielkamp, 2000)
Knowledge brokering	Intermediaries that facilitate the exchange of information about innovation amongst companies (Wolpert, 2002)

Note: This table takes some examples of organizations presented in the original paper.

Source: Howell (2006)

Under Howell's (2006) perspective, it is important to highlight that only the typology 1 is related to kinds of innomediation organizations and their processes; the typology 2 is based on kinds of organizations; while the typologies 3, 4, 5 and 6 are focused on processes and activities of innomediation. The typology 7 is regarding another perspective, the innomediation capabilities (although the typology 5 also talks a little about this topic).

Typology 2: innomediaries by function in the innovation ecosystems

Under this typology, Van Lente et al. (2003) point out three categories as shown in Table 3.2. Therefore, these organizations are defined regarding private or public nature, ownership, funding and types of services offered, etc.

Table 3.2. Typology of innovation intermediaries by function in the innovation ecosystems

Categories	Intermediary	Ownership	Objective	Hard or Soft	Funding	Type of service
Knowledge Intensive Business Services (KIBS)	1. Knowledge Intensive Business Services	Private	Profit by support of clients	Both management (soft) and engineering (hard) services	Fees charged to (mainly individual) clients	Very diverse
Research and Technology Organizations (RTOs)	2. Research and Technology Organizations	Semi-public	Supplying largely technical knowledge to industry, non-profit	Largely "hard"	Considerable government funding and additional income from industry	Applied technical knowledge
(Semi-) public organizations or industry associations	3a. Industry Associations	Independent associations (controlled by members)	Support of the industry, non-profit	Both "hard" and "soft"	Membership fees (or government subsidies)	Various
	3b. Chambers of Commerce	(Local) government	Support commercial activity within it's geographic area	"Soft"	Annual fees of businesses in its area and fees for additional services	Support, training
	3c. Innovation Centers	(Local) government	Support or facilitate innovation	"Hard" and "soft", with emphasis on the latter	Largely government funding	Support, training, network building
	3d. University-liaison Offices	University	Earn additional income for university	Often "hard"	University and industry	Brokerage of applicable (science based) knowledge

Source: Adapted from Van Lente et al. (2003)

On the other hand, Dalziel and Yao (2010) point out that innomediaries intermediate on two levels. The first is the *interorganizational level* by creating and supporting interorganizational knowledge networks (Dalziel, 2007; Howells, 2006; Sapsed et al., 2007). Here, the activities provide firms with information and advice and opportunities for joint promotion and lobbying. Intermediaries also facilitate the development of business and research partnerships and networks, and communities of common interest (Fuchs, 2009). The second is the *intercommunity level*, where intermediaries conduct or finance technology development activities in the innovation gap between scientific and business communities. Such technology development activities aim to increase the safety, reliability, or performance of technologies, the scale of industrial processes, or to reduce the cost of technologies or the size of components (Agrawal, 2006). Based on the above, they define the following six types of innomediaries, which move in these levels:

1. R&D performers: R&D institutes and networks
2. Property based enablers: science or technology parks and business incubators
3. Technology transfer and commercialization entities: universities or government research organizations
4. Economic development organizations
5. Industry associations
6. Business financing and support programs

Third, Klerkx and Leeuwis (2009) present seven types of innomediaries according to their function within innovation systems of the Dutch agricultural sector:

1. Innovation consultants aimed at individual farmers and agri-food SMEs
2. Innovation consultants aimed at collectives of farmers and agri-food SMEs
3. Brokerage organizations that forge peer (inter-firm) networks
4. Systemic intermediaries for the support of innovation at higher system level (systemic instruments)
5. Internet-based portals and databases that display knowledge and information relevant to farmers and related parties
6. Boundary organizations that act at the policy/ research/user boundaries in research planning (i.e. research councils with ‘innovation agency’)
7. Boundary organizations that act at the policy/education/research interface

Typology 3: Innomediaries by degree of unknown of the situation and its context

Agogué et al. (2017, p.20) highlight that there is a significant difference between being an intermediary in cases where problems are known, actors can be recognized and there is sufficient knowledge available to solve the problems (most likely to result in more incremental innovations), and cases where the problems are ill-defined, the role of actors is not given, and where not even the art of knowledge needed, is known. Therefore, they propose to introduce the “*degree of unknown*” as a new contingency variable to understand the increasing complexity of the activities and roles of innovation intermediaries. Thus, based on it, they propose three types of intermediaries as shown in Table 3.3. It is important to note that the frame about types of problems explained in Section 1.5 could be relevant for this classification.

Table 3.3. Intermediaries by degree of unknown of the situation and its context

Type of intermediary	Actors	Examples of actors
<p>Brokers for problem solving: The intermediary comes into play when a company lacks knowledge or skilled resources for solving a specific problem or for developing innovative new ideas. The intermediary offers access to external knowledge by either establishing bridges to external experts (e.g. in the case of marketplaces) or contributing knowledge from their own experiences (e.g. in consulting activities).</p>	Consultants, knowledge-intensive business services, knowledge brokers, innovation marketplaces, and idea scouts or technology scouts	Evergreen IP, InnoCentive, NineSigma, Yet2.com, and IDEO
<p>Broker for technology transfer: This type of intermediation is required when new technologies have been invented and developed but the inventor cannot commercialize them internally either because of a lack of resources, lack of business or market knowledge or non-compliance with the prevailing business model and/or business strategy. In such situations, intermediaries offer support in bringing the technology to the market by providing access to potential users of the technology using sufficient resources, legal and IP knowledge, or venture capital opportunities, for instance.</p>	Technology brokers or IP brokers, university technology transfer offices, liaison departments, technology-to-business centers, out-licensing agencies, business incubators, and venture capitalists	Ignite IP, Forthright Innovation and the Lanarkshire Business Incubator Centre, and the Siemens Technology-to-Business Centre and Technology Accelerator units
<p>Networker or bridge in innovation ecosystems: The literature has described a third type of configuration in which intermediaries facilitate dynamic collaboration in innovation projects on a larger scale and for longer time horizons. We speak of “innovation systems” intermediation when considering innovation not from a company perspective, but rather, on a macro-economic level for geographical or industrial clusters (which may even include entire nations and their governments). Collaboration in such innovation systems is encouraged by not only technology policies but also dedicated organizations operating at the core of the innovation system.</p>	Science/technology parks, geographical innovation clusters, regional technology centers, technical committees, task forces, standards bodies, and “brokers in innovation networks”	VRVis Center for Virtual Reality and Visualization, Technology Park of Andalucía, Taguspark, Bayern Innovativ, The Digital Hub in Ireland.

Source: Based on Agogué et al. (2017)

For them, each kind of innovation intermediary has specific functions which are described later in the Section 3.1.2 of “functions of innovation intermediation”.

Typology 4: innomediaries by the way in which knowledge is produced and used

In his study, Den Hertog (2000) analyzes the role of Knowledge-Intensive Business Services (KIBS) in innovation processes, and he explains their participation on the ways in which knowledge is produced and used in the economy, and the role of KIBS in these processes. For him, these are processes of co-production between the service provider and client. In consequence, he presents a typology based on previous studies by Bilderbeek and den Hertog (1997), and Miles et al. (1995), which is presented in Table 3.4.

This typology implies that intermediary is a wide concept which can include in parallel “innovation brokers” (or facilitators) and “providers of innovation services” (e.g. carriers of sources of innovation). Therefore, Winch and Courtney (2007) talk about “innovation broker” in terms of enabler. They also state that “such brokers represent an additional type of intermediary in innovation networks from those reviewed by Howells (2006) because their sole purpose is to act as a broker, rather than broking being a by-product of their principal activity” (Winch & Courtney (2007, p. 750).

Table 3.4. Typology of innomediaries by the way in which knowledge is produced and used

Type	Description	Examples
Facilitator	A KIBS firm is a facilitator of innovations if it supports a client firm in its innovation process, but the innovation at hand does not originate from this KIBS firm nor is it transferred (from other firms) by this KIBS firm to the client firm.	<ul style="list-style-type: none"> • a management consultant helping a client to introduce a new account management system or developing a new service distribution channel; • a technical engineering firm seconding a team of its engineers to work with the technical engineers of the client to co-produce an innovative solution in, e.g. offshore platform construction or subsoil building.
Carrier	A KIBS firm is a carrier of innovation if it plays a role in transferring existing innovations from one firm or industry to the client firm or industry even though the innovation in question does not originate from this particular KIBS firm.	<ul style="list-style-type: none"> • an IT firm implementing and customising advanced and innovative ERP software (SAP, BAAN) in a client firm; • a management consultant specialising in CAD/CAM applications helping a major client (a shipyard) to specify the exact user needs and technical specifications of a new CAD/CAM programme, and subsequently to implement it.
Source	A KIBS firm is a source of innovation if it plays a major role in initiating and developing innovations in client firms, usually in close interaction with the client firm.	<ul style="list-style-type: none"> • an advertising agency developing and implementing a completely new campaign for a client; • a provider of call centre solutions advising and actually implementing a new call centre for a client.

Source: Den Hertog (2000) based on Bilderbeek and Den Hertog (1997), and Miles et al. (1995)

Typology 5: innomediaries by their participation in the knowledge transfer process

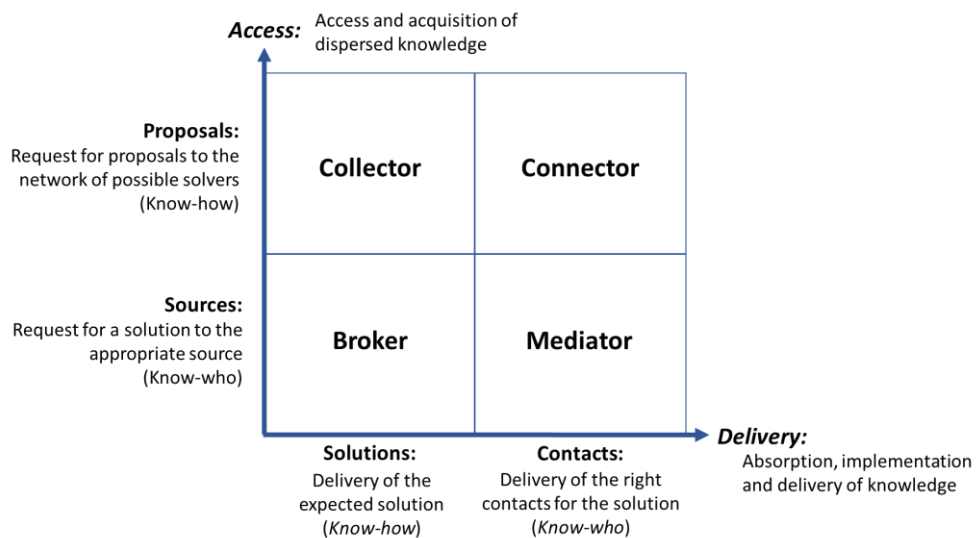
Colombo et al. (2015, p.129) present a typology of intermediaries focused on two steps of knowledge transfer processes: (1) access to and acquisition of dispersed knowledge and (2) absorption, implementation and delivery of this knowledge. Access captures differences in how

innovation intermediaries interact with their network of knowledge sources, whereas *delivery* considers heterogeneity in how innovation intermediaries interact with their clients to bring knowledge to them. Likewise, they argue that innovation intermediaries can use two types of knowledge (*know-who* and *know-how*) along both the *access* and *delivery* steps of the intermediary process. In consequence, as a combination of steps and types of knowledge, they present four types of intermediaries: collectors, brokers, mediators and connectors (see Figure 3.3).

Note that this typology is only applicable to innomediaries whose role is “facilitator” according to the previous typology explained by Den Hertog (2000). It means that these kinds of innomediaries are specifically intermediaries, not solution providers. They do not produce knowledge, they only transfer it.

Additionally, Colombo et al. (2015) present a group of capabilities that firms need to benefit from collaboration with different categories of innovation intermediaries. Their analysis draws from research on the concept of absorptive capacity (Cohen & Levinthal, 1990), which Colombo et al. (2015) consider as a set of organizational capabilities (coordination, systems and socialization capabilities) concerning to the acquisition and assimilation of external knowledge and its transformation into new products, services and processes (Kogut & Zander, 1992; Eisenhardt & Martin, 2000). Further explanation of these capabilities can be found below in Section 3.1.5. about capabilities for innovation intermediation.

Figure 3.3. Typology of intermediaries by their participation in the knowledge transfer process



Source: base on Colombo et al. (2015)

Typology 6: Innomediaries by communication and interaction channel with their clients.

Roijackers et al. (2014, p. 242) distinguish two types of innomediaries in the intermediated OI service industry:

1. Innomediaries that offer their intermediated service on the basis of interaction between their staff and the clients they serve and thus rely heavily on experienced personnel. Three subtypes are currently in existence:
 - Innomediaries that support innovating companies in their external knowledge searching and find technical solutions that are integrated in the products/services of their clients (e.g. Ninesigma, Innocentive, IXC).
 - Innomediaries that help innovating companies make use of their unused Intellectual Property (e.g. Yet2.com, Innovaro).
 - Staff-augmentation companies that provide staff to help clients solve OI problems (e.g. IXC, YourEncore)

2. Innomediaries that offer their services on the basis of interaction between innovating companies and technology and thus rely on software programs and search engines. We can distinguish the following three subtypes:
 - Platform providers that offer platforms where innovating companies can post their technological needs/offering (e.g. Hypios, IdeaConnection)
 - Software companies that create platforms for ideation/searches (e.g. Inno360, Spigit)
 - Crowd sourcing companies that provide access to consumers (e.g. IdeaScale, Threadless).

We think that is possible to argue that this typology offers the channels through which Connectors, Collectors, Brokers and Mediators by Colombo et al. (2015), could develop their intermediation processes.

Typology 7: innomediaries by their capabilities for innomediation process

Gassman et al. (2011) through a study with German and Swiss companies, defined three groups of innovation intermediaries, which have different approaches to develop breakthroughs through analogies, and also, they have different capabilities and different strengths that enable them to realize cross industry innovation:

- The *Innovation Broadener*, which is able to realize an innovative idea from a very distant context, its role in the adaption or implementation phase remains minor.
- The *Innovation Leverager*, which can realize innovation by applying an analogy within its field of corporate experience or within its employee's personal background. It also has certain implementation capacities.
- The *Innovation Multiplier*, which acts within a narrower technological field of expertise but can lead innovation projects further into the adaption phase.

Likewise, Gassman et al. (2011) point out that the *innovation broadener* and the *innovation leverager* contribute significantly during the analogy phase because they have a broad network or a broad technological know-how. The *innovation multiplier* relies on its customers to identify analogies from another industrial ambit. Its notoriety is often limited to another area of expertise. From an absorptive capacity (Cohen & Levinthal, 1990) point of view, the *innovation broadener* facilitates knowledge acquisition and adaption (Zahra & George, 2002) even from distant industrial ambits. The *innovation multiplier* has its strength in supporting companies in the transformation of knowledge into an industrial ambit. The *innovation leverager* contributes to three phases of innovation (knowledge acquisition, knowledge adoption, and knowledge transformation).

3.1.2. Functions of innovation intermediation

Noviaristanti et al. (2016) explain that the innomediaries' function varies with the exploration, sharing and co-creation of knowledge, and the experience of actors; the identification and selection of new technological options; the establishment of links between internal and external knowledge providers to develop, to commercialize and even broadcast new products, technologies or experiences within the society. As an example, innovation intermediaries help big companies such as P&G in order to build inclusive markets and develop resource ecosystems during the innovation process from the "base of the pyramid".

From a perspective of functions by kind of organizations, Agogu  et al. (2017) reviewed various studies (e.g. Klerkx & Leeuwis, 2009; Nambisan et al., 2012; Fawcett et al., 2012; van Lente et al., 2003) and they identified four core functions that appear to be fulfilled by the three types of intermediaries in the context of innovation, which they called: intermediaries for problem solving, intermediaries for technology transfer, and intermediaries as coordinators of networks in innovation systems (the description of these types was presented previously in Typology 3, Section 3.1.1). The relationship between these innomediaries and their functions is presented in the Table 3.5.

Table 3.5. Core functions and examples of actions by type of innovation intermediaries

Core functions	Intermediary as a broker for problem solving	Intermediary as a broker for technology transfer	Intermediary as an ecosystem bridge
Connect	Connect seeking companies with problem solvers	Establish connections between academic or industry science and external players in the market	Create and maintain a network for ongoing multilateral exchange
Involve/commit/mobilize	Enlist scientists by defining common rules supported by internal "champions"	Perform marketing activities to attract potential investors	Mobilise resources: human capital, financial capital, and complementary assets
Solve/avoid conflict	Define the right problem; avoid conflict between exceedingly high expectations ("Holy Grail") and limited solution capacities	Balance heterogeneous (conflicting) stakeholder interests, particularly financial and non-financial objectives	Create legitimacy for a new technological trajectory, create a common agenda for actors with different (opposing) interests
Stimulate innovation	Articulate and combine knowledge, re-engineer knowledge	Actively engage in the exploration of new technology uses and the transfer of knowledge	Support learning processes, foster feedback, stimulate experiments and mutual adaptations

Source: based on Agogu  et al. (2017)

Under a perspective of innomediation as process, Howells (2006) studied some academics who raised typologies about innomediation functions (Bessant & Rush, 1995; Seaton & Cordey-Hayes, 1993; Hargadon & Sutton, 1997), and he gathered, classified and synthesized them into ten functions (the first ten functions in Table 3.6).

Table 3.6. Functions and activities of innovation intermediation

Functions	Examples of client activities where it could receive support from the intermediary
1. Foresight and diagnostics	Definition of a general strategic direction
	Diagnosis of the internal and external situation
	Forecast of changes in the political, economic, socio-cultural, technological, ecological and legal environment at national and / or international level
2. Scanning and information processing	Making reports (verbal and / or written) of analysis of the internal situation of the company
	Making reports (verbal and / or written) that synthesize the context of the company (e.g., reality, opportunities and threats).
3. Knowledge processing, generation and combination / recombination	Exploitation of information; studies of analysis, diagnosis, and forecast (internal and/or external) to support administrative decision making (finance, marketing, logistics, human management, computing, etc.)
	Exploitation of information; studies of analysis, diagnosis, and forecast (internal and/or external) to support the decision making of technical matters (production, R & D, product and service development, etc.)
4. Gatekeeping and brokering	Search for expert advisors for the company
	Search for strategic allies for the development of company projects
	Search of sources of external financing for new projects for the development of the company (grants, credits, guarantees, etc.)
5. Testing, validation and training	Execution of controls and/or management assessments, staff performance and/or organizational climate
	Conducting quality tests and / or effectiveness of processes, products and / or services.
	Development of training programs
6. Accreditation and standards	Application of national and international standards for the design, production and marketing of products and services.
	Quality certification for processes, products and/or services
	Environmental certifications
7. Validation, regulation and arbitration	Solution of disputes and conflicts in the industry with customers, competitors and/or suppliers
	Solution of disputes and conflicts with associative, governmental and/or European entities.
	Application of national and/or European regulations in the company
8. Intellectual property: protecting the results	Registration of intellectual property rights on trademarks, names, inventions and industrial designs.
	Registration of industrial property rights granted by supranational organizations with effects at community or international level.
9. Commercialization: exploiting the outcomes	Development of the ordinary activities of marketing, sales and customer service at national and international level
	Search for new customers and/or development of special negotiations for international sales.
10. Assessment and evaluation of outcomes	Development of management evaluation reports (verbal and/or written).
	Development of audit and control activities
11. Networking and connection between industries	Participation in meetings, activities, agreements and/or networks of collaboration with agents from other industries
	Participation in regional, national and/or international associations and confederations.

Source: own elaboration based on Howells (2006) and Agogué et al. (2013)

3.1.3. Advantages, risks and drawbacks of innovation intermediation

According to Gassmann et al. (2011) there are different advantages and disadvantages regarding to these outsourcing knowledge-based services and innovation activities that have been discussed in the scientific literature (Chatterji, 1996; Kessler et al., 2000; Love & Roper, 2002; Quinn, 1999, 2000). For instance, Chiesa et al. (2004) point out the following examples of advantages:

- Identified accessing specialist talent
- Sharing risks

- Increasing speed
- Increasing technological innovation
- Reducing, sharing, and minimizing cost
- Rapid access to proven technology as the main drivers for sourcing innovation activities externally.

These advantages become "added value" for customers, which enrich their value propositions, their business models and in general, all their business activity. As an example, Tran et al. (2011), in a study on the effects of intermediation on the product development process in the fashion industry, discovered the following added values:

- Decreasing costs of product development
- Improving hit-and-miss rate of collections
- Reducing product development risks
- Enhancing product attributes
- Improving fashion actuality
- Increasing product development speed.

Thanks to all this, the phenomenon of outsourcing innovation (Howells et al., 2008) and knowledge-intensive technical services (Tether & Hipp, 2002) have become increasingly important in recent years, a trend that has been amplified by open innovation, which has gained relevance in professional practices and academic activity (Chesbrough, 2003 a, b; Gassmann, 2006).

In their study on innovation intermediaries in the Dutch agricultural sector, Klerkx et al. (2009) identified several risks and possible drawbacks with respect to innovation supported by intermediaries. These risks are:

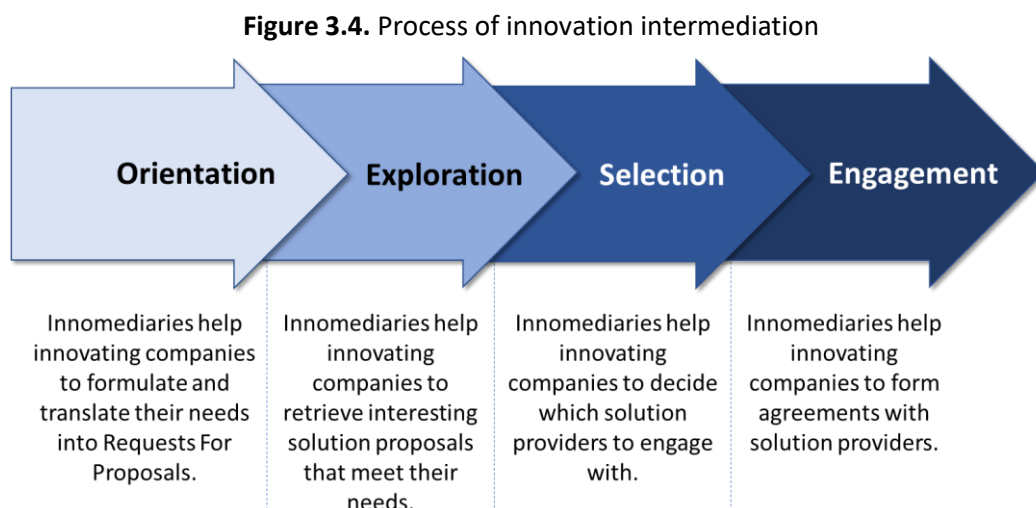
- *Neutrality tensions:* A key factor for the credibility and legitimacy of innovation brokers is an impartial or neutral and independent position (Spielman & Von Grebmer, 2006). On the one hand, this is complicated because stakeholders (e.g., financiers or participants) may exercise pressure to compose and manage networks in a way that fits their objectives (Isaksen & Remøe, 2001); this may result in the innovation broker being seen as a representative of a single organization. On the other hand, maintaining a neutral position is inherently difficult because brokers always exercise a certain degree of steering (Laschewski et al., 2002). However, as innovation is about breaking out of current practices, sometimes innovation brokers actively need to help "destroy" existing systems to be able to bring about new networks and new ways of thinking (Smits & Kuhlmann, 2004).
- *Function ambiguity:* Innovation brokerage can be both a side activity of traditional knowledge intensive service providers, such as research institutes or extension service providers, and the

core business of a dedicated organization. This may imply that brokers' functions overlap with those of parties for which they intend to broker, and hence they may be seen as a competitor rather than a facilitator. Also, there may be a lack of clarity about the actual benefit of having a mediating agent (Candemir & Van Lente, 2007). As a result of competing functions and perceptions about benefits, innovation brokers may alienate themselves from players in the existing knowledge infrastructure who nevertheless can be important for network composition (as possible partners in the network to be formed).

- *Invisible effects/ willingness to pay:* Assessing the impact of innovation brokers is considered difficult, given their indirect impact on profit and incomes (Howells, 2006). Despite their contribution being quite invisible, they may have had a determining role in achieving success instead of failure (Johnson, 2008). Main tensions include:
 - Difficulties in ex-ante evaluation of service value and low ex-ante identifiability of benefits that affect willingness-to-pay amongst private parties for, especially, functions that relate to demand articulation and network composition.
 - Funding impatience: funding is provided for too short a period and this impedes the innovation broker from becoming well-established, and the networks it supports becoming sustainable (Rosenfeld, 1996). This is enhanced by the fact that the impact of innovation brokers on innovation is hard to make visible with current evaluation methods aimed at “hard” indicators (Rasmussen, 2008).

3.1.4. Process of innovation intermediation

Although the process of innovation intermediation varies in each case due to type and number of organizations, the kind of function and the need, among other factors, according to Roijackers et al. (2014) the help from innovation intermediaries is typically presented through four phases: orientation, exploration, selection and agreement, as shown in Figure 3.4.



Source: based on Roijackers et al. (2014)

According to Roijackers et al. (2014) through *the orientation phase*, the intermediaries help companies in determining their innovation needs and their synthesis through a "request for proposals". In this phase, this advice will add value if it achieves a better approach to the problem and encourage the search for a solution of the problem. At *the exploration stage*, companies rely on intermediaries to come up with interesting solution proposals that fit their needs. In this step, a good job of the intermediary could generate new ideas and perspectives to solve the problem. In *the selection phase*, companies and intermediaries jointly determine the value of the proposals submitted, and they also decide the solution provider that best fits the need. At this point, the intermediary adds value when it achieves a high number of proposals to be analyzed, which are adjusted to the needs of the client. Finally, in *the agreement phase*, intermediaries help their clients to meet with solution providers and sign agreements. Here the intermediary will have been successful if it achieves the effective signing of confidentiality agreements and/or technology transfer agreements.

This process fits much better to intermediaries classified as "facilitators" by Den Hertog (2000), or the four types of intermediaries (collectors, brokers, mediators, and connectors) proposed by Colombo et al. (2015), or "the innovation broadeners" determined by Gassman et al. (2011), because they are focused on connections between clients and providers of solutions, more than the proposal of their own solutions of innovation.

Conversely, if intermediaries are "carriers" or "sources of innovation" according to Den Hertog (2000), and/or the situation is complex due to the lack of knowledge of the problem or the lack of possible solutions, the process of intermediation requires the application of a "classic" process of innovation. For example, a process of Creative Problem Solving (CPS) (Osborn, 1953; Puccio et al., 2005), a Design Thinking process (Brown, 2008), or a Design-driving Innovation (Verganti, 2009). In the case of a BA that is facilitating the innovation of one of their ACs, we propose "the intermediation model" which is explained in our book Alfaro et al. (2017) or in the Annex 2.

3.1.5. Capabilities for innovation intermediation

In order to develop their functions, innovation intermediaries need different capacities to transmit knowledge to their clients (Bessant & Rush, 1995), at an organizational level. They also require specific skills (Dunford, 2000) at the level of their teams and people, such as the diagnostic capacity that is often forgotten when the transfer of knowledge is analyzed (Gassmann et al., 2011).

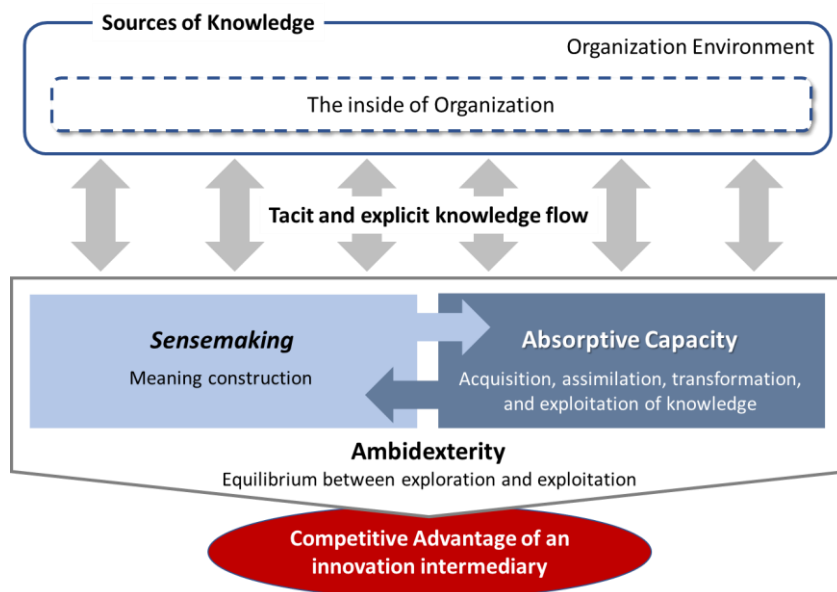
The importance of these skills and capacities for organizations lies in the fact that they are the basis of their competitive advantage, their value proposition, and their creation and capture of value (Ireland et al., 2008). However, the complexity and dynamism of the environment require that these competencies change constantly. Therefore, Teece et al. (1997, p.516) talk about *dynamic capabilities* which they define as "the firm's ability to integrate, build, and reconfigure

internal and external competences to address rapidly changing environments. Dynamic capabilities thus reflect an organization's ability to achieve new and innovative forms of competitive advantage given path dependencies and market positions". According to this, what are the dynamic capabilities of innovation intermediaries?

According to the innomediaries' typologies, it is clear that literature about dynamic capacities for innomediation is scarce. In the section 3.1.1, Gassman et al. (2011) and Colombo et al. (2015) present innomediaries' classifications based on abilities as search, learning, transfer, and combination of knowledge. To synthesize these skills, the literature presents the capacity of absorption as a key dynamic capacity for the development of the intermediation activity in innovation (Cohen & Levinthal, 1990).

Considering the above, we propose three main capabilities for innovation intermediation: absorptive capacity, sensemaking and ambidexterity. The articulation and interaction between them is presented in Figure 3.5.

Figure 3.5. Capabilities for innomediation



Source: own elaboration

The absorptive capacity

Zahra and George (2002, p.185) argue that absorptive capacity is “a dynamic capability pertaining to knowledge creation and utilization that enhances a firm's ability to gain and sustain a competitive advantage”. Therefore, they define absorptive capacity “as a set of organizational routines and processes by which firms acquire, assimilate, transform, and exploit knowledge to produce a dynamic organizational capability” (Zahra & George, 2002, p.186). “These four organizational capabilities build on each other to yield absorptive capacity, a dynamic capability

that influences the firm's ability to create and deploy the knowledge necessary to build other organizational capabilities (e.g., marketing, distribution, and production)" (Zahra & George, 2002, p.188).

Following the line of authors who argue the need to analyze the absorptive capacity from a dynamic or process perspective (Lane et al., 2006), and according to the interpretation of the construct pointed out by Zahra and George (2002) and Camisón and Forés (2010), there are the following four dimensions of the process of knowledge absorption in an organization:

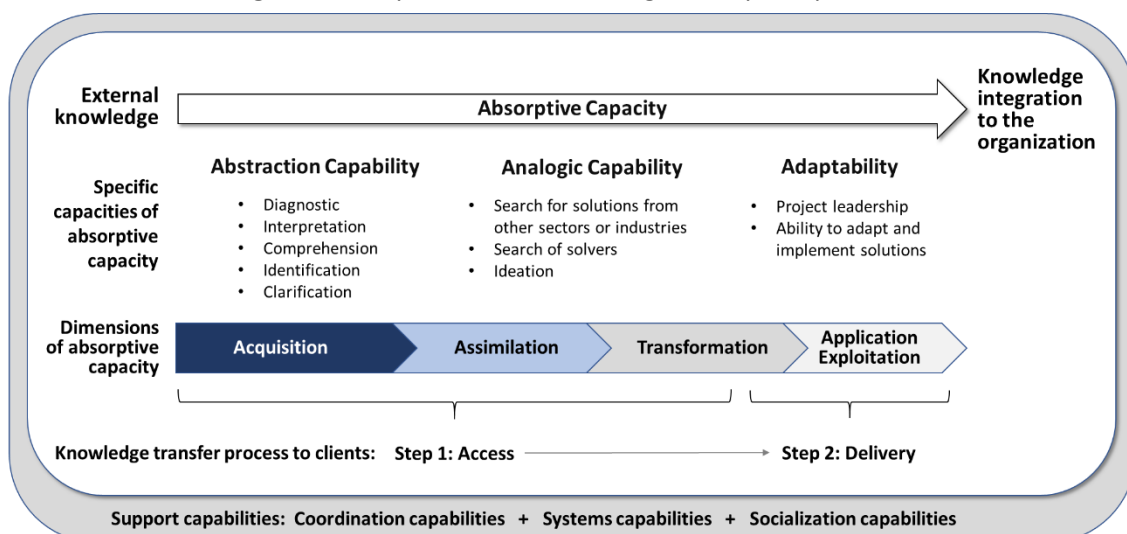
1. *Acquisition capacity*: the company's ability to identify, assess, select and acquire critical external knowledge for its operations (Lane & Lubatkin, 1998; Zahra & George, 2002).
2. *Ability to assimilate*: it refers to the ability of the company to analyze, process, interpret, internalize and classify new acquired external knowledge (Szulanski, 1996; Zahra & George, 2002).
3. *Capacity of transformation*: it is the capacity of the company to develop and improve internal processes and routines that facilitate the transfer and combination of existing knowledge in the company with the new acquired and assimilated knowledge. Its main objective is to establish how to adapt the new knowledge to the reality and needs of the organization (Zahra & George, 2002). The ability to transform can be achieved by adding or eliminating existing knowledge, or by combining knowledge in a novel and radically different way (Van den Bosch et al., 1999).
4. *Application or exploitation capacity*: refers to the ability of the company to use the new knowledge absorbed for commercial purposes (Lane & Lubatkin, 1998). This capability can also be defined as the organizational capacity that allows companies incorporating new acquired, assimilated and transformed knowledge into their operations and routines, in order to improve, develop and expand existing routines, processes and knowledge, as well as to create new capabilities and operations in the company (Zahra & George, 2002).

From another viewpoint and considering the absorption capacity as a set of capacities (Zahra & George, 2002), Gassmann et al. (2011) propose the specific capacities of abstraction, analogy and adaptation, as components of the absorption capacity of an innovation intermediary (see Figure 3.6). In *the abstraction capacity*, all organizational routines and procedures are focused on the diagnosis, interpretation, understanding, identification and clarification of the type, magnitude and urgency of the client's problem. Subsequently, *the analogical capacity* allows the intermediary to define several alternative ideas to overcome the problem, based on solutions from other sectors, areas of knowledge or other experiences. Finally, *adaptability* is the capacity that integrates all processes focused on adapting solutions used in other areas, as well as implementing the established solution. Therefore, leadership skills, project management and technical knowledge

become vital in this last specific capacity. Note that this approach is based on process thinking too. Thus, the abstraction and analogic capabilities are related to the dimensions by Zara and George (2002) of acquisition and assimilation, while adaptability is more related with transformation and application dimensions. Likewise, these have a relationship with the process of access and delivery raised by Colombo et al. (2015), as shown Figure 3.6.

From another perspective, Colombo et al. (2015) point out three capabilities that support the development of absorptive capacity (see the external area of Figure 3.6), in a combinative way (Kogut & Zander, 1992). “They can be classified as (1) coordination capabilities, (2) systems capabilities and (3) socialization capabilities. *Coordination capabilities* are those that “enhance knowledge absorption through relations between members of a group” (Van den Bosch et al., 1999, p. 556). These capabilities refer to specific organizational mechanisms, such as cross-functional interfaces, participation in decision making and job rotation, which favor knowledge sharing and absorption within an organization (Henderson & Cockburn, 1994; Van den Bosch et al., 1999). *System capabilities* allow firms to “program behaviors in advance of their execution and provide a memory for handling routine situations” (Jansen et al., 2005, p. 1002). They enable firms to develop organizational routines that lower the effort spent on decision making by providing an efficient structure for collective action (Cohen & Bacdayan, 1994). System capabilities also improve a firm’s ability to efficiently tackle unexpected situations that might surface during collaboration with innovation intermediaries, thus streamlining the assimilation and use of external knowledge. Finally, according to Colombo et al. (2015, p.130) “*socialization capabilities* ‘create broad, tacitly understood rules for appropriate action’ (Jansen et al., 2005, p. 1003) and contribute to establish shared values and dominant codes of communications. This benefit favors communication among people with different educational backgrounds and professional experience and therefore eases the interaction with providers of knowledge coming from different educational and geographical backgrounds (Fisher, 1986; Chao et al., 1994)”.

Figure 3.6. Capabilities of knowledge absorption process



Source: own elaboration

Sensemaking

The second dynamic capability that we propose for innovation intermediaries corresponds to sensemaking or "meaning construction". According to Neill et al. (2007) sensemaking is the process through which an organization acquires, interprets, and acts on information about its environment (Weick, 1995). Thomas et al., (1993) define sensemaking as "the reciprocal interaction of information seeking, meaning ascription, and action" (p. 240). Similarly, Sackman (1991, p.33) refers to sensemaking as a set of mechanisms that define an organization's "standards and rules for perceiving, interpreting, believing, and acting that are typically used". Thus, organizational sensemaking is multidimensional based on the interplay of meaning and action (Weick et al., 2005).

Neill et al. (2007) argue that firms with a developed sensemaking capability are better able to communicate (through strategic information exchange), interpret (by simultaneously assimilating multiple environmental dimensions with increased strategic complexity), and analyze (through multiple perspective consideration) a greater amount and variety of information, leading to a greater range of behaviors with which to respond to the environment. Sensemaking is fostered by perceived market turbulence, an open minded organizational culture, and team functional diversity. As a capability, it contributes to a firm's ability to build and sustain a competitive advantage (Day, 1994; Teece et al., 1997) by enhancing the ability to effectively configure and deploy resources to better respond to a changing environment (Eisenhardt & Martin, 2000).

According to Wang et al. (2016), we consider that sensemaking is a dynamic capacity that interacts and complements the absorption capacity. This strengthens mainly the dimension of acquisition proposed by Zahra and George (2002), as shown the Figure 3.7. However, sensemaking nourishes the capacity for abstraction by allowing the members of the intermediary company and its clients to give meaning to specific information that is found in the complexity of the environment regarding the problem to be solved. Likewise, sensemaking enhances the analogical capacity, because it extends the perspective under which the work team (composed by the intermediary and the client) develops the communication, analyze, and interpretation of possible solution. Likewise, it promotes adaptability by enriching the behaviors (flexibility, multidisciplinary, open mind, etc.) under which a solution will be implemented to the client's problem and, therefore, its response to the environment.

Organizational Ambidexterity

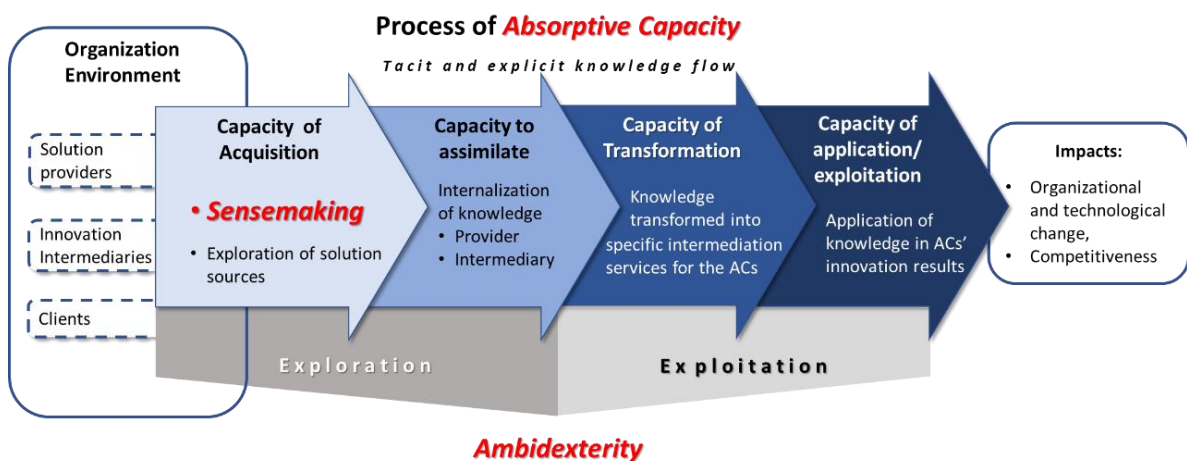
According to O'Really and Tushman (2008) for the process of adapting organizations are fundamental the ability of a company *to exploit* existing assets and positions at a certain time, and at the same time, their skills *to explore* new technologies, markets and opportunities. Separately, these capacities have been called exploration and exploitation (March, 1991), and in a joint manner, they are the *ambidexterity capability* (Duncan, 1976; Tushman & O'Reilly, 1997). *Exploitation* deals

with efficiency, increasing productivity, control, certainty and reduction of variance. In contrast, *exploration* refers to search, discovery, autonomy, innovation, and variation. Therefore, ambidexterity is about doing both in the organization (O'Really & Tushman, 2008).

Organizational ambidexterity refers to the routines and processes through which organizations mobilize, coordinate and integrate scattered exploration and exploitation efforts, and allocate, redistribute, combine and recombine resources and assets through differentiated units (Jansen et al., 2009). Ambidexterity is a dynamic capacity that creates valuable configurations of exploration and exploitation innovation, through the generation and connection of previously disconnected ideas, and knowledge or recombination of previously connected knowledge in new ways (Kogut & Zander, 1992).

Applying the above to the dynamic capabilities of innomediaries, ambidexterity is the capacity that balances the absorption of knowledge and sensemaking (see Figure 3.7). This allows a balance between the sources of internal and external knowledge. It means that innomediaries learn not only from their own knowledge, experiences and developments, but also, they learn from external knowledge present in solutions providers, research centers, universities, etc., belonging to their business sector and others at national and international level. On the other hand, as a dynamic capacity, ambidexterity allows the reconfiguration of capacities from the combination of experiences and learnings of the intermediary with external knowledge, methodologies and techniques.

Figure 3.7. Articulation of Absorptive Capacity, Sensemaking and Organizational Ambidexterity



Source: own elaboration

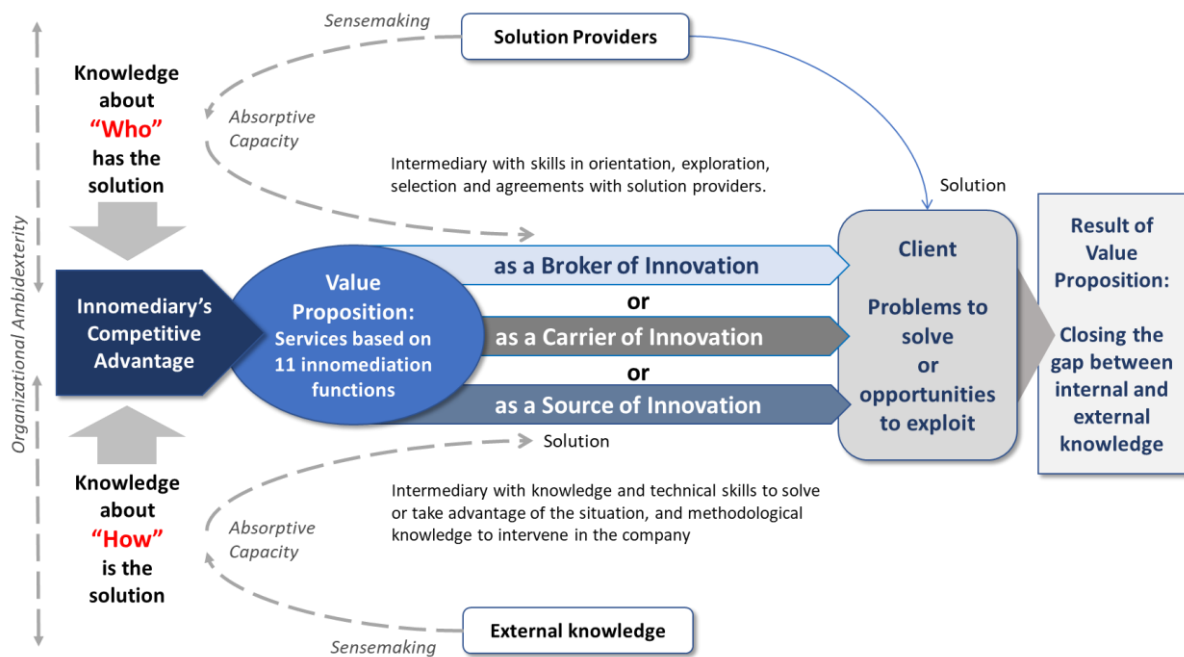
From another point of view, the ambidexterity capability helps to innomediary to balance its efforts to develop knowledge about “who” has the solution (Know-who) and “how” is the solution for its clients. With this, it will develop processes and mechanisms that balance the search for external solutions (agreements with solution providers) versus the offering of own solutions.

3.1.6. Competitive Advantage of innomediaries

According to Hargadon and Sutton (1997, p.717), *the competitive advantage* of these agents “depends on both its network position as a broker and on an organizational memory that allows it to acquire, retain, and retrieve new combinations of information obtained through such a position”. About that, Colombo et al. (2015) suggest that innovation intermediaries use and offer to their clients two different types of knowledge: (1) “knowledge about who” (*know-who*), which refers to knowledge about who knows what and is a result of their network position (Lundvall & Johnson, 1994) and (2) “knowledge about how” (*know-how*), which refers to knowledge regarding the performance of an action and is related to the ability of an innovation intermediary to access and recombine different sources of knowledge to propose a solution to a specific problem (Lundvall & Johnson, 1994; Hargadon & Sutton, 1997).

As a synthesis of the innomediaries function, we propose through Figure 3.8, the relationship between their value proposition, competitive advantage, capabilities (previously explained) and the roles that they can perform.

Figure 3.8. Competitive Advantage, Value Proposition, Capabilities and Roles of Innomediaries



Source: own elaboration based on Den Hertog (2000), Colombo et al. (2015), Howells (2006) and Gassman et al. (2011).

As is observed in Figure 3.8, the innomediaries can act as intermediaries, when they “connect” their clients with the solution providers (brokers of innovation) or they can also act as providers of innovation (carriers or sources of innovation) when they offer the service to the clients themselves (Mejia-Villa & Alfaro, 2015).

3.1.7. Results and impacts of the innomediation action

Dalziel and Parjanen (2012) present and relate the purposes of the intermediaries with their results and impacts on the organizations involved in the intermediation dynamic. To do this, they use logical models that illustrate sequences of cause-and-effect relationships, with a systems approach, to communicate the path to a desired outcome (Millar et al., 2001, Renger & Titcomb, 2002). These logical models have numerous functions, one of which is the identification of a set of performance indicators that can be used to monitor and synthesize performance for investors and decision makers (McLaughlin & Jordan, 1999; Rogers, 2005).

Accordingly, in Table 3.7, Dalziel and Parjanen (2012) present a logical model for innovation intermediaries that focuses on the impacts on their clients. This model illustrates how innomediaries work to fulfill their mission, and how their effects can be measured. As shown in the left-hand column, innomediaries express their purpose in terms such as national competitiveness, regional economic development, industry strength, or viable new ventures. Linked to this, the "inputs" include the knowledge of the people and the relations with people and external organizations, that carry out activities that give results like business, scientific and technological knowledge, equipment and facilities; design, testing, prototyping, management of intellectual property and service licenses; and also, events, conferences, seminars and meetings.

Table 3.7. General Logic Model for innovation intermediaries

Purposes	Inputs	Outputs	Impacts		
			Immediate	Intermediate	Ultimate
			Firms with increased resources or capabilities	Firms with improved performance	Socio-economic benefits
<ul style="list-style-type: none"> •National competitiveness •Community, regional economic development •Industry strength •Viable new ventures 	<ul style="list-style-type: none"> •Knowledgeable people •Relationships •Equipment, facilities •Funding 	Business, scientific and technological knowledge, relationships, equipment, facilities <ul style="list-style-type: none"> •Design, testing, prototyping, intellectual property management, licensing services •Plans, proposals, projects •Events, conferences, seminars, meetings •Websites, blogs, reports, directories, newsletters •Access to financing 	<ul style="list-style-type: none"> •Information, advice •Opportunities for promotion, influence •Business linkages •Research linkages •Technology services •Access to financing •Complementary business inputs 	<ul style="list-style-type: none"> •Increased revenues •Increased employment •New products, services •Faster time to market •Increased market share •Reduced environmental impact •Increased valuation •Increased investment 	<ul style="list-style-type: none"> •Sustainable wealth and jobs •Environmental and health care Improvements •Increased community, regional, national economic and social wellness

Source: Dalziel and Parjanen (2012)

The right side of Table 3.7 shows how different impacts are achieved. Thus, a long-term impact depends on the achievement of a medium-term impact, which in turn depends on the achievement of a short-term impact. For example, an innomediary seeking to create economic growth in a region does so by facilitating improvements in the performance of local firms, or by facilitating the growth of enterprises or the creation of new ones. This facilitates the growth and creation of new businesses, promoting the improvement of the resources and capacities of local companies. The

fundamental idea is that innovation intermediaries impact the medium and long term indirectly, by influencing the resources and capacities of the companies with which they work (Dalziel & Parjanen, 2012. P.4).

In conclusion, innovation intermediaries not only create value for themselves, but also support the creation and capture of value of their customers. With this dynamic of innovation, the result is the organizational change of both types of organizations (intermediaries and clients) and the impact is to increase the competitiveness of their business sectors (Mejia-Villa, 2016). Note that this is similar to the sequence of value creation and capture explained for us in the MINC model (Section 1.4.)

3.2. The new role of business associations as innomediaries

In Chapter 2 we present the traditional role of BAs, where we showed them as nonprofit organizations that respond to a union of common business interests from their ACs, and which act through inter organizational collaboration. Therefore, they are nonprofit organizations with a business mandate focused on member-serving.

However, BAs do not always keep the same role, by the contrary, they evolve and change their functions and they expand their objectives beyond interests' representation. According to Nelson (1994), BAs and other kinds of institutions like technical societies or universities co-evolve with the development of modern technologies. In that sense, he argues that evolution of institutions relevant to a technology or industry may be a very complex process, involving not only the actions of private firms but also organizations like industry associations, technical societies, universities, courts, government agencies, legislatures, etc.

According to the above, the association's principal goal of defending its members' interests may change, and it may also develop its own separate agendas (Edquist, 1997). The power dependency view suggests that while an association is subject to its dependency on members, it is likely to undertake initiatives that reduce this dependency and increase its autonomy (Boch, 1987). For example, transfer technology activities, specialized knowledge and ownership rights in the technology. Nadvi (1999) in a series of studies on industrial clusters highlights the support activities that BAs provide to their members, such as: technical and management advice; information services that help link local producers to distant markets; technological support in products and processes; linking local producers to global trade fairs; reference services to help local producers compare their performance with best practices globally; and technical assistance to accomplish with quality standards. As a consequence, associations gain more power as they control multiple valuable resources or services which are critical to their ACs (Benson, 1975). This path represents the way through which the association becomes a key agent like innovation intermediary.

The process of growth of the associations, as well as the needs of their members, have led them to develop a new role as innomediaries. For this reason, Dalziel (2007, p.193) classifies BAs as non-profit organizations with a significant impact (positive or negative) on their members' ability to innovate. She denominates them as "innovation-related nonprofits" whose mandates are scientific, technological, or business related. Thus, Dalziel (2006, 2007) defines BAs as facilitators of innovation in games of innovation, because they have: (1) a high degree of knowledge; (2) specific structures to capture value and (3) focus on specific demands of market niches (Miller & Floricel, 2007). In an analysis of Canadian BAs, Dalziel (2006) concludes that associations have capabilities and specialized knowledge that permit them to become innovation intermediaries, because they contribute to increasing the capacity of their companies to innovate. Likewise, because the associations' activities are deeply aligned with the needs of their ACs, which facilitates adjustment in innovation issues.

To develop this innovation alignment, associations develop meetings where members share knowledge about the business environment, especially that affecting their sector. Topics of interest can range from new trends in customer, supplier and competitor behavior, to changes in industry standards, recent government regulations or new technologies (Dalziel, 2006). Therefore, it is easy to deduce that this shared knowledge is particularly valuable as a driver of innovation. For this reason, when companies' managers see the need to establish collaborations with other market players to participate in innovation projects, they often relate to BAs (Aldrich et al., 1998).

The associations, according to Dalziel (2006), promote the innovation of their members through different actions: (1) by identifying and legitimizing firms, for example by creating industry directories, and (2) by facilitating the creation of interfirm relations, for instance through networking activities; and (3) by providing an increased access to resources through network brokerage activities, for example access to knowledge in universities and opportunities in foreign markets. In this respect, she stresses BAs' ability to build networks between companies that could not collaborate, except for the existence of the association. Thus, they facilitate communications and create trust among participants in these networks, with the aim of promoting a high level of participation, increasing the frequency of interactions and increasing the intensity of commitment among participants. In this dynamic, BAs offer a high degree of confidentiality and trust that is essential for collaboration activities where patented technologies and know-how are shared.

However, in spite of all the benefits indicated so far, the associations still have the challenge of facing the invisibility of their work (Dalziel, 2006, 2007; Watkins et al., 2015). As an example, Dalziel (2006, 2007) points out that the Oslo and Frascati manuals (OCDE & Eurostat, 2005; OCDE, 2002) although considered reports concerning global innovation do not count correctly the impact of associations, therefore it is not possible their valuation. Also, BAs are not recognized in traditional theoretical frameworks, as the model of the Triple Helix of Innovation (Etzkowitz & Leydesdorff, 2000).

3.3. Conclusions

As a first conclusion, we want to clarify in which categories are the associations within the seven types of innomediaries presented in Figure 3.2. Thus, as noted in the description of the types of innovation intermediaries (section 3.1.1), several studies explicitly and tacitly identify BAs as innomediaries (see Table 3.8). In the first typology, the Howells' (2006) classification presents various kinds of organizations related with BAs as brokers, intermediaries and regional institutions. However, in our opinion the most adjusted concept is "*superstructures organizations*" by Lynn et al. (1996), because they are organizations that help to facilitate and coordinate the flow of information to substructure firms (the ACs in our case). Respect to processes or activities of innomediation, we believe that according to Howells (2006) associations could be allocated to "*innovation bridging*" and also the associations could be allocated in "*innovation knowledge brokering*".

Table 3.8. Types of innomediaries that refer to business associations

Typology	Organizations related with Business Associations	Authors
Typology 1: Innomediaries by type of organization ...	Brokers, intermediaries and regional institutions	Howells (2006)
	Superstructures organizations *	Lynn et al. (1996)
... and process/activities	Innovation bridging * Knowledge brokering *	Howells (2006)
Typology 2: Innomediaries by function in the innovation ecosystems.	(Semi) public organizations Industry associations *	Van Lente et al. (2003)
	Industry associations *	Dalziel & Yao (2010)
	Brokerage organizations * Systemic intermediaries *	Klerkx & Leeuwis (2009)
Typology 3: Innomediaries by degree of unknown of the situation and its context	Networker or bridge in ecosystems of innovation *	Agogu�e et al. (2017)
Typology 4: Innomediaries by the way in which knowledge is produced and used	Facilitators * Carriers *	Den Hertog (2000)
Typology 5: Innomediaries by their participation in the knowledge transfer process	Connectors, brokers, collectors and mediators	Colombo et al. (2015)
Typology 6: Innomediaries by communication and interaction channel with their clients	Innomediaries that offer their services through interaction between their staff and their clients *	Roijakkers et al. (2014)
Typology 7: Innomediaries by their capabilities for innomediation process	Innovation broadener*	Gassman et al. (2011)
Note: The organizations marked with an * correspond to those that we consider that define with greater accuracy the associations as innomediaries.		

Source: own elaboration

Regarding to second typology, Van Lente et al. (2003) include them as agents of innovation belonging to the category of (semi) public organizations or *industrial associations*. Likewise, Dalziel and Yao (2010) identify the BAs as their fifth types of innomediary. Klerkx and Leeuwis (2009) have two categories in which could be the BAs: *the brokerage organizations* and *the systemic*

intermediaries. However, they do not talk explicitly about associations at their classification. Again, in the third typology the BAs are not explicitly mentioned, however, Agogué et al. (2017) present the category of "*networker or bridge in ecosystems of innovation*" within which we believe that the associations could be located given all the characteristics that we have previously exposed (Table 3.8).

From the viewpoint of intermediation process, in our opinion, associations act much more like *facilitators* and *carriers* than like sources of innovation in the typology 4. Likewise, they could function like someone of the four types of intermediaries presented by the typology 5. According to the sixth typology, BAs offer their intermediated services through personal interaction and do not by interaction with software programs (Table 3.8).

Finally, the associations, for their capabilities, are closer to *innovation broadeners* than the other types of intermediaries as we presented in our study Alfaro et al. (2017), where we show that the functions of the BAs focus on the networks and connection between industries; access control and intermediation functions; and regulation and arbitration. In addition, we presented the lack of economic resources and the lack of personnel as the main barriers to innomediation of BAs, which is related to the impossibility of providing the technical and technological services characteristics of innovation multipliers and innovation leveragers (see Table 3.8).

The previous identification effort shows that associations have a specific role as innomediators and that they also have their own characteristics that differentiate them from other types of intermediaries. These characteristics include intermediation functions, advantages and disadvantages inherent to their work, innovation intermediation processes, certain capabilities, a particular competitive advantage and value proposition, possible roles to be defined and a series of specific results and impacts.

Chapter :

4. Action Research Methodology

"Coming together is a beginning, staying together is progress, and working together is success."
Henry Ford
Businessman, founder of Ford Motor Company

Developing new and applied knowledge is a constant challenge for academia. However, in many cases, that knowledge does not satisfy the needs of companies and their managers. In response, action research (AR) is argued to be an appropriate methodology to develop actionable knowledge useful for academics and practitioners (Sexton & Lu, 2009).

AR is a generic term, which covers many forms of action-oriented research. AR is a generic term, which covers many forms of action-oriented research. It recognizes the theoretical and practical contribution of multiple action researchers, whereby it provides a wide choice of potential action researchers who could offer different approaches to the research question. AR is an established and active field of scholarly activity and practice, constantly developing (Coughlan & Coughlan, 2016). AR has come to be understood as a family of practices expressed through modalities which emphasize different assumptions, contexts and starting points (Coughlan, 2010).

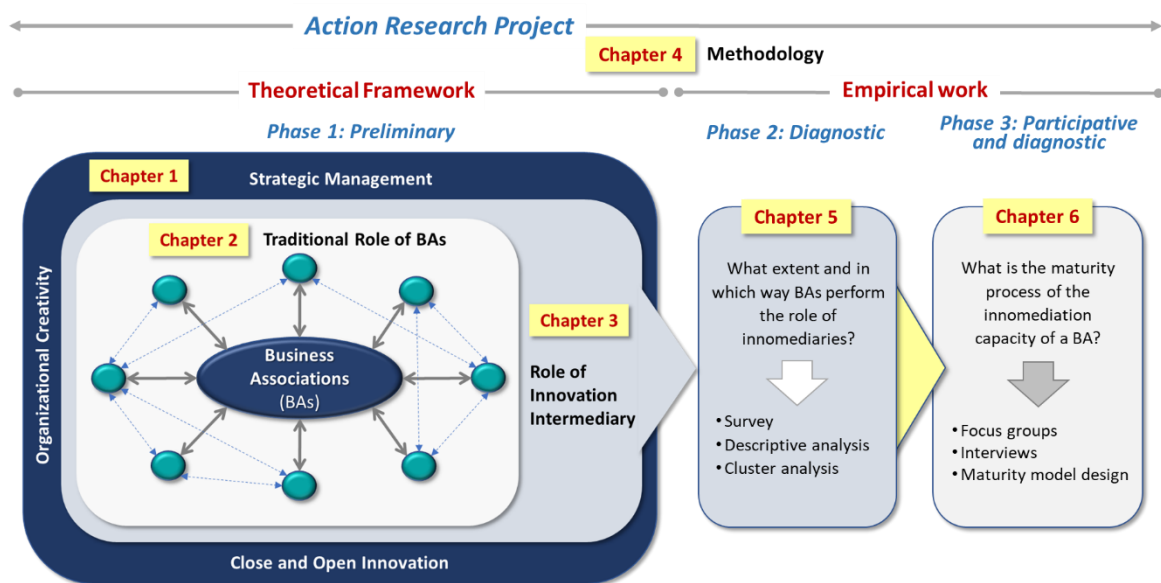
In this thesis, we use a particular modality of AR: the AR Project⁶. This concept is linked to the design and implementation of a project that includes a series of phases, research studies and techniques under a common objective. Figure 4.1 shows a synthesis of the three phases of this doctoral theses. With this research, we pretend to demonstrate that the AR Project is a research tool which not only facilitates the integration of different methodologies, if not also it is useful to develop research lines in the long term. These features allow to AR Projects to be more versatile and effective than traditional AR studies based on the development of a specific study.

This thesis fits within the literature that analyzes industry-university relationships. Thus, our study considers the statements of Perkmann and Walsh (2007) who emphasize that these relations must advance towards a greater integration in subjects of organizational character and collaborative relationships. Likewise, we agree with Friesike et al. (2014) who describe a number of

⁶ This Chapter is based on (see Table 4.4): (i) the paper "Action Research Projects: one step ahead in the researcher-practitioner relationships" (Mejia-Villa & Alfaro-Tanco, 2017), (ii) the fifth and sixth chapter of our book (Alfaro et al., 2017), and (iii) five different papers submitted by our team in conferences like EurOMA, IJC and ACEDEDOT.

emerging trends in the relationship of open science between academy and industry, drawing on interdisciplinary studies and non-narrow environments such as those based on personal relationships. From this point of view, this study fits perfectly, because it groups multiple methodologies, there are researchers from different fields and the relationship is presented between a group of researchers and BAs, and not only among individuals. Additionally, we argue that AR Projects can be considered as a coupled open innovation practice where the flow of information is reciprocal, which agrees with the study presented by Buganza and Verganti (2009), where the company-university collaboration stands out as an open innovation activity. As an example, Alfaro et al. (2015; 2016a, b) show an AR Projects as an open innovation practice for the specific case of research projects developed in the scope of the Business Chair Volkswagen Navarra – University of Navarra.

Figure 4.1. Focus of Chapter 4



Source: own elaboration

We believe that this research experience could encourage researchers to develop AR Projects as a framework for research work, where practitioners (companies, organizations or other social actors) can be integrated into research teams and academic results to contribute to the analysis and improvement of a concrete social reality.

This chapter is divided into three parts. The first part deals with the origin, definition and dynamic behind AR methodology. Likewise, we present the growing relevance of AR Projects as a new paradigm for management research. Second, we present the process of this doctoral thesis under the schema of an AR Project (Figure 4.1). Finally, we present our experience through several lessons learned in the development of this AR Project.

4.1. Action Research methodology: origin, definition and dynamic

The concept of AR first appeared in Collier's research (1945) and later, the studies of Lewin (1946), Chein et al. (1948) and Curle (1949) developed the concept. Lewin (1946) pretends that the research helps to the agents of the organizations and not only that this one is dedicated to produce books. He affirms that it is necessary that both research and action go hand in hand. Chein et al. (1948) develop the concept of AR in a more detailed way and they establish the four “varieties” of AR: diagnostic, participative, empirical and experimental. Finally, Curle (1949) adds to the previous works, that AR aims not only to discover facts, but to help modify certain conditions experienced as unsatisfactory by the community. In this way, the researcher must know what results he intends to achieve and why.

According to Shani and Pasmore (1985, p. 439) AR may be defined as “an emergent inquiry process in which applied behavioral science knowledge is integrated with existing organizational knowledge and applied to solve real organizational problems. It is simultaneously concerned with bringing about change in organizations, and developing self-help competencies in organizational members and adding to scientific knowledge”. It is important to highlight that AR is an emergent inquiry process which, as stated by Lewin (1946, p. 206), is conceived as "a spiral of steps, each of which is composed of a circle of planning, action, and fact-finding about the result of the action". Its aim is to solve real organizational problems through the integration of diverse knowledge. Besides, this process generates various results like organizational change, competence development, and scientific knowledge. Additionally, this research process enables a dynamic of collaboration, co-inquiry and open innovation. McNiff and Whitehead (2010) synthetize this concept through particular features of AR (see Table 4.1).

Table 4.1. Main features of Action Research

Action Research is ...	
<ul style="list-style-type: none"> • practice based, and practice is understood as action and research; • about improving practice (both action and research), • creating knowledge, and generating living theories of practice; • focused on improving learning, not on improving behavior; • about research and knowledge creation, and is more than just professional practice; • collaborative, and focuses on the co-creation of knowledge of practices; 	<ul style="list-style-type: none"> • involving interrogation, deconstruction and decentering; • demanding higher-order questioning; • intentionally political; • about requiring people to hold themselves accountable for what they are doing • about accepting responsibility for their own actions; • about contributing to social and cultural transformation.

Source: McNiff and Whitehead (2010, p.17)

Although the previous definition is focused on “the process”, it does not show who builds and develops it. Therefore, Coughlan and Coughlan (2002) point out that both researcher and practitioner interact along the AR process and they highlight that practitioner is an active agent there. Thus, AR represents a paradigm of understanding researcher-practitioner relationships that

will have a growing relevance, and that is a useful tool to improve the competitiveness and relevance of both firms and research groups.

Regarding to practitioner role, Alfaro and Avella (2013) present two types of them. The first type is the classic practitioner, who was originally defined by AR from social sciences and who has an active role like analyzed subject, but less active to propose solutions. These practitioners are, for example, students in education, patients in medicine or influential agents in psychology. From another perspective, the second kind of practitioner acts on behalf of an organization that needs to solve a problem, and therefore, this practitioner is more active because not only he/she is an analyzed agent, but also, he/she acts hand to hand with the researcher to solve organizational problems. This is the case for the management research, specifically at fields like strategy, information systems, operations management or innovation, which is the one that is developed in the empirical phases 2 and 3 of this study, and which is described in chapters 5 and 6.

The participation of both researchers and practitioners in the AR process depends on the AR's variety. About that Chein et al. (1948) explain the roles of these agents in each type of AR processes, as follow:

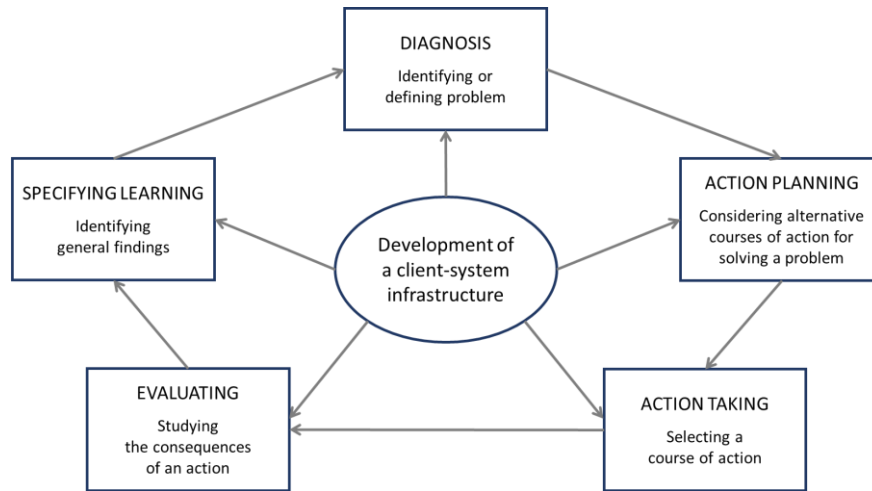
- *Diagnostic AR*: the researcher carries out an analysis of the problem, in order to find out the causes and suggests to the practitioner, actions to solve the problem.
- *Empirical AR*: the researcher notes a phenomenon that is happening; he follows the process and shares his results with the agent of the organization.
- *Participatory AR*: The researcher maintains an active and close contact with the agent of the organization; thus, both are part of the research team and interact constantly in the research process.
- *Experimental AR*: The researcher performs different experiments to solve a problem.

Under a procedural view, if we organize these types of AR processes in line, it is possible to discover a series composed by several phases and moments. Thus, for example, a researcher could design an AR investigation beginning with a phase of Diagnostic AR, following with an Empirical AR and ending with an Experimental AR.

On the other hand, some authors have defined different stages associated with a cycle of AR process, and most of them coincide in including the following five stages: diagnosing, action planning, action taking, evaluating and specifying learning. The study of Meredith et al. (1989) defines an ongoing cycle of research stages and it signals AR as an alternative methodology to traditional quantitative techniques in operations management. In this sense, Susman and Evered (1978) develop the "*cyclical process of action research*". It includes the five traditional phases, but also the development of an infrastructure within the client system and action researcher that maintains and regulates some of or all of these five phases jointly (Figure 4.2). Within this cyclical

process, Coughlan and Coughlan (2002) emphasize the role of monitoring to manage the interactions and assuring to get the double objective (academic and practical) of the research.

Figure 4.2. The cyclical process of Action Research



Source: Susman and Evered (1978)

Based on Westbrook (1995), Avella and Alfaro (2014) propose that an additional stage should be included: *dissemination or diffusion of results*, which includes academic contributions and practical results, as well as the proposal of new actions for the next phase.

Additionally, Zuber-Skerritt (2001) adds a new element to understand the dynamic of AR process, “*the spiral of AR cycles*”. According to him, a spiral of AR cycles is a sequencing of cycles similar to Susman and Evered’s (1978) cycle shown in Figure 4.2, through which the teamwork composed by researchers and practitioners feel and are responsible for solving a problem. This chain of cycles is characterized because, at the end of each cycle, the teamwork performs a reflection on results, and it proposes a new cycle on the basis of the learning obtained previously. This iterative relation among AR cycles is called by Maestrini et al. (2016) “*the action research cycle reloaded*”, which they consider an effective research methodology in the field of purchasing and supply chain management.

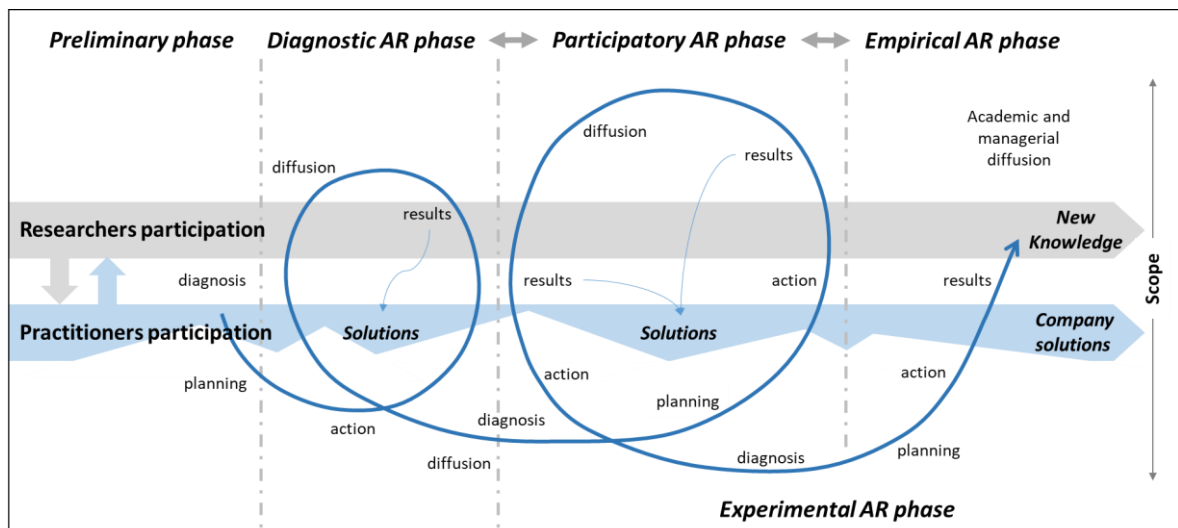
Emergence of Action Research Projects

According to the above, the dynamic of an AR Project is composed by the interaction between the AR types (AR’s variety), the cycles of AR stages and the spiral of these cycles. As a consequence, we propose the concept of “*AR project*” to integrate these three constructs. In that sense, “an AR project is a broad concept that includes and interrelates, in a flexible way and different moments, diverse AR types, cycles of AR stages and research methodologies under a particular spiral of cycles to get a general aim”. Thus, the types of AR process acting like big phases or long-time periods under which several cycles can be developed. In this definition, “flexibility” means that researchers

and practitioners can combine the types of AR process among them, and at the same time, they can develop several cycles of AR” (Mejia-Villa & Alfaro-Tanco, 2017, p.195).

Under an integrative perspective, in the Figure 4.3 we describe the spiral of an AR Project in which it is possible to identify different phases and cycles. We have added a preliminary phase that represents the first time when researchers and practitioners get in touch and they share initial ideas and needs. After this, the project develops other phases (in a concerted order between researchers and practitioners) and many cycles of diagnosis, planning, actions, results and diffusion. The diffusion emerges at academic and managerial levels, and its effects represent solutions for practitioners and new knowledge for academics. Also, a particular impact of diffusion is the incorporation of new researchers and new practitioners, who pretend to obtain the same benefits of existing agents. Note that, in general, the participation of researchers is continuous over time, while the participation of practitioners has different rhythms and it depends on the moment of the AR project. An additional aspect of this model is referent to its scope, which tends to expand over time. For instance, with each phase and cycle, the number of practitioners increase and/or the research geographical are expanded.

Figure 4.3. The spiral of Action Research Project



Source: Mejia-Villa and Alfaro-Tanco (2017)

In summary, we consider that an AR Project perspective is crucial to understand the new framework that must define the researcher-firm relationships. Ottosson (2003) considers that the AR collaboration is crucial to improve the knowledge of management, and highlights two aspects for understanding the role of AR as a new research paradigm. First, AR must have a dual relevance that implies to develop contributions to the academic literature and to help firms to solve a problem and/or to identify an area for improvement in the firm. Second, this double objective implies that practitioners must be involved in the research group from the very beginning. So, the researcher aims to solve a problem not “for” the practitioners, but “with” them.

4.2. This doctoral thesis as an AR Project

In the cyclical process of AR presented by Susman and Evered (1978) in the Figure 4.2, it is relevant to observe that in one of the axis appears the “development of a client-system infrastructure”. From a management perspective, Maestrini et al. (2016) locate in this point the “monitoring”, explaining that this is a meta-step which is present throughout the cycle steps. Thus, the monitoring not only controls the managerial processes, but also it is concerning to monitoring the learning process and synthesizing theoretical advancement.

For cases of AR Projects, these cycles can have different infrastructures or monitoring. From an academic point of view, Avella and Alfaro (2014) show the infrastructure denominated “*Business Chair*” and they explain that it is defined as an agreement between an university and an external organization (firm, association of firms, public institutions, other kinds of organization) to manage and finance activities usually related to teaching and research. In the same line, another case of AR Project infrastructure could be a *doctoral thesis* that is the infrastructure on which this doctoral research is being developed.

There are several studies about the use of AR methodology for developing doctoral thesis. Thus, Klocker (2012) encourages doctoral students and academics to develop thesis based on AR, while Zuber-Skerritt and Fletcher (2007) highlight the quality points for a thesis under this methodology. Likewise, Zuber-Skerritt and Perry (2002) explain the differences between participatory AR and AR applied to a thesis. Also, Nogeste (2008) points out the relevance of cycles for undertaking a thesis under AR. Finally, Coghlan (2007) presents the characteristics of a doctoral thesis with AR, when the student is a manager who is the researcher and the practitioner at the same time. Based on these studies, we can conclude that a doctoral thesis offers an adequate framework to develop an AR Project. We consider the next points as key reasons to undertake a thesis as an AR Project:

- A doctoral thesis is a rigorous space of long-term learning and research in which there are at least two researchers, the doctoral student and his/her thesis director, who must present periodic reports and results.
- This type of study has a similar structure to AR cycles, where diagnosing, action planning, action taking, evaluating, specifying learning and dissemination are natural steps of a thesis.
- Likewise, it permits to integrate managers (the practitioners) into the research project. Hence, they participate, interact and better understand the research benefits. Furthermore, their attitude is more proactive and we get a continuous feedback during the process (Baskerville, 1997; Näslund et al., 2010; Ottosson, 2003).
- A doctoral thesis as an AR Project not only offers a specific case study in a company, but also it offers a long-term research space which could become a research line with further projects.

- Also, the AR Project methodology functions as an umbrella under which is possible to assemble different research methodologies and techniques, including both quantitative and qualitative ones.
- Additionally, this long-term relationship can be a source of different products like papers, conference papers, reports, books, workshops, etc.

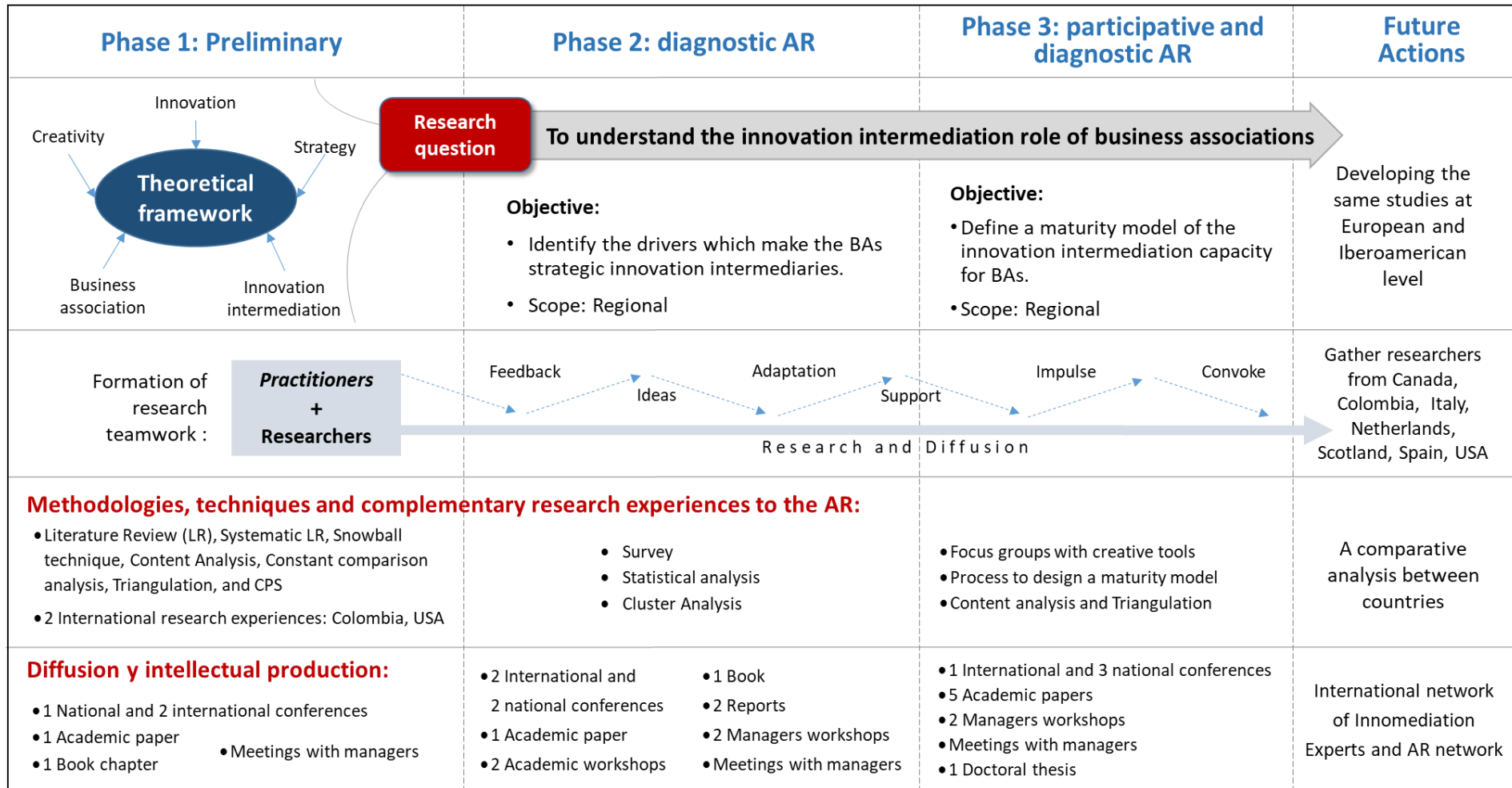
Phases of our AR project

According to previous analysis and our approach, this thesis has three main phases as we show in Figure 4.4 (as in Figures 0.1). First, we developed a “*Preliminary phase*” which permitted us to advance in the academic and managerial fronts. In the first front, we built a rigorous theoretical framework (synthesized in Chapters 1, 2 and 3), we proposed the objectives and research questions, and we explored various research methodologies and techniques compatibles with AR. In the managerial front, we had the first encounters with managers and after that, we conformed the research teamwork between both groups, practitioners and researchers. The duration of this phase was one year approximately (year 2013-2014).

The second phase was a “*Diagnostic AR*”. It was focused on a specific project which pretended to determine the situation of a group of BAs as innovation intermediaries located in Navarra, Spain. This phase had a duration of two years (2014-2016) and we obtained funds from the banking foundation called “Fundación Caja Navarra”. As a general result, we presented a characterization of the role of 21 BAs, through a statistical analysis and a cluster analysis (see Chapter 5). This study permitted to us to propose a typology of BAs. To reach these results, we designed a specific survey and a series of interviews with association’s managers. From academic side of dissemination step, we presented an international conference, a paper and we organized two academic workshops. From managerial side, we developed two reports for the financing institution, two workshops with managers and a book (Alfaro et al., 2017). This book has been an interesting experience, because it combines academic and practical results, and managers consider it as a proof of the work consolidation between associations and university. They perceive it as the relationship formalization.

The third phase lasted one year (2016-2017) and it is a combination between a “*Participative AR*” and a new step of “*Diagnostic AR*” (see Figure 4.4). This phase is “participative” because we have more interaction with practitioners. Also, it is “diagnostic” because we are deepening our understanding of the association’s innovation intermediation role and its projection. Thus, we designed a Maturity Model of Innovation Intermediation Capability for BAs (see Chapter 6), which was validated by 16 managers through the implementation of two focus groups. After that, this model served as a framework for two workshops of diagnoses and planning of maturity level of 14 associations.

Figure 4.4. Phases of the doctoral thesis as an AR Project



Source: based on Mejia-Villa and Alfaro-Tanco (2017)

In the future, this AR project wants to develop the same studies undertaken so far, but at European and Iberoamerican level. Likewise, we want to gather expert researchers in open innovation that we have already met. They are from Canada, Colombia, Italy, Netherlands, Scotland, Spain and USA. The idea is to create an international network of innovation intermediation through which we could develop comparative analysis, case studies, and new AR projects. To achieve this will be important to present and managing international projects like CYTED, COST or Europe Union Interreg projects.

Methodologies and techniques of research by phases of the AR project

For the development of the theoretical and conceptual frameworks of chapters 1 to 4 and 6 we use the principles and processes of the *Literature Review* (see Table 4.2). However, in two moments, this methodology was based on the *Systematic Review of Literature* and the *Snowball Technique*. Thus, a *Systematic Literature Review* was used at identification of the strategic management models (SMMs) of the paper by Mejia-Villa et al. (2016) and explained in Chapter 1. Additionally, the *Snowball Technique* was used to identify the key papers on innomediation in Chapter 3. They were Howells (2006), Van Lente et al. (2003), and Gassman et al. (2011). Given these papers, we continued the search of the studies related to their topic and BAs. The general study of these papers used *Content Analysis* to identify key concepts and connections between those. This technique was also used in the analysis of the drawings made by the managers in the focus group of Phase 3 of the AR project (see Chapter 6).

Our paper Mejia-Villa et al. (2016) and Chapter 1 used the *Constant Comparison Analysis* methodology to describe each SMM under the same terms and thus make them comparable and analyzable (Table 4.2). Similarly, the *Investigator Triangulation technique* served to contrast the SMMs identified with the management logics. This technique was also used in Chapter 6 to discuss and integrate ideas and redefinitions of stages and factors of Theoretical Maturity Model of Innovation Intermediation for BAs (MMIIC). On the other hand, Table 4.2 shows that we use the *Creative Problem Solving* as a guide for the design and proposal of the Innomediation Model (see Annex 2).

In Chapter 5 we used three methodologies (see Table 4.2). Hence, we designed, tested, and conducted a *Survey* for 21 associations. Subsequently for its analysis, we used the *Statistical Analysis* to make a quantitative characterization of that group of associations. Likewise, we use the *Cluster Analysis* to identify similarities among associations and finally to define a typology about them. From another point of view, for Chapter 6 we use a specific *methodology for the design of Maturity Models*. Later, we used the methodology of the *Focus Group* to validate the MMIIC, where we use *creative techniques* such as *Storyboarding* and *Stick 'em up Brainstorming* for the group dynamics. For the analysis of results, we use the *Investigator Triangulation* that we have already discussed, and the *Statistical Analysis* to analyze the data of the evaluation of the maturity in innomediation. The SPSS and Excel were the software used to support these techniques.

Table 4.2. Methodologies and Techniques used in the thesis

Methodology	Chapter	Description	References
Action Research (AR)	1 to 7	We develop an AR project that covers all doctoral research (see Chapter 4).	Collier (1945); Lewin (1946); Chein et al. (1948); Curle (1949); Susman & Evered (1978); Alfaro & Avella (2013); Avella & Alfaro (2014); Zuber-Skerritt (2001); Mejia-Villa & Alfaro-Tanco (2017)
Literature review	1 to 4 6	Methodology used to develop the frameworks of thesis theory, AR methodology and maturity models. It was complemented by other techniques in those chapters.	Adams et al. (2007); Webster & Watson (2002).
Systematic literature review	1	Methodology used to identify and define the strategic management models (SMMs)	Keupp et al., (2012); Thorpe et al. (2005); Tranfield et al. (2003); Clarke & Oxman, (2001); Mulrow (1994); Prieto-Sandoval (2016)
Snowball technique for literature review	3	Due to the specificity of the topic, it was used to guide the literature review about BAs as innomediaries	Wohlin (2014)
Content analysis	1 to 4 6	It was used to analyze different papers for structuring the theoretical frameworks	Krippendorff (1989); Duriau et al. (2007)
	6	Also, it was applied to analyze the drawings in the focus groups	
Constant comparison analysis methodology	1	It was used to describe each SMM under the same terms and thus make them comparable and analyzable.	Glaser et al., (1967); Leech & Onwuegbuzie (2007)
Investigator triangulation technique	1	It was used to contrast the SMMs identified with the management logics	Denzin (1978); Jick (1979)
	6	It was used to discuss and to integrate ideas and redefinitions of stages and factors of Theoretical MMIIC.	
Creative Problem Solving (CPS)	1 Annex 2	Process and tools used like guide to design the Innomediation Model	Puccio et al. (2011, 2012)
Survey	5 Annex 3	Methodology used to design, to probe and applying the associations' survey	Adams et al. (2007)
Statistical analysis	5	This methodology allows the descriptive analysis of survey results. SPSS software facilitates the process.	Adams et al. (2007)
	6	This methodology allows the descriptive analysis of assessment by factors of maturity model	
Cluster analysis	5	With a multivariate analysis technique through the two phases (Hierarchical and K-Means), we developed the cluster analysis in a quantitative and graphics (box diagrams or box-plots) way	Anderberg (2014); Dillon & Goldstein (1984); Massart et al. (2005)
Process to design a maturity model	6	In general, we develop five generic design steps to design the Maturity Model of Innomediation Capacity (MMIIC).	Lahrman et al. (2011); Becker et al. (2009); van Steenbergen et al. (2010); Järvinen (2007); Hevner et al. (2004)
		Specifically, we applied a procedure model with eight phases to develop the Maturity Model of Innomediation Capacity (MMIIC).	Becker et al. (2009)
Focus group with creative tools	6	It served to develop the focus groups of validation of Theoretical MMIIC, where the Storyboarding and Stick 'em up Brainstorming techniques were used.	Hennink (2014); Puccio (2002); Foursight (2010); Parnes (1992)

Source: own elaboration

Experts consulted in the development of the AR project

Throughout the AR project several experts were consulted to obtain their advice and feedback on the academic and managerial progress of each of the stages. As can be seen in Table 4.3, these experts belong to the academic and business world, and come from different countries. In addition, other experts have reviewed and feedback our products. As has happened in the 11 conferences presented, the three papers sent to journals and the written book. Also, we received feedback from various association managers in the workshops held.

Table 4.3. Experts consulted for the thesis development

Chapter	Expert name	Description of his/her support
I. Academics		
1	<i>Sergio Torres, PhD.</i> (Colombia) CEO, Trends Knowledge Professor, Pontifical Javeriana University	He collaborated in the definition of management logics and strategic management models. Likewise, he helps us with the coopetition concept.
	<i>John Cabra, PhD.</i> (United States) Professor, International Center for Studies in Creativity (ICSC), Buffalo State, SUNY	He guided us in defining concepts and models of creativity and innovation
2	<i>Ricardo Dávila, MSc.</i> (Colombia) Emeritus Professor, Pontifical Javeriana University President, Colombian Interuniversity Network of Solidarity Economy - UNICOSOL	He collaborated in the definition of the characteristics of BAs' management and governance.
1 to 3	<i>Anne Huff, PhD.</i> (Ireland) Professor, Dublin City University Business School Past President of the Academy of Management	Reviewer of the first version of this chapters as mentor of the doctoral colloquium, EURAM (European Academy of Management)
5	<i>Elena Sanjurjo, PhD.</i> (Spain) Associate Professor, University of Navarra	She helped us with the processing and statistical analysis of the survey as well as with the cluster analysis.
6	<i>Marta Ormazabal, PhD.</i> (Spain) Professor, Tecnun, University of Navarra	She gave us the guidelines for the development and design of the maturity model.
	<i>Valentina Lazzarotti, PhD.</i> (Italy) Professor, University Carlo Cattaneo	She provided us with key ideas for the validation process of the maturity model with associations.
II. Managers		
5	<i>Cernin Martínez, PhD.</i> Consultant and past manager Fundación Moderna	They gave us information and key guidelines for the definition of the sample of Navarra's associations
5	<i>José Manuel Olivar</i> Manager Confederación Empresarios de Navarra (CEN)	
1 to 6	<i>Mar Gonzalez, MBA</i> Manager, ADEMAN (Association of graphic arts Navarra's companies) and Cluster Functional Print	As practitioners, they accompany us throughout the AR project. They gave us feedback on the different concepts of the theoretical framework and supported us in the validation of the research results.
	<i>Nerea Corera, MSc.</i> Manager, ATANA (Navarra's Cluster ICT)	

Source: own elaboration

Academic and managerial production and results diffusion

Table 4.2 shows the academic and managerial production through three phases of the thesis. It corresponds to conferences, workshops, papers, books, and reports among others.

Table 4.4. Academic and managerial production of the doctoral thesis

I. Academic results: Conferences and academic workshops			
Activity	AR Project Phase	Title	Event, Date and Place
5 International conferences	1	The role of Industry Associations as drivers of strategic management of innovation in industry. Authors: Mejia-Villa, A., Alfaro, J. A.	EURAM (European Academy of Management). June 2015. Warsaw, Poland
	1	Key issues in the development of action research projects in operations management field: case study of VW Navarra – University of Navarra Authors: Alfaro, J.A., Santos, J., Mejia-Villa, A., Herrera, Mikel.	EurOMA (European Operations Management Association). June 2015. Neuchâtel, Switzerland.
	2	Analysis of the role of IAs as strategic innovation intermediaries: an empirical study in Navarra, Spain. Authors: Mejia-Villa, A., Alfaro, J. A., Recalde, M., Rodríguez-Ferradas, M. I.	IPDMC (European Institute for Advanced Studies in Management). June 2016. Glasgow, UK.

	2	Concerning the increasing relevance of Action Research methodology in improving collaboration between researchers and industry in the field of Operations Management. Authors: Alfaro, J.A., Avella, L., Mejia-Villa, A.	EurOMA (European Operations Management Association). June 2016. Trondheim, Norway.
	3	PR practitioners as enablers of creative and innovative process of companies: A multilevel proposal. Authors: Recalde, M., Mejia-Villa, A., Gutiérrez, E.	EUPRERA (European Public Relations Education and Research Association). October 2017. London, UK.
6 National conferences	1	Modelos de dirección estratégica: Entre la lógica directiva y la complejidad del entorno. Autores: Mejia-Villa, A., Alfaro, J. A., y Torres, S.	CLADEA (Consejo Latinoamericano de Escuelas de Administración). Septiembre 2014. Barcelona, España.
	2	Análisis de la metodología de action research en el campo de la Dirección de Operaciones como herramienta para potenciar la colaboración entre investigadores y practitioners. Autores: Alfaro, J.A., Avella, L., Mejia-Villa, A., Naslund, D.	ACEDEDOT (Sección de Dirección de Operaciones y Tecnología de ACEDE). Abril 2016. León, España.
	2	Action Research Projects as an Open Innovation Practice: Case Study of VW Navarra – University of Navarra Authors: Alfaro JA, Santos J., Herrera M., Mejía, A	International Joint Conference - IJC (CIO-ICIEOM-IIE-AIM). Julio 2016. San Sebastián, España.
	3	Proyectos de Action Research: un paso hacia adelante en la colaboración universidad-empresa. Autores: Mejia-Villa, A., Alfaro, J. A.	ACEDEDOT (Sección de Dirección de Operaciones y Tecnología de ACEDE). Marzo 2017. Valencia, España.
	3	Las Asociaciones Empresariales como Comunidades de Innovación Colaborativa: desarrollo de un modelo teórico. Autores: Mejia-Villa, A., Recalde, M., Alfaro, J.A., Gutiérrez, E.	ACEDE (Asociación Científica de Economía y Empresa de España). Junio 2017. Aranjuez, España
	3	Análisis del proceso de Capacidad de Absorción en las Asociaciones Empresariales como intermediarias de innovación. Autores: Mejia-Villa, A., Alfaro, J. A., Sanjurjo, E.	
2 Academic workshops	2	Working session: Open innovation research and future projects. Event attendees: University Carlo Cattaneo (Italy); Public University of Navarra and University of Navarra (Spain).	University of Navarra February 2016. Pamplona, Spain
	2	Workshop: Action Research: Explanation and developing new projects. Event attendees: various Spanish universities and Norwegian University of Sciences and technology	University of Navarra April 2016. Pamplona, Spain

II. Academic results: Papers, book and book chapter			
Activity	AR Project Phase	Title	Journal / Editorial and Progress Status
1 Academic paper published	3	Action Research projects: one step ahead in the university-firm relationships. Authors: Mejia-Villa, A., Alfaro-Tanco, J. A.	Journal: WPOM – Working Papers on Operation Management. July 2017.
1 Academic paper under review	3	A development path for Industry Associations as Innovation Intermediaries. Authors: Mejia-Villa, A., Alfaro, J. A., Sanjurjo, E.	Journal: Industry and Innovation Status: submitted and under review. October 2017
5 Academic papers under development	1	Strategic management models and management logics: an integrative typology. Authors: Mejia-Villa, A., Torres, S., Alfaro, J. A.	Journal: Strategic Management Journal Status: Sent and rejected with relevant comments that will be very useful for further submissions. December 2016.
	3	Business Associations as Communities of Collaborative Innovation: a proposal from research experience. Authors: Mejia-Villa, A., Recalde, M., Alfaro, J.A., Gutiérrez, E.	Journal: Nonprofit Management & Leadership Status: It is written and needs a review for journal submission in November 2017.
	3	A Maturity Model of Innovation Intermediation Capacity for Business Associations Authors: Mejia-Villa, A., Alfaro, J.A., Recalde, M.	Journal: Research Policy Status: Currently this is Chapter 6 and this is in the process of becoming a paper.
	3	PR as enablers of creative and innovation process: A multilevel proposal. Authors: Recalde, M., Mejia-Villa, A.	Journal: Public Relations Review Status: It is written and needs a review for journal submission in November 2017.
	2	The new role of Business Associations: a study of Navarra's associations	Journal: Creativity and Innovation Management Status: It is in writing process

Book	2	Las asociaciones empresariales como motores de la innovación estratégica en las empresas. Autores: Alfaro, J. A., Mejía-Villa, A., Recalde, M., Rodríguez-Ferradas, M. I.	EUNSA - Ediciones Universidad de Navarra. Enero 2017. Pamplona, España
Book Chapter	1	Chapter 1: What might be the design of a new generation of innovation models? Author: Mejía-Villa, A.	Book: Big Questions in Creativity 2016 International Center for Studies in Creativity - ICSC Press. July 2016. Buffalo, USA.
		Note: This chapter was awarded in 2017 by ICSC as one of the best big questions in creativity 2013-2016	Book: Big Questions in Creativity 2017 International Center for Studies in Creativity - ICSC Press. September 2017. Buffalo, USA.

III. Managerial Results and Diffusion Activities			
Activity	AR Project Phase	Description	Date and Place
Reports for Caja Navarra Foundation	2	First report: Project advances	October 2015. Pamplona, Spain
	2	Final report: Results and recommendations	July 2016. Pamplona, Spain
Workshops with Managers of Business Associations	2	Presentation of preliminary results of the study of the associations of Navarre	University of Navarra April 2016. Pamplona, Spain
	2	Presentation of association's book, results and proposals for the future.	University of Navarra March 2017. Pamplona, Spain
Meetings with managers' associations	1, 2, 3	Meetings with managers to present partial research results and to receive feedback	Between 2014 and 2017
Workshops for Business Associations	3	Workshop: Diagnóstico y Proyección de las Asociaciones Empresariales como Intermediarias de Innovación	University of Navarra May 2017. Pamplona, Spain
	3	Workshop: Autodiagnóstico y desafíos para la Madurez en Innovación	University of Navarra June 2017. Pamplona, Spain

Source: own elaboration

4.3. Conclusions and lessons learned

The experience developing this doctoral thesis and managing this AR Project has taught us different key elements for a good performance on it. Consequently, we reflected and synthesized the following four lessons to undertake an effective AR Project.

Lesson 1: Collaboration based on trust and commitment between researchers and practitioners

One of the most relevant issues about AR is related to the personal relationships, and how to face and solve all the problems that can appear in the different stages of an AR Project. This question is even more relevant when it is usual to find researchers that have never worked in a collaborative way with firms, and managers that do not really know what academic research means. This lesson would be related with a factor that influences in the success or failure of AR Projects: how to manage personal relationships. Arieli and Friedman (2013, p.275) signal this as the “paradox of participation”, which is defined as “a situation in which action researchers, acting to actualize participatory and democratic values, unintentionally impose participatory methods upon partners who are either unwilling or unable to act as researchers”. This paradox implies other question: which are the skills that a practitioner and a researcher must have to participate in an AR? Our

experience is that the attitude and the capacity of empathy to other viewpoints are crucial to avoid conflicts and solving with existing into the team group.

This lesson can be linked to the concept of “cognitive distance”. According to Nooteboom et al. (2007), the cognitive distance (that is the difference that exists between the particular interpretation that two persons have about the world around them) is also a factor that influences the collaborative relationships. Hence, it is necessary a short distance between researcher and practitioner to reach a common view and a good understanding; but at the same time, it is required a certain cognitive distance to take advantage of complementarity between their two different viewpoints. The latter highlights the need of interdisciplinary as a way of exchanging experiences that allow the understanding and dynamics of the AR.

Two aspects we consider that are crucial to overcome this barrier that affects both actors: the first one, is the existence of an intermediary agent that is in charge of monitoring all the stages of the project. In our doctoral thesis, the role of monitoring was in charge of the supervisor of the Ph.D. student. It has been crucial that this person is an expert in developing AR methodology. Second, it is necessary to know the main issues about personal relationships during the stages of an AR Project. In this sense, this is a topic that has been treated in the field of social research, but not so much in the management studies. It is relevant to emphasize how a specific group of 16 general managers of BAs become especially active in the final stages of the AR project. This pro-activity is crucial to develop new projects associated to the one we have carried and emphasized the dynamic and retroactive features of the AR projects.

Lesson 2: AR Project is not an extended case study

About AR and cases studies, Baskerville (1997, p.42) explains their differences as follows: “Action research is more rigorous, more difficult, and longer in duration than participative case studies. For example, an action research report that fails to discuss (at least in an appendix) the client-system infrastructure, the collaborative nature of the research team, the iterative theory development (especially theory failure and modification) may be open to the challenge that the method has been erroneously described, and is indeed a participative case study”. Johansson and Lindhult (2008) also emphasize the role of AR as something more complex than case studies through the explanation of differences between critical and pragmatic orientations in AR. The first one is preferable where transformative action needs to be preceded by critical thinking and reflection. The second ones are well suited for contexts where the concerted and immediate action is needed. Most common is the pragmatic, which is linked to specific projects, meanwhile the critical imply analyzing a wide issue and, therefore, a long-term project that implies combining different methodologies, not only case studies. Most relevant for this classification is that “the responsibility of the researcher, as well as the form of knowledge developed, differs between the two orientations” (Johansson & Lindhult, 2008, p.95).

Though, we must go one step ahead, and asking ourselves: Is AR compatible with a survey research or implementing other quantitative techniques? The answer is “yes”, and as Towers and Chen (2008) foregrounds, the relevance of AR is based on the way that researchers and firms (practitioners) interact, and not so much in the research methodology that is used. The development of open innovation practices has to be a mechanism that helps to overcome the narrow view of AR as a case study or the misunderstanding with consultancy.

According to our experience, all these differences are based on that an AR Project represents a collaborative interaction, while consultancy expresses a cooperation dynamic. We agree with Miles et al. (2005) who express that collaboration of AR Project implies unpredictable results and relationships of commitment and trust. In contrast, the cooperation presented in the consultancy means clear results and that parts act essentially by their own interest.

Lesson 3: Relevance of managerial results diffusion

One of the main issues to diffusion is that academic results are usually obtained in the medium-long term and the practitioner needs to see the results in a short-medium term. It is common that researchers show the results to the practitioners with the same tools than used with the academic diffusion. But, does a practitioner understand the content of a research paper? Not, because it is written for academic audience.

In this thesis/AR Project, we have seen that the meetings, workshops, training sessions, focus groups, reports and the book for reporting the results were valued in a very positive way by the practitioners. This means that it is crucial to develop specific and variates tools to transmit the results to the practitioners. According to this, it is very important that the results are explained in a face-to-face meeting because of two reasons: first, it permits to solve any questions that practitioners may have, and, second, there is a relevant feedback that is very useful. Moreover, it is important that the results diffusion is made during the different stages of the project and intermediate results can be as interesting and relevant as the final ones.

Lesson 4: Action Research Project as an Open and Collaborative Innovation practice

In the dynamic of open innovation agents from the company and external agents interchange ideas and knowledge through collaborative processes in which everyone shares and everyone wins. According to Miles et al. (2005), this interaction describes the collaborative innovation defines as “the creation of innovations across firm (and perhaps industry) boundaries through the sharing of ideas, knowledge, expertise, and opportunities”. Hence, Baldwin and von Hippel (2011) point out a project of collaborative innovation involves collaborators that share the design and the results of the work, openly presenting their individual and collective efforts for anyone to use.

Considering the previous paragraph, it is possible to interpret that an AR Project follows the same dynamic than a collaborative and open innovation project. Thus, this is characterized by interchange, openness, innovation, collaboration and long-term relationship between different parts. According to this perspective and take an account the study of Van Lente et al. (2003), the researchers become innovation intermediaries for practitioners, because their studies and research offer knowledge and solutions for their organizational problems, and sometimes, the academics link to them with other agents as chambers of commerce, innovation centers and government agencies among others. Likewise and curiously, the practitioners also become innovation intermediaries for researchers, because they bring practical information, specific situations and case studies for their intellectual work. In consequence, we affirm that an AR project is a practice of open innovation, and particularly, an expression of collaborative innovation because of benefits for both agents over time.

Talking about AR Projects implies to consider them collaborative innovation practices, which are a kind of practices within the open innovation. In that sense, von Krogh (1998) explains that the collaboration is a concrete type of open innovation whose particularities reside in that agents offer resources and different and complementary capabilities to the process of innovation; they orient themselves towards a mutually desired objective; the common interest prevails; often it implies unpredictable results; the grade of interdependence and interactivity among the collaborators is higher than in any other kind of innovation practice and, as a consequence, the success depends, to a large extent on trust and commitment to the values of honesty and equal treatment.

Chapter:

5.A development path for Business Associations as Innovation Intermediaries

“Collaboration is important not just because it's a better way to learn. The spirit of collaboration is penetrating every institution and all of our lives. So learning to collaborate is part of equipping yourself for effectiveness, problem solving, innovation and life-long learning in an ever-changing networked economy”.

Don Tapscott

Business executive, author, and consultant

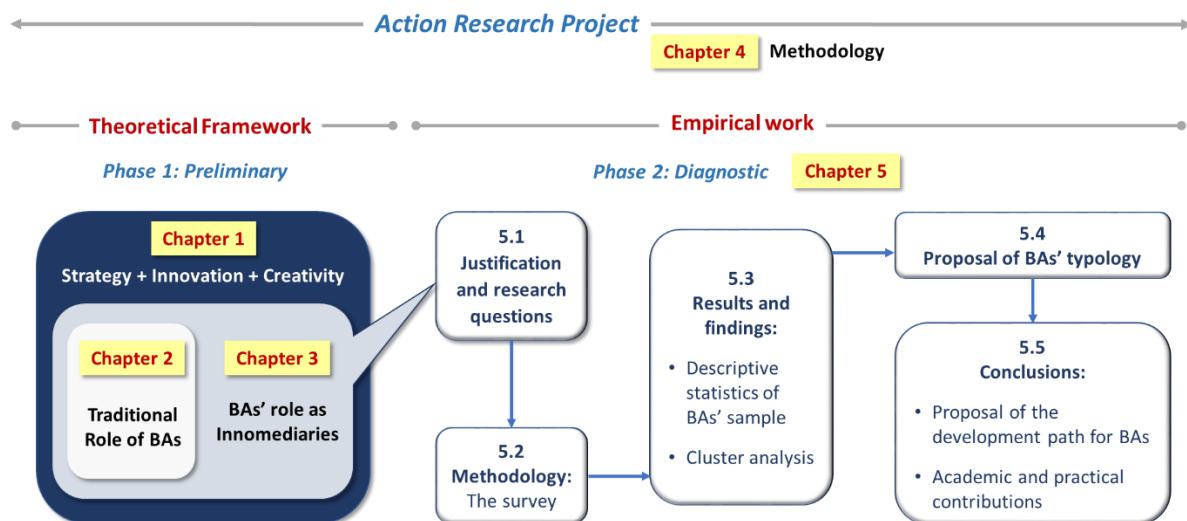
Current business scenario is characterized by change and complexity that implies new conditions and challenges for organizations (Mootee, 2013). As a consequence, all types of organizations require changing to survive. Therefore, firms need a strategic management of innovation vision to increase the impact of their innovation activities in the growth and performance of the company (Keupp et al. 2012). In many cases, as we presented in Chapter 2 and 3, companies respond creating business associations (BAs) or industry associations, which can be characterized as meta-organizations (Ahrne & Brunsson, 2005, 2008) and superstructure organizations (Lynn et al., 1996) with the aim of collaboratively eliminating some of the uncertainty and uncontrollability inherent in that environment (Ahrne & Brunsson, 2008). They represent a kind of widely prevalent institution that, in various forms, are found around the world in many regional and industrial contexts (Bennett, 1998).

Nordqvist et al. (2010) point out that BAs were primarily perceived as pressure groups engaged in labor and public policy debates, but those perceptions began to change in the 1970s and 1980s (Coleman & Jacek, 1983) and today, they build cooperation, foster information sharing, offer training and provide a wide range of services designed to help members to improve their business performance. Likewise, these associations encourage the networking and knowledge sharing between members, and are engaged in the collaborative build-up of knowledge and trust (Greenwood et al., 2002; Alter & Hage, 2003). Their value depends on the range and effectiveness of services provided to their members or on behalf of them (Mack, 1990; Procassini, 1995). Thus, their roles changed from representative actions of their affiliated companies (ACs) to foster the innovation and strategy of them, as innovation intermediary (Van Lente et al., 2003; Dalziel, 2006) or “innomediary” (a term coined by Sawhney et al., 2003).

According to the above, the general research question of this study (see Table 0.1) is “*What extent and in which way associations perform the role of innovation intermediaries?*” (GRQ2.0),

which is composed by three specific research questions: “What are the functions of BAs as strategic innovation intermediaries of their ACs?” (SRQ2.1), “What are the types of innovation from ACs in which the BAs give support to them?” (SRQ2.2), and “What are the specific dynamic capabilities of BAs as intermediaries of strategic innovation process of ACs?” (SRQ2.3). In order to answer this question, we develop the second phase of the Action Research project raised in Chapter 4 (see also Mejia-Villa & Alfaro-Tanco, 2017), which is an empirical study done with 21 industry associations from Navarra, Spain. More specifically, we carry out a statistical and cluster analysis that allows us identifying categories of BAs based on three criteria: their development grade of innovation intermediation functions; their innovation intermediation capabilities; and the types of innovation in which they support their ACs. Our research contributes to consolidate the academic literature on this topic and it highlights the relevant role of associations like active agents within innovation ecosystems. From managerial view, we present this development to associations as a strategic tool for their diagnosis and planning.

Figure 5.1. Focus of Chapter 5



Source: own elaboration

With this purpose in mind, in this Chapter we present (see Figure 5.1) first the justification and the consequent research question; second, the methodology of this study; third, the results and findings from descriptive statistics of BAs' sample and the cluster analysis developed; forth, the BAs' typology proposed; and finally, the study conclusions constituted by the proposal of the development path for BAs as innomediaries, and the academic and practical contributions. This study was published in the seventh, eighth and ninth Chapters of our book “*Las asociaciones empresariales como motores de la innovación estratégica en las empresas*” (Alfaro et al., 2017) as result of the project “*Las asociaciones empresariales como agentes impulsores de la innovación estratégica en las empresas de Navarra*” funding by Fundación Caja Navarra. Likewise, this second Phase of the project was synthesized in the conference paper “*Analysis of the role of IAs as strategic innovation intermediaries: an empirical study in Navarra, Spain*” (Mejia-Villa et al., 2016a), and the academic paper titled “*A development path for Industry Associations as Innovation Intermediaries*”

(Mejia-Villa et al., 2017a) which is at this moment under review in the *Industry and Innovation Journal*.

To develop this research, we applied different methodologies and techniques like the *survey* (Adams et al., 2007) that is possible to see in Annex 3, the statistical analysis (Adams et al., 2007) to describe its results, and the *cluster analysis* (Anderberg, 2014; Dillon & Goldstein, 1984; Massart et al. 2005) to define a typology of BAs.

5.1. Study justification and the consequent research question

Although BAs are frequently cited in studies of local development, the role of BAs is rarely highlighted or systematically explored (Kingsbury & Hayter, 2006). Accordingly, Bennett (1998) says that BAs are important but scarcely dominating institutions in the realization of competitive advantages and they exhibit complicated, varying characteristics. Indeed, BAs are highly contingent on local circumstances, and they are frequently (but not invariably) strongly shaped by the imperatives, functions and attitudes of their small and medium-sized enterprises (SMEs). Different studies confirm the relevant role of association in developing and developed countries as we showed in Chapter 2.

Specifically, in their role of innomediaries, Dalziel (2006, 2007) and Watkins et al. (2015) argues that BAs are relevant organizations within innovation systems, although they suffer invisibility for theoretical and practical reason as we explained in Chapter 3. On the other hand, Marques (2017) argues that the variety of perspectives and sources of knowledge that investigate the associations generate confusion and difficulties for their understanding. In that sense, he points out three reasons that explain the lack of research about BAs specifically in management literature (see section 2.3). First, because they appear in literature related to organizational theory and business ethics. The second reason is their relevance in topics of national and international governance. Finally, because in recent decades BAs are relevant in social and sustainable issues.

According to the above, there are a contrast between the importance of BAs and their low level of study. In response, we raise an inductive study which explores a group of associations under the viewpoint of innovation intermediation. The aim is to solve the research question by determining the development phases of BAs as innomediaries using the classification established in the study (see Figure 5.13). Then, we propose a development path of the innovation intermediation role of associations (see Figure 5.14).

5.2. Methodology

This study is framed in a diagnostic Action Research project (Chein et al., 1948) which was developed since 2013 with the interaction between university researchers and association managers (denominated practitioners) from Community of Navarra, Spain. Specifically, the present

study corresponds to second phase of this project as we presented in Chapter 4 (see also Mejia-Villa & Alfaro-Tanco, 2017). To answer the research question, the steps were the following.

First, the research team was consolidated by researchers and practitioners (experts from company's confederation and BAs managers). Simultaneously, researchers built a theoretical framework based on strategic management of innovation and innovation intermediation.

The second step was to design the survey and later, we did a pilot test with four association managers. This feedback and other adjusts defined a survey with eight parts, as follows: (1) general information of the association; (2) services offered by the association; (3) relationship between the strategy and innovation services offer by association; (4) resources, capabilities and core competences of association as innovation intermediary; (5) innovation intermediation functions; (6) association participation in types of innovation from ACs; (7) identification of innovation intermediaries of ACs; and (8) reasons behind association services. The Annex 3 presents the survey fulfilled by associations.

Finally, in the third step, the sample of IAs from Navarra was defined. Here, research team took three sources of information: general registration of associations from Navarra's Government, registration of affiliated business associations from Confederation of Firms of Navarra (CEN), and those IAs that appeared in a diagnostic report of the industrial sector in Navarra (Observatorio Navarro de Empleo, 2014). All this information was analyzed, refined and discussed by the research team, and it allows to select 37 IAs as the final population. After that, we contacted all of them to survey them, and 27 IAs agreed to participate in the study. Finally, 21 IAs returned us the survey. These filled the survey during the period November 2015 – February 2016.

Sample description

The sample was constituted by 21 BAs from Navarra as shown in Table 5.1. These associations represent companies from 15 different industries as information and communication technology (ICT), advertising, transport, logistic, agribusiness, food, tourism, metal, construction, wood, eldercare, social economy, graphic arts, consultancy and automotive repair shops. Additionally, there were an association of entrepreneurs and another that integrates firms from a specific geographical area of Navarra.

This group of BAs are not new in Navarra community (region). Because 10 (48%) BAs was founded between 1960 and 1979; seven (33%) associations between 1980 and 1999; and only four (19%) between 2000 and 2016. The younger one was founded in 2008. In general, these associations have few employees. About 80% of BAs have 10 or less employees, while two associations have 16 or more employees. Another feature of them is that they present different amounts of ACs per IA. Thus, 29% have among 1-49 ACs, 14% among 50-99 affiliates, 24% have ACs among 100-199, and 33% of associations have 200 or more members. The association with fewer

numbers of affiliates has 11 companies; in contrast with an association with 5.500 ACs (it is an agribusiness association that include individual farmers). The median of sample is 120 ACs per association. These BAs are financed by different sources. Thus, membership fees represent, on average, 46% of funds, services a 21%, projects a 20% and subventions only 9% of them. In six cases (29% from sample), fees correspond to 70% or more of IA's total funds.

Table 5.1. The Business Associations' sample of the study

Association name	Initials
Asociación Bodegas de Navarra	ABN
Asociación de Empresarios de Artes Gráficas de Navarra Cluster de Impresión Funcional de Navarra	AEGRAN
Asociación de Empresarios de Hostelería de Navarra	AEHN
Asociación de Empresarios de la Madera de Navarra	ADEMAN
Asociación de Empresas de Comunicación y Publicidad	LA ASOCIACIÓN
Asociación de Empresas de Economía Social de Navarra	ANEL
Asociación de Empresas de la merindad de Estella	LASEME
Asociación de Industrias Agroalimentarias de Navarra, La Rioja y Aragón	CONSEBRO
Asociación de Jóvenes Empresarios de Navarra	AJE Navarra
Asociación de Pequeña Y Mediana Empresa del Metal de Navarra	APMEN
Asociación de Residencias y Servicios de Atención a los Mayores	LARES Navarra
Asociación de Transportistas Autónomos De Navarra	TRADISNA
Asociación Navarra de Empresarios del Metal	ANEM
Asociación Navarra de Empresas de Construcción de Obras Públicas	ANECOP
Asociación Navarra de Empresas de Consultoría	ANEC
Asociación Navarra de Empresas de Tic - Cluster Tic de Navarra	ATANA
Asociación Navarra de Empresarios De Transporte Por Carretera Y Logística	ANET
Asociación Navarra de Pequeña Empresa de Hostelería	ANAPEH
Asociación Navarra de Talleres de Reparación De Vehículos	ANTRV
Unión de Agricultores Y Ganaderos de Navarra	UAGN
Unión de Cooperativas Agroalimentarias de Navarra	UCAN

Source: own elaboration

Additionally, BAs report that associations of superior level are their main solution providers, after them, the consultants and after, the clusters. In a second group are, in a descendent order, technological centers, entrepreneurship centers, public agencies, universities and certification organizations. Finally, chambers of commerce appear.

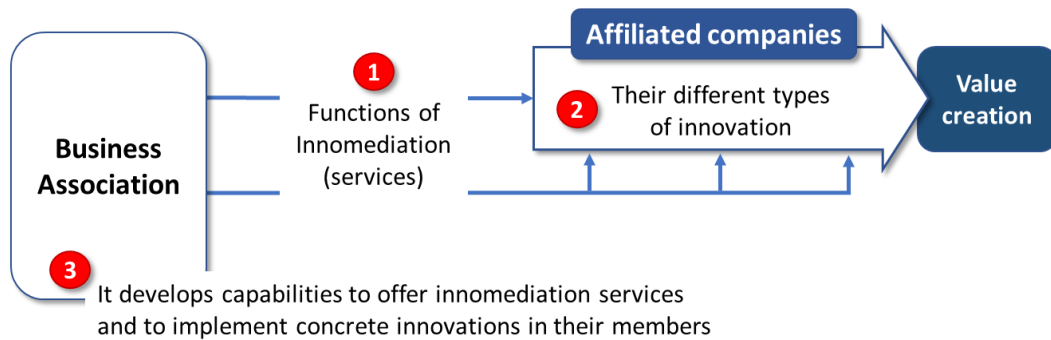
5.3. Results and findings

Characterizing BAs as innomediaries and understanding their role imply to inquire about three topics (Figure 5.2):

- Functions (services) of associations as innomediaries (see Section 3.1.2 and Table 3.6)

- Types of innovation from ACs to increase their value creation in which they receive BAs' support (see Section 1.6 and Figure 1.13).
- Innomediation dynamic capabilities of BAs to help the strategic innovation processes of ACs. In this study were studied the three capacities related to absorptive capacity presented in Chapter 3 (see Section 3.1.5 and Figure 3.6)

Figure 5.2. Topic related with the study of innomediary role of industry associations



Source: own elaboration

Below, we present the findings obtained in each of the three topics above mentioned. These are results of analysis and discussion developed by research team respect to surveys and interviews.

5.3.1. Findings about BAs functions as innovation intermediaries

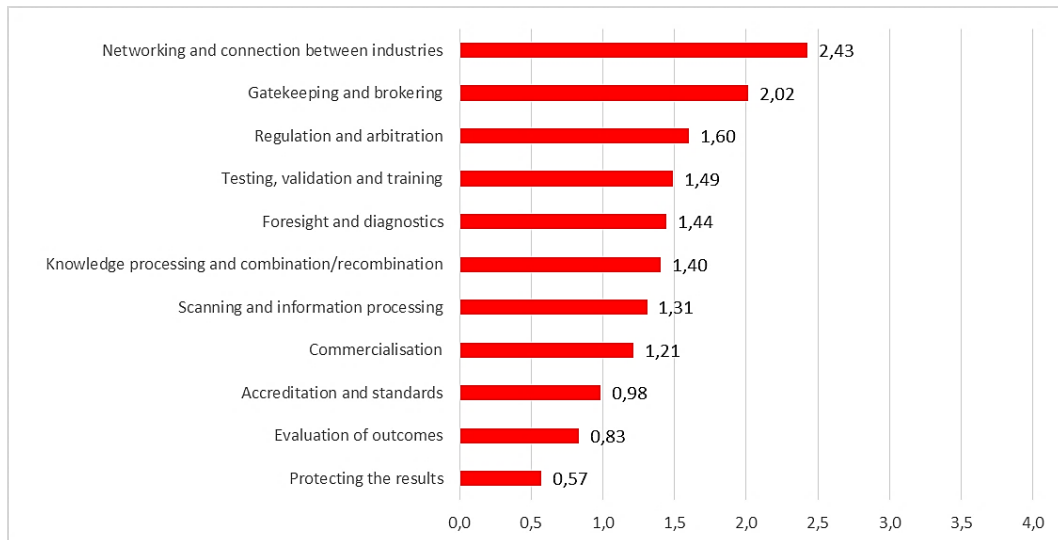
It is important to investigate the level of integration between innovation and strategic management approaches of BAs to recognize if innovation is part of their vision and plans. We discovered that 81% of associations consider innovation approach like something fundamental for association strategy. However, their innovation management is low. Thus, it is almost null in 62% of cases and null in 19% of BAs. In sum, these associations have clear the relevance of innovation but they do not know manage it.

Likewise, we inquired the perception about if BAs considered themselves as innovation intermediaries, and it is evident that 18 BAs (86%) considered themselves as innovation intermediaries at medium and high level. One of them considered they are innomediary in a low level, and two BAs believe that they are not innovation intermediaries.

According with the theoretical framework of innomediation functions (see Section 3.1.2), we evaluated the frequency of IA's services of innovation intermediation to their ACs (Annex 3, Section 5). Answers may vary between "often" (grade 4), "generally" (grade 3), "sometimes" (grade 2), "rarely" (grade 1) or "never" (grade 0). According to Figure 5.3 "networking and connection between industries", and "gatekeeping and brokering" are on average the most frequent services offered by BAs to ACs. In contrast, "evaluation of outcomes" and "protecting the results" are the services less offer by BAs to their ACs.

Figure 5.3 also highlights that all services are on average between 2.43 and 0.57 of frequencies, which means that BAs considered like “sometimes and rarely” frequency of their support to their ACs.

Figure 5.3. Frequency of BAs’ services of innomediation



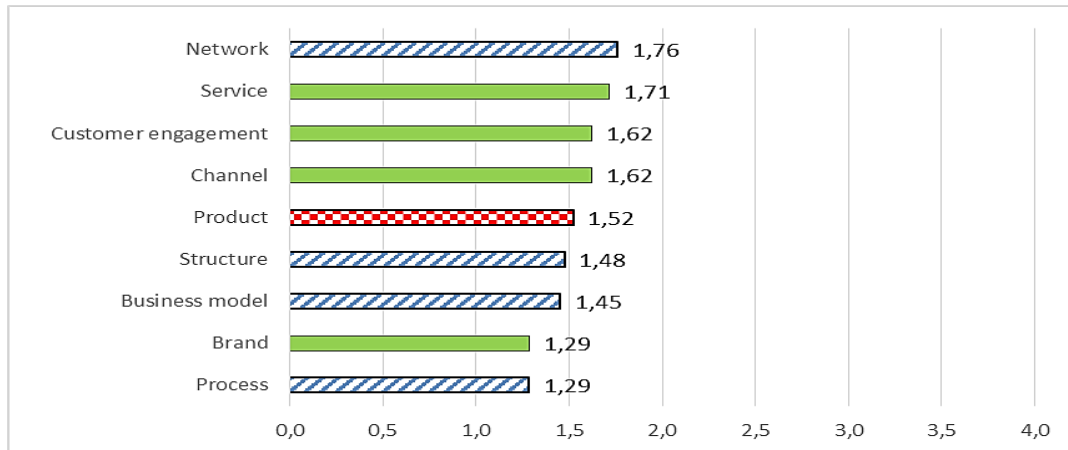
Source: own elaboration

5.3.2. Findings about the ACs’ types of innovation supported by BAs

Based on the ten types of innovation model (see Section 1.6, Figure 1.13), the research team inquired the frequency of support at innovation activities of BAs to their ACs (Annex 3, Section 6). Then, BAs could answer between "often" (grade 4), "generally" (grade 3), "sometimes" (grade 2), "rarely" (grade 1) or "never" (grade 0). Again, BA’s perception is low. They think on average, that they support “sometimes, rarely or never” to their ACs about their innovation activities. Figure 5.4 shows on average that “network”, “customer service”, “customer engagement” and “channel” as the types of innovation in which BAs offer best support to their ACs. While, “brand” and “process” are the types of innovation with the lowest IA’s support. At individual level, only two BAs believe that they support “often” their ACs. In contrast, five BAs “never” support their ACs at these kinds of activities.

Likewise, these types of innovation belong to three categories: configuration, offering and experience. In Figure 5.4, we have identified these categories with blue striped for configuration activities, red dots for the offering activities and green for customer experience activities of innovation. It is interesting to discover that on average all categories have a similar appreciation. However, the best support is at customer experience, then at the offering, and finally at configuration.

Figure 5.4. Frequency of support at innovation activities of BAs to their ACs

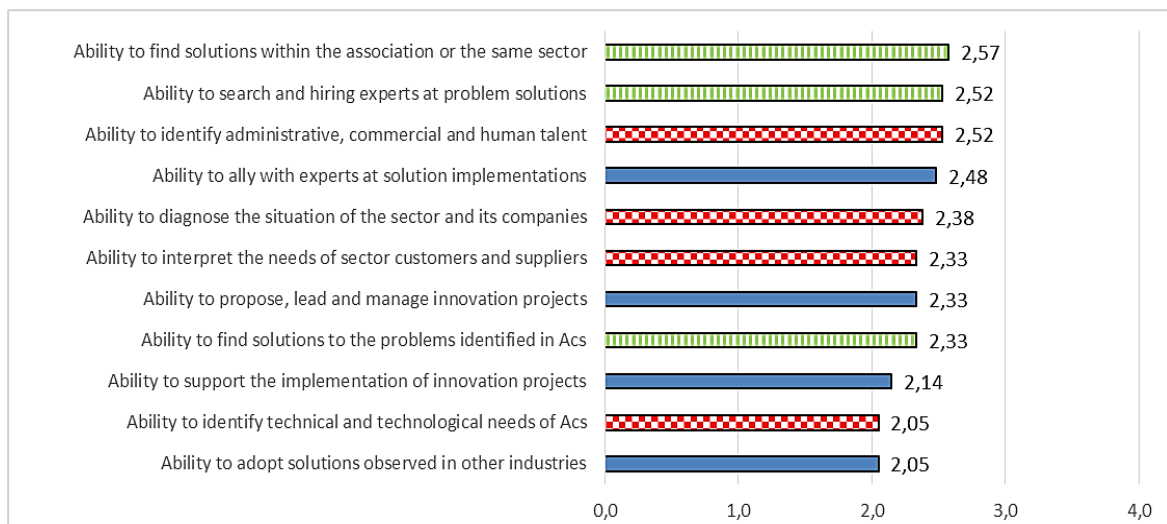


Source: own elaboration

5.3.3. Findings about the specific dynamic capabilities of BAs as innomediaries

We inquired about abstraction, analogic and adaptation capabilities behind knowledge absorption of associations (see Section 3.15, Figure 3.6). In this sense, research team inquired by the level of development of 11 abilities (Annex 3, Section 4.5). BAs could answer between “it does not exist” (grade 0), “it is hardly developed” (grade 1), “it is poorly developed” (grade 2), “it is well developed” (grade 3) and “it is highly developed” (grade 4). Figure 5.5 shows the results. Thus, ability to find solutions within the association or the same sector, and ability to search and hiring experts at problem solution are the most developed abilities among BAs. In contrast, ability to identify technical and technological needs of ACs and ability to support the implementation of innovation projects are the least developed. Additionally, it is important to highlight that all abilities on average are development between 2.05 and 2.57, that is, BAs think, on average, that they have these abilities “poorly or well developed” (grade 2 or 3). It is supported by 12 BAs which considered well developed their abilities and six associations with these abilities poorly developed.

Figure 5.5. Level of development of absorptive abilities



Source: own elaboration

From other perspective, Figure 5.5 also indicates the 11 abilities for three types of capabilities. With red dots, it presents abstraction capabilities, through green lines it shows analogic capabilities and blue bars represent adaptabilities. Although all of them have a similar level of development, the analogic capability is more developed, secondly is abstraction capability and finally, adaptability is the less developed capability.

5.3.4. Cluster analysis of associations

After the analysis of descriptive statistics, the team focused on exploring and describing the existence of a classification of BAs in Navarra, using a multivariate analysis technique, which could group the associations with the greater homogeneity and the greater difference between those groups. To achieve this, a cluster analysis (Anderberg, 2014; Dillon & Goldstein, 1984) was used in two phases. The first was a Hierarchical Cluster Analysis and the second a Cluster K-Means Analysis.

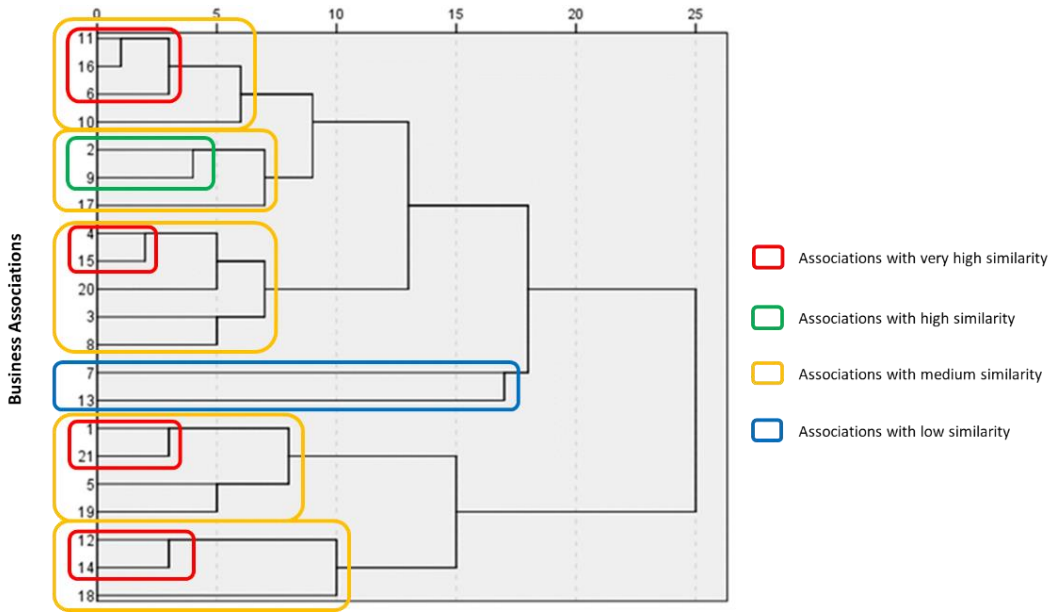
Phase 1: Hierarchical Cluster Analysis

The objective of this analysis is to solve the question: Is it possible to classify BAs based on the three topics raised in Figure 5.2? Thus, this analysis tries to identify the associations with a greater experience, practices and capacities for innomediation. As information, this process used the responses given by the associations to three parts of the survey: (1) their assessment of the frequency of services offered related to the eleven intermediation functions identified in the literature (see Table 3.6); (2) their assessment of the level of support they offered to their ACs in innovation activities concerning to ten possible types of innovation (see Figure 1.13); and finally, (3) their appreciation of the level of development they had with respect to the three skills that make up the absorptive capacity: abstraction capacity, analogic capacity and adaptability (see Figure 3.6).

In that sense, a hierarchical agglomerative analysis was performed for each of the three types of responses. Using this method, the SPSS software presented a series of clusters formed by the associations, through which presented a hierarchy of 21 associations (see their dendrograms at Figures 5.6, 5.7 and 5.8). To develop this analysis to each of the associations was assigned a number from 1 to 21 to keep the confidentiality of information. Subsequently, each association was informed of its number so that it would be identified anonymously in the results of the study.

Regarding to intermediation functions (Figure 5.6), the associations are not very similar, because they present multiple differences in the frequency and types of services which they offer. As a consequence, in Figure 5.6 there are six small clusters. Five of them marked with yellow color has a “medium similarity” and they are constituted by small groups of two or three members with very high or high similarity (red or green color respectively). In contrast, the associations 7 and 13 marked with blue color are highlighted by their dissimilarity.

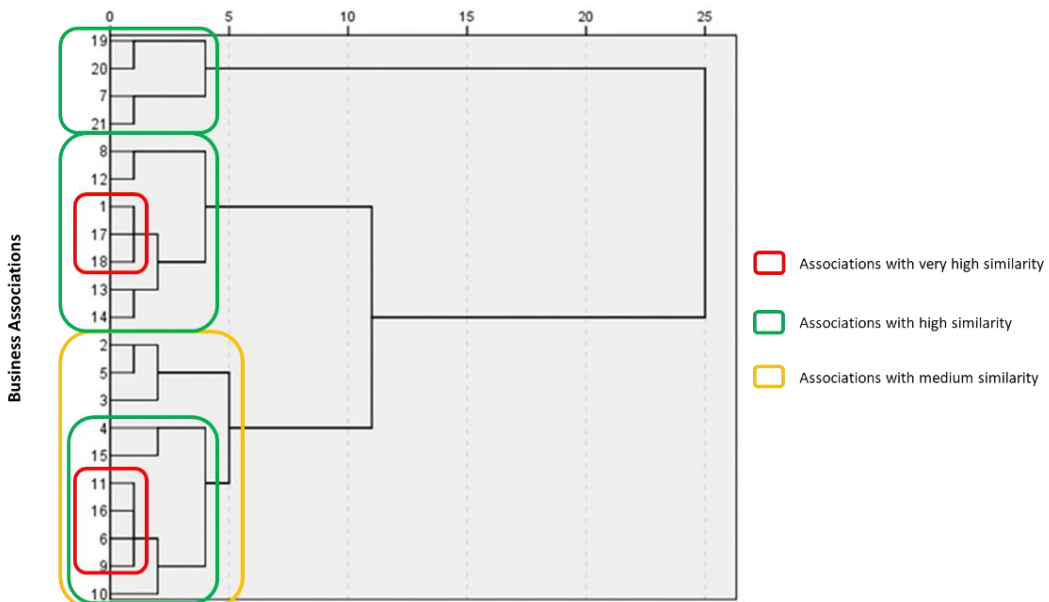
Figure 5.6. Dendrogram of associations related to their innomediation functions



Source: own elaboration

Conversely, in terms of the support provided by BAs to the innovation activities of their ACs, there is a greater similarity between the associations. Figure 5.7 shows a greater number of associations located in the first levels of the graph. Thus, it is possible to visualize three associations groups at “high similarities” and “medium similarity” (see green and yellow clusters).

Figure 5.7. Dendrogram of associations regarding their support to innovation activities from ACs

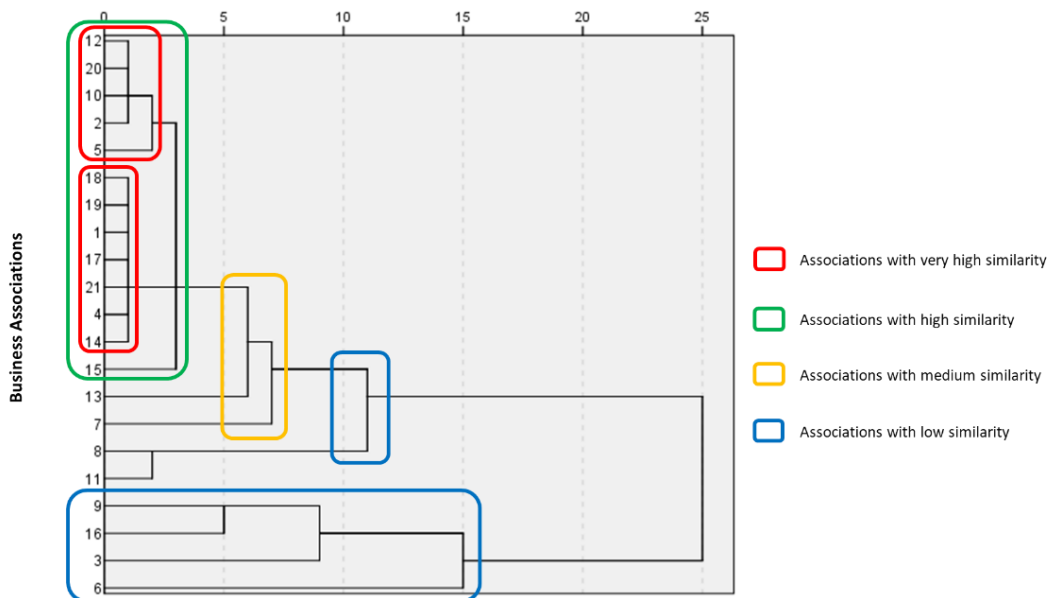


Source: own elaboration

Figure 5.8 presents the classification regarding to the associations with similar intermediation capacities. Thus, three groups of associations are observed. The first group comprises 15 of the 21 (71%) associations and it is delimited by the yellow color, which means that it presents a “medium

similarity” between its associations. However, 13 of these 15 BAs have a “high similarity” (green color) and they are sub grouped into two sets of “strongly similarity” associations (red color). The second and third groups show associations with many differences between them, therefore they were classified as “low similarity” (see blue boxes in Figure 5.8).

Figure 5.8. Dendrogram of associations about the development of innomediation capabilities



Source: own elaboration

We concluded that there are different levels of similarity between the associations in relation to each of the three topics investigated in the survey. The greatest dissimilarity lies in the diversity of functions developed by associations. In contrast, it draws attention the clear clustering of associations regarding the support of innovation activities for their ACs, which allows them to be differentiated into three groups with high similarities among themselves. Regarding the classification of BAs by the level of development of their innomediation capacities, the analysis showed that there is a high similarity between 13 of the 21 (62%) associations.

Phase 2: K-Means Cluster Analysis

Continuing with the initial goal of finding a BAs classification, a K-Means Cluster Analysis was performed at this stage (Anderberg, 2014, Dillon and Goldstein, 1984). Thus, the team used the results of the previous phase to infer, like a hypothesis, that there are three large groups of associations in each of the three topics investigated in the survey. Subsequently, with this restriction, the SPSS program defined the composition of the three clusters requested. The results were shown in Table 5.2. It is important to note that the three clusters do not bring together the same associations for each criterion.

Table 5.2. Associations per cluster for each criterion

Cluster Analysis Criteria	Clusters		
Criterion 1: Intermediary Functions	Cluster 1 5 (24%) associations (1, 5, 18, 19 and 21)	Cluster 2 5 (24%) associations (6, 9, 10, 11 and 16)	Cluster 3 11 (52%) associations (2, 3, 4, 7, 8, 12, 13, 14, 15, 17 and 20)
Criterion 2: Support to innovation activities of ACs	Cluster 1 4 (19%) associations (7, 19, 20 and 21)	Cluster 2 9 (43%) associations (2, 4, 5, 6, 9, 10, 11, 15 and 16)	Cluster 3 8 (38%) associations (1, 3, 8, 12, 13, 14, 17 and 18)
Criterion 3: Innmediation capabilities	Cluster 1 14 (67%) associations (1, 2, 4, 5, 10, 12, 13, 14, 15, 17, 18, 19, 20 and 21)	Cluster 2 2 (9%) associations (6 and 9)	Cluster 3 5 (24%) associations (3, 7, 8, 11 and 16)

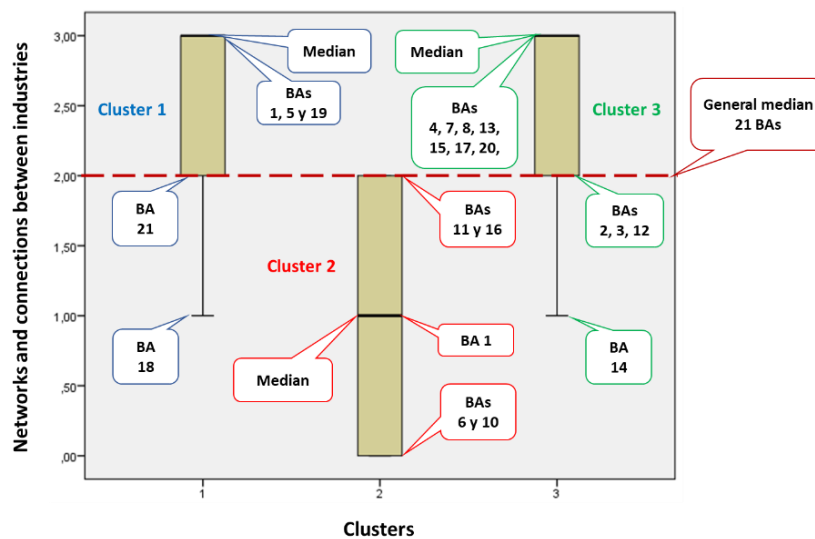
Source: own elaboration

It was relevant to discover that these three clusters in each criterion coincided very closely with the groups established in the previous phase. This can be verified by comparing Table 5.2 with Figures 5.6, 5.7 and 5.8.

Later, once the clusters were defined, the next step was to analyze the degree of dispersion of each of them, based on the analysis of the medians of the responses that the associations gave in the survey. Likewise, a comparison of the three clusters was made in each one of the criterions. For this purpose, the technique of box diagrams or box-plots was used (Massart et al., 2005).

In total, for the three criterions, 17 box diagrams were performed (see Annex 4), which showed the three clusters in a comparative way. As an example, on the first criterion, Figure 5.9 presents one of the 11 box diagrams related to the 11 innovation intermediation functions. This corresponds to the function of "networks and connections between industries".

Figure 5.9. Box diagram of function of networks and connection between industries

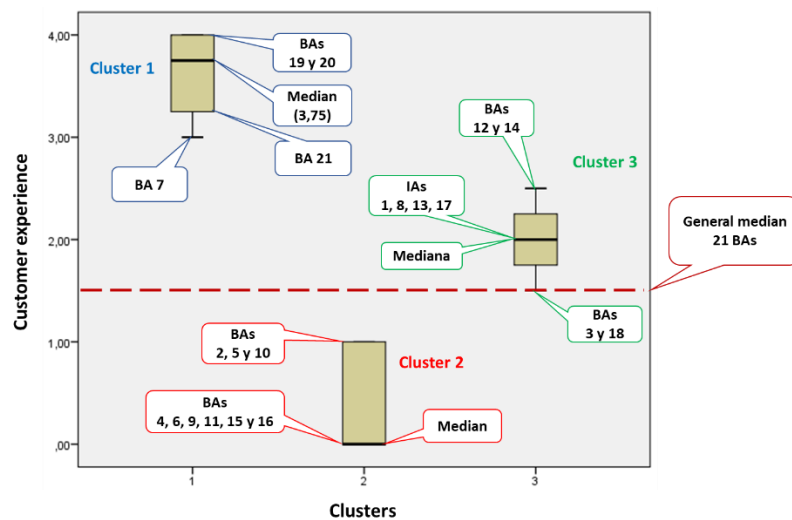


Source: own elaboration

In Figure 5.9, it is possible to see that Clusters 1 and 3 group associations that, in general, have responses with values higher than the median of the 21 associations. That is, they are associations with high performances in these questions (10 BAs in total). Although, associations 18 and 14 are in Clusters 1 and 3 respectively, they have lower medians. In contrast, Cluster 2 gathers five associations. Two of their associations (6 and 10) consider that they do not offer any function of networks and connection. Annex 4 presents the other 10 innovation intermediation functions.

Regarding to the second criterion of the support provided by the BAs to their ACs in innovation activities, three box plots were done and each one is related to the three categories of types of innovation: business configuration, products and services offered, and customer experience. As an example, Figure 5.10 depicts the box plot of innovative activities classified within the “customer experience”. Here, the values of Cluster 2 are below the median of the 21 BAs, this behavior will be constant in Cluster 2 throughout the entire study. In addition, we see a better performance in Cluster 3 by showing associations which have results equal to or above the general median. Finally, Cluster 1 brings together the best performing associations. The categories of business “configuration” and “products and services offered” have their box plots in Annex 4.

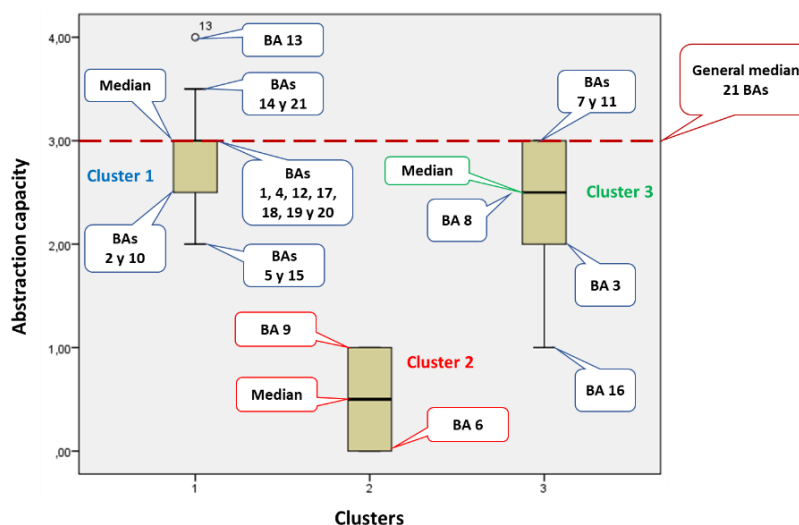
Figure 5.10. Box diagram of innovation activities about customer experience developed by ACs and supported by BAs



Source: own elaboration

Finally, the analysis on the third criterion about the innomediation capacities of the associations is presented. Three box plots were generated, corresponding to the study of the three defined capacities: abstraction, analogy and adaptability. Taking as an example the analysis of “abstraction capacity”, Figure 5.11 shows the performance of associations gathered into three clusters. Here, only three BAs are above the general median, nine of them are on the median, the rest are below. It is explained for a median higher in this criterion than other two ones. In Annex 4 it is possible to see the both box plots about analogy capacity and adaptability.

Figure 5.11. Box diagram of the abstraction capacity of associations



Source: own elaboration

It is interesting to discover that clusters with higher and lower number of associations throughout the study are here, in this criterion. Thus, Cluster 1 has 14 BAs while Cluster 2 only has two BAs. Therefore, Cluster 1 shows a strong similarity between 66.7% of the total associations. Otherwise, Figure 5.11 again presents Cluster 2 with lower values than the other two clusters. Also, Cluster 1 has less dispersion in the values of its BAs than Clusters 2 and 3. In summary, Cluster 1 has the best performance, followed by Cluster 3, and finally, Cluster 2 which gathers the lowest values presented by associations.

5.4. Defining a typology of BAs in the Navarra's context

Considering the importance given to typologies as useful methodologies for the creation of theories (Doty & Glick, 1994), the team considered fundamental to develop a typology of Navarre associations in order to discover different levels of development of BAs as innomediaries. Thus, this serves to answer: what extent and in which way associations perform the role of innovation intermediaries? Likewise, it will allow to associations in each group to establish a development path as innomediaries.

In accordance with previous two phases of cluster analysis, it is possible to conclude that:

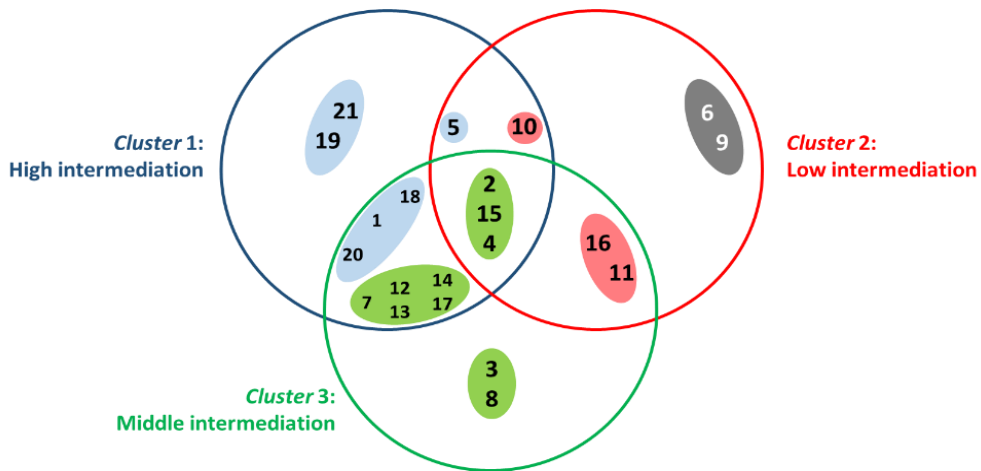
- In those 17 box diagrams (Annex 4), Cluster 1 gathers BAs with the highest scores in all three criteria. In addition, it is the cluster that presents the greatest similarity between the data of its BAs (this means least dispersion).
- In all cases, Cluster 2 groups associations with the lowest values. Even some of these valuations are zero, which means that some of the BAs are not considered as innovation intermediaries in the assessed situation. The cluster median is always below the median of the 21 associations.

- Cluster 3 has been characterized by concentrating associations with valuations very close to the general median of the 21 BAs. Its performance is always lower than Cluster 1 and its dispersion is generally greater than this cluster. However, its values are always greater than values presented by Cluster 2.

According to the above, associations assigned to Cluster 1 have the best performance as innomediaries in all cases. BAs grouped in Cluster 3 have intermediate performance and associations assigned to Cluster 2 have a low performance as innomediaries. For this reason, it is important to determine to which cluster each association was assigned, in each of the three criteria. Because if an BA was always in Cluster 1 it has better performance than another one that was always assigned to Cluster 2. For the same reason, the allocation in Cluster 3 represents a performance lower than associations in Cluster 1, but it is better than those grouped in Cluster 2.

The analysis of the associations assigned to the clusters allowed us to draw Figure 5.12 which shows the location of BAs in Clusters 1, 2 or 3. Thus, for example, associations 3 and 8 were assigned to Cluster 3 at three criteria, or associations 12, 13, 14 and 17 were assigned to Cluster 1 at the first criterion and they were in Cluster 3 for criteria 2 and 3.

Figure 5.12. Associations' assignation to clusters



Source: own elaboration

According to this, the associations number 19 and 21 have the best performance as innomediaries. They were always assigned to Cluster 1, which means that they are similar and have higher values in the three criteria analyzed. On the other hand, the associations 3 and 8 have an intermediate performance. In contrast, associations 6 and 9 were always assigned to Cluster 2. In other words, their valuations were very low and they are characterized because they do not consider themselves innomediaries. Hence, this situation reaffirms to them like organizations with representative character.

Associations 1, 7, 12, 13, 14, 17, 18 and 20 have been located in Clusters 1 or 3 when analyzing the three criteria. Consequently, these associations were considered between the high and intermediate level. Obviously, associations like 1, 18 and 20 have a better performance than the others in this group, because they were assigned to Cluster 1 in two criteria and to Cluster 3 in the other criterion. Instead, associations like 7, 12, 13, 14 and 17 were assigned two times to Cluster 3 and one time to Cluster 1.

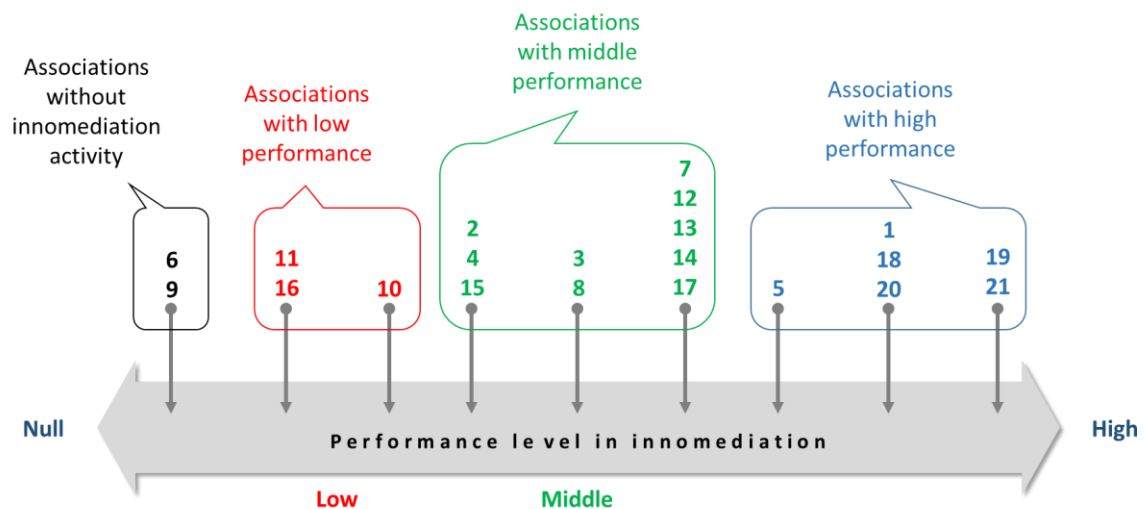
Associations 5 and 10 were assigned to Clusters 1 and 2. But association 5 was grouped in Cluster 1 on two occasions, for that reason it is considered with a better performance than association 10, which was assigned to Cluster 1 one time. Otherwise, associations 11 and 16 have a low average intermediation performance, because both occupied Cluster 2 in two times and Cluster 3 one time.

Finally, associations 2, 4 and 15 were assigned to Cluster 1, 2 and 3 for criterions 1, 2 and 3, respectively. Thus, these BAs consider that they have a high performance in terms of offering intermediation functions, a medium performance in terms of the support they provide to their ACs in the development of their innovation activities and they have a low level of development of innomediation capabilities.

The typology of BAs as innovation intermediaries

Using the above analysis, a typology of Navarra’s associations was proposed in terms of their performance as innovation intermediaries. Thus, according to Figure 5.13, BAs with the highest performance were located to the far right, and those with lower performance, to the left side. Note that the first group on the left side does not present any innovation intermediation activity.

Figure 5.13. Typology of BAs by performance level in innomediation



Source: own elaboration

According to the above, the typology of BAs as innomediaries is as follow:

- *Associations with high performance in innomediation*

To this type belongs the associations: 1, 5, 18, 19, 20 and 21 (Figure 5.13). They are featured by being BAs with an established strategic direction. Here, the innovation is raised as an internal activity and service for the ACs. They have staff with knowledge on the subject. They use their resources for innovation activities, but not all have specific budgets allocated for innovation projects and none of them claims to have an innovation management model. These associations perform, with a high frequency, support services for innovation activities of their ACs in almost all the intermediation functions analyzed. Also, in general, those activities cover all types of innovation investigated. These associations, in general, work with several allies as solution providers. In terms of their intermediation capacities for innovation, all of them are in a medium or high development, but none claims to have one highly developed. This BAs' group belongs to industries like agribusiness, transport and logistic, ICT, consultancy, advertising and automotive repair.

- *Associations with middle performance as innomediaries*

This is the biggest group (Figure 5.13) and it is integrated by associations: 2, 3, 4, 7, 8, 12, 13, 14, 15 and 17. Most of these associations have strategic approaches and all of them consider innovation a fundamental management issue. Only four BAs have an innovation model. A few of them assert to have innovation projects and budget for it. Like the previous type of associations, this group offers a diversity of innovation support services. However, these activities are not as frequent as in the previous type, and the BAs do not always support all types of innovation proposed. Likewise, they develop less intermediation functions than the previous type. For all these processes of innovation support, they are supported by diverse external agents who offer solutions. In general, innomediation capacities are developed, but there is a contrast among associations with very low development in adaptability and associations with high performance in the other capacities. These associations represent industries like agribusiness and food, wood, metal, graphic arts, eldercare, tourism, human resources services and services for entrepreneurs.

- *Associations with low performance in innomediation*

The BAs 10, 11 and 16 are of this kind. Strategic and innovation approaches exist and are presented in a similar way to the previous type. There is no budget for innovation, nor innovation models in these associations. They offer the half of intermediation functions analyzed. The types of innovation in which they support their ACs are very few, even in one case, association states that does not support any type of innovation. In another case, the association is specialized at international product marketing. As in previous types, here there are relationships with some external solutions providers. The levels of development of innomediation capabilities are low in all of them. In most cases, these associations gather companies of food, construction and art graphics.

- *Associations without innomediation activity*

Associations 6 and 9 belong to this type and they represent firms related to metal and transport industries. These associations have a strategic approach and they talk about innovation in the organization, but they do not consider that the association should provide support services for the innovation of their ACs. Consequently, there are no projects, budget, nor models of innovation. There are few innovation support activities for their ACs. One of associations stated that it does not offer any type of intermediation functions, and another case asserts to develop some of them. Relations with external entities are scarce, even one of the associations does not report relationships with any organization. Regarding intermediation capacities, one of the associations says to have a very low development in almost all of them and in some, a zero development. Another association has not developed any of them and it states that it is not interested in developing any of these capabilities.

5.5. Conclusions

This study not only corroborate previous findings of academic literature about BAs as innomediaries, but also it shows a special typology and features of them, and it proposes a development pathway for them at their new role as innovation intermediaries.

Just as in the works of Van Lente et al. (2003), Dalziel (2006, 2007) and Dalziel and Yao (2010), our study confirms that majority of BAs consider themselves as innomediaries. However, associations are a special case of them, therefore we referred to them as "*innomediaries by adoption*" because they are not born as innomediaries (e.g., consultants, knowledge intensive business - KIBS, or research and technology organizations - RTOs), by the contrary, associations decide to be innomediaries. Our typology (Figure 5.13) demonstrates it by presenting two associations which declared that they are not and do not want to be intermediaries.

Whereby, a democratic and strategic decision at the corporate level turns the association into an innomediary of their ACs. It implies that the BA co-evolves with its industry by the technological development way (Nelson 1994), and not only by the political or governance way of it (Marques, 2017). Thus, the Edquist's (1997) statement is confirmed, where the association changes its principal goal of defending its members' interests and it develops its own separate agenda. It undertakes initiatives that reduce its ACs' dependency and increase its autonomy offering novel services (Boch, 1987). The diversity of innovation functions discovered in our study corroborates these affirmations.

Other conclusions and features of BAs as innomediaries emerge of their nonprofit nature (values and purposes), their structure like meta-organizations (cooperative and competitive relationships among organizations) and their collaborative dynamic like superstructure organizations (facilitation and coordination of knowledge flows). Thus, as shown our study, the

financing of associations is mainly supported by membership fees, revenue for services, projects and subventions which translate into scarce resources for innovation. In consequence, they have few human resources (60% of sample has less than five persons and 90% of it has less than 15 persons). Whereby, their efforts of innomediation are based on managers' leadership to guide actions about networking and connections, gatekeeping and brokering, regulation and arbitration, validation and arbitration, and foresight and diagnostics which involve less resources. For that reason, other functions like commercialization, standards, evaluation and protection of results are less developed because those require specialists in technical issues and time to attend particular cases of members. From other perspective, the associations nature claims for equal attention for all members, whereby it is not possible to spend a lot of time on a few members. Likewise, members prefer that the association offers support about innovation activities different to their core business (e.g., activities of customer experience as our study showed), because they do not want that other members know their strengths, since they are sometimes their competitors.

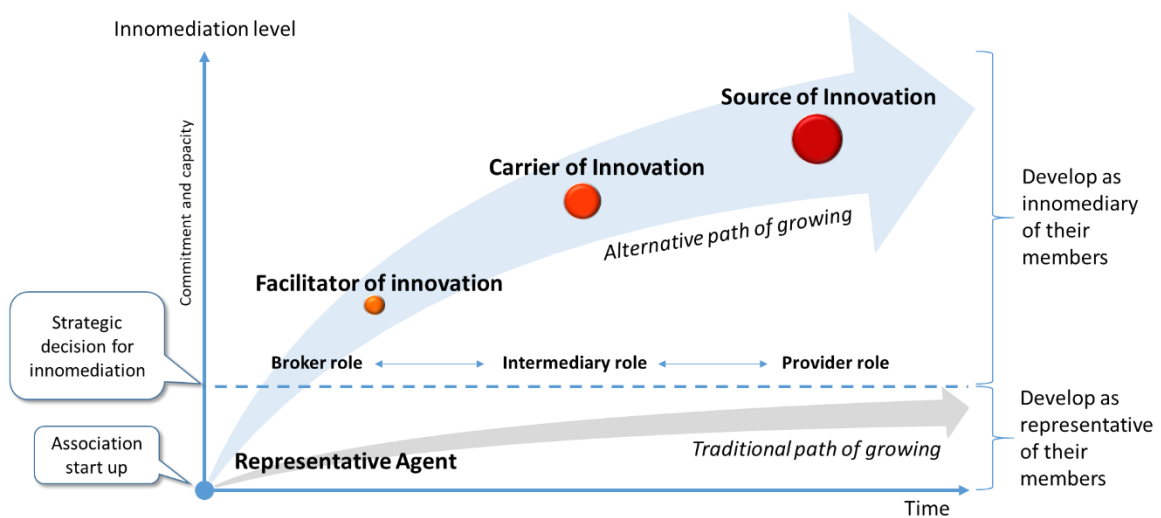
Based on the above, our study confirms that an association is an "*innovation broker*" according to Winch and Courtney (2007), because the association as member of an industrial network enables the innovation, and it does not focus on its generation or its implementation. Therefore, we consider BAs are more similar to "*innovation broadeners*" than "*innovation multipliers*" or "*innovation leveragers*" raised by Gassmann et al. (2011) (see Table 3.8). Because, associations combine know-how and networking abilities to identify an optimal goal, and they depend on their leadership and their broad network among industry sectors. Generally, they lack strong internal technology skills as the innovation multipliers, and they do not have implementation capacities as the innovation leveragers. From an absorptive capacity (Zahra & George, 2002) point of view, associations as the innovation broadeners mainly facilitate knowledge acquisition and adaption even from distant industrial ambits. Therefore, they have more developed the abstraction and analogic capabilities (see Section 5.3 about results and findings).

However, our typology demonstrates that the BA can go further of "innovation broker", using words of Den Hertog (2000). Thus, in line with this author and his typology based on the production and use of knowledge (see Section 3.1.1, Figure 3.2), the association as innomediary can be "*facilitator of innovation*" if it supports its member in its innovation process, but the innovation solution does not originate from association, nor is it transferred (from other organizations) by this BA to its AC. Also, the association could be "*carrier of innovation*" if it plays a role in transferring existing innovations from one firm or industry to the AC even though the innovation in question does not originate from this association. Moreover, the association could be "*source of innovation*" if it plays a major role in initiating and developing innovations in its member, usually in close interaction with it.

The above classification together with the basic function of all associations (defending the interests of its members), allows us to propose a development path for associations as innovation

intermediaries. This path corresponds to the top arrow in Figure 5.14, which is constituted by four stages. The first stage occurs when any association begins and assumes the traditional role of “representative agent” of interests of their members. This role is related to its nature; therefore, each BA must perform it throughout its life and it can decide to develop only this role (lower thin arrow in Figure 5.14). In any moment, the BA can take the strategic decision to become an innovation intermediary. From this point, it could be in some of the three next stages as a facilitator, a carrier or a source of innovation. The ubication of the association depends on its resources, knowledge, and capabilities. As well as those of its members and the needs they have. Also, it depends on its position in the industry innovation ecosystem, its relationships with solution providers and their capabilities.

Figure 5.14. Development path for associations as innovation intermediaries



Source: own elaboration based on Den Hertog (2000)

However, it is important to highlight that in many cases the development of the BAs through these stages occurs with the creation of new organizations which occupy these positions (remember the inter-operation challenge, Section 2.7). For example, in our sample, some associations have created clusters which focus on innovative activities of their ACs, while traditional representative activities continue under the association figure. In other cases, they create consulting firms or research centers as solution providers of their members. Therefore, the analysis of the role of associations needs a deep and wide exploration, because sometimes, they do not act as intermediaries of innovation (facilitators, carriers or sources), but their external units or companies of their own organization. This situation helps to explain their invisibility argued by Dalziel (2006, 2007).

This study and its proposal of a development path for associations as innovation intermediaries pretend to enhance the theoretical and practical knowledge of association in their new role. Thus, our research was beyond their classification as innomediataries and it presents their characteristics and elements to their study. Likewise, we present a development path for them,

which is possible to use like a strategic tool for diagnosis and planning. As future research, we raise the need to replicate this study with a much larger sample of associations, that covers other geographical spheres. Also, the literature claims for deep cases of associations as innomediaries. Additionally, it is necessary to develop a detailed maturity model of innovation intermediation for BAs, that permits to associations discover where they are, growing and to raise new future scenarios.

Chapter :

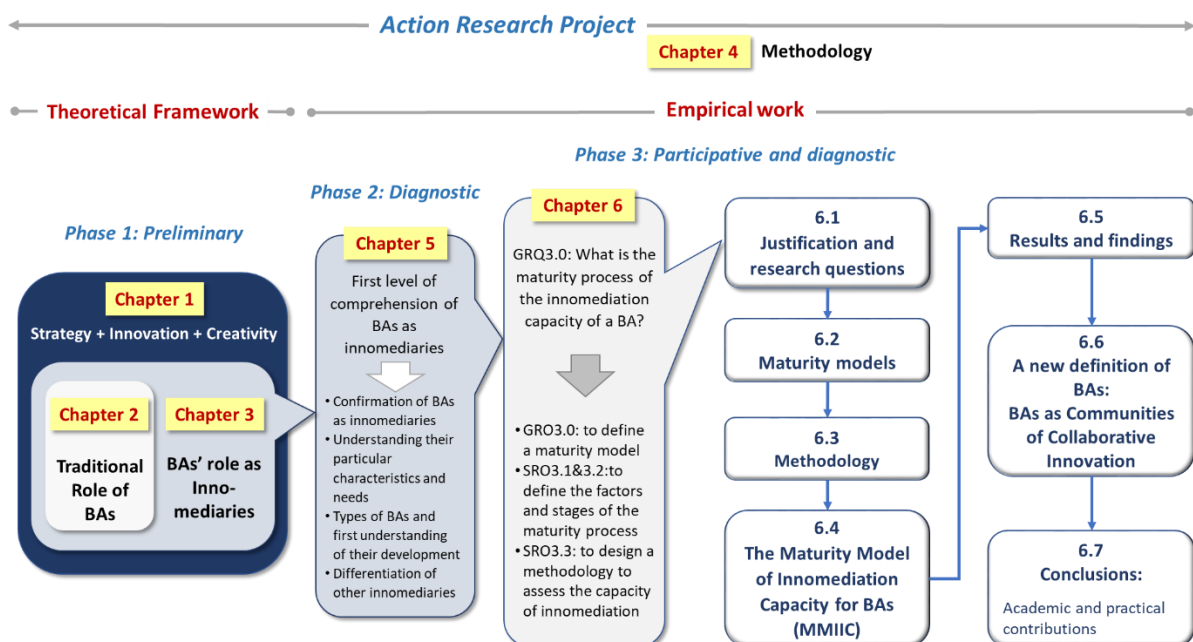
6.A Maturity Model of Innovation Intermediation for Business Associations

*“Not all new ventures are at the same stage of maturity”
Steve Blank - Entrepreneur and professor*

*“Age is the acceptance of a term of years. But maturity
is the glory of years”
Martha Graham - Dancer and choreographer*

This chapter introduces the development of the third phase of our AR project, where the general research question is GRQ3.0, “*What is the maturity process of the innomediation capacity of a BA?*” (see Table 0.1). Additionally, this question is composed by three specific research questions: SRQ3.1, “*What are the determinant factors of the maturity of innomediation capacity?*”; SRQ3.2, “*What are the maturity stages of these factors?*”; and SRQ3.3, “*How should the maturity of innomediation capacity be evaluated in BAs?*”. Therefore, at this stage, we develop the *Maturity Model of Innomediation Capacity (MMIIC)* specially designed for BAs which have made the decision to become innovation intermediaries for their ACs. For this purpose, as shown in Figure 6.1, this study is based on the theoretical framework developed in the first three chapters of this thesis, and the results of the previous phase of the project (Chapter 5).

Figure 6.1. Focus of Chapter 6.



Source: own creation

According to Figure 6.1, in the first instance, we raise the research questions and their specific objectives. Next, we present a conceptual framework for maturity models. Third, we show the particular methodology that we developed in this study as part of the AR project. Fourth, we present the MMIIC as a model designed in a participatory and iterative way with the associations' managers. Fifth, we show the results and findings found after assessing the maturity of innomediatio capacity to a group of 14 BAs from the region of Navarra (Spain). Sixth, we propose a new definition of the *BAs as Communities of Collaborative Innovation*, which is an improved version of our conference paper "*Las Asociaciones Empresariales como Comunidades de Innovación Colaborativa: desarrollo de un modelo teórico*" (Mejia-Villa et al., 2017c). This proposal responds to an academic and practical reflection after three phases of this AR project. Finally, we present a series of conclusions that represent academic contributions and concrete practices to the phenomenon of innovation intermediation of the BAs.

The research methodologies and techniques used in this third phase were the *Literature Review* (Adams et al., 2007; Webster & Watson, 2002) to build the theoretical framework of maturity models; the *Content Analysis* (Krippendorff, 1989; Duriau et al., 2007) to analyze different papers and also to analyze the drawings in the focus groups; the *Process to design a maturity model* (Lahrmann et al., 2011; Becker et al., 2009; van Steenbergem et al., 2010; Järvinen, 2007; Hevner et al., 2004) ; the *Focus group with creative tools* like *Storyboarding* and *Stick 'em up Brainstorming* (Hennink, 2014; Puccio, 2002; Foursight, 2010; Parnes, 1992); the *Investigator Triangulation* (Denzin, 1978; Jick, 1979) to discuss and to integrate ideas and redefinitions of stages and factors of the MMIIC model; and the *Statistical Analysis* (Adams et al., 2007) that allows the descriptive analysis of assessment by factors of the maturity model.

6.1. Justification and research questions

As a synthesis of the results from the phase 2 of this AR project (see Chapter 5), it is possible to affirm that:

- The BAs are innomediaries because they decide this role for strategic reasons, and not because this is their nature.
- The BAs are aware of the importance of strategic management and innovation, but they do not have the know-how about the implementation of innovation management and less regarding adoption of an innomediatio model.
- They have special needs and characteristics which difference them from other innomediaries.
- There are various types of BAs depending on their grade of development about their activities of innomediatio with their ACs, the types of innovation that they support, and their innomediatio capabilities.

In consequence, how BAs are innomediaries by "adoption", they need a guide to develop this new role of innomediatio, which must integrate strategic and innovative themes. Likewise, they

need practical models and tools to implement the innovation processes and the innomediation services considering their particular characteristics, in this case, related to non-profit organizations with business mandate. Additionally, these models and tools must take into account that each association is in a specific moment or development level, as we shown with the typology proposed in Section 5.4.

According to the research by Corsi and Neau (2015), organizations have many levels of innovation process maturity because it is an issue dynamic, closed and open at the same time. In that sense, it is important to focus on tracking the potential for innovating, and the process specificities that signal a more or less capacity to innovate ("innovability" according to Corsi and Neau (2015)) at each one of these levels.

When you think in terms of "innovability", it implies, "first one, that the higher an innovability level is, the more you can grow competitiveness in markets – and in a sustainable manner; and second, the footing is that every level can be exploited maximally, which yields the best available build for further improving innovability. The improvement logic behind this *don't do more, do better; don't find more ways but a better one*. These are the goals on climbing the innovability ramp with the best accelerating gradient" (Corsi & Neau, 2015, p.5).

The above highlights the relevance and the impact of the capacity to innovate or "innovability" and even more the importance of this capacity in the different levels of maturity of an organization. However, because the general purpose of BAs is service to their members (remember Chapter 2), not only we can study the maturity of innovability, but we must go further and concentrate on the maturity of the capacity for innomediation of BAs, which is the focus in this third phase of this AR project.

But, how could we determine if an organization has a high or low innovability? The answer leads us to the field of measuring the effectiveness of innovation capacity. In this regard, Söderquist and Godener (2004) point out that effective innovation is increasingly important since it does not only determine a firm's competitive advantage, but often its very survival too. Measuring innovation management can help to monitor and optimize innovation activities (Chiesa & Masella, 1996; Kerssens-van Drongelen, 2001), but this is not always easy because results may not be clearly visible and the success of innovation projects may be uncertain or influenced by factors that cannot be controlled (Enkel et al., 2011). Furthermore, it is sometimes only possible to assess the success of innovation activities after a long delay, or it may be credited to other organizational units (Loch & Staffan Tapper, 2002). Additionally, the innovation process is increasingly being opened up to benefit from external resources. Metrics to evaluate excellence under this new "open innovation" approach have yet to be developed (Enkel et al., 2009).

According to Enkel et al. (2011) measuring performance is crucial for managers who want to monitor the activities of a company. Measuring performance allows managers to plan and control their organizations more effectively (Chenhall & Langfield-Smith, 2007; Hauser & Katz, 1998). It also affects the behavior of employees (Kaplan, 1992; Neely et al., 1996) and, accordingly, inappropriate measurement systems can lead to dysfunctional behavior (Neely et al., 1997). Primarily, performance measurement is essential “for achieving the company’s objectives” (Chiesa et al., 2008, p. 213) because of its role in supporting decision-making, motivating employees, stimulating learning, and improving coordination and communication (Loch & Staffan Tapper, 2002).

Then, Enkel et al. (2011) affirm that a good system for measuring performance is necessary to address all these issues, but they add that the development of such a system of measurement is far from straightforward because some innovative activities are often intangible, uncertain and difficult to measure (Chiesa et al., 2008; Loch & Staffan Tapper, 2002). Due to these difficulties, Neely et al. (1996) affirm that the most important factors when designing a measurement system are: deciding what to measure; deciding how to measure it; collecting the appropriate data; and eliminating conflicts within the measurement system. Enkel et al. (2011) point out determining the appropriate metrics is essential in the process of designing a performance measurement system. When deciding what to measure, it is also important to bear in mind how the results will be used.

An alternative approach of measurement is presented by Saraph et al. (1989). They propose to measure elements according to their maturity because it has the potential to help decision-makers assess the status of open innovation processes within their organizations and make direct improvements. But, what should we mean by "maturity" in this context? From the point of view of software engineering, the maturity of a process or activity is seen as the “extent to which a specific process is explicitly defined, managed, measured, controlled, and effective” (Paulk et al., 1993, p.21). Under the perspective of assessing R&D processes, it refers to the presence of adequate R&D practices (Berg et al., 2002). According to Paulk et al. (1993), increasing maturity can be seen as the institutionalization of processes via policies, standards and organizational structures. The more components of the process that are established, the more mature the process is and the greater the capabilities of the process (Enkel et al., 2011). In summary, Enkel et al. (2011, p. 1166) affirm “*maturity is a measure of the effectiveness of processes*”.

In summary, in order to continue analyzing and improving the new role of BAs, it is necessary to design a maturity model of their capacity for innomediation. This model must be adapted to the characteristics of the associations and their various stages of development as intermediaries. In addition, this model of measurement of the effectiveness of innomediation capacity must consider the particularities of these organizations regarding the factors presented by Neely et al. (1996): deciding what to measure, deciding how to measure it, collecting the appropriate data, eliminating conflicts within the measurement system.

From an academic perspective, we can synthesize the previous reflection in the following general research question for this study: GRQ3.0, *what is the maturity process of the innomediatio capacity of a BA?* (see Table 0.1) This question involves several specific research questions such as: (1) SRQ3.1, what are the determinant factors of the maturity of innomediatio capacity? (what to measure); (2) SRQ3.2, what are the maturity stages of these factors? (how to measure it); (3) SRQ3.3, how should the maturity of innomediatio capacity be evaluated in BAs? (collecting the appropriate data, and eliminating conflicts within the measurement system).

Each of the above research questions generates the following points. A general research objective: GRO3.0, to define a maturity model of the intermediation capacity in innovation for BAs. Likewise, some specific research objectives: SRO3.1, to define the factors that determine the maturity of innomediatio capacity of BAs; SRO3.2, to establish the stages of maturity of innomediatio capacity of BAs; and SRO3.0, to design a methodology to assess the capacity of innomediatio applied to the BAs.

6.2. Maturity models: origin, definition, perspectives and components

According to Wendler (2012, p. 1317) the maturity concept emerged out of quality management. The first thoughts were found in the 1930s with the work of Shewhart (1931), although they do not have the slightest common ground with today's maturity models. Crosby in 1979 introduced the concept of maturity stages building on each other and therefore he offered a simple but effective tool for analysis and measurement. He proposed the so-called quality management process maturity grid, which categorized best practices along five maturity stages and six measurement categories (Crosby, 1979). Simultaneously, Nolan published an article about the maturation of data processing by defining six stages of growth that have to be achieved until maturity is reached (Nolan, 1979).

Since these days, the publications' number of maturity-related topics steadily rose. The focus of these publications is still software engineering with topics covering, for instance, data quality, software maintenance, and testing. But other issues, like IT alignment, the use of enterprise resource systems, technology and knowledge management, or collaboration processes are becoming more important, too (Wendler, 2012).

Definition of Maturity Model

Throughout this develop process several definitions of maturity model have emerged, however, there is still no clear definition. In this sense, the work of Wendler (2012) refers to several of these definitions, for example, "maturity models describe the development of an entity over time. This entity can be anything of interest: a human being, an organizational function, etc." (Klimko, 2001), or "a maturity model is a structured collection of elements that describe the characteristics of effective processes at different stages of development. It also suggests points of

demarcation between stages and methods of transitioning from one stage to another” (Pullen, 2007). Furthermore, in the IT field, Wendler (2012) points out that many publications simply refer to the Capability Maturity Model Integration (CMM, first version) as basic definition, which says in its first version: “The CMM is a framework representing a path of improvements recommended for software organizations that want to increase their software process capability” (Paulk et al., 1993).

Likewise, Becker et al. (2009, p. 213) explain that “a maturity model consists of a sequence of maturity levels for a class of objects. It represents an anticipated, desired, or typical evolution path of these objects shaped as discrete stages. Typically, these objects are organizations or processes”. In consequence, Becker et al. (2009, p. 214) also argue that “maturity models may be understood as artifacts which serve to solve the problems of determining a company’s status quo of its capabilities and deriving measures for improvement therefrom”.

Perspectives of maturity models

In his study, Wendler (2012) points out that there are two points of view when developing and using maturity models: a *life cycle perspective* and a *potential performance perspective* (McBride, 2010). Besides, he affirms that these two perspectives were already existent within the first publications of maturity models. Thus, Nolan’s model for data processing from 1979 belongs to the *life cycle perspective*. It measures the state of four process areas through six discrete “stages of growth”, whereby only the final (perfect) stage is named “Maturity”. An organization evolves over time and therefore automatically has to pass all stages due to improvements and learning effects (Nolan, 1979). The other early model from 1979, Crosby’s Quality Management Maturity Grid fits into the *potential performance perspective*. It defines five maturity stages and the last stage, called “Certainty”, is the best or perfect one, too. But, according to Wendler, in contrast to Nolan’s model, Crosby’s Maturity Grid is not described in the way of a life cycle. It rather shows the potentials arising of a higher maturity level and the user may decide if it is desirable to proceed to the next stage (Crosby, 1979). Today, most of the available maturity models follow the potential performance perspective instead of life cycle approaches (McBride, 2010).

Nevertheless, Wendler (2012) highlights the important to be aware of the difference, because it has implications on the application of the models and the interpretation of stages. Models of the life cycle perspective have a well-defined “final” stage of maturity, which will be reached while evolving over time. Therefore, they may serve as tools for management supporting the development of the examined objects. Although the purpose of models belonging to the potential performance perspective is principally the same, there is a fine difference. These models show a development path, too, but the stages focus on the potential improvements which occur by moving along. Every stage holds an inherent effectiveness and self-evident value (Kohoutek, 1996). The user must decide by himself which level of maturity (i.e. completeness, perfection) is best for the situation.

Under both perspectives, the application of maturity models creates useful benefits. Thus, Wendler (2012) presents that maturity models generate an awareness of the analyzed aspects: their state, importance, potentials, requirements, complexity, and so on. Furthermore, they may serve as reference frame to implement a systematic and well directed approach for improvements, ensure a certain quality, avoid errors, and assess one's own capabilities on a comparable basis (Cooke-Davies, 2007; Nolan, 1979).

Components of maturity models

According to Wendler (2012) although available maturity models differ in their structure, every maturity model should consist of two common components to fulfill its purpose. Looking at the definition of maturity, a measure to determine the current state of completion is needed. Therefore, maturity models define *a set of levels or stages*, describing the development of the examined object in a simplified way (Klimko, 2001). These stages should be sequential in nature and represent a hierarchical progression. Furthermore, they should be closely connected to organizational structures and activities (Gottschalk & Solli-Sæther, 2009). In this regard, Becker et al. (2009) show that the bottom stage stands for an initial state that can be, for instance, characterized by an organization having little capabilities in the domain under consideration. In contrast, the highest stage represents a conception of total maturity. Advancing on the evolution path between the two extremes involves a continuous progression regarding the organization's capabilities or process performance. The maturity model serves as the scale for the appraisal of the position on the evolution path. It provides criteria and characteristics that need to be fulfilled to reach a particular maturity level. During a maturity appraisal, a snap-shot of the organization regarding the given criteria is made. The characteristics found are evaluated to identify the appropriate organization-individual maturity level.

The second component refers to *the measured objects, the capabilities* (Wendler, 2012). This means maturity models have to define criteria for measurement like conditions, processes, or application targets. Maturity models that refer to only one criterion are called one dimensional. Today, however, most of the models are multidimensional ones, including affected processes, organizational units, problem domains, etc. (Lyytinen, 1991).

6.3. Design methodology of the "MMIIC" maturity model

Lahrman et al. (2011) in their study affirm that five distinct development processes have been extensively discussed in maturity models' literature (Becker et al., 2009; van Steenbergen et al., 2010; Järvinen, 2007), and all these processes share five generic design steps:

1. *Identify need or new opportunity*: Developing maturity models by conducting design-oriented research means finding solution patterns for important unsolved problems or giving advice in solving problems in more effective or efficient ways (Hevner et al., 2004). According to Järvinen

(2007), a business need is not necessarily required but a new opportunity as “opportunity-based innovation can have a great economic value”.

2. *Define scope:* In order to develop a useful model, the domain must be scoped properly (van Steenberg et al., 2010). This means that it has to be decided whether certain assumptions and characteristics are included or not. According to de Bruin et al. (2005), this will “set the outer boundaries for model application and use”.
3. *Design model:* The artifact as such is constructed in a third step. Becker et al. (2009) and de Bruin et al. (2005) both suggest a top-down approach by primarily defining a kind of grid or architecture of the relevant domain dimensions and sub-dimensions and ‘filling’ these dimensions with typical characteristics using focus groups/delphi method, creativity techniques, case studies, or literature reviews. Quantitative methods are less frequently used for constructing maturity models.
4. *Evaluate design:* Due to the fact that the acceptance of a maturity models critically depends on its utility, validity, reliability, and generalizability, evaluation is a crucial step in every design science research project Hevner et al. (2004).
5. *Reflect evolution:* Finally, the maturity models have to be maintained and further development will be needed given that some model elements will get obsolete, new constructs will emerge, and assumptions on the different levels of maturity will be affirmed or refuted Becker et al. (2009). Therefore, even in an early stage it is important to also reflect on how to handle alterations in model design and deployment. However, this design step has attained little attention yet.

In the previous process, Wendler (2012) remarks that it is normally not sufficient to construct these models in terms of content and structure. They must ensure their applicability and benefits through different tests, whose results could change or adjust the model again. This “logical” procedure is framed in the design science paradigm. In fact, design-oriented research designs are often used when maturity models are developed.

According to Wendler (2012) the maturity models are “artifacts” and hence, the applicability of the design science paradigm is suitable. To guide researchers, some frameworks for conducting design-oriented research are available. One of the most cited frameworks is the *Design Science Research Framework* by Hevner et al. (2004), which builds on the work of March and Smith (1995). The authors’ objective was to describe the design-oriented paradigm by using a conceptual framework with clear guidelines to evaluate the quality of the research. These guidelines address artifact construction, evaluation, and presentation and can be used to examine scientific grounding and practical relevance of an artifact (Hevner et al., 2004) (see Table 6.1).

Becker et al. (2009) remark that guidelines 3 and 5 are relevant (Table 6.1). They state that a maturity model must be evaluated to demonstrate its suitability and that this evaluation has to be

conducted via rigorous research methods. This is the most differentiating issue between design-oriented and pure conceptual maturity model development (Wendler, 2012).

Table. 6.1. Design science research guidelines

Nr.	Guideline	Description
1	Design as an artifact	Design-science research must produce a viable artifact in the form of a construct, a model, a method, or an instantiation
2	Problem relevance	The objective of design-science research is to develop technology-based solutions to important and relevant business problems
3	Design evaluation	The utility, quality, and efficacy of a design artifact must be rigorously demonstrated via well-executed evaluation methods
4	Research contributions	Effective design-science research must provide clear and verifiable contributions in the areas of the design artifact, design foundations, and/or design methodologies
5	Research rigor	Design-science research relies upon the application of rigorous methods in both the construction and evaluation of the design artifact
6	Design as a search process	The search for an effective artifact requires utilizing available means to reach desired ends while satisfying laws in the problem environment
7	Communication of research	Design-science research must be presented effectively both to technology-oriented as well as management-oriented audiences

Source: Hevner et al. (2004)

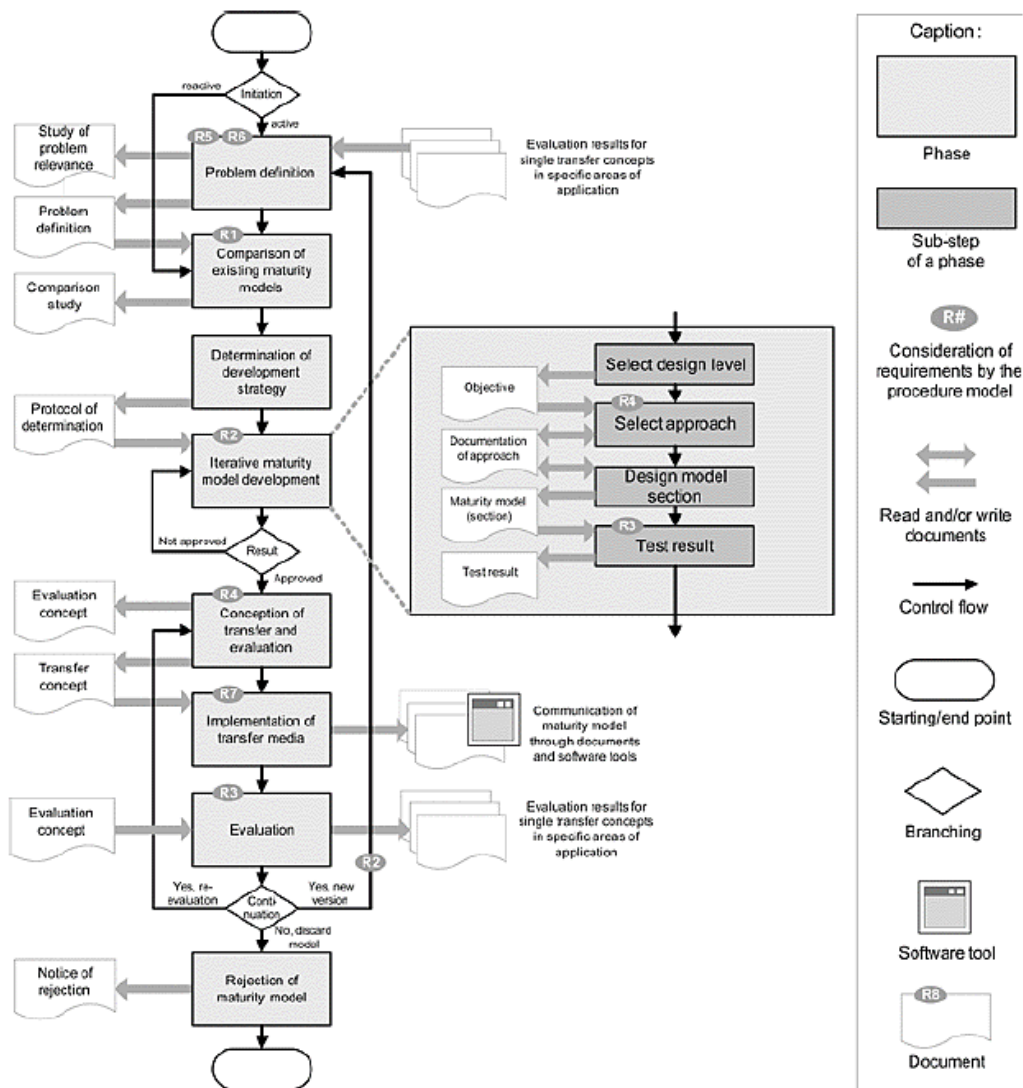
6.3.1. A procedure model to develop maturity models

Taking into account the above fundamentals, Becker et al. (2009) designed a process to develop a maturity model. As shown in Figure 6.2, this procedure distinguishes eight phases in the development of maturity models, which are based on the eight requirements that emerge from the design science research guidelines raised by Hevner et al. (2004) (remember Table 6.1). These requirements are as follow:

1. *R1 (Comparison with existing maturity models)*: The need for the development of a new maturity model must be substantiated by a comparison with existing models. The new model may also just be an improvement of an already existing one (Zelewski 2007, p. 93–98).
2. *R2 (Iterative Procedure)*: Maturity models must be developed iteratively.
3. *R3 (Evaluation)*: All principles and premises for the development of a maturity model, as well as usefulness, quality and effectiveness of the artifact, must be evaluated iteratively.
4. *R4 (Multi-methodological Procedure)*: The development of maturity models employs a variety of research methods, the use of which needs to be well-founded and finely attuned.
5. *R5 (Identification of Problem Relevance)*: The relevance of the problem solution proposed by the projected maturity model for researchers and/or practitioners must be demonstrated.
6. *R6 (Problem Definition)*: The prospective application domain of the maturity model, as well as the conditions for its application and the intended benefits, must be determined prior to design.
7. *R7 (Targeted Presentation of Results)*: The presentation of the maturity model must be targeted with regard to the conditions of its application and the needs of its users.
8. *R8 (Scientific Documentation)*: The design process of the maturity model needs to be documented in detail, considering each step of the process, the parties involved, the applied methods, and the results.

According to R5 and R6, the procedure model starts with *the problem definition* (see Figure 6.2). All reviewed models start by defining the problem (Becker et al., 2009). Based on R1, the second phase is *the comparison of existing maturity models*, because is necessary to determine if the problem needs a new model or just an old adjusted model.

Figure 6.2. Procedure model for developing maturity models



Source: Becker (2009)

As consequence of the comparison emerges a reasoned *determination of the design strategy* (phase 3, Figure 6.2), which according to R8 needs to be documented as well. The most important basic strategies that can be discerned are: the completely new model design, or the enhancement of an existing model; the combination of several models into a new one; as well as the transfer of structures or contents from existing models to new application domains (Becker et al., 2009). Stage 4 is the central phase of the procedure model because it represents *the iterative maturity model development*, which reflects requirement R2. The sub-steps of this phase (large box in the middle

of Figure 6.2), selecting the design level, selecting the approach, designing the model section, and testing the results will be iterated based on R3 and R4.

Subsequently, phase 5 is *the conception of transfer and evaluation* because the different forms of result transfer for the academic and the user communities need to be determined. Requirement 4 prescribes a reasoned selection of the different forms that the targeted communication of the maturity model can take (Becker et al., 2009). The purpose of the phase 6, *implementation of the transfer media* is to make the maturity model accessible in the planned fashion for all previously defined user groups. At this stage, the most important point is to target the transfer media, as specified in requirement R7.

According to requirement R3, phase 7 of *evaluation* should establish whether the maturity model provides the projected benefits and an improved solution for the defined problem. The defined goals are to be compared with real-life observations. The outcome of the evaluation may cause a reiteration of the design process (R2). It is also possible that the maturity model may be retained unchanged, while the conception of transfer and evaluation may need to be modified. Lastly, negative results may lead to a *rejection of the model* (phase 8), in which case the model should be purposefully, explicitly, and if possible, actively taken off the market (Becker et al., 2009). Finally, note that R8 identifies the documents generated in the course of the maturity model design, referenced by the document symbol which has been assigned to R8 in the lower right corner of Figure 6.2.

6.3.2. The procedure to design the “MMIIC” Maturity Model

Under the framework of our AR project (see Chapter 4), this study was configured as its third phase. As the foundation and starting point, we use the findings of the previous study (phase 2 of the AR project described in Chapter 5) and the research questions and objectives raised in Section 6.1 at the beginning of this chapter. For the creation of the MMIIC, we used the procedure model proposed by Becker et al. (2009) and explained in the previous section. Hence, we took into account the phases and requirements raised by these researchers. This methodology was chosen because it fully identifies with Action Research in aspects like the principle of iterative development; the interaction between researchers and practitioners, the different phases (diagnosis, planning, action, evaluation, diffusion, and learning); and the great cycles of improvement and development. Next, we will describe each of the stages developed in the creation of the MMIIC.

Phase 1: the problem definition

In the Section 6.1 we explain the problem and its antecedents, which are based on the previous study (Chapter 5). This situation was presented to association managers during the event of results diffusion of the second phase of our AR project. Likewise, in a special meeting with some of these managers. In these two moments, we receive various ideas on the needs of the

associations and future lines of research regarding innovation intermediation of the BAs from Navarra. Consequently, we proposed them the development of a maturity model of innomediation capacity for associations, and a training process that, in parallel, would allow them a better understanding of that model, and its application to the reality of the organization. Then, we receive feedback from managers and their support to begin its development.

Phase 2: the comparison of existing maturity models

At this point, we perform a review of academic literature regarding the various types of existing maturity models. To do this, we use the "top-down" approach. Thus, we begin to analyze models applied to the general processes management of the company (De Bruin & Rosemann, 2005), later applied models closed innovation (Essman & Du Preez, 2009) and software development (Paulk et al., 1993), and finally, we discover a model applied to open innovation (Enkel et al., 2011), as we show in the next Section 6.4. But we do not find a maturity model of innomediation, and less about innomediation applied to BAS.

Phase 3: determination of the design strategy

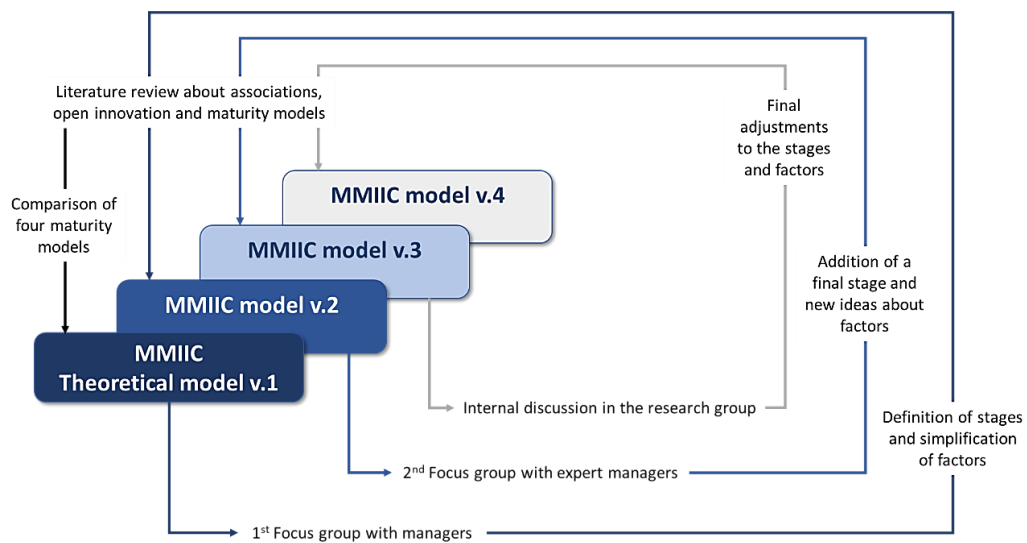
In this stage, we determined that our model required a combination of both models, the *maturity model of closed innovation* by Essman & Du Preez (2009), and the *maturity model of open innovation* presented by Enkel et al. (2011). The first model would contribute with its multidimensional approach regarding three constructs (maturity capability, innovation capability construct, and organizational construct), their internal and external factors, and its maturity levels. The second model would contribute especially with the description of its three elements (climate for innovation, partnership capacity, internal processes) in each maturity level, likewise, this model proposes diverse topics related to the opening of innovation. Additionally, this model offered an interactive procedure of design which lighted to us about the participative creation process that we should develop in our case.

Phase 4: development of the iterative maturity model

The design of the maturity model began with the theoretical and conceptual analysis of the four models compared, but with special attention to two models: the maturity model of closed innovation (Essman & Du Preez, 2009) and the maturity model of open innovation (Enkel et al., 2011). For this task, we used the guide of Content Analysis methodology (Krippendorff, 1989; Duriau et al., 2007). This allowed us to present the first version of the maturity model (see Figure 6.3). It was composed of three dimensions and their factors. Thus, the first dimension was the maturity capacity composed of six stages called: representation, ad hoc innovation, commitment to innovation, innovation management, innovation intermediation, and innovation systems. The second dimension was about organizational conditions and it was composed of the following factors: strategy and objectives, functions and processes, organization and communication, relationship with affiliated companies, and allies and suppliers. Finally, the third dimension was the

capacity for innovation and innomediation and this, in turn, was composed of three groups of factors. The first one was about organizational support that had factors as well as strategy and leadership, functions and processes, environment and organizational climate, and resources and infrastructure; the second group referred to knowledge and skills; and the third group about process of innovation was composed by the factors of innovation process, process of innomediation, functions of innomediation, and results of innomediation. Additionally, we created a series of challenges, for each stage and type of factor, that an association should reach if it wants to increase its level of maturity in the capacity of innomediation (see the MMIIC version 1 and its proposal of challenges in Annex 5).

Figure 6.3. Iterative process of maturity model development



Source: own elaboration based on Ormazabal et al. (2017)

After that first step, we proceeded to perform a first focus group with the managers of the Navarra’s associations shown in Table 6.2. In general, it is the same group of associations from the previous study (AR project, phase 2). However, some of them did not participate in this study, as was the case of the two associations who did not consider themselves innomediaries; and two new associations entered into this study.

Table 6.2. The Business Associations’ sample of the study

Association name	Initials
Asociación Bodegas de Navarra	ABN
Asociación de Constructores Promotores de Navarra *	ACP
Asociación de Empresarios de Artes Gráficas de Navarra Cluster de Impresión Funcional de Navarra	AEGRAN
Asociación de Empresarios de Hostelería de Navarra	AEHN
Asociación de Empresarios de la Madera de Navarra	ADEMAN
Asociación de Empresas de Economía Social de Navarra	ANEL
Asociación de Industrias Agroalimentarias de Navarra, La Rioja y Aragón	CONSEBRO
Asociación de Transportistas Autónomos de Navarra	TRADISNA

Asociación Navarra de Empresas de TICs y Cluster TIC de Navarra	ATANA
Asociación Navarra de Empresarios de Transporte por Carretera y Logística	ANET
Asociación Navarra de Pequeña Empresa de Hostelería	ANAPEH
Asociación Navarra de Talleres de Reparación de Vehículos	ANTRV
Cluster de Transformación Industrial *	CTI
Asociación de Empresas de Comunicación y Publicidad	LA ASOCIACIÓN
Unión de Agricultores y Ganaderos de Navarra	UAGN
Unión de Cooperativas Agroalimentarias de Navarra	UCAN
Note: * New associations that did not participate in the previous study (Chapter 5)	

Source: own elaboration

In this first focus groups and the next, our research team had a previous preparation of the various activities that had to be done with the assistants. For this, a strict methodology was developed on the development of focus groups (Hennink, 2014), which has proved to be effective in this type of research, for example, in the study by Enkel et al. (2011). Thus, in the first focus group, managers divided in little teams were asked to propose (in written and graphic form) the stages of maturity of innovation and innomediación for an association, under the methodology of “Storyboarding” (Foursight, 2010; Forsha, 1995). They were also asked to propose actions, strategies, decisions, initiatives, tasks or processes associated with each of the factors of the various stages proposed by them, with the aim of characterizing each one of them. For this, we used the methodology of “Stick 'em up Brainstorming” (Foursight, 2010; Parnes, S.J., 1992). After these steps, we generate with the managers a space of consensus about their proposals. Subsequently, the researchers met and under the Investigator Triangulation technique (Denzin, 1978; Jick, 1979) we generated a discussion of integration of ideas and redefinition of stages and factors. A graphic synthesis of this process is presented in Figure 6.4.

Figure 6.4. Process of first focus group with association managers



Source: own elaboration

As a result of this first focus group, the *theoretical MMIIC* (version 1) was adjusted and the *second version of MMIIC* emerged. As we showed in Annex 6, this participatory activity allowed us to rethink the 6 stages and create a concrete description of each one. Likewise, this activity simplified the definition of factors at each stage. On the other hand, this analysis showed that we should not continue to develop the "challenges" proposed for each stage in version 1 of the model because their level of specificity requires that this task is done at a later stage of this process of model creation.

Subsequently, we developed the second focus group (see Figure 6.3) with some managers belonging to the sample. This group was characterized by being people with many years of experience in the management of important BAs in the context of Navarra. They reviewed the second version of MMIIC and developed important contributions that allowed us to create the *third version of the model*, which we present in Annex 7. Thanks to this work, the seventh stage called "Innovation system" was created, and the 8 factors were adjusted in greater detail.

In a later step, internally, the research team made a reflection and discussion of the model, which led to the definition of the fourth and *final version of the MMIIC model* (see Table 6.3), which we will present and explain in detail in the next section 6.4.

Phase 5: the conception of transfer and evaluation

The research team established three transfer and evaluation strategies. The first strategy focuses on the development of papers and conferences regarding the content of the model and the methodology used in its development. On the other hand, the second strategy focuses on the use of the model as a business management tool that serves as a diagnostic and projection for the BAs. The third strategy is the design and implementation of a training process for associations. As a combination of the last two strategies (management tool and training) a workshop was organized for 14 associations of those presented in Table 6.2. The results of this study will be presented later in Section 6.5.

Phase 6: implementation of the transfer media

This phase is included in the previous phase, especially in the first strategy related to the synthesis through conferences and papers of all the findings and processes developed in the creation of the model.

Phase 7: evaluation

In Section 6.5, we will present the applicability of this model to the case of the group of Navarra's associations. Likewise, its impact shows that the MMIIC model is useful and practical, and neither managers nor we consider its rejection in this moment (Phase 8).

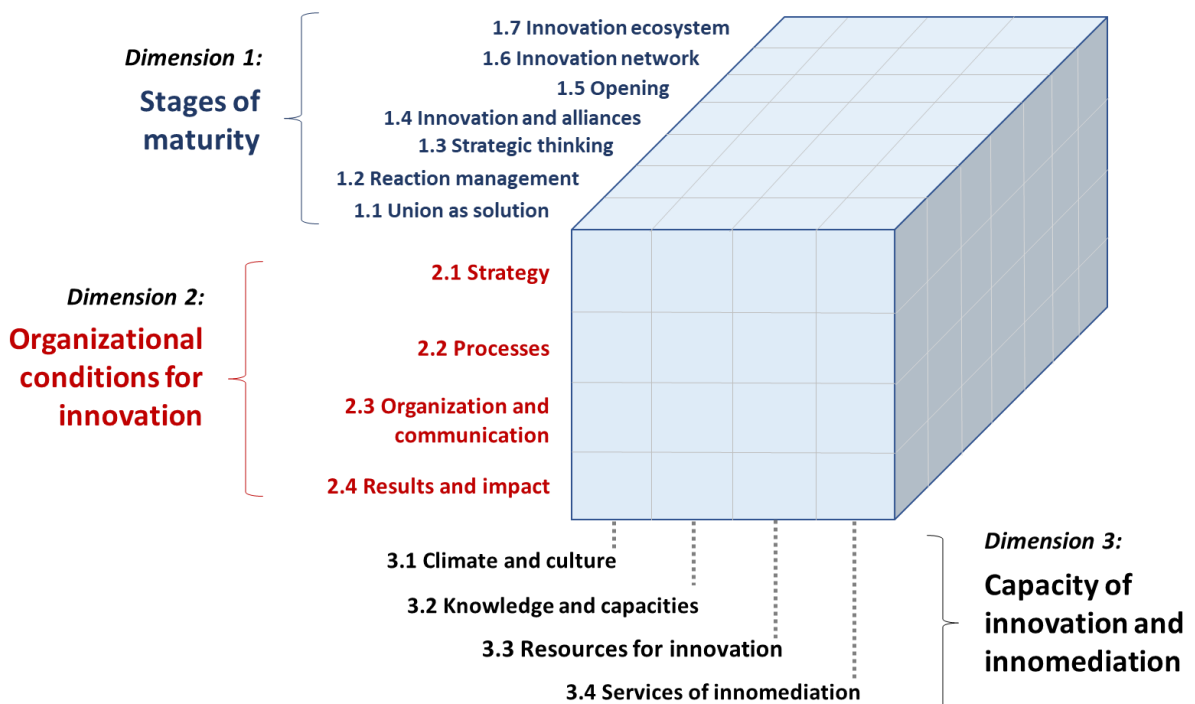
6.4. The Maturity Model of Innovation Intermediation Capacity for BAs (MMIIC)

This MMIIC (version 4) and its predecessors are identified with the definition of Becker et al. (2009) on what a model of maturity is. Therefore, we conceive it as a sequence of maturity levels that represents an evolutionary path of different factors within discrete stages.

On the other hand, we develop the MMIIC from the perspective of the life cycle presented by Wendler (2012). For this reason, its structure is based on stages of development that are reached through time, and where the last one is considered the highest possible level of maturity. Therefore, the MMIIC model has the two components described by Wendler (2012), the stages and the capabilities. The latter are present in the various factors of the stages of the model, hence its multidimensional character.

As previously expressed in phase 3 of the procedure model, the MMIIC initially emerged from the integration of the maturity model of closed innovation by Essman & Du Preez (2009), and the maturity model of open innovation presented by Enkel et al. (2011). Their integration allowed us to propose for MMIIC three dimensions composed of different factors that can be combined to determine the maturity of the innomediation capacity of a BA. This proposal can be observed in Figure 6.5.

Figure 6.5. Dimensions and factors of MMIIC

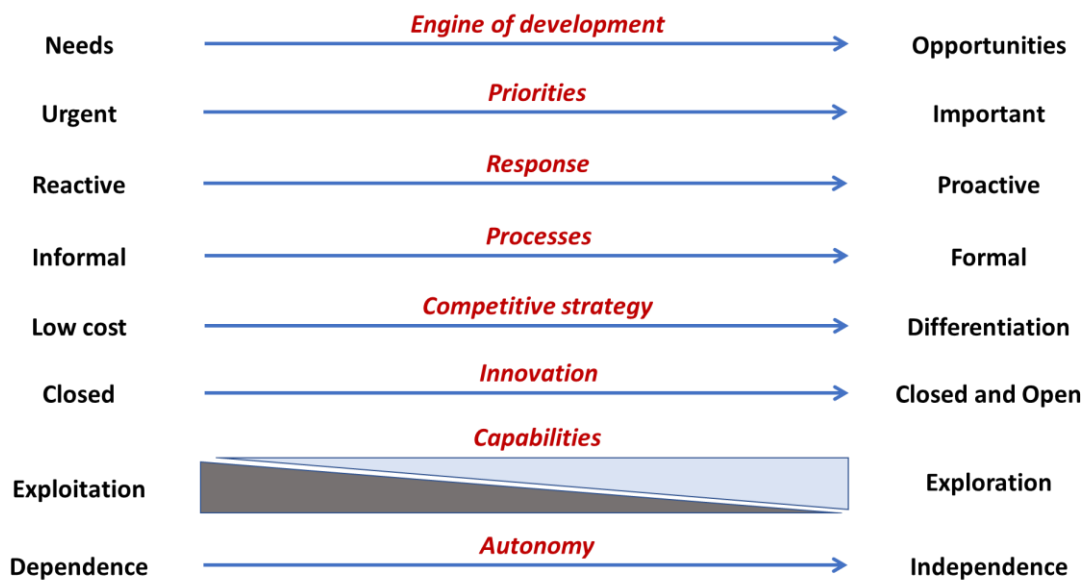


Source: own elaboration based on Essman and Du Preez (2009), and Enkel et al. (2011).

Based on the three-construct proposal by Essman and Du Preez (2009), the *dimension 1* defines the maturity stages of the innomediation capacity of the association. In our case, the interactive work between researchers and practitioners allowed the definition of seven stages through which the evolution of an association can be observed from its conformation to its transformation into an ecosystem of innovation (see Table 6.3). These stages were described through texts that synthesize the most prominent aspects of each phase, which were identified with the activities of literature review, storyboarding, their discussions and consensus, as we presented in the previous section.

As a guide to develop the evolution of the stages, we define the major cross-cutting axes along the seven stages such as: the motor of development, the priority of the organization, the competitive strategy, autonomy, etc., as shown in Figure 6.6. These axes are based on key concepts of strategy and innovation that have extremes clearly differentiated by their level of development. For example, the simplest competitive strategy in an association is the provision of low-cost services, whereas a much more elaborate and demanding strategy would be differentiation in its services. Likewise, the association emerges with low autonomy vis-a-vis its members but it hopes to have greater autonomy and independence in the future (recall Chapter 3, Section 3.2). On the other hand, initially innovative solutions arise from closed processes of innovation, but later they are developed through closed and open innovation.

Figure 6.6. Cross-cutting axes of the maturity of the innomediation capacity



Source: own elaboration

The *dimension 2* of the MMIIC (see Figure 6.5) corresponds to the organizational conditions for innovation, which we synthesize into four types of factors: strategy; processes; organization and communication; and results and impact. These integrate the five types of factors that we initially posed for this dimension in the MMIIC version 1 (see Annex 5). Also, they integrate the four types

of factors that we had raised in the group of "organizational support of the innovation processes" of that first version of the model. This second dimension was inspired by the second construct proposed by Essman and Du Preez (2009), and some factors of the elements of climate for innovation and internal processes proposed by Enkel et al. (2011).

This process of simplifying factors that we experimented between version 1 and final version 4 was due to the need to have a much simpler model that could be easily understood and evaluated by the managers of the associations. Besides, the model was simplified because the work teams of the associations are generally small and there are no people responsible for so many tasks and activities as we proposed in the first version of the MMIIC. In general, the manager and her/his small team of collaborators develop activities that mix a variety of tasks, which are not easily identifiable by the managers, and often the activities are subcontracted to external staff.

Table 6.3. The Maturity Model of Innomediation Capacity (MMIIC) for Business Associations (version 4)

- Description of the Stages -

DIMENSION 1: MATURITY STEPS OF INNOMEDIATION CAPACITY		
Stage 1: Union as solution	Stage 2: Reaction management	Stage 3: Strategic thinking
<p>The emergence of the association is marked by a meeting of people who represent their companies. They, through a dynamic, that could be called "forum of knowledge", exchange their experiences and needs. As a result, the identification of common problems and objectives leads them to come together and consider the formation of an association. Thus, these people become the pioneer partners, who serve as interlocutors between their companies and agents that can solve their problems. In this process is defined a leader or manager that guides the actions of representation of the common interests of the companies. This new organization faces an intense period of internal knowledge, highlighting the self-knowledge of the participating companies, using tools such as SWOT, identifying available resources, and conducting initial diagnostic studies of the company. sector. Also, the first initiatives of basic training are presented.</p>	<p>This stage is characterized by the presence of a manager and a still low number of highly committed associates. In the first instance, the organization seeks solutions to the needs raised in the previous stage. Therefore, it begins to react to concrete, urgent and short-term problems to generate results and show capacity. However, because the association cannot solve all problems, it begins to define a roadmap and a scope for its operation. This is how the association generates its own first services to respond to specific demands of its members. In parallel, this situation generates a low autonomy of the organization in front of its members. At this stage, the governance teams are consolidated and the first strategic approaches are developed.</p>	<p>In this phase, there is a consolidation of the organizational structure of the association, in which roles and responsibilities are defined. The roles of the manager and the members of the board of directors are of great importance. Therefore, there is a consolidation of the strategic approaches and their approval by the board of directors. These are reflected in action plans in relation to issues raised, concrete work plans and first definitions, formal initiatives, and awareness of innovation. This is based on efforts to identify needs and opportunities, sometimes as a result of studies contracted to experts on these issues. At this point, members trust in the association and recognize its effectiveness, hence they see it as a referent where to go to solve their problems.</p>
Stage 4: Innovation and alliances	Stage 5: Opening	
<p>The association leads and has the credibility of its group of affiliated companies, which are of various sizes. There is growth in the number of members. The association is characterized by having decision-making power, a certain independence of its members, having a consolidated operation and structure. As for innovation, several conflicts of interest have already been overcome and there is a culture of collaboration in the sector. Innovation actions are carried out despite being aware that other organizations are copying their results. The organization conducts courses to acquire specialized knowledge for the sector. There is a budget for innovation from own funds or management of external projects. In this phase, the first actions and concrete results of internationalization are observed. As there is awareness of the type of value contribution offered by the association, alliances with similar organizations and close to it arise. Likewise, it is linked to other associations or federations of national character and makes agreements with organizations in its sector with which it shares common problems and situations.</p>	<p>The association is mature, it has developed internal capacities for the general direction of the organization, the management of the innovation, the management of alliances and the internationalization. Now it has some experts inside its team. For this reason, the organization is open to relationships with organizations and agents from other sectors, areas and geographical contexts, such as universities and technology centers. With this, it seeks diverse knowledge that contributes and complements its current value proposition, with the objective of defining new challenges and achievable objectives. It is a stage where "solutions" from other sectoral and geographical contexts are "copied" and "adapted" to be applied at the local level.</p>	

<p style="text-align: center;">Stage 6: Innovation network</p>	<p style="text-align: center;">Stage 7: Innovation ecosystem</p>
<p>The association can begin to consider a community of collaborative innovation. It begins to work on regional projects and under a network structure with diverse organizations. These complement to association with similar and different activities, and they belong to the same or another sector. These may be clusters, research centers, universities, consultancies, specialized agencies, etc., with which the association explores opportunities for collaboration and shares experiences of innovation. To develop this dynamic, in some cases, (1) the association promotes the creation of new organizations such as some of the previously mentioned. In other cases, (2) the association is transformed into a cluster to take on the new challenges. However, (3) the organization generally continues its association structure to face this new stage. As a consequence, in this phase the associations become "locomotives" that mobilize the economic and social agents, and sustain the new level of development achieved at the regional level.</p>	<p>As a consolidated collaborative innovation community, the association co-evolves with other organizations, knowledge centers and clearly identified national and international associations. It develops continuous and open innovation, in which cooperation and collaboration processes are highlighted, as well as a clear R&D&I strategy. There is a specific portfolio of joint services. The association manages relevant projects and international funds. It highlights the training and experience of its managers, as well as the alignment of thinking with the board. In general, these associations move in environments with culture and public policies that promote associativity and clusters. At this point, the association has a reputation not only economic but also social, therefore, it is a reference at national and international level.</p>

The Maturity Model of Innomediation Capacity (MMIIC) for Business Associations (version 4)

- Description of Dimensions and Factors -

DIMENSION 1: MATURITY STEPS OF INNOMEDIATION CAPACITY							
1. Stages	Stage 1: Union as solution	Stage 2: Reaction management	Stage 3: Strategic thinking	Stage 4: Innovation and alliances	Stage 5: Opening	Stage 6: Innovation network	Stage 7: Innovation ecosystem
DIMENSION 2: ORGANIZATIONAL CONDITIONS FOR INNOVATION							
2.1. Strategy	<ul style="list-style-type: none"> Statutes of the association Basic mission and Vision 	<ul style="list-style-type: none"> Reactive short-term plans. Basic strategic vision 	Formal strategic planning with references to innovation and internationalization.	Strategic planning with concrete initiatives of innovation, collaboration and internationalization.	Dynamic strategic planning that includes alliances, innovation programs and projects, and internationalization initiatives.	Strategic planning with perspective of work in collaborative networks with diverse entities at regional, national and international level.	<ul style="list-style-type: none"> Strategic planning articulated to the international ecosystem in which the association interacts. Major programs and projects.
2.2. Processes	<ul style="list-style-type: none"> Basic processes of legal, administrative and service delivery issues. Collection of fees. 	<ul style="list-style-type: none"> Basic processes for the provision of services. Simple communication processes. Basic software for management and accounting. Processes of identification and registration of service providers. 	<ul style="list-style-type: none"> Processes of improvement of the association. Formal support services to affiliates. Diagnostic studies. Charge for services. Hiring external services. Database of service providers. 	<ul style="list-style-type: none"> Contracting solution providers. Innovation processes and / or projects. First internationalization initiatives. Affiliation to federations. Signing alliances with "nearby" organizations*. 	<ul style="list-style-type: none"> Accompaniment to the members. Coordination of suppliers of innovation solutions. Management of cooperation with allies. Search processes of national and international financing. Basic measurement of innovation. Internationalization activities. Exploring opportunities. 	<ul style="list-style-type: none"> Internal and external communication with public and private agents. Alliances and negotiation with diverse agents. Management of national and international projects and resources. Constant measurement of innovation. Diversification of strategic activities. 	<ul style="list-style-type: none"> Collaboration with diverse organizations. Projects of magnitude. Formal processes of collaboration in R+D+i. CSR and sustainability processes. Management of international funds. Systematized measurement of innovation. Internal and external communication with national and international public and private agents.
2.3. Organization and communication	Definition of assembly, board of directors and manager.	<ul style="list-style-type: none"> Defined organizational structure. Passive general assembly and board of directors. Small management team with cooperation of the president, as 	<ul style="list-style-type: none"> Passive board that supports management. Manager as leader of innovation initiatives. Management team with the help of subcontracted personnel performs specific jobs. 	<ul style="list-style-type: none"> More active and participatory assembly. Active board that supports management. Responsible for innovation. Formal channels of communication with affiliates. Association articulated to a Federation. 	<ul style="list-style-type: none"> Alignment of assembly, board of directors and management. There are several responsible and experts to meet various needs of affiliates. Affiliation to national and international associations. "One to Many" partnerships. 	<ul style="list-style-type: none"> Assembly, board and management aligned to network with other organizations, under many-to-many alliances. Communication and interaction with members of the network. Responsible for project management. 	<ul style="list-style-type: none"> Board of Directors and Management committed to management under a system of collaboration between international allies. Consolidation of alliances of various types. Area responsible for communication.

		"motor team" of the association.		<ul style="list-style-type: none"> • "One-to-one" alliances with "nearby" organizations*. 			<ul style="list-style-type: none"> • There are international project management areas. • Responsible for CSR and sustainability.
2.4. Results and Impact	<ul style="list-style-type: none"> • Foundation of the association, affiliation and unity of the members. • Identification of the general problem of the group of companies. 	<ul style="list-style-type: none"> • The first particular solutions to urgent problems of the affiliates are observed. • Results of the basic training imparted. 	<ul style="list-style-type: none"> • Incremental improvements in processes. • Identification of needs and opportunities. • First results of formal innovation actions, sometimes with external experts. 	<ul style="list-style-type: none"> • Value proposition identifiable. • Results of simple and regular programs and projects of innovation with affiliates. • Subcontracting of solution providers. • Specialized training. • Affiliation to other associations, and dyadic alliances. 	<ul style="list-style-type: none"> • Association recognized at regional level in its sector. • Dissemination and implementation of certain innovations in the majority of affiliates. • Relations with agents from other sectors, spheres and geographical contexts. 	<ul style="list-style-type: none"> • Association recognized economically and socially at national level as a key player in the sector. • Existence of diverse strategic units in the association or several organizations working in network. 	<ul style="list-style-type: none"> • Association as a reference at national and international level. • Proponent of public policies for economic and social development. • International agreements and alliances for the development of large projects.
DIMENSION 3: CAPACITY OF INNOVATION AND INNOVATION INTERMEDIATION							
3.1. Climate and culture for innovation	Intention to change and improve conditions for affiliated companies.	<ul style="list-style-type: none"> • Challenge of aligning strategic thinking between the board and management. • Uncertainty about results. • Priority is given to urgency. • Low autonomy towards members / partners. • High commitment of the affiliates. 	<ul style="list-style-type: none"> • Strategic thinking and innovation in the board and the manager. • There are some conflicts of interest among affiliates. • Exploration of needs and opportunities. 	<ul style="list-style-type: none"> • There is a culture of collaboration and a general awareness of the need to innovate and make alliances. • Approval of strategic plans, innovation and budgets. • Mentality towards internationalization. • Some autonomy with regard to associates. 	<ul style="list-style-type: none"> • Opening the innovation. • Affiliation to top-level organizations (e.g., federations). • Focus on taking advantage of opportunities. • Search for new knowledge and technologies. • Definition of responsible and experts for these issues in the association. • Focus on local competitiveness. 	<ul style="list-style-type: none"> • Innovation is understood as something open that works in network among several agents at the same time. • There are collaborative and cooperative relationships. • It is thought of the diversification of activity and specialization by business. • Regional and national approach. 	<ul style="list-style-type: none"> • Mentality of systemic, international and social innovation. • It is believed that the association must generate its own processes and R+D+I results applied to its sector. • Focus on the competitiveness of the sector at the international level. • Interculturality. • Impact on the public and society.
3.2. Knowledge and competences for innovation	<ul style="list-style-type: none"> • Identification of needs. • Group management and conflict resolution. 	<ul style="list-style-type: none"> • Development of knowledge and governance skills of the board of directors and the manager. • Management for the improvement of urgent situations. 	<ul style="list-style-type: none"> • Basic knowledge and skills for strategic planning. • Exploration of needs and opportunities. • Management of innovation initiatives. 	<ul style="list-style-type: none"> • Knowledge and skills to manage innovation. • Low absorption capacity. • Low level of sensemaking. • Low capacity of ambidexterity. • Management of local innovation projects. 	<ul style="list-style-type: none"> • Average absorption capacity. • Average level of sensemaking. • Average capacity of ambidexterity. • Low bargaining power. 	<ul style="list-style-type: none"> • Ability to manage diversified business. • High absorption capacity. • High level of sensemaking. • High capacity of ambidexterity. • Average negotiation capacity. 	<ul style="list-style-type: none"> • Management of ecosystems of innovation. • Very high absorption capacity. • Very high sensemaking ability. • Very high capacity of ambidexterity.

		<ul style="list-style-type: none"> • Exploitation of basic services. • Conflict resolution. 		<ul style="list-style-type: none"> • Capacities for inter-organizational cooperation. 	<ul style="list-style-type: none"> • Management of local and national innovation projects. • Direction of interdisciplinary groups. • Intellectual property. 	<ul style="list-style-type: none"> • Management of work in network. • Management of national and international innovation projects. 	<ul style="list-style-type: none"> • High ability to negotiate and manage multicultural teams. • Management of international innovation projects.
3.3. Resources for innovation	None	<ul style="list-style-type: none"> • Few own resources for the collection of fees. • There is no formal destination of resources for innovation. 	<ul style="list-style-type: none"> • Own resources (fees plus payments received for services) • Specific resources for innovation. 	<ul style="list-style-type: none"> • Mainly own resources. • Provision of external funds for specific innovation projects. 	<ul style="list-style-type: none"> • Own resources of the association or its business units (fees and specialized services). • Search of regional, national or international funds for the development of local projects. 	<ul style="list-style-type: none"> • Mainly procurement of external funds for national and international projects. • Funds from companies and private organizations. 	<ul style="list-style-type: none"> • Main achievement of external international funds for national projects. • Funds from companies and private organizations.
3.4 Services of innomediation	<ul style="list-style-type: none"> • Representation and control of access to the association. • Basic training services. 	<ul style="list-style-type: none"> • Basic training services. • Concrete support to affiliates. • Networking among members. • Control access to association and conflict resolution. 	<ul style="list-style-type: none"> • First formal services for innovation. • The association gets experts for specific problems. • Networking at the local level. • Forecasting and diagnosis. 	<ul style="list-style-type: none"> • Formal innovation services. • Portfolio of services for the innomediation. • Regional and national networking. • Trade missions. • Processing and generation of basic knowledge. • Specialized training. 	<ul style="list-style-type: none"> • Wide portfolio of services for the innomediation. • International Networking. • Cross-sectoral connection. • Basic consultancy. • Accompaniment in project management to members. • Processing and generation of knowledge. 	<ul style="list-style-type: none"> • International and intersectoral connection. • Processing and generation of specialized knowledge. • Specialized consultancy. • Search for external funds for member innovation. 	<ul style="list-style-type: none"> • Linkage to the international innovation system of the sector. • R & D & I for the sector. • The innomediation services portfolio includes accreditation and standards services, intellectual property, and processing and analysis of industry results. • Channeling of international resources for innovation.

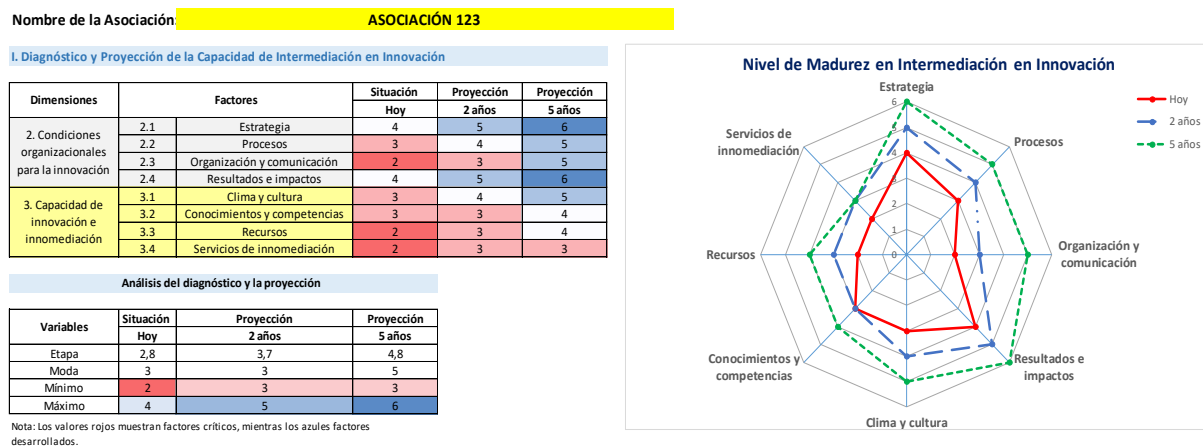
Source: own elaboration

The *dimension 3* of the model (see Figure 6.5) corresponds to the innovation and innomediation capacity of the association, and this is composed of the factors related to climate and culture; knowledge and capacities; resources for innovation; and services of innomediation. The first three were inspired by the factors of the innovation capacity construct proposed by Essman and Du Preez (2009), and the factors of the elements of climate for innovation and partnership capacity proposed by Enkel et al. (2011). However, the factors associated with services of innomediation are our proposal, which is based on the 11 types of functions of innovation intermediation that we explained in Chapter 3, Section 3.1.2. In addition, this group of factors is novel, because none of these two models is designed to assess the capacity of innomediation, only to measure closed innovation capacity (Essman and Du Preez, 2009) and open innovation capacity (Enkel et al., 2011).

6.5. Results and findings of evaluation phase of the MMIIC

In the evaluation stage (recall phases 5 and 7 of the model development procedure), the MMIIC (final version 4) was used by 14 Navarra's associations. During the workshop with them, the managers worked with a tool that we had previously designed. This was a radial-type diagram that we call "the spider web" (see Figure 6.7). In this one, they had to determine in which of the 7 stages were currently their associations, and which stage should reach the associations within 2 and 5 years, for each one of the eight groups of factors, according to the information that we give them in the MMIIC (see Table 6.3). Annex 8 shows all spider webs of the associations sample.

Figure 6.7. Example of the spider web of maturity level of innomediation for associations



Source: own elaboration

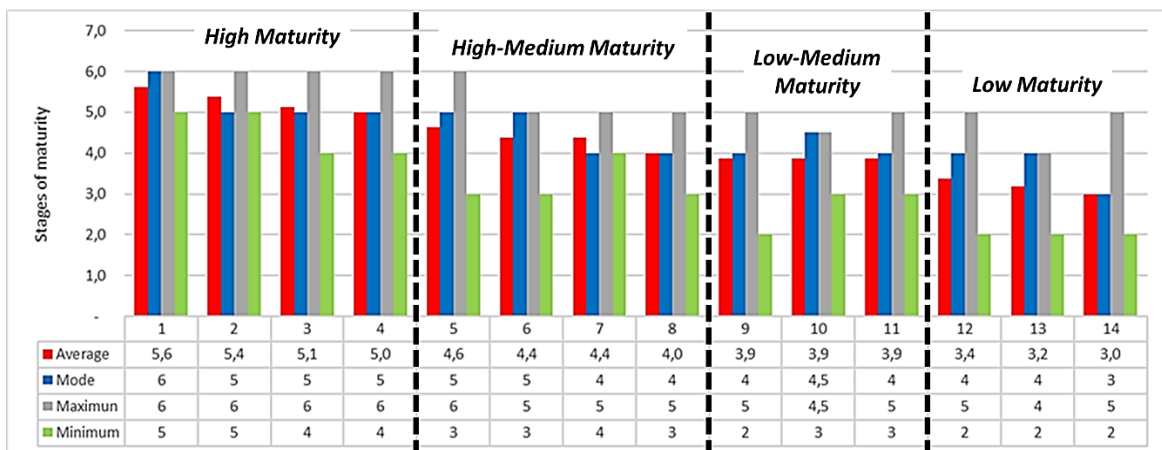
After this exercise, we gathered the information of the associations, analyzed it and obtained several results that we will present below.

Results from statistical analysis of assessment by factors of the maturity spider webs

The statistical analysis allowed to establish, in a general way, the degree of maturity of each one of the 14 associations. Regarding results of dimension 1, Figure 6.8 shows the ordering of associations by the average of the stage in which they are currently found after analyzing the steps defined for each of the eight groups of factors. According to this, currently no association is found, on average, in stages 1, 2, 6 and 7 of the MMIIC. The highest degree of maturity occurs in four BAs who, on average, are in stage 5; a medium high maturity occurs in four BAs averaged in stage 4; likewise, three associations have an average of 3.9 and therefore, they have an average maturity; while two associations have a stage average between 3.4 and 3.2 with which they have a low average maturity. Finally, an association is found on average in stage 3, which is in a degree of immaturity.

It is possible to note in Figure 6.8 that only the most mature association has a mode located in step 6 for its factor evaluations. In contrast, only the less mature association has mode located in stage 3. This means that in general, this group of associations have a maturity of their innomediation capacity located between stages 3 "strategic thinking" and 6 "innovation network". The maximum and minimum values corroborate this assertion showing that the assessments of all associations in all factors were never located in stages 1 and 7 of the MMIIC.

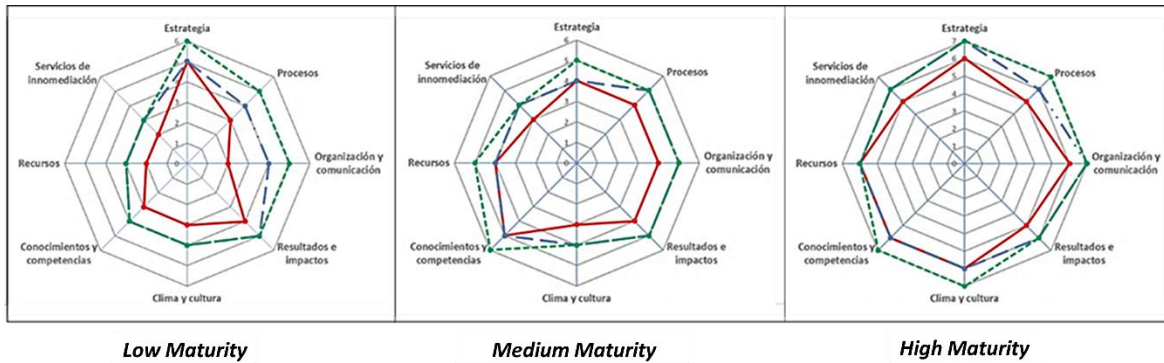
Figure 6.8. Analysis of average, mode, maximum and minimum of maturity by factor



Source: own elaboration

For the research team, the previous situation confirmed the existence of different levels of maturity in the associations evaluated, and according to the proposal of Enkel et al. (2011), we can also affirm that there are associations with immaturity, semi-maturity and maturity of innomediation capacity (see Figure 6.9).

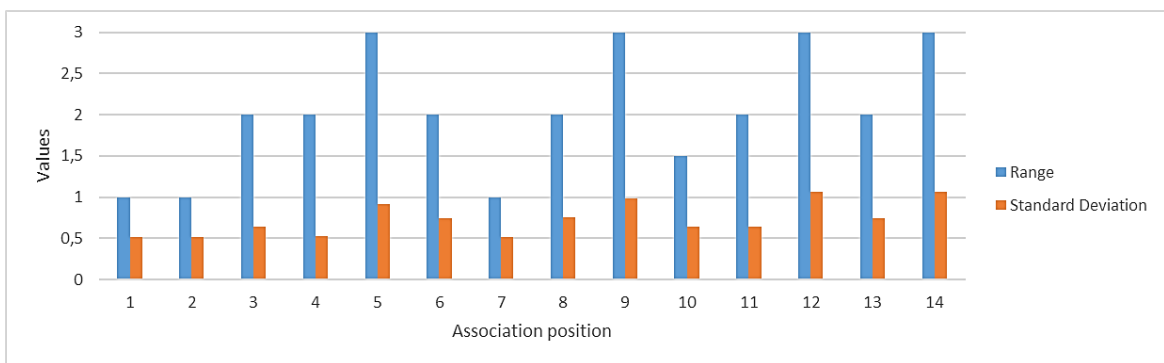
Figure 6.9. Examples of levels of maturity of innomediation capacity



Source: own elaboration

Another relevant aspect is the dispersion measures. According to Figure 6.10 in no case does an association have ratings of its factors in more than three stages of maturity. On the other hand, the average range is 2 stages of difference between the maximum and minimum values assigned to the factors. In addition, it should be noted that three associations have a rank of 1 stage, where two of them are associations with higher level of maturity. The standard deviation of factor assessments demonstrates that for a greater degree of maturity, the dispersion of the valuations among the various factors will be lower. This means that for a higher level of maturity, decisions, initiatives, projects, etc., among the factors tend to be in the same stage of maturity.

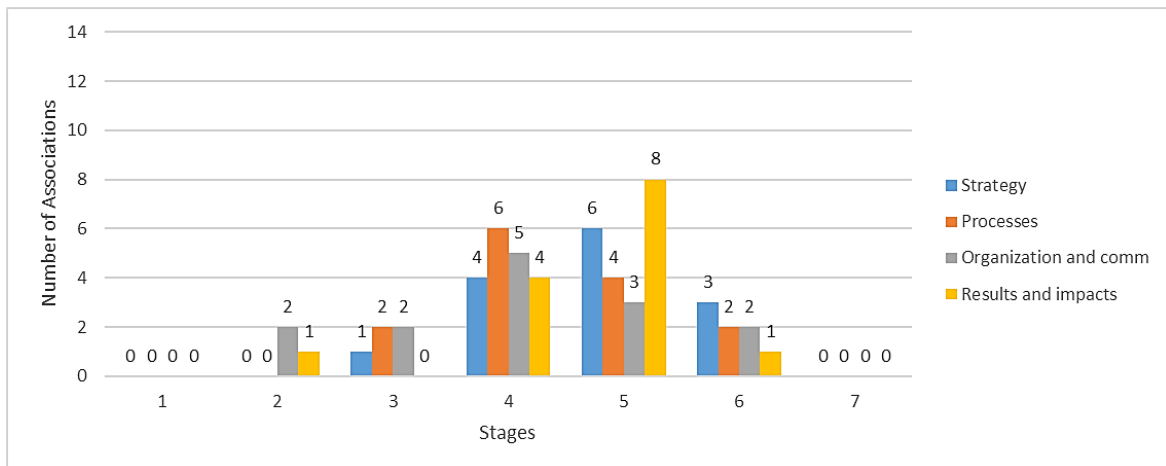
Figure 6.10. Range and standard deviation of the associations sample.



Source: own elaboration

The factors of dimension 2 "organizational conditions for innovation" proved to be slightly more mature than the factors of dimension 3 "innovation and innomediation capacity" (see Figures 6.11 and 6.12 respectively). This is because in dimension 2 most associations are between stages 5 and 6, while in dimension 3, most of them are between stages 4 and 5. Likewise, is logic that an association is better in basic organizational issues than innovation topics, because these latter are more complex.

Figure 6.11. Results of organizational conditions for innovation dimension

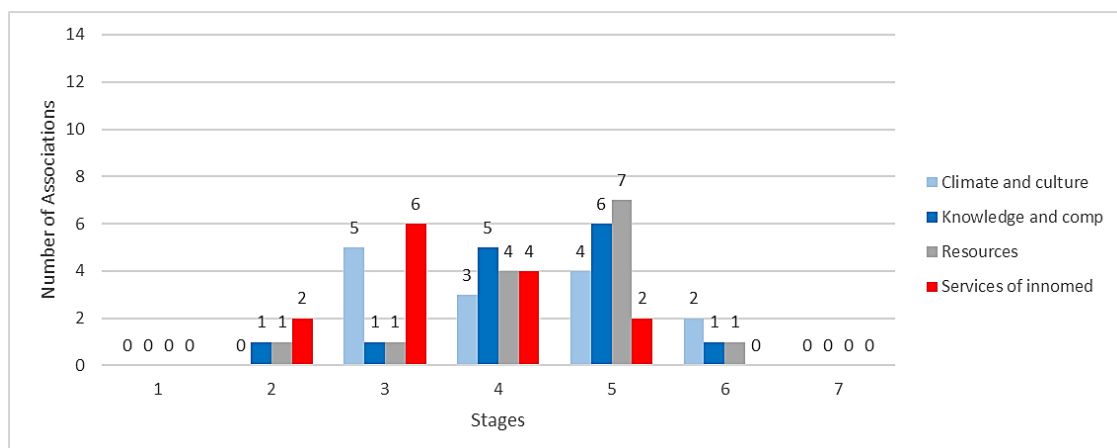


Source: own elaboration

Additionally, in dimension 2 (Figure 6.11) we observed that the "results and impact" factors are the best evaluated, because there is a greater number (higher frequency) of associations evaluated in high stages. After these, there are the "strategy" factors, followed by the "process" factors, and finally the "organization and communication" factors.

In the case of dimension 3 (Figure 6. 12), the highest frequency of valuations in high stages of maturity is found in the factors of "resources", after "knowledge and capacities", followed by the factors of "climate and culture ", and the less mature factors are those of "services of innomediation".

Figure 6.12. Results of innovation and innomediation capacity dimension



Source: own elaboration

6.6. The last level: Business Associations as Communities of Collaborative Innovation

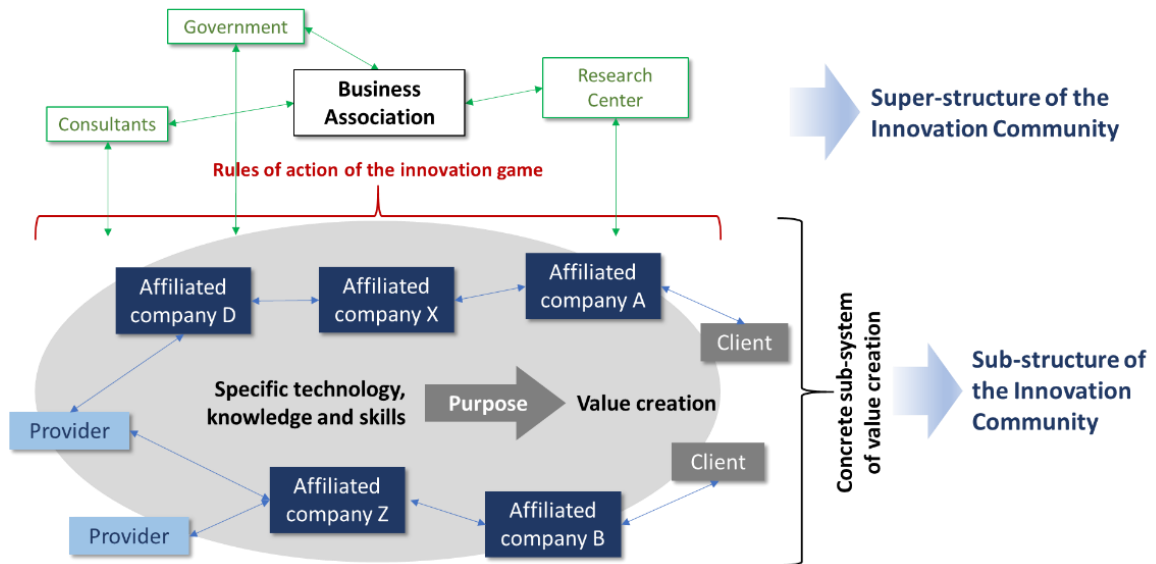
As we explained in Section 6.4, the MMIIC is designed from the perspective of life cycle and therefore, we believe that an association must evolve and achieve a state characterized by a high degree of maturity in its innomediation capacity, which we have called "*Community of Collaborative*

Innovation". Thus, to develop this new concept, we have used our extensive literature review, the knowledge acquired, and the practical experience reached through the last four years in our AR project developed hand to hand with the Navarra's associations.

This proposal goes beyond the concept of BA as an innovation intermediary. Therefore, in order to understand it, it is necessary first to recall the fundamentals, dynamics, and the relationship between the concepts of "games of innovation" (Miller & Floricel, 2007) and "innovation communities" (Lynn et al., 1996) presented in Chapter 1, Sections 1.8.1 and 1.8.2, respectively.

The integration of both concepts is possible thanks to the complementarity of their approaches and their capacity to explain the innovation dynamics of associations as meta-organizations. According to this, and as shown in Figure 6.13, the two levels that make up the innovation community are directly related to the two aspects that interact in an innovation game. Consequently, in the super-structure of the innovation community, where the association is accompanied by government, consultancies, research centers, and universities among others, the rules of action of the innovation game are determined. At the same time, in the sub-structure of the innovation community are the ACs, their suppliers, their customers and other companies, which constitute a concrete and particular subsystem of value creation in a certain innovation game.

Figure 6.13. Articulation of the concepts of games of innovation and innovation communities



Source: Mejia-Villa et al. (2017)

From the vision of the community of innovation, at the center of the community is a certain technology, knowledge and specific capabilities of the group of members from the association, with which this group of companies tries to create and to capture value; as it is argued by the perspective of games of innovation (see Figure 6.13). This means that the innovation communities explain what

the community generates from a relational point of view; while the games of innovation explain the purpose of that technology, from the perspective of the process of innovation.

In addition, from the perspective of innovation communities, the association represents the agent specialized in coordinating information flows and coordinating activities among all members, which is interpreted by the games of innovation as the coordination work that the association exerts on its ACs in function of a certain dominant logic of value creation and under specific practices that generate concrete competitive advantages.

It should be clarified that this dynamic represents a constant interaction between the levels within the association. This implies a parallel growth between the association and its members, a co-evolution of them over time; and finally, a constant race of the entire innovation community for being proactive or reactive to the challenges and changes of the environment.

According to all the above, the new definition that we propose for BAs is the following:

A business association is a kind of innovation intermediary with the potential to be a community of collaborative innovation, which functions through games of innovation that allow to create and capture value for its affiliates and to increase the competitiveness of its sector and region.

This definition begins by identifying the association as a type of innomediary with the potential to become something more, a "community of collaborative innovation", which aims to make that the association understands its role of coordinator of knowledge flows and activities. Likewise, this concept pretends that BA understands that the relation with its ACs more than to be about cooperation, it is about facilitating the collaborative open innovation (remember Chapter 1, Section 1.7.2). For this reason, the association must generate a long-term interaction (structured and unstructured) with its members, based on honesty, trust, and equity; Also, the association must seek shared interests among all members, and achieve constant and unpredictable results of an incremental and radical nature.

On the other hand, the operation of the community of collaborative innovation is inspired by the games of innovation. This is expressed in a plural way because the change and complexity of the environment demand that the association constantly change towards a new game. Therefore, the association and its ACs must feed their knowledge base, generate diverse alliances, adjust their processes, learn new practices, renew their competitive advantages and offer renewed value propositions to their clients, to capture value and increase the competitiveness of the sector and region.

In short, a new definition of BA as the engine of innovation involves linking three key concepts: (1) innovation intermediary, (2) innovation community, and (3) games of innovation. However, the term "community of collaborative innovation" synthesizes and integrates them for the following reasons:

- It represents the higher level of maturity that the association can achieve as an organization that facilitates innovation.
- It is a term that differentiates it from other innomediaries.
- The word "community" refers to a meta-organization, a group of organizations and their particular relationships (based on concrete values) that go beyond the transactional ones.
- Stresses the collaborative nature of the relationship that must exist among members.
- Emphasizes that innovation is the purpose and daily operation of the association.

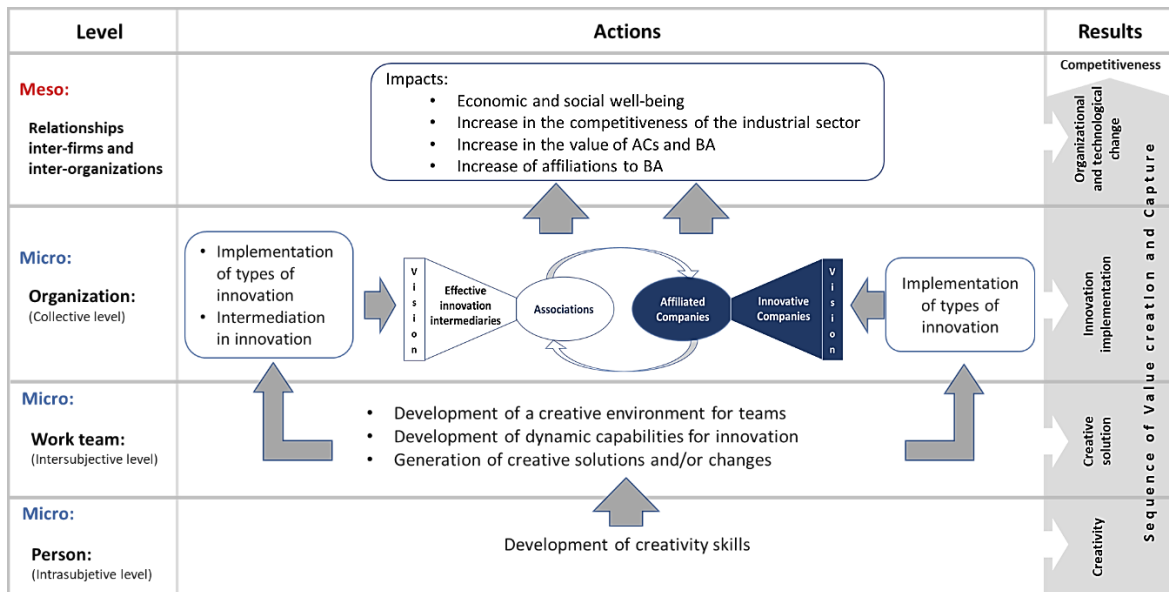
Studying BAs as communities of collaborative innovation requires understanding the interaction between levels of the association, the parallel growth between the association and its members, the co-evolution of both over time and the need for the association to be proactive or reactive to the challenges and changes in the environment.

A multilevel perspective on innovation involves considering the cognitive processes of creativity at the level of people, the creative processes of teams, adoption of innovation at the organizational level, and cooperation and collaboration for open innovation at an inter-organizational level (Mejía-Villa, 2016, Sears & Baba, 2011).

In fulfilling this mission of increasing innovation, BA should be addressed under a multilevel vision (Drazin et al., 1999). In it, it is conceived that the development of abilities and capacities is presented in two levels: micro and meso (Esser et al., 1996). Likewise, the results of the interactive process of creativity and innovation in the company (Rickards, 1996) are developed in a multilevel way (Sears & Baba, 2011), as shown in Figure 6.14. According to Dalziel and Yao (2010), each level entails "inputs", results or "outputs" and immediate, medium- and long-term impacts. Therefore, Figure 6.14 shows how these inputs, outputs, vision, and impacts are developed and reached through those levels.

It is important to add that the results of each of the levels of Figure 6.14 are not presented simultaneously, because each of them is a consequence of the previous level and cause of the next level. Thus, as a result of personal skills, creativity emerges, which in interaction with the members of a team generates creative solutions. If these are adopted or assimilated by the company become organizational innovations that generate technological and organizational changes, which ultimately increase the competitiveness of the sector. As an example of this dynamic, Alfaro et al. (2017) propose the Innomediation Model, a process to develop the intermediation in innovation between the BAs and their ACs.

Figure 6.14. Challenges, dual vision and impact of associations and their affiliate companies



Source: own creation

Understanding the meso level, Marinova and Phillimore (2003) presented three models to explain the innovation of associations: systemic models, evolutionary models, and models of innovative environments (explained in Chapter 1, Section 1.7.3). Although each one tries to explain the innovation under a certain optics, it is possible to integrate them and offer a greater understanding of the innovative dynamics.

Recalling what was presented in Chapter 1, under systemic models, the complexity of innovation requires the interaction between different agents within the organization and between organizations. Its main focus is to understand innovation as a system, which emphasizes interactions, interconnections, and synergies (Marinova & Phillimore, 2003). From another perspective, evolutionary models understand innovation as a dynamic, "living" process that adapts and changes with the environment rather than as a fully synchronized machine (Hodgson, 1993). Finally, the innovative environment models emphasize the importance of geographical location as an explanation of the organizations' innovative processes. The goal is to locate the organizations around the place where the technologies are developed.

In short, a BA drives the innovation of its ACs integrating the three models presented above. For this reason, it uses the resources, skills, and competencies which it has in its geographical context; where it creates a whole system in which its ACs and other facilitating and balancing organizations are articulated; which evolve together in time, taking advantage of opportunities and reacting to their environment.

The multilevel vision represents a challenge for the micro level dynamics since the results of the meso level become the impact sought by the efforts in creativity and innovation of the micro level (see Figure 6.14). Likewise, this perspective changes the traditional conception of the relationship between creativity and innovation, which states that creativity is ahead of innovation. On the contrary, both interact throughout the process as they go in parallel, because creativity is at the level of people and work teams, while innovation is located at the organizational level (Mejia-Villa, 2016).

According to the above and in line with the Innomediation Model (Alfaro et al., 2017), at the level of people, both BAs and ACs must develop affective and thinking skills (Puccio et al., 2011) related to creative problem solving and creative leadership (Puccio et al., 2005). At the level of work teams, those skills must be complemented with those of other members to generate creative solutions or to take advantage of opportunities, through the development of creative processes. With this, at the organizational level, it will be possible to make strategic decisions that allow the implementation or adoption of different types of innovation; which at the meso level will generate true organizational and technological changes in the association, its ACs and the sector in general.

6.7. Conclusions

This third phase of our AR project corroborated that business associations are innovation intermediaries by their own decision. This is seen in the design stages of the MMIIC where it is observed that in the first moment the association concentrates in the satisfaction of immediate needs of the ACs, and later the board and the manager decide to start with the support to the innovation of their companies, that is, to intermediate in innovation.

This shows a clear relationship between strategy and innovation, which translates into a parallel development between strategic decisions and innovation initiatives. Therefore, the maturity of the innomediation capacity of the association is tied to the decisions of the managers of the association. In this sense, as we explained in Section 1.2.2, these managers must develop a management logic of the types, Processes logic or Complex Networks logic, that allows them to integrate both issues so that they can guide their association through the different stages and reach the level of Community of Collaborative Innovation.

In addition, the evolution of an association by the seven stages also requires that the association be aware of its context and its own historical development; also, that it considers its characteristics, those of the sector and its companies. In addition, the managers of the association must understand that in each of the stages there are situations typical of the four levels of an organization: the person, the work teams, the organization and the inter-organizational level. Likewise, it is important to consider that this proposal as a "model" is a simplification of the complex and dynamic reality of the growth of an association. For this reason, we only want to clarify some

"typical" moments that all associations seem to experience. Its purpose is to serve as a guide, and not as a mandatory standard, for the diagnosis and projection of BAs.

We discover that the economic resources are an important factor for the development of the association, which generate three possible interpretations of the process of maturity:

- Under the first interpretation, the association emerges and grows gradually thanks to the fees of its members. Subsequently, in advanced stages this seeks funding through the development of external projects from regional, national or international sources. In this panorama, innovation emerges gradually.
- In the second position, the association also considers the fees as a base. However, in intermediate stages, it discovers that "extra" service charge is a more effective source to leverage innovation than in the previous logic.
- In the third interpretation, the association arises and in parallel to the reception of the fees, but it looks for projects that finance its operation as soon as possible. Under this logic, in many cases, innovation of BAs is driven by the project approach, not by the urgent needs of their ACs.

Finally, during the process of creating the MMIIC, it was interesting to discover the scant mention that the managers made to their boards of directors. In our opinion, this shows difficulties of alignment and communication between the governance and the management of the organization, which need to be solved for an effective transition of the association along the path of maturity.

Chapter:

7. Conclusions and contributions

“Reasoning draws a conclusion, but does not make the conclusion certain, unless the mind discovers it by the path of experience”.

Roger Bacon
Philosopher

The development of this doctoral thesis under the methodology of AR project has allowed the generation of academic conclusions and contributions to nurture the specialized literature about innovation intermediation, strategic management of innovation and the BAs' phenomenon. Likewise, the conclusions at managerial and social level allow offering new concepts, models, tools and practices for managers and board of directors from associations and federations. Besides, these conclusions present useful knowledge to demonstrate and explain the relevance and complexity of the BAs in the social and business ecosystems.

7.1. Academic conclusions and contributions

This thesis presents a theoretical framework that enriches the literature on open innovation and its sub-theme of innovation intermediation, specifically in the case of BAs as a special type of intermediary. To the best of our knowledge, this is the deepest work that has been presented at European level on business associations like innomediaries. In the same line, we think this a value study to understand the current situation of the BAs in Spain, and specially in Navarra.

An important academic contribution of this thesis is related to the integration of the themes of strategy, innovation, and creativity under a multilevel and interactive perspective, which is an example of the cross-fertilization between these three disciplines. This point of view allowed us articulate models from different levels but under the same “organic” epistemologic posture, which function with similar management logics, as well as the “Processes logic” and the “Complex Networks logic” (see Section 1.2.2).

That particular perspective allows us to design the *Multilevel and Interactive Model of Innovation and Creativity (MINC)*, which offers to researchers and managers a particular way of understanding the dynamics of strategy, innovation and creativity in the association and its different levels (see Section 1.4).

Regarding the concept of BA, this research provides an interesting journey through the different definitions and their evolution. Thus, we initially present the association as a union of needs and interests, then become a coordinator of the business activity and facilitator of the information flows, then we show and clarify its role as innovation intermediary, and finally, we propose a new concept of the BA as "Community of Collaborative Innovation".

Another important contribution corresponds to the clarification, textual and graphic, of definitions of various concepts of management and governance of the associations, as well as concepts specific to their innomediation activity, such as the concepts of value proposition, competitive advantage, innomediation functions, dynamic capacities, types of results and impacts, etc. The articulation of absorptive capacity, sensemaking and ambidexterity is a novel proposal that contrast with the generalized use of absorptive capacity to explain the innomediation from the perspective of dynamic capabilities.

On the other hand, this study contributes to the understanding of the problematic of the associations identifying different theoretical sources of confusion and invisibility of their important role in the industry. Also, this research describes different types of innovation intermediaries and identifies and characterizes the associations within those typologies.

The AR project methodology of this study represents another academic contribution by two reasons. First, because we present an extensive literature review about AR and we propose the concept of AR project; and second, because this methodology allowed the development of a joint research project between associations and the university, where both act as innovation intermediaries between them, because they exchange valuable knowledge for the management of the organization, and for academic development. To fulfill this purpose, this thesis used several techniques (quantitative and qualitative) throughout its three phases, in which researchers and practitioners worked hand in hand. Also, the results do not correspond only to academic products (books, chapters, papers, conferences, etc.), but also to concrete solutions for the associations (models, courses, management documents).

7.2. Managerial and social conclusions and contributions

This thesis proposes the following two management models that will allow to the boards of directors and the managers of the associations to develop a management of innovation intermediation much more effective.

- In order to understand and improve the innomediation services that the association offers its members, we design the *Innomediation Model* (see Annex 2), an innovation process that, through various steps and creative tools, helps the association team to work together with the AC team to creatively solve a problem or seize an opportunity. Thus, this is our proposal to

manage the innovation at person, team work and organizational levels in the short and medium term.

- As the role of innomediation is new for the BAs, we created and validated *the Maturity Model of Innovation Capacity for Business Associations (MMIIC)*. This model constitutes a guide for diagnosis, planning and evolution of the association, which represents a sequence of seven stages of maturity that begin in the creation of the association until its maturity as a “Community of Collaborative Innovation”. In contrast to the Innomediation Model, this model is designed to organizational and meso levels, and it is applied by medium and the long-term.

At the managerial and social level, the use of the AR project methodology has allowed us to present and teach to the managers of the associations, the partial and final results of each of the phases of the research. This process has become a continuous training process for a group of Navarra managers, who are professionals in business, economics, engineering, law or communication among others, but do not have specific training in the management of associations (some of them count with studies in cluster management).

All these contributions and their dissemination (e.g., book, papers, conferences, meetings, etc.) aim to give BAs greater visibility as organizations facilitating innovation in the industry. This aims to make BAs visible vis-à-vis other organizations and companies, regional and state governments, and society in general. The impact of this study seeks to increase self-confidence, rigor, formality, strategic and innovative sense in the work teams of the associations.

7.3. Limitations of this research

In some diffusion events of research results, we have been asked, to what extent are the results of this research carried out in Navarre applicable to the situation of associations in other geographical contexts? In our opinion, the results are applicable in other contexts for the following reasons:

1. The use of concepts and studies that come from specialized literature in management, economics, engineering, political science, and communication.
2. The integration of literature from various developed and developing countries in America, Europe, and Asia.
3. The study of Navarre associations that not only carry out operations at a regional level, but also at a national and international level on their own, or through their companies, their specialized centers, their clusters or through the federations to which they belong.
4. The amplitude of the sample, which covers 15 different economic sectors, which include associations of service and production companies; large, medium and small firms; urban and rural companies, and which have technologies at various levels of development.

5. The experience of the managers that participated in the study, who are mostly experts in the "world" of the management of associations, federations, cooperatives or clusters.
6. The dissemination of the results of this research that has received feedback from various experts from different professional and geographical backgrounds.
7. The applicability of the concepts, models, and tools that have been proven by the use of the AR methodology.

However, it is important to clarify that part of the Maturity Model (MMIIC) is designed for the context of the European Union. Thus, as its last stages referring to innovation ecosystems, these contain European initiatives such as European projects and funds, European research networks and the political and social contexts of this continent.

As we have explained throughout the thesis, the dynamic of innovation intermediation of an association involves at least the interaction of it with its ACs. Therefore, at the level of the theoretical framework, this thesis considered both the role of the BA and the role of the AC. However, in the stage of research and joint work with practitioners, we only had contact with the managers of the associations. This was due to the fact that from the beginning, our interest was focused on the study of many associations and not only in a few associations with their multiple companies. We decided to deepen our understanding of the problem of the strategic management of innovation intermediation, rather than to deepen the relationship between the two. We consider that this is a later phase of this line of investigation.

The implementation of the models and tools designed during the research has had some limitations. Thus, the Innomediation Model has not been implemented in any association. However, as this has been designed on the basis of the Creative Problem Solving (CPS) and this is a model with a long academic tradition and with multiple applications in business practice, we do not doubt that it will be useful for the development of innomediation in the associations. On the other hand, the Maturity Model of Innovation Capacity for Business Associations (MMIIC), although it has been validated and was used to diagnose the maturity level of 14 associations, we believe that it is necessary to continue with its application in the phases of planning and future monitoring of the evolution of associations.

7.4. Further research

This doctoral thesis has created a line of research that will have phases after the three developed so far (e.g., see future actions in Figure 4.4). Therefore, we consider that it is important to replicate this study in other geographical areas not only in Spain but also in Europe and Iberoamerica. These investigations would allow comparative studies between regions and associations of the same economic sector. In addition, we believe that in this new phase of this line of research, the vision of ACs of the associations should be involved.

There is a great interest of the investigation team to carry out studies of this type in America and thus to obtain a leadership of these subjects in Latin America, as well as, an effective process of transmission of knowledge and experiences from Spain and Europe. We believe that these studies should be of quantitative type with the use of surveys, and qualitative through case studies of leading associations in their regions and sectors.

To carry out these investigations, currently, we are consolidating a *Network of Experts in Innovation Intermediation* with researchers from Canada, Colombia, Italy, Netherlands, Scotland, Spain and the United States, that we will try to support with a COST project. At the same time, we continue to promote our *Network of Experts in AR Methodology*, because we are convinced that it is the way to consolidate a strong research line leads by organizations and universities. Additionally, it will be necessary to develop projects at European level (e.g., Interreg Sudoce) and Latin America (e.g., CYTED) in order to access the network of key professionals and organizations as well as the necessary funds.

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Glossary

- AC:** Affiliated company
- ACI:** Alianza Cooperativa Internacional
- AR:** Action Research
- BA:** Business Association
- BCPI:** Buffalo Creativity Process Inventory
- CEN:** Confederación de Empresarios de Navarra
- C+I:** Creativity + Innovation
- CIM:** Cyclic Innovation Model
- CIPE:** Center for International Private Enterprises
- COST:** European Cooperation in Science and Technology
- CPA:** Corporate political activity
- CPS:** Creative Problem Solving
- CPS: TSM:** Creative Problem Solving: The Thinking Skills Model
- CSR:** Corporate Social Responsibility
- CYTED:** Programa Iberoamericano de Ciencia y Tecnología para el Desarrollo
- EICEA:** Escuela Internacional de Ciencias Económicas y Administrativas, Universidad de La Sabana
- GRO:** General Research Objective
- GRQ:** General Research Question
- IA:** Industry Association
- ICSC:** International Center for Studies in Creativity
- ICT:** Information and Communication Technologies
- INCOMIN:** Innovación comunicativa en las instituciones, grupo de investigación de la Universidad de Navarra.
- Interreg Sudoe:** Programme of European territorial cooperation.
- KIBS:** Knowledge-Intensive Business Services
- MINC:** Multilevel and Interactive Model of Innovation and Creativity
- MMIIC:** Maturity Model of Innovation Intermediation Capacity for Business Associations
- MO:** Meta-organizations
- NMS:** Non-market strategy
- OCDE:** L'Organisation de Coopération et de Développement Économique
- OI:** Open Innovation
- R&D:** Research and Development
- SCP:** Structure-conduct-performance
- SMEs:** Small and Medium Enterprises
- SMM:** Strategic Management Model
- SRO:** Specific Research Objective

SRQ: Specific Research Question

SUNY: State University of New York

VUCA: Volatility, Uncertainty, Complexity and Ambiguity

WCF: World Chambers Federation

Annexes

Annex 1. Management logics and Strategic management models

Description of Management Logics

The first is the *Productivity logic* has a technical rationality based on scientific management (Taylor, 1914), classical management theory (Fayol, 1916), bureaucratic theory (Weber, 1947) and the first wave of strategy development (Chandler, 1962; Learned et al., 1965; Ansoff, 1965). Therefore, in this logic organizations are considered single-purpose machines based on profit maximization (Ansoff, 1965), mechanisms designed to transform specific inputs on specific products, with a frame of technical rationality (Dijksterhuis et al., 1999). With a rational system, this logic defines management as a process of planning, organizing, directing and controlling the collective activities for the fulfillment of certain organizational objectives that were efficiently determined (Fayol, 1916). The relationship between company and environment is given mechanically from the predictions of market behavior (Rumelt et al., 1994).

The second one is *The Alignment logic* is based on the School of Human Relations (Mayo, 2003). Likewise, it is based on organizational theory (Simon, 1947), contingency theory (Woodward, 1958; Burns & Stalker, 1961), and developments of strategy by Porter (1980, 1981), which had their origins in the contributions of the industrial economy. For this logic, organizations are considered mechanisms with multiple uses; they are designed to achieve predetermined objectives in different environments (Dijksterhuis et al. 1999; Torres & Mejia-Villa, 2006). It defines management as a practice developed by a group of people who use the organization's resources through the processes of coordinating activities of people and resources. These activities are implemented, by the social entity called "organization", to fulfill predetermined goals (Dijksterhuis et al. 1999). Thus, the organization is considered a "social machine" that seeks to adapt and survive in its environment, not because it develops flexible systems, but because of its sophisticated prediction systems for economic behavior and markets (Dijksterhuis et al. 1999).

In third place, *the Processes logic* is proposed by Whittington (1993), who shares many ideas of the Postindustrial logic presented by Dijksterhuis et al. (1999). In this logic, management and organizations are seen as organisms which permanently adapt to changing environmental conditions (Nelson & Winter, 1982; Hannan & Freeman, 1984) because limited rationality precludes the prediction of changes (Simon, 1959; Cyert & March, 1963). It explains why they survive through a process of natural selection (Alchian, 1950; Nelson & Winter, 1982). In this process, organizations learn and define strategies that can be successful or not, but there is intentionality in the innovation process, change and adaptation (Mintzberg & Waters, 1985). Consequently, the innovation is inherent to the management (Keupp et al., 2012). However, innovation has certain rules that adequately reflect the approach of technical-economic paradigms (Dosi, 1982). Thus, companies develop capabilities that turn into sources of sustainable competitive advantage by virtue of their specificity and inimitability (Wernerfelt, 1984).

The fourth logic is called *Complex Networks*, which could be deduced from Herrmann (2005). Its theoretical fundamentals are based upon applications of the science of complexity in management and organizations (Anderson, 1999; Brown & Eisenhardt, 1998; Sull & Eisenhardt, 2015), culture and symbolic management (Weick & Daft, 1983; Choo, 2001), dynamic capabilities of strategy perspective (Teece et al., 1997), narrative perspective (Morgan, 1997; Tsoukas & Hatch, 2001), innovation management (Tidd & Bessant, 2013; Verganti, 2009), creativity and management (Rickards, 1996; Xu & Rickards, 2007) and knowledge management (Basadur & Gelade, 2006). With these foundations, this logic has a substantial and interpretative rationality to understand organizational topics. Organizational reality does not exist in itself but in the interaction between it and the observer (Tsoukas & Hatch, 2001). Furthermore, this interaction is a social construct, product of the relationship between different perceptions and interpretations of organizational life (Chaffee, 1985). Therefore, if today's world is complex and volatile, companies need to recognize these factors as part of their daily dynamic. For all these reasons, Pascale (1999) called these organizations, “complex adaptive systems”; and this logic considers that the organization is aware that it is in a complex, hypercompetitive and very fast-changing environment that it could exploit for its benefit (Eisenhardt, 1989). According to this, strategic management, creativity and innovation become fundamental tools to compete and satisfy the stakeholders of the organization (Rickard, 1996). For this logic, management is a social contract of cooperation (Chaffee, 1985) used to integrate individual knowledge, skills, insights and interpretations which, influenced by strategy metaphors and frames, ensure organizational continuity through processes of adaptation to environmental conditions of uncertain and continuous change (Brown & Eisenhardt, 1998).

Relationship between management logics and strategic management models

According to Mejia-Villa et al. (2016) that *Strategic Planning* and *Design School* models belong to Productivity logic because both models share features respect to their organizational and environmental approach, while their positions regarding management and strategic process are not far apart. For these reasons, in the systematic literature review developed, they were always found to be mixed, because in practice they are complementary models. Their strategic processes are divided into stages associated with formulation and implementation, but concentrates on the first. The manager or planner manager with “unlimited” rationality leads the design of the strategy and assumes the existence of a predictable environment because it is understood as something simple and static. Thus, the strategic process and the organization are conceived as a machine with inputs and outputs.

The second group is composed by *Delta Model*, *BSC and its Strategic Maps*, and *Business Model Canvas* (Figure 1.5) which are concentrated around the Alignment Management logic because their focus is on the coordination and alignment of strategy with organization and management processes (Kaplan & Norton, 2006; Peters & Waterman, 1982). These models require a CEO and management team to design and lead the strategic process, although sometimes they

receive support from external experts. They prioritize communication between people in the organization and manage tangible and intangible resources to offer a special value proposition for their customers. The main goal is to create economic value for company's shareholders by developing a clear process previously designed to respond to the environment, which is considered dynamic and fairly predictable.

The third group is only composed by the *Organic Model* (see Figure 1.5), but it could have more models in the future. Thus, it is characterized by models with closed and open thought about the organization and the environment. These SMMs consider the environment very dynamic, uncertain and unpredictable. In this sense, the organization must always adapt to the environment through a constant feedback and learning process. Likewise, their strategic processes are more agile than Productivity and Alignment SMMs, and the stages of formulation and implementation are more balanced and equal in relevance. They require constant adjustments to adapt the strategy to the environment and remain competitive in the markets. In that sense, the company is reconfigured periodically. In this process, the manager acts as a leader of a team of people involved in strategy formation. As a live organism, both the company and its SMM try to adapt to changes, learn from mistakes and react as quickly as possible. As team leader, the central actor designs the strategies and constantly adjusts them.

Finally, Mejia-Villa et al. (2016) point out that *Model of The Complex Strategy Process* composes the fourth group (Figure 1.5). Thus, these SMMs can be characterized as adaptive networks (Gross & Blasius, 2008) due to their fundamentals: 1) the people in the organization act as nodes, 2) their agreements and relationships are based on simple rules, and 3) they have processes of co-evolution with their environment. These models consider the organization as a complex adaptive system that is interactive, iterative and emergent (Pascale, 1999). Under these SMMs, the organization designs its strategy to seize the opportunities of the environment, which is considered turbulent, hypercompetitive and highly changeable. This strategic process is decentralized, and it is everyone's responsibility in the company. Management is shared, and employees are empowered to decide and self-organize in a context with clear and simple rules that motivate brainstorming to generate creative strategies. At the core of this activity is the ability to work with people who interpret reality in different ways. Therefore, it is possible co-create and make sense of the culture from the singularity of the company (McCracken, 2009). Thus, strategic improvisation emerges from the symbolic knowledge and the symbolic capital accumulated as truly unique resources, hardly imitable and which co-evolve at the same pace as their hypercompetitive environment. For this reason, strategic improvisation is considered the main dynamic capability of the organization. In consequence, knowledge management, sensemaking and the understanding of culture are sources of dynamic capabilities for supporting a company's competitive advantage. Behind this is a managerial perspective that is integrative, interested in environmental co-evolution and focused on building identity and collective meanings.

Annex 2. Innomediation Model

***Innomediation Model* para las Asociaciones Empresariales: Marco conceptual y aplicación práctica**

Capítulo 10 del libro Alfaro, J.A., Mejía-Villa, A., Recalde, M., & Rodríguez-Ferradas, M.I. (2017).
Las asociaciones empresariales como motores de la innovación estratégica en las empresas. EUNSA. Pamplona, España.

En este capítulo se propone a las asociaciones empresariales (AEs) un modelo de intermediación para la innovación frente a sus empresas afiliadas (EAs). Con este modelo se espera que las asociaciones, articulen la creatividad, la innovación y la estrategia a su operación diaria; y con ello, gocen de los frutos de este esfuerzo como son la creación de valor, el cambio organizacional y el incremento de la competitividad de su sector.

Con este propósito en mente, a lo largo de este capítulo se presenta en primera instancia la definición, función, objetivos y principios del *Innomediation Model* de las AEs y posteriormente, se explican las siete etapas que constituyen este proceso organizacional.

10.1. Fundamentos del *Innomediation Model* para las asociaciones empresariales

El *Innomediation Model* para las Asociaciones Empresariales (INMAE) es un proceso que configura la gestión de la intermediación en innovación que una AE ofrece como servicio a sus EAs. Este modelo le permite a la asociación implementar procesos específicos, funciones, prácticas, una propuesta de valor y unos objetivos relacionados con su rol de intermediaria de innovación frente a sus EAs. Además, le permite desarrollar habilidades de pensamiento y afectivas para la creatividad y la innovación en las personas que conforman su equipo de trabajo. Adicionalmente, como las EAs son dueñas de la asociación y beneficiarias de sus servicios, el desarrollo entre ambas organizaciones es conjunto y paralelo. Por ello, todo este aprendizaje, mejoras, conocimiento y cambios a nivel estratégico e innovador, se transfieren constantemente entre las dos para un beneficio mutuo.

Con la implementación del INMAE se buscan los siguientes objetivos, tanto para la asociación que lo implementa como para las EAs que reciben el servicio de intermediación:

- A nivel de las personas que trabajan y colaboran con la AE y/o sus EAs, se pretende desarrollar en ellas habilidades de pensamiento y afectivas para incrementar su potencial creativo.
- A nivel del equipo de trabajo, se busca que por medio del dialogo, la discusión y la aportación conjunta, el equipo se integre, desarrolle una cultura creativa y genere soluciones creativas. El equipo de trabajo podrá estar constituido por miembros de la asociación y/o de las EAs y/o agentes externos (organismos públicos, universidades, consultores, etc.).
- En el nivel organizacional, se espera adoptar dichas soluciones creativas como tipos de innovación concretos para la asociación y/o sus EAs, de tal manera que éstas revitalicen constantemente su(s) propuesta(s) de valor y sus servicios. Con ello se espera que en el corto plazo la asociación y/o sus EAs generen valor, y en el medio plazo, logren un cambio organizacional y tecnológico.
- A nivel meso (inter-organizacional e inter-empresarial), se espera que aquella creación de valor, innovación y cambio organizacional y tecnológico de la asociación, impulse la innovación de las EAs y con ello, se incremente la competitividad del sector empresarial.

Tras toda esta dinámica, los principios que fundamentan el INMAE son los siguientes:


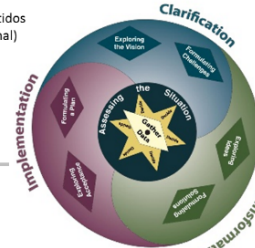
- Busca hacer de la AE una intermediaria de innovación más efectiva frente a sus EAs.
- Cuenta con una perspectiva de interacción multinivel, integradora y flexible.
- Fusiona la creatividad con la innovación.
- Representa un proceso cíclico, iterativo y evolutivo de la creatividad y la innovación.
- Combina una visión cerrada y abierta de la estrategia y la innovación.
- Considera la innovación de manera amplia, por ello está abierto a diversos tipos de innovación tanto incrementales como radicales.
- Enfocado en la persona y el equipo de trabajo (que podría estar conformado por personas de la asociación y/o de las EAs y/o agentes externos).
- Es un proceso que utiliza el pensamiento divergente y convergente en cada uno de sus pasos.
- Desarrolla habilidades de pensamiento y afectivas para diferentes pasos en la solución creativa de problemas en las personas.

- Requiere apertura a la novedad, tolerancia a la ambigüedad y la complejidad a lo largo de todo su proceso.
- Está basado en los procesos de aprendizaje participativo.

El INMAE, como un modelo de creatividad e innovación, integrador y de perspectiva multinivel, se puede visualizar en la Figura 44. Bajo su lógica, la innovación empresarial se fundamenta en la creatividad como habilidad humana, la cual acompaña de principio a fin, todo proceso innovador.

Una de las características de este proceso creativo e innovador es su carácter multinivel (Sears y Baba, 2011; Carayannis y González, 2003; Mejía-Villa, 2016). De acuerdo con esto, tanto a nivel micro (persona, equipo de trabajo y organización), como a nivel meso (inter-empresas e inter-organizaciones), se deben tomar diversas decisiones estratégicas y desarrollar diferentes acciones, las cuales tienen unos objetivos concretos para cada uno de aquellos niveles (ver en Figura 44 los resultados de creatividad, solución creativa, implementación, cambio organizacional y tecnológico, y competitividad). Estos objetivos se reflejan en resultados que alimentan el siguiente nivel (ver flecha ascendente en medio de la Figura 44), de tal forma que todo se inicia con la creatividad de cada persona, la cual se complementa con la de las otras personas del equipo de trabajo para producir soluciones creativas, que posteriormente son implementadas (es decir, adoptadas o asimiladas) como tipos de innovación de las organizaciones (tanto para las AEs como para las EAs), que a su vez generan cambios organizacionales y tecnológicos en éstas. Finalmente, se transforman en incremento de la competitividad del sector empresarial, que se encuentra conformado por la AE, sus EAs y otro tipo de organizaciones. En síntesis, el INMAE es una propuesta de proceso creativo e innovador para que las asociaciones y EAs que lo desarrollen, creen y capturen valor, de tal forma que su sector empresarial incremente su competitividad.

Figura 44. El *Innomediation Model* para las Asociaciones Empresariales

Innomediation Model			
Nivel:	Acciones:	Resultados:	Marco teórico y dinámica multinivel: Drazin et al. (1999); Sears y Baba (2011)
Meso: Relaciones inter-empresa e inter-organizaciones	<ul style="list-style-type: none"> Definición del Juego de Innovación: definición de reglas y subsistema de creación de valor Definición de participantes en la dinámica de competencia y cooperación Vigilancia de la interrelación entre los cambios en la ciencia, la industria, la tecnología y los mercados. 	Competitividad Cambio organizacional y tecnológico	<ul style="list-style-type: none"> Juegos de innovación. Miller y Floricel (2007) Rol de las AEs en los juegos de innovación. Dalziel (2007) Modelos de innovación: Sistémicos, Evolutivos y Milieux. Marinova y Phillimore (2003)
Micro: Organización: (Nivel Colectivo) - Asociación (AE) - Empresa Afiliada (EA)	<ul style="list-style-type: none"> Definición e implementación de la estrategia y la gestión de la innovación abiertas y cerradas Definición propuesta de valor Definición de las fuentes de innovación Definición de los 10 tipos de innovación (Funciones, procesos, relaciones, servicios, financiación y proveedores de intermediación) 	Implementación Implementación	<ul style="list-style-type: none"> Cyclic Innovation Model. Berkhout et al. (2006) Estrategia e innovación cerradas y abiertas. Chesbrough y Appleyard (2007) Intermediarios de Innovación. Howells (2006); Gassmann et al. (2011) Ten types of innovation model. Keeley et al. (2013) Value proposition design. Osterwalder et al. (2014)
Micro: Equipo de trabajo (Nivel Intersubjetivo)	<ul style="list-style-type: none"> Modelos mentales compartidos (conocimiento organizacional) Integración de culturas Aprendizaje compartido Desarrollo de competencias dinámicas para la innomediación Toma de decisiones 	Solución creativa Solución creativa	<ul style="list-style-type: none"> Organizational creativity. Borghini (2005) Gestión del conocimiento y aprendizaje organizacional. Basadur y Gelade (2006) Interacción constante entre creatividad e innovación. Rickards (1996); Mejía-Villa (2016) Capacidades dinámicas para la innomediación: Ambidestreza, Sensemaking y Capacidad de Absorción. Teece (1997); Gassmann (2011); Neill et al. (2007)
Micro: Persona (Nivel Intrasubjetivo)	<ul style="list-style-type: none"> Desarrollo de habilidades afectivas y de pensamiento por etapas del CPS. Aprendizaje individual Liderazgo creativo 	Creatividad Creatividad	<ul style="list-style-type: none"> CPS: Thinking Skills Model. Puccio et al. (2005) Creative Change Model. Puccio et al. (2005) Management logics. Mejía-Villa et al. (2016) Creative leadership. Puccio et al. (2005)

Fuente: creación propia basada en los trabajos citados en la figura.

El Creative Problem Solving: The Thinking Skills Model como fundamento del Innomediation Model

A nivel micro, tanto las personas como sus equipos de trabajo, desarrollan procesos de solución creativa de problemas usando la metodología proporcionada por el *Creative Problem Solving: The Thinking Skills Model – CPS:TSM* (ver Figura 45). En este modelo, ya descrito en el Capítulo 1, se definen siete pasos y una serie de habilidades de pensamiento y afectivas a utilizar en cada uno de ellos (ver Tabla 13). Este proceso permite al equipo de trabajo integrarse, reflexionar y aprender constantemente de sus errores y aciertos, al enfrentar los desafíos planteados en cada momento de la organización. En la siguiente sección se presentarán en detalle estos pasos.

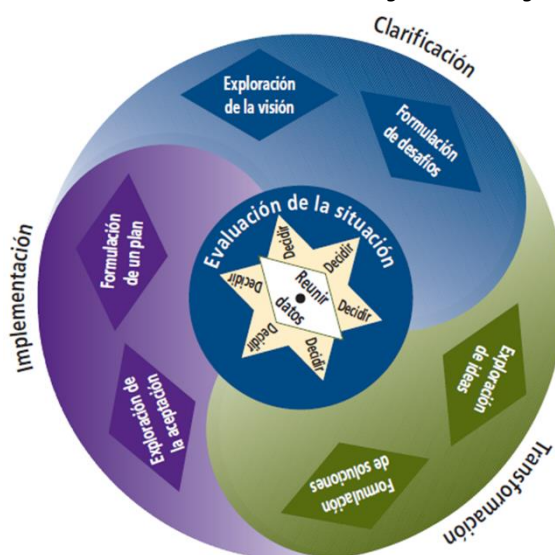
A nivel meso, el INMAE se basa en el aprovechamiento de la diversidad de relaciones competitivas y cooperativas existentes entre la asociación, sus EAs, otras empresas e instituciones públicas y privadas que rodean la dinámica de innovación cerrada y abierta que éstas practican (ver Capítulo 2, sección 2.2). En este sentido, la acción fundamental de este nivel se encuentra en la definición y desarrollo de un cierto juego de innovación por parte de la AE y sus EAs (ver Capítulo 2, sección 2.3).

El INMAE, como modelo que utiliza el *CPS: TSM*, es un proceso creativo basado en la cognición y la afectividad de las personas, que considera los procesos de innovación como abiertos y/o cerrados (ver Capítulo 1). Es un modelo de innovación cerrada cuando involucra sólo al equipo de trabajo de la organización para generar soluciones creativas aplicables al medio empresarial. Igualmente, es un modelo de innovación abierta cuando la innovación no sólo surge del interior de la organización sino también del flujo de conocimiento y la colaboración entre diferentes empresas y organizaciones. Considerando lo anterior, el equipo de investigación desarrolló el INMAE como un modelo de intermediación de la innovación específico para las asociaciones. Con esto, se les reconoce como un tipo particular de intermediario de innovación que interactúa en una dinámica de innovación abierta, tomando decisiones e implementándolas para mejorar los procesos de innovación de sus EAs (ver Capítulo 4, sección 4.3).

10.2 Estructura del *Innomediation Model* para las asociaciones empresariales

Según lo explicado anteriormente, el INMAE sigue la estructura del *CPS: TSM*. Por ello cuenta con tres etapas conceptuales (clarificación, transformación e implementación), seis pasos explícitos del proceso (exploración de la visión, formulación de los desafíos, exploración de las ideas, formulación de soluciones, exploración de la aceptación y formulación de un plan) y un paso adicional (evaluación de la situación) ubicado en el centro del modelo, el cual busca guiar todos los anteriores pasos (ver capítulo 1, sección 1.4). A continuación, en la Figura 45 se presenta el esquema del *CPS: TSM*.

Figura 45. Estructura del *Creative Problem Solving: The Thinking Skills Model*.



Fuente: Puccio et al. (2005)

Y como base de cada uno de los pasos a continuación, en la Tabla 13, se presentan las habilidades de pensamiento y afectivas necesarias para su desarrollo.

Tabla 13. Habilidades de pensamiento y afectivas para el modelo *CPS: TSM*

Pasos Principales		Habilidades de Pensamiento	Habilidades Afectivas
Evaluación de la situación		Pensamiento Diagnóstico	Concienciación
Clarificación	Exploración de la visión	Pensamiento Visionario	Soñar
	Formulación de desafíos	Pensamiento Estratégico	Percibir las brechas
Transformación	Exploración de ideas	Pensamiento de Ideación	Diversión
	Formulación de soluciones	Pensamiento Evaluativo	Evitar juicios apresurados
Implementación	Exploración de la aceptación	Pensamiento Contextual	Sensibilidad al entorno
	Formulación de un plan	Pensamiento Táctico	Tolerancia al riesgo

Fuente: Basado en Puccio et al. (2011)

A continuación, se presenta cada una de las etapas del CPS: TSM, y las decisiones y acciones particulares que lo convierten en el INMAE. Para la comprensión de este proceso, en cada uno de los siete pasos se explicarán los siguientes aspectos:

- Definición del paso, su propósito y características.
- Descripción de las habilidades de pensamiento y afectivas correspondientes para el paso de acuerdo con la Tabla 13.
- Descripción de las herramientas de pensamiento divergente y convergente que se pueden utilizar en el paso.
- Explicación de cómo aplicar este paso a la intermediación en innovación de las AEs.
- Presentación de los resultados concretos que se deben obtener en este paso para mejorar la intermediación en innovación de las AEs.

Paso 1: Evaluación de la situación

Este paso es transversal a todo el proceso creativo e innovador, el cual alimenta cada uno de los otros seis pasos. Al igual que los demás pasos, éste cuenta con una sub-etapa de pensamiento divergente, y otra convergente. Se basa en la recopilación, interpretación y análisis de información cuantitativa y cualitativa por parte del equipo de trabajo para realizar un proceso efectivo de toma de decisiones respecto al problema a afrontar, la oportunidad a aprovechar y el camino a seguir. La información puede provenir de diversas fuentes tales como informes, artículos, observaciones, entrevistas, encuestas, descripciones, así como también, de fuentes basadas en la apreciación subjetiva como son las hipótesis, emociones, sentimiento, opiniones, suposiciones, etc. (Puccio et al. (2011); Puccio et al. (2012).

Habilidades de pensamiento y afectivas para la “Evaluación de la Situación”

De acuerdo con lo presentado en la Tabla 13, cada uno de los pasos del CPS: TSM precisa una habilidad de pensamiento y afectiva particulares, las cuales deben desarrollar las personas implicadas. En el caso de la evaluación de la situación se necesita el “Pensamiento Diagnóstico” definido como: “hacer un examen cuidadoso de la situación, describiendo la naturaleza de un problema, y tomando decisiones acerca de los pasos apropiados a ser tomados”. Con este pensamiento el equipo deberá definir qué debe ser hecho, por qué hacerlo, quién debe hacerlo y cómo debe hacerse. Es necesario que se tome toda la información, se examine la situación, se analicen las opciones, se tome una decisión y se establezcan los pasos que se deben seguir (Puccio et al., 2011, p. 115). Este proceso debe ir acompañado de la habilidad afectiva de la “Concienciación” (en inglés *Mindfulness*) basada en la atención a los pensamientos, sentimientos y sensaciones relativas a la situación presente (Puccio et al., 2011, p. 117).

Herramientas de pensamiento para “Evaluar la Situación”

Para desarrollar el “Pensamiento Diagnóstico”, primero se debe realizar la sub-etapa de pensamiento divergente, por medio de la cual se da una mirada amplia a la situación y se considera información diversa. Para ello, se pueden utilizar las siguientes herramientas propuestas por Puccio et al. (2011, p. 123):

- 5Ws and an H (nombre en inglés basado en las siglas de las palabras *who, what, why, when, where* y *how*): La idea es dar respuesta a las preguntas quién, qué, por qué, cuándo, dónde y cómo respecto a una cierta situación.
- Why/Why Diagram (del inglés Por qué/Diagrama del porqué): El objetivo es responder una serie de preguntas del porqué de la situación (por ejemplo, ¿por qué se da esta situación?, ¿por qué es un problema?, ¿por qué es una oportunidad?, ¿por qué es importante?, etc.).

Posteriormente, a la sub-etapa divergente en la cual seguramente se obtuvo mucha información y se generaron muchas respuestas a las anteriores preguntas, se requiere la sub-etapa del pensamiento convergente para completar el proceso de “Pensamiento Diagnóstico”. A través de ella se podrá determinar la información relevante, la más pertinente. Para ello se aconsejan dos herramientas, también propuestas por Puccio et al. (2011):

- Hits (mayor impacto): Cada persona del equipo debe señalar la información que cree es más relevante y posteriormente, se debe realizar una discusión de grupo que permita definir la información clave.
- Highlighting (destacando): Se señala la información más importante al igual que en la anterior herramienta, luego el equipo genera varios grupos o categorías (*clusters*) con la información señalada, y finalmente le da un nombre a cada grupo de tal forma que éste indique lo que aquella categoría tiene en común.

Modelos y herramientas complementarios para Evaluar la Situación

Dado que el objetivo es la búsqueda, análisis y síntesis de información estratégica para la organización, desde las áreas de la dirección estratégica y la innovación estratégica se proponen diversos modelos y herramientas que permiten buscar, recopilar y sintetizar información externa e interna a la organización de una forma esquemática y organizada (ver Anexo 4).

Estos modelos y herramientas estratégicos arrojan muchísima información sobre el entorno y la organización como se desea en la sub-etapa divergente, por ello se necesita que de manera concreta respondan las siguientes preguntas y así se complete el ciclo con la sub-etapa de convergencia.

- Los modelos y herramientas enfocados en el análisis del entorno (macro-entorno, industria, sector, oferta y demanda del mercado) deben responder a la pregunta ¿cuál es la posición competitiva de la organización?, lo que, por ejemplo, implica tener claridad de su rol dentro de su industria, sector o *cluster*. Por ejemplo, identificar si la organización tiene un rol transaccional y/o de facilitación, balanceador o facilitador, competidor o complemento (ver capítulo 2). Es necesario que la organización determine cuál es su poder de negociación en su entorno. Incluso debe tener claridad sobre cuál es su mercado (¡lo cual a veces no es tan claro!).
- Por otra parte, los modelos y herramientas focalizados en el análisis interno deben responder a la pregunta ¿cuál es la capacidad estratégica de la organización?, lo que implica que la organización tenga claridad sobre las preguntas: ¿cuál es su propuesta de valor?, ¿qué define la ventaja competitiva de la organización?, ¿Qué recursos y capacidades soportan aquella ventaja competitiva?

Muchas organizaciones tienen un planteamiento estratégico que cuenta con estas respuestas, así que se aconseja revisar los documentos respectivos como pueden ser: el plan estratégico, los estatutos, los reglamentos o informes de gestión. Posteriormente, se podrá decir, si requieren un ajuste o un replanteamiento general.

Aplicación del paso 1 “Evaluación de la Situación” a la intermediación en innovación de las AEs

Adicional a la evaluación general de la situación, a la posición estratégica y la capacidad estratégica de la organización, se debe evaluar el rol de intermediación de la innovación de la asociación. Para hacer esto, ella debe realizar una valoración respecto a los siguientes temas:

- Presencia de la innovación dentro de los planes estratégicos de la asociación (ver Capítulos 1 y 2).
- Necesidades de innovación de las AEs.
- Servicios de intermediación de innovación y/o servicios de innovación ofrecidos por la asociación (ver Capítulo 3).
- Proceso de intermediación de la innovación ofrecido por la asociación a sus EAs (ver Capítulo 3, sección 3.3).
- Capacidades y recursos de la asociación para la prestación de servicios de innovación (ver Capítulo 3, sección 3.5).
- Procesos de aprendizaje del personal y fuentes de conocimiento de la asociación.
- Tipo de relaciones de la asociación con los actuales y potenciales proveedores de innovación (ver Capítulo 3).
- Otros proveedores e intermediarios de innovación de las EAs (ver Capítulo 3, sección 3.2).
- Procesos, proyectos y resultados concretos de innovación en las EAs (ver Capítulo 1, sección 1.7 y Capítulo 3, sección 3.6).

En este punto, los capítulos 7, 8 y 9 de este libro ofrecen un ejemplo concreto de valoración de los anteriores temas en asociaciones navarras. En el anexo 1 se encuentra la encuesta utilizada para el estudio, la cual puede servir como herramienta de diagnóstico de la realidad de la intermediación en innovación de cualquier AE.

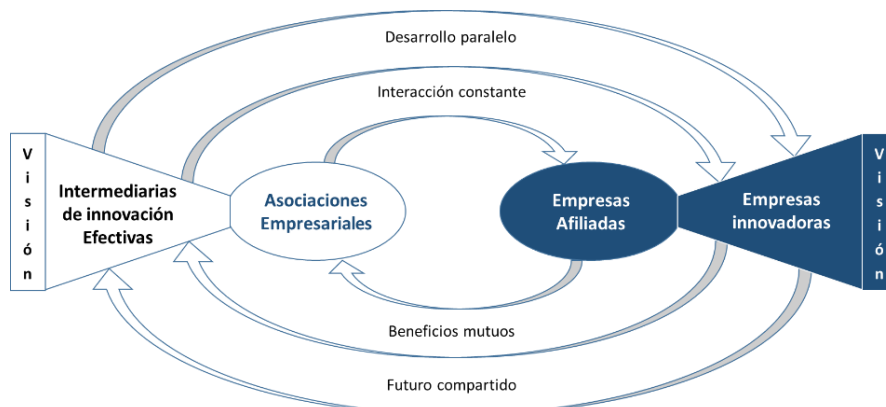
Resultado esperado de la “Evaluación de la Situación”

El resultado de este paso debe ser la presentación de los aspectos positivos y negativos de la situación externa e interna de la organización en cuanto a la intermediación en innovación de la AE y sus EAs. Sin embargo, se debe ser flexible en esta clasificación puesto que hay asuntos que pueden ser al mismo tiempo positivos y negativos, internos y externos. En cuanto a lo externo, es importante determinar si estos aspectos son amenazas u oportunidades para la AE y sus EAs, así como también es importante determinar cómo esta realidad afecta la posición estratégica de la AE. Por otro lado, en cuanto a los asuntos internos, lo importante es determinar la capacidad estratégica con la cual cuenta la asociación y sus miembros para la intermediación en innovación.

Paso 2: Exploración de la visión

La “Exploración de la Visión” es el primer paso de la etapa conceptual de la “Clarificación” y se encuentra de forma previa a la “Formulación de Desafíos”, porque están estrechamente relacionadas (ver Figura 45). En el primero se identificará la gran imagen de a dónde se desea ir y en el segundo, los obstáculos que deberán ser sorteados para llegar exitosamente a ese lugar (Puccio et al., 2011). En este paso el equipo de trabajo identifica una visión del futuro: un objetivo o deseo que se relaciona con la actual situación y representa el estado futuro decidido, es decir, el resultado que el equipo quiere crear (Puccio et al., 2012). De manera general, en este segundo paso del CPS: TSM, el INMAE propone una visión dual general, consistente en EAs mucho más innovadoras y AEs como intermediarias de innovación efectivas para sus afiliados (ver Figura 46).

Figura 46. Visión dual del *Innomediation Model* de las AEs



Fuente: Creación propia.

Como se explicó en el Capítulo 4 y se observa en la Figura 46, la razón de ser de la asociación es el desarrollo de sus afiliados; por tal razón si la visión general es que las empresas sean cada vez más innovadoras, la visión de la asociación no podrá ser otra que la de apoyarlas, lo cual le implicará ser su intermediaria de innovación “natural”, y además deberá prestarles este servicio de manera efectiva.

Habilidades de pensamiento y afectivas para la “Exploración de la Visión”

En este paso los miembros del equipo deben utilizar el “Pensamiento Visionario” que consiste en desarrollar una imagen muy clara de lo que se desea crear, ya sea a partir de una necesidad o una oportunidad (Puccio et al., 2011). Para ello deben utilizar la habilidad afectiva de “Soñar” para poder imaginar como posibles los deseos y esperanzas que se tienen (ver Tabla 13). Bennis y Nanus (1985) describieron los beneficios de contar con una visión: “Cuando una organización tiene un claro sentido de su propósito, dirección y estado futuro deseado, y cuando esta imagen es ampliamente compartida, los individuos son capaces de descubrir sus propios roles en la organización y en la gran sociedad de la cual son una parte. Esto empodera a las personas y les da carácter, porque ellos pueden verse a sí mismos como parte de una empresa que vale la pena. Ellos adquieren un sentido de importancia, a medida que son transformados de robots ciegos que siguen instrucciones, a seres humanos comprometidos en una aventura creativa y con un propósito. Las personas en un equipo sin una visión, están probablemente desarticulados y frustrados (p.91)”.

Herramientas de pensamiento para “Explorar la Visión”

En primera instancia, se requiere desarrollar la sub-etapa del pensamiento divergente para considerar diferentes posibilidades de escenarios futuros antes de elegir uno de ellos. Para tal efecto existen diversas herramientas para ello, como son:

- **Ilusiones** (en inglés *Wishful Thinking*): En esta técnica se debe generar un listado de posibles resultados futuros. Por un lado, se generan expresiones del tipo “Sería genial si ...” para futuros positivos, y expresiones del tipo “Sería terrible si ...” para futuros negativos. Con ambos, se pueden explorar imágenes futuras positivas y negativas que se pueden contrastar (Puccio et al., 2011).
- **Storyboarding** (guión gráfico): Es una técnica visual diseñada para desarrollar la visión de un estado deseado y para identificar posibles obstáculos que se necesita superar a fin de alcanzar la meta. Para ello se crea un panel con seis recuadros, en el primero se dibuja la situación actual y en el sexto la situación futura deseada. Posteriormente, se dibuja en los cuatro recuadros restantes los pasos necesarios para que la situación actual se transforme en la deseada (Forsha, 1995).

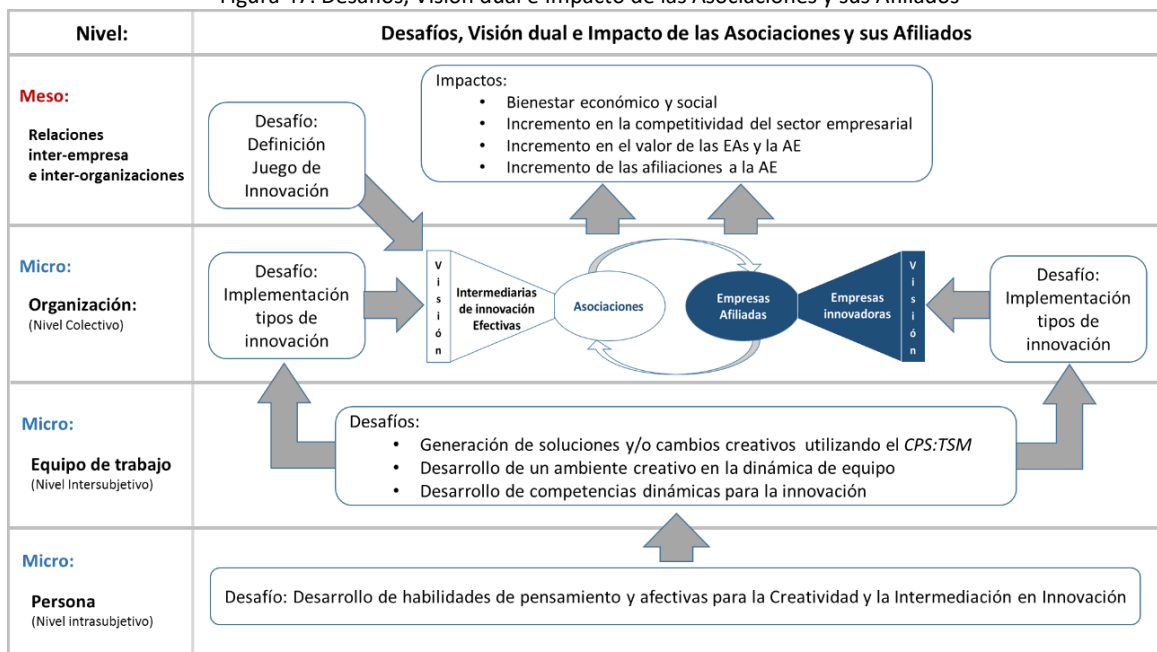
Con lo anterior se generan diversos escenarios o visiones futuras, que necesitan del pensamiento convergente para definir una sola de esas visiones. Las herramientas a utilizar en esta sub-etapa son:

- La herramienta **Highlighting** (destacando) explicada en el paso anterior.
- **Zonas de Éxito** (Treffinger, 1992). Ésta consiste en evaluar todas las opciones frente al grado de importancia y la probabilidad de éxito, luego se hace un gráfico con estas dos variables y se ubican allí las visiones, con ello se pueden identificar las que valen la pena.

Aplicación del paso 2 “Exploración de la Visión” a la intermediación en innovación de las AEs

Recordando que el INMAE es un modelo que presenta un proceso de creatividad e innovación para las asociaciones, es vital comprender que la visión de las AEs es dual como se mostró anteriormente en la Figura 46. Adicionalmente, se debe recordar que esa visión conlleva unos “inputs” (entradas o causas), unos resultados o “outputs” y unos impactos inmediatos, de medio y largo plazo como se explicó en el capítulo 3 sección 3.6 por medio del “Modelo de lógica general de los propósitos de los intermediarios de innovación”. Esto se traduce en la necesidad de diferenciar todas estas definiciones para no perder el rumbo. De acuerdo con el INMAE y su Figura 44, estos *inputs*, *outputs*, visión e impactos, se desarrollan y alcanzan a través de los niveles micro (persona, equipo y organización) y meso, como se observa en la Figura 47.

Figura 47. Desafíos, Visión dual e Impacto de las Asociaciones y sus Afiliados



Fuente: Creación propia.

Como síntesis, de la Figura 47 se puede extraer que la visión general sería lograr EAs cada vez más innovadoras, por medio de AEs que les apoyen como intermediarias de innovación efectivas. El impacto posterior de este esfuerzo será el incremento de la competitividad en el sector. Para que todo esto se dé, se requerirá sortear desafíos a nivel de personas, equipos de trabajo y organizaciones tal como lo muestra la figura.

Resultado esperado de la “Exploración de la Visión”

Ahora, con el objeto de generar una visión clara y motivadora para el equipo de trabajo, la visión podría expresarse en términos como:

- Deseáramos que la asociación fuera la intermediaria de innovación preferida por nuestros afiliados.
- Deseáramos que la asociación fuera una intermediaria de innovación efectiva para sus afiliados.
- Desearía que las empresas pertenecientes a la asociación fueran altamente innovadoras.
- Desearía que las EAs creen y capturen un mayor valor a través de la innovación

Como paso final, se debe tomar la visión definida y expresarla de forma clara y en positivo. Posteriormente se evalúan estas opciones utilizando la herramienta de las “4 I’s” (Isaksen y Treffinger, 1985), preguntándose por:

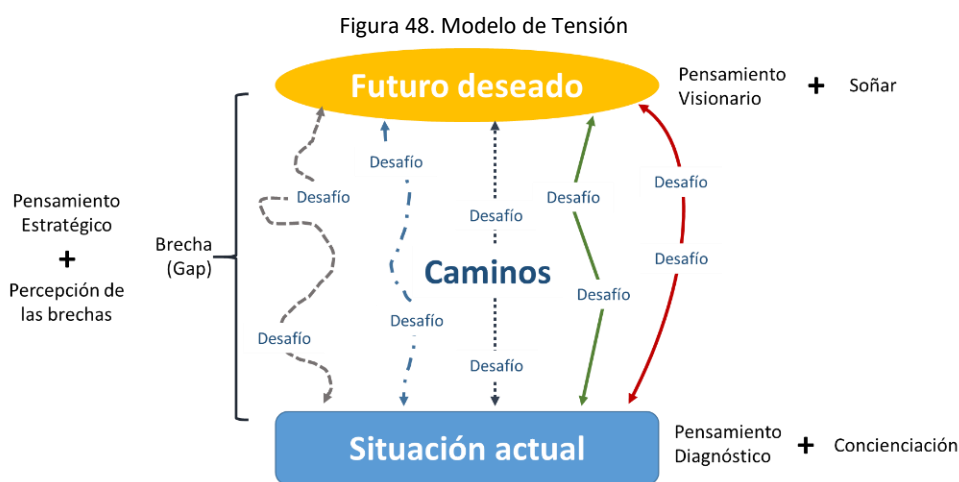
- La influencia: ¿Están ustedes en posición de impactar o cambiar la situación?, ¿tienen ustedes la autoridad o potencial para implementar una solución?, ¿Es esta su responsabilidad?
- El interés: ¿Es este un problema importante?, ¿realmente el equipo quiere solucionar este problema?
- La imaginación: ¿El problema u oportunidad necesita pensamiento creativo?, ¿el equipo reconoce que se necesitan nuevos pensamientos o aproximaciones para afrontar esta situación?
- La urgencia (*immediacy*): ¿La situación requiere atención inmediata?

Paso 3: Formulación de desafíos

En la formulación de los desafíos se exploran los obstáculos que existen entre la situación actual y la visión del futuro deseado. Por tal razón, en este punto se busca identificar las brechas existentes entre ambos y se define como cerrarlas, con el fin de alcanzar los resultados esperados. Generalmente, estos desafíos se concentran en los “cómo” lograr aquella visión, en todo aquello que se debe superar para alcanzarla (Puccio et al., 2011).

Habilidades de pensamiento y afectivas para la “Formulación de los Desafíos”

Para la definición de los desafíos se requieren una habilidad de pensamiento y una habilidad afectiva útiles para la concreción y el enfoque, por ello se utiliza el “Pensamiento Estratégico” que consiste en la identificación de los asuntos críticos que deben ser abordados y las vías necesarias para avanzar hacia el futuro deseado, así como la habilidad afectiva de la “Percepción de las Brechas” para tomar conciencia de las discrepancias entre lo que actualmente existe y lo que se desea o se requiere. En este proceso el equipo de trabajo debe considerar muchas posibilidades, caminos o puentes entre la realidad y la visión futura antes de decidir cuál es la vía más conveniente (Puccio et al., 2011). La anterior dinámica puede comprenderse mejor por medio de la Figura 48 que presenta el denominado Modelo de Tensión (Puccio et al., 2011). Con este gráfico es posible sintetizar la idea básica tras los tres primeros pasos del CPS: TSM.



Fuente: creación propia basada en Puccio et al. (2011)

Desde el punto de vista de la Dirección Estratégica, en la “situación actual” se ubicaría la definición de la posición estratégica y la capacidad estratégica de la organización (ver paso 1), mientras en el “futuro deseado” se encontraría su visión, y los “caminos” corresponderían a posibles estrategias corporativas, competitivas, cooperativas y funcionales a seguir (ver Capítulo 1).

Herramientas de pensamiento para la “Definición de Desafíos”

Aunque cada paso del CPS:TSM cuenta con etapas de pensamiento divergente y convergente en este paso, en especial, existe un enfoque hacia la divergencia. A continuación, se presentan varias herramientas divergentes especializadas en la generación de perspectivas alternativas sobre el alcance y la dirección de los desafíos (Foursight, 2006).

- **Enunciando los desafíos como preguntas:** En primera instancia hay que enunciar las quejas o problemas en preguntas positivas, como lo muestran los ejemplos de la Tabla 14.

Tabla 14. Transformación de los desafíos en preguntas

En lugar de ...	Preguntémosnos ...
No tenemos recursos para la innovación	¿Cómo podemos financiar la innovación?
Tenemos una caída en las ventas	¿Cómo podemos impulsar las ventas en el siguiente trimestre?
Somos poco creativos e innovadores	¿Cómo podemos ser más creativos e innovadores?
No sabemos cómo innovar	¿Podríamos ser innovadores con el conocimiento que manejamos?
	¿Quién podría enseñarnos o asesorarnos para innovar?
	¿Cómo podríamos aprender a innovar?
No somos competitivos	¿De qué manera podríamos ser más competitivos?

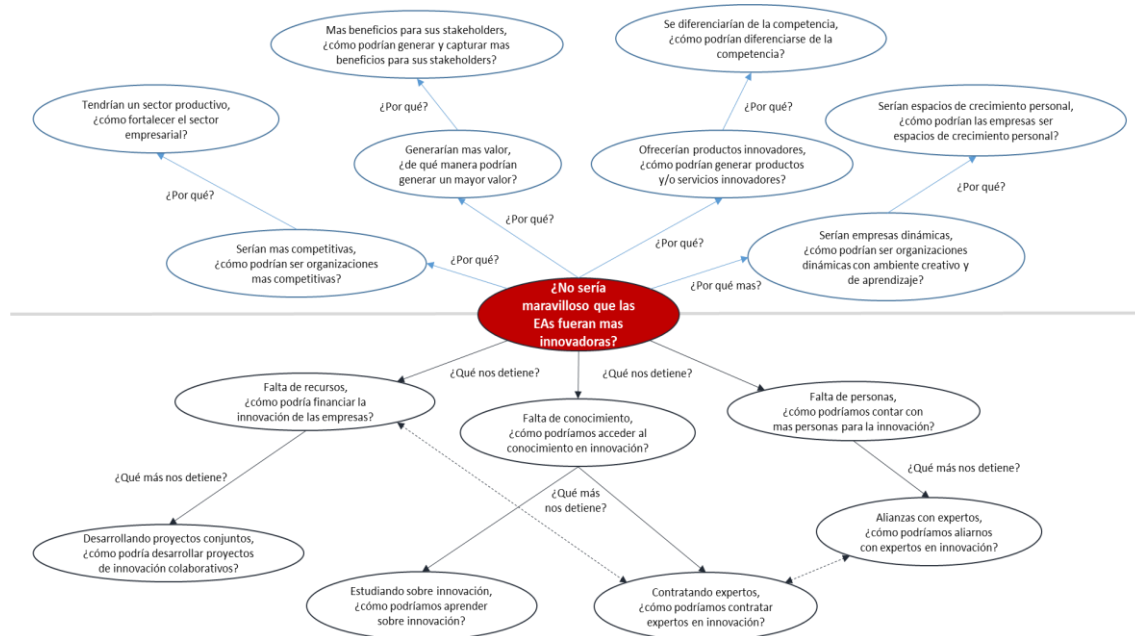
Fuente: Creación propia a partir de Foursight (2006)

La idea es plantear preguntas que comiencen con frases como “¿cómo ...?”, “¿cómo podría ...?”, “¿en qué formas podría ...?”, “¿cuáles podrían ser todas las ...?”. Como segundo paso se propone transformar los desafíos en preguntas que tengan el siguiente formato: inicio de la pregunta + sujeto + acción + objetivo. Por ejemplo:

- ¿De qué manera podríamos + nosotros + incrementar + los proyectos de innovación?,
- ¿Cuáles podrían ser todas las + formas en que podríamos + identificar + las fuentes de inversión?,
- ¿Cómo podríamos + nosotros + impulsar + la funcionalidad de nuestro producto?

- **La Escalera de Abstracción:** Esta herramienta se basa en el uso de las preguntas “¿por qué?” y “¿qué te detiene?”. Para tal efecto se generará un diagrama de burbujas en el cual se ubica el desafío en el centro, expresado como pregunta. Luego el equipo trabaja de forma ascendente para descubrir las prioridades, objetivos y estrategias a seguir; y trabaja de forma descendente para identificar tácticas, tareas y cosas por hacer. Sin embargo, aunque las respuestas son afirmaciones, se deben reformular como una pregunta. Por ejemplo, de forma ascendente se inicia respondiendo a la pregunta ¿por qué se quiere resolver el desafío?; y de manera descendente se inicia preguntándose ¿qué nos detiene para resolver el desafío? La Figura 49 presenta un ejemplo de esta herramienta diseñada por el equipo de investigadores para tener claridad sobre el tema de la intermediación en innovación de una asociación.

Figura 49. Ejemplo de Escalera de Abstracción



Fuente: Creación propia a partir de *Foursight* (2006).

Posteriormente, en el pensamiento convergente, el equipo debe seleccionar aquellos desafíos que considere más pertinentes, realistas y alcanzables.

Aplicación del paso 3 “Formulación de Desafíos” a la intermediación en innovación de las AEs y resultados esperados

Los desafíos respecto a la intermediación en innovación ofrecida por la asociación a sus EAs, están enfocados en la necesidad de hacer de ellas organizaciones innovadoras (como se observó en las Figuras 46, 47 y 49). Por tal razón, la asociación debe definir desafíos respecto a su juego de innovación, sus servicios de intermediación, su rol como proveedora y/o intermediaria de innovación, sus capacidades de intermediación, ciertos tipos de relaciones con los proveedores de soluciones y las EAs, su proceso de intermediación y unos resultados de innovación esperados, entre otros. Para ello, se recomienda utilizar preguntas como los ejemplos de la Tabla 15.

Con esta decisión, el equipo se encontrará listo para avanzar a la siguiente fase del proceso: la etapa de “Transformación”, que se compone de los pasos de “Exploración de Ideas” y “Formulación de Soluciones” (ver Figura 45).

Tabla 15. Desafíos asociados a la intermediación en innovación de las asociaciones

Desafío	Resultado esperado	Referencias
¿Cuál debería ser el juego de innovación desarrollado por la asociación y sus EAs?	Definición clara de un juego de innovación para la AE y sus EAs.	Capítulo 2, sección 2.3 y Capítulo 4, sección 4.7
¿Qué servicios de intermediación debería ofrecer la asociación a sus afiliados?	Selección de alguno(s) de los 11 servicios de intermediación.	Capítulo 3, sección 3.4
En la prestación de dichos servicios, ¿cómo debería actuar la asociación, cómo intermediaria y/o cómo proveedora?	Definición del rol (proveedora o intermediaria) en cada servicio definido.	Capítulos 3 y 4
¿Cuáles son las capacidades de intermediación que debería desarrollar la asociación?	Determinar cómo se van a desarrollar dichas capacidades.	Capítulo 3, sección 3.5
¿Cómo deberían ser las relaciones de la asociación con los proveedores de soluciones y con las EAs?	Determinar el tipo de relaciones que entablará la AE con los demás agentes del nivel meso.	Capítulos 3 y 4
¿Cómo debería ser el proceso de intermediación de la innovación a implementar en la asociación?	Implementar un proceso con unos pasos claros para la prestación del servicio de intermediación en innovación.	Capítulo 3, sección 3.3
¿Cuáles deberían ser los resultados de innovación de las EAs?	Definición de alguno(s) de los 10 tipos de innovación a desarrollar	Capítulo 1, sección 1.7

Fuente: Creación propia

Paso 4: Exploración de ideas

El objetivo de la etapa conceptual de la “Transformación” es buscar soluciones para el problema o lograr cambios creativos para aprovechar la oportunidad definida anteriormente. Para ello, el primer paso es la “Exploración de las Ideas” que consiste en la generación de una variedad de ideas originales y novedosas para abordar los desafíos establecidos. En este punto es importante tener claro que tan sólo son ideas tentativas, ¡no soluciones!, por eso la naturaleza de este paso es exploratoria y de mentalidad abierta a las opciones (Puccio et al., 2011).

Habilidades de pensamiento y afectivas para la “Exploración de Ideas”

Para este paso los miembros del equipo de trabajo deben utilizar el “Pensamiento de Ideación” con el propósito de producir opciones, imágenes mentales y pensamientos que respondan a los desafíos importantes. En este paso es clave promover en el equipo el juego con ideas, la exploración de oportunidades y la consideración de alternativas, recordando siempre que tan sólo son ideas, no decisiones. La habilidad afectiva que acompaña este tipo de pensamiento es la “Diversión” (*playfulness* en inglés). Esta funciona como una habilidad perfecta para la divergencia, por generar comportamientos y ambientes aptos para la imaginación y la mentalidad flexible, los cuales son propicios para la libre generación de ideas y pensamientos innovadores (Puccio et al., 2011).

Herramientas de pensamiento para la “Exploración de Ideas”

En la sub-etapa de divergencia, el objetivo está en la generación de tantas ideas como sea posible. Para este fin, a continuación, se presentan varias herramientas que pueden ser útiles (Foursight, 2006):

- **Brainstorming con Post-it** (lluvia de ideas con *Post-it*): Una vez conformado el equipo de trabajo, se determina el problema a explorar y se explica su contexto. Luego se entrega a cada participante un bloque de *Post-it* para que escriba en ellos ideas para solucionar el problema dado. Cada vez que una persona tenga una idea, la escribe y la lee en voz alta y la pega en la pizarra. Es importante lograr el mayor número de ideas posibles en un tiempo determinado (por ejemplo 5 minutos). Posteriormente, se deben agrupar las ideas, combinar y construir nuevas ideas, y tratar de revitalizar las ideas aburridas. Se debe aplazar el juicio.
- **Conexiones forzadas**: Se aplica cuando las ideas están agotadas. Para ello se elige un objeto o imagen (naturaleza, gente, alimentos o máquinas, por ejemplo) que no tenga ninguna conexión con el desafío. Luego de reflexionar sobre aquel objeto o imagen, se escriben al menos 5 atributos, cualidades, características o sentimientos que se asocien con el objeto. Después con base en aquellos atributos, los integrantes del equipo tratan de responder a la pregunta ¿Qué ideas se te ocurren para resolver este desafío? Entonces para cada atributo se hace una lista de ideas descabelladas e ilógicas. Luego se revisan éstas, se piensan de nuevo y se articulan para generar ideas valiosas.
- **SCAMPER**: Con esta herramienta se pretende observar el desafío desde diferentes puntos de vista y así obtener nuevas ideas. Para ello se debe pensar en las siguientes características del desafío:

- **Sustituye:** ¿Qué o a quién puedes sustituir?, ¿qué procesos pueden utilizarse en vez de esto?
- **Combina:** ¿Qué elementos o partes pueden combinarse o mezclarse?, ¿cómo se pueden combinar propósitos, aplicaciones o materiales?
- **Adapta:** ¿Qué otra cosa se asemeja a esto?, ¿el pasado ofrece una situación similar?, ¿cómo podemos encontrar algo análogo y adaptarlo?
- **Modifica:** ¿Qué puedes agregar o aumentar?, ¿cómo puedes cambiar el significado, el color, la forma, el sonido o la frecuencia?, ¿qué se puede sustraer, reducir o agilizar?
- **Ponle otros usos:** ¿Para qué otra cosa puede utilizarse?, ¿qué otros mercados podrían estar interesados?
- **Elimina:** ¿Qué puedes eliminar u omitir?, ¿de qué puedes prescindir?
- **Reordena:** ¿Qué puede pasar si reacomodas o inviertes los patrones o las presunciones?, ¿qué puedes intercambiar, transponer o reconectar?

La segunda sub-etapa está constituida por el pensamiento convergente, en el cual el equipo de trabajo debe seleccionar, elegir, ajustar, fusionar estas ideas de acuerdo a lo que consideren la mejor forma de enfrentar los desafíos. Para esto se puede utilizar las herramientas *Hits* y *Highlighting* presentadas en el paso 1.

Aplicación del paso 4 “Exploración de ideas” a la intermediación en innovación de las AEs y resultados esperados

Utilizando los desafíos determinados en el paso anterior (como los ejemplificados en la Tabla 15), el equipo de trabajo deberá desarrollar diversidad de ideas para afrontarlos. Un buen comienzo podría ser la revisión de los desafíos de la Tabla 15 y sus resultados esperados. Otro consejo, sería repasar los capítulos anteriores de acuerdo con las referencias sugeridas en aquella Tabla 15, puesto que allí se podría encontrar inspiración para lograr diversidad de ideas.

Según lo anterior, si se toma por ejemplo el segundo desafío planteado en la Tabla 15 “¿Qué servicios de intermediación debería ofrecer la asociación a sus afiliados?”, un posible camino para obtener ideas sería el siguiente:

1. Revisar los 11 tipos de funciones de intermediación presentados en el capítulo 3, sección 3.4 y definir los más atractivos y que se consideran posibles.
2. Luego, si se eligió, por ejemplo, “apoyo a la comercialización internacional de las EAs”, se deberán explorar ideas para la prestación de ese servicio de manera innovadora.
3. La exploración podría hacerse usando la herramienta *Brainstorming*, *Conexiones Forzadas* o *SCAMPER*.
4. Todas aquellas ideas resultantes serían la “materia prima” para el paso siguiente de “Formulación de Soluciones”.

Paso 5: Formulación de soluciones

Como segunda parte de la fase de “Transformación”, la “Formulación de Soluciones” permite pasar de ideas a soluciones, en el caso de problemas; y de ideas a cambios creativos para el caso de aprovechamiento de oportunidades. Este es el paso intermedio entre la generación de ideas y la implementación de soluciones. Al cursarlo, el equipo logra evaluar de manera justa y deliberada las debilidades presentes en las ideas y puede fortalecerlas, desarrollarlas, elaborarlas y/o evaluarlas para convertirlas en soluciones efectivas. De acuerdo con esto, una solución es una idea elaborada que ha sido examinada y fortalecida para lograr el mejor ajuste posible con el contexto propuesto donde se va a utilizar (Puccio et al., 2011, p.193).

Habilidades de pensamiento y afectivas para la “Formulación de Soluciones”

La habilidad de pensamiento en esta etapa corresponde al “Pensamiento Evaluativo” (ver Tabla 13), en el que se considera la sensatez y calidad de las ideas para desarrollar soluciones viables (Puccio et al., 2011). A través de esta habilidad, el equipo de trabajo puede tener un balance claro entre la novedad y utilidad de las ideas y soluciones, y permite que estas últimas puedan convertirse posteriormente en un plan. Por otro lado, la habilidad afectiva que le acompaña es la de “Evitar los Juicios Apresurados” que consiste en resistir la tentación de presionar para obtener una decisión rápida. El objetivo en este punto es dar una opción a la nueva idea antes de rechazarla por su novedad, el propósito es evaluarla y decidir si vale o no la pena.

Herramientas de pensamiento para la “Formulación de Soluciones”

En general, el paso de la formulación de soluciones se encuentra focalizado en el pensamiento convergente más que en el divergente. Particularmente en este paso, las herramientas tienden a combinar ambos procesos. A continuación, se proponen algunas de ellas, desarrolladas por *Foursight* (2006):

- **POPS:** Consiste en tomar las nuevas ideas y buscar:
 - **Puntos positivos:** ¿Cuáles son los beneficios o los aspectos positivos?
 - **Oportunidades:** ¿Cuáles son los aspectos exclusivos, los puntos positivos futuros?

- Preocupaciones: Se formula cualquier preocupación, limitación, aspecto negativo o desventaja como una pregunta abierta del tipo “¿cómo...?” o “¿cómo podría...?”.
- Superación de preocupaciones: Generación de ideas para abordar estas preocupaciones.
- **Matriz de evaluación:** Esta herramienta sirve para reducir las opciones y construir consenso entre el equipo de trabajo. Se generan criterios de evaluación para las diferentes ideas. A continuación, se realiza una matriz con estos criterios como columnas y las diversas ideas como filas. Posteriormente, se da una calificación cualitativa a cada idea en cada criterio, de tal forma que al final se obtengan las ideas mejor evaluadas.

Aplicación del paso 5 “Formulación de soluciones” a la intermediación en innovación de las AEs y resultados esperados

Al igual que en el paso anterior, esta parte toma como punto de partida los desafíos planteados (por ejemplo, los de la Tabla 15) y las múltiples ideas para solucionarlos. Por tanto, la situación en este momento es definir cuales ideas serán consideradas como soluciones. Es importante aclarar que en este punto también podrán surgir, fusionarse, ajustarse o combinarse las ideas.

Entonces, si por ejemplo se tomó el tercer desafío de la Tabla 15: “En la prestación de dichos servicios, ¿cómo debería actuar la asociación, cómo intermediaria y/o cómo proveedora?” y se definieron diversas ideas vía *Brainstormings*, la decisión aquí sería la de identificar cuáles de esas ideas serían las más convenientes para convertirse en soluciones. Para ello, a continuación, se muestra en la Tabla 16 un ejemplo de la herramienta “Matriz de Evaluación”.

Tabla 16. Matriz de Evaluación para definir el rol de la Asociación

Desafío: En la prestación de dichos servicios, ¿cómo debería actuar la asociación, cómo intermediaria y/o cómo proveedora?						
Ideas	Incremento de la innovación en los afiliados	Coste para los afiliados	Retornos económicos para la AE	Coste para la AE	Incremento del conocimiento en innovación en la asociación	Desarrollo de las habilidades creativas en la asociación
La AE como proveedora directa del servicio	Bueno	Bajo	Intermedio	Intermedio	Intermedio	Alto
La AE como contratista del solucionador	Alto	Alto	Bajo	Bajo	Bajo	Bajo
La AE como parte del equipo de solución	Alto	Intermedio	Bajo	Intermedio	Alto	Intermedio

Fuente: Creación propia a partir de *Foursight* (2006)

Esta tabla se construye con el equipo y su criterio. Posteriormente se revisan las valoraciones críticas, en este caso las calificaciones “bajo” con el objetivo de buscar cambios en la idea y así obtener mayores puntajes. Finalmente, se determinan las mejores opciones y estas se convierten en las “soluciones o cambios creativos”.

Paso 6: Exploración de la aceptación

Con este paso se llega a la última etapa conceptual: la “Implementación”. Como se muestra en la Figura 45, ésta se divide en dos etapas, la “Exploración de la Aceptación” y la “Formulación de un Plan”. El objetivo de la “Exploración de la Aceptación” es tomar una pausa para reflexionar sobre la probabilidad de aceptación que tendrá la implementación de la solución o cambio creativo. En este paso, se logra revisar de forma anticipada el contexto (el entorno) para tener una idea de los factores que soportarán o detendrán la implementación de la solución como serán las personas, los recursos, las condiciones, etc. (Puccio et al., 2011).

Habilidades de pensamiento para la “Exploración de la Aceptación”

El “Pensamiento Contextual” es la habilidad propia de este paso (ver Tabla 13). Con él se busca el entendimiento de las condiciones y circunstancias relacionadas entre sí, que soportarían o dificultarían el éxito de la implementación de las soluciones. La idea es que los equipos de trabajo anticipen las reacciones a favor y en contra, frente a las soluciones creativas que se desean implementar, porque de ello dependerá la asimilación o adopción de ese cambio creativo (por ejemplo, un nuevo concepto, proceso, producto, servicio, etc.). En este punto será vital que las soluciones estén alineadas con los objetivos organizacionales y su visión, que la solución se adopte “suavemente” sin chocar con la cultura organizacional, deberá contar con los recursos necesarios para la implementación y el soporte de un grupo de personas que sean conscientes del potencial de la solución. Por todo ello, este tipo de pensamiento debe estar acompañado de la habilidad afectiva de la “Sensibilidad al Entorno” entendida como el grado en el cual las personas son conscientes de su entorno físico y psicológico (ver Tabla 13). A través de todo esto, el líder y su equipo de trabajo reconocen que no están trabajando en el vacío, sino que el trabajo de definición de soluciones creativas necesita un contexto propicio para su

implementación, o de lo contrario, todo el esfuerzo habrá sido en vano. Como se observa, en este punto es especialmente importante apoyarse en el paso 1 de “Evaluación de la Situación” con el fin de tener mucha información útil para prever los pros y contras para la implementación.

Herramientas de pensamiento para “Explorar la Aceptación”

La fase de pensamiento divergente en este punto, tiene como objetivo lanzar una amplia red que permita identificar tantos factores como sea posible, para que éstos puedan ser tomados en cuenta en la construcción del plan para la implementación. Las siguientes son herramientas de pensamiento aplicables a este punto propuestas por *Foursight* (2006):

- **Ayudas y Resistencias:** La idea es anticipar el contexto en el cual se aplicará la solución. Para ello el equipo de trabajo debe hacerse las siguientes preguntas:
 - ¿Cuáles son todos los factores (personas, cosas, lugares, razones, acciones, tiempo) que pueden ayudar en tu solución?
 - ¿Qué factores pueden ofrecer resistencia a tu solución?
 - ¿Cómo podrías obtener la aceptación o elevar el entusiasmo?
 - ¿Qué podría ayudar a garantizar el éxito?
 - ¿Qué factores pueden “hacer desaparecer” tu solución?

Posteriormente, el equipo divide una hoja en dos columnas: Ayudas y Resistencias. Seguidamente, escribe en la columna “Ayudas” una lista de todas las personas y cosas que ayudarán a garantizar el éxito de la implementación de la solución; y en la columna “Resistencias” escribe las personas o cosas que pueden entorpecer la implementación exitosa de la solución.

- **Análisis de los Interesados** (Análisis de *Stakeholders* o de grupos de interés): Esta herramienta permite influir positivamente en las personas que tienen mayor responsabilidad sobre la solución. Lo primero es identificar a los interesados por medio de preguntas como las siguientes:
 - ¿Quién tiene algún interés en el plan y en los resultados de éste?
 - ¿Quién debería participar para lograr el éxito?
 - ¿De quién podría provenir la resistencia hacia el plan?
 - ¿Quién influye en las opiniones acerca de éstas preocupaciones?
 - ¿Quiénes son fuentes de reacción o descontento?
 - ¿Quién tiene un papel claro en la situación (es decir, clientes, asesores, gerentes, etc.)?

Posteriormente, se genera una lista de los principales interesados (personas o grupos) y luego, se hace un diagrama como el que se muestra en la Tabla 17.

La etapa de pensamiento convergente de este paso permite focalizarse en aquellos factores que serían cruciales para avanzar en la implementación de la solución. Con el uso de la herramienta *Hits* y *Highlighting* (ver paso 1) el equipo podría disminuir el número de factores o concentrarlos en una serie de grupos de factores críticos.

Aplicación del paso 6 “Exploración de la Aceptación” a la intermediación de la innovación de las AEs y resultados esperados

En este punto, la relación de desarrollo paralelo entre la asociación y sus EAs exige tener en cuenta los responsables de ambas organizaciones. Adicionalmente, se requerirá en muchos casos contar con el apoyo de otros agentes, ya sean del sector privado o público. Por tal razón, no se debe pasar por alto sus intereses en la solución o cambio creativo que se esté implementando. Con esto claro, es vital preparar documentos o presentaciones ágiles que expliquen muy bien las propuestas. Así también, es necesario crear los espacios de divulgación de éstas, y los diálogos pertinentes para lograr no sólo el compromiso y aprobaciones requeridas, sino también, la valiosa retroalimentación que aquellos actores puedan ofrecer al equipo de trabajo. Estas prácticas generarán el “ambiente creativo” propicio para que se desarrolle el proceso innovador (recordar los cuatro factores claves para la creatividad y la innovación: personas, proceso, producto y ambiente. Consultar Capítulo 1, sección 1.3).

Tabla 17. Ejemplo de diagrama de Análisis de los Interesados

Objetivo: Lanzar un nuevo servicio de asesoría y búsqueda de financiación para iniciativas innovadoras de las EAs							
Interesado	Oposición ferviente	Oposición moderada	Neutral	Apoyo Moderado	Apoyo Fuerte	¿Qué es importante para ellos?	Acciones para obtener su apoyo
Gerente EA			X	→	O	Financiación efectiva, no promesas	Mostrar la viabilidad y seriedad de las ofertas
Director financiero EA			X	→	O	Resultados netos	Demostrar retornos suficientes para pagar financiación
Inversionista X de la EA		X		→	O	Empresa sólida, poco endeudada	Demostrar beneficios de la innovación y la financiación
Presidente AE				X	→	Prestación de servicios efectivos a las EAs	Demostrar beneficios de la apertura de este nuevo servicio
Gerente AE					X	Incrementar los servicios de intermediación para la innovación	Mostrar resultados efectivos sobre este nuevo servicio
Coordinador de innovación de la AE				X	→	Contar con las fuentes de financiación y acceso real a los fondos	Consecución de contactos y proveedores de soluciones expertos en el tema
<p>X = ¿Dónde están ellos ahora? O = ¿Dónde deberían estar? EA = Empresa Afiliada AE = Asociación Empresarial</p>							

Fuente: Creación propia basada en *Foursight* (2006)

Paso 7: Formulación de un plan

En este paso se pretende culminar el proceso creativo por medio del desarrollo de un plan de implementación. Por esta razón, el paso responde a la pregunta ¿qué necesitamos hacer ahora para que esto sea realidad? Es decir, luego de los anteriores seis pasos del *CPS: TSM* el equipo cuenta con una solución para un problema concreto o una propuesta de cambio para aprovechar una oportunidad, la cual ha sido evaluada, refinada y comprobada con otros, y ya está lista para pasar a su implementación. El propósito de este paso es ayudar al equipo en la búsqueda de todas las posibles acciones que permitan implementar de manera exitosa la solución o cambio, identificar los elementos claves y la secuencia lógica que deberían tener para lograr que la implementación ocurra efectivamente (Puccio et al., 2011).

Habilidades de pensamiento para la “Formulación de un Plan”

Para la formulación de un plan se hace necesario que el líder y su equipo desarrollen el “Pensamiento Táctico” (ver Tabla 13). Este consiste en la elaboración de un plan específico con pasos medibles para la obtención de un fin deseado y el seguimiento de su efectividad. El resultado concreto del “Pensamiento Táctico” es que la solución sea implementada, que cada una de las acciones se desarrollen sin inconvenientes y que los proyectos sean efectivamente completados en el tiempo y presupuesto establecidos (Puccio et al, 2011). La habilidad afectiva que soporta este pensamiento es la “Tolerancia al Riesgo” (ver Tabla 13), concebida como la capacidad de no sentirse afectado o nervioso por la posibilidad del fracaso o de los contratiempos.

Herramientas de pensamiento para la “Formulación de un Plan”

Las siguientes herramientas se enfocan en la definición de aquellas cosas que el equipo necesita para llevar a cabo la solución o el cambio. Las siguientes son herramientas propuestas por Puccio et al. (2011) y *Foursight* (2006) para la sub-etapa de pensamiento divergente:

- **Generación de pasos para la acción:** Esta herramienta se utiliza en la definición de los pasos necesarios para implementar la solución o el cambio (Isaksen et al., 1994; Isaksen y Treffinger, 1985). Los pasos a seguir son los siguientes:
 1. Describir la solución o el cambio planteado utilizando frases del tipo “nosotros estamos comprometidos con ...”
 2. Luego, el equipo debe preguntarse ¿Qué tenemos que hacer para poner en práctica la solución (o el cambio)? Y generar una lista de pasos para la acción.
 3. Posteriormente, se puede utilizar la herramienta *Brainstorming* (ver paso 4) para explorar un mayor número de pasos para la acción, así como pueden hacerse la pregunta ¿Qué más tenemos que hacer para implementar la solución (o el cambio)?

4. Continuar hasta que se considere que se han pensado todas las acciones posibles a realizar.
- Diagrama del Cómo-Cómo: Esta herramienta es más específica y estructurada que la anterior (Higgins, 1994; Majaro, 1991). Este procedimiento anima al equipo a identificar primero los pasos generales para la acción, y luego desglosar acciones y actividades concretas. Los pasos son los siguientes:
 1. Identificar la solución o propuesta de cambio.
 2. Luego se pregunta “¿Cómo?” y se registran las respuestas como si fueran pasos a seguir para implementar la solución o propuesta de cambio.
 3. Después, se pregunta nuevamente “¿Cómo?” para cada uno de esos pasos y se registran las respuestas también como pasos para lograr cada una de las respuestas obtenidas en el punto anterior.
 4. De la misma forma se continúa hasta que se obtengan pasos suficientes y concretos para que la implementación de la solución pueda ser clara.

Para la segunda sub-etapa correspondiente al pensamiento convergente, *Foursight* (2006) propone algunas herramientas dentro de las que se encuentran:

- El plan de acción: Tomando el listado de pasos para la acción que surgieron de las anteriores herramientas, ahora se puede asignar a cada uno una persona responsable y una fecha límite. Para ello se podría usar una tabla que presente claramente la asignación de tareas.
- Tablero de Desempeño: El objetivo de esta herramienta es el desarrollo de una serie de indicadores que permitan monitorear el avance de la implementación de la solución o cambio creativo. El *Balanced Scorecard* es una completa metodología que puede ser utilizada en vez de esta herramienta (consultar Kaplan y Norton, 1997).

Adicionalmente, herramientas como los Mapas Estratégicos (Kaplan y Norton, 2004), los diagramas de Gantt, los diagramas de Flujo, los cronogramas y los presupuestos son ejemplos de técnicas utilizadas para organizar la ejecución de estas soluciones o cambios.

Aplicación del paso 7 “Formulación de un Plan” a la intermediación en innovación de las AEs y los resultados esperados

Este paso final, requiere que la asociación como intermediaria de innovación lidere los procesos de innovación entre sus EAs. Para ello, debe contar no solo con las presentaciones, informes, planes, diagramas y presupuestos, sino también con la “gerencia” de los proyectos de innovación. Estos requieren liderazgo creativo, es decir, motivación, impulso, decisión y empoderamiento de las personas implicadas. Es vital, que la asociación obtenga resultados tangibles de innovación en sus EAs, pues con ello logrará la consolidación como su intermediaria de innovación.

Annex 3. Survey for business associations

CUESTIONARIO A RESPONDER POR EL GERENTE DE LA ASOCIACIÓN

1. DATOS GENERALES DE LA ASOCIACIÓN

Los siguientes son datos relacionados con la identidad y actividad de la asociación.

Nombre de la Asociación: _____

Siglas: _____

Año de fundación: _____

1. ¿La Asociación se encuentra afiliada a alguna entidad? Sí ___ No ___

2. Si la anterior respuesta fue positiva por favor responda:

¿De qué tipo es esta entidad? Regional _____ Nacional ___ ___ Internacional _____

3. Número de empleados: _____ Número de empresas afiliadas: _____

A continuación, se presentan diferentes fuentes de ingresos de la Asociación, por favor asigne números entre 0 y 100 entre las opciones, de tal forma que la suma total de estos valores corresponda a 100. En otras palabras, asigne un porcentaje a cada fuente dentro del total de ingresos de la Asociación (el valor no tiene por qué ser exacto, sino una aproximación).

Cuotas de afiliación y sostenimiento	
Prestación de servicios	
Ventas de productos	
Subvenciones directas de organismos públicos	
Proyectos de convocatorias públicas y privadas	
Otros: _____	
Total ingresos =	100

4. ¿Qué tipos de herramientas de comunicación utiliza para relacionarse con sus empresas afiliadas? (señale con una X las que correspondan).

Reuniones periódicas		Reuniones esporádicas	
Medios virtuales: web, redes sociales, blogs, foros		Eventos organizados	
Boletines internos		Encuestas o grupos de discusión	

Otras herramientas

2. SERVICIOS OFRECIDOS POR LA ASOCIACIÓN

¿Cuáles de los siguientes servicios son ofrecidos por su Asociación? (señale con una X las que correspondan)

1	Representación a nivel sectorial	
3	Servicios de asesoría	
4	Servicio de certificación	
5	Desarrollo de actividades orientadas a mejorar la capacidad innovadora de sus empresas afiliadas (intermediario de innovación)	
6	Organización de proyectos que integran diferentes actores	
7	Realización de cursos de formación	
8	Desarrollo de propuestas jurídicas	
9	Representación de la imagen del sector en los medios de comunicación	
10	Realización de compras y contratos diversos para el conjunto de los asociados	
11	Búsqueda de recursos para financiación de actividades de las empresas afiliadas	
12	Organización y realización de eventos	
13	Colaboración para la búsqueda de financiación de proyectos	
14	Contratación de expertos externos para la solución de problemas de los asociados	
15	Realización de misiones comerciales nacionales e internacionales	
16	Promoción del sector en distintos foros	

Otros

3. RELACIÓN ENTRE LA ESTRATEGIA Y LA OFERTA DE SERVICIOS DE INNOVACION DE LA ASOCIACIÓN.

En este punto se pretende encontrar la cercanía entre el planteamiento estratégico de la Asociación y los servicios de intermediación en innovación que presta a sus afiliados. Marque una X para cada afirmación.

Existe en la Asociación	Si	No
1. una misión definida		
2. un plan estratégico definido		
Desde el punto de vista estratégico de la Asociación ...	Si	No
3. se habla de innovar a nivel interno en la Asociación para mejorar como organización		
4. se plantea que la asociación debe innovar para mejorar el sector y sus empresas		
5. se plantea que la Asociación debe prestar servicios de ayuda, apoyo, soporte y asesoría a las iniciativas de innovación de las empresas afiliadas		
6. existen proyectos concretos de innovación para las empresas afiliadas		
7. existe presupuesto asignado a temas de investigación, desarrollo y/o innovación		
8. existe un modelo de gestión de la innovación establecido dentro de la Asociación para manejar estos temas?		

4. RECURSOS, CAPACIDADES Y COMPETENCIAS CENTRALES DE LA ASOCIACIÓN COMO INTERMEDIARIA DE INNOVACION.

La intención en este apartado es identificar los recursos, capacidades y competencias presentes en la Asociación para desempeñar su función como intermediaria de innovación.

1. ¿Dentro de la Asociación, existen expertos en innovación? Sí ___ No ___ Por favor mencione sus cargos: _____

2. ¿La Asociación cuenta con recursos tangibles claves para impulsar la innovación de sus empresas afiliadas? Por ejemplo: equipamiento, software, simuladores, laboratorios, talleres, edificios, etc. Sí ___ No ___

En caso positivo, ¿Cuáles?

3. ¿La Asociación cuenta con unidades de innovación propias o de propiedad parcial? Por ejemplo: Centros de investigación, unidades o departamento de consultoría, Centros tecnológicos, Centros de desarrollo, etc. Sí ___ No ___

En caso positivo, ¿cuáles?

4. ¿Con cuál de las siguientes organizaciones se relaciona la Asociación para apoyar las iniciativas y proyectos de innovación de sus empresas afiliadas? Por favor marque con una X las opciones que correspondan.

1. Empresas de consultoría o consultores independientes	
2. Centros tecnológicos y de investigación	
3. Universidades	
4. Cámaras de comercio	
5. Asociaciones y otras organizaciones empresariales a las que pertenezcan o estén afiliadas	
6. Clusters a los que pertenezcan y colaboren	
7. Organizaciones de certificación y evaluación	
8. Agencias y organizaciones públicas de apoyo a la innovación (regionales, nacionales y europeas)	
9. Centros de apoyo al emprendimiento y desarrollo empresarial	
10. Otro: _____	
11. Otro: _____	
12. Otro: _____	

5. A continuación, se pretende identificar la existencia y desarrollo de las capacidades de intermediación en innovación en la Asociación. Por favor marque una X para la opción más adecuada para cada una de las capacidades.

En la Asociación, esta capacidad ...				
no existe	Apenas está desarrollada	está poco desarrollada	está bastante desarrollada	está muy desarrollada, incluso nos identifica.
1	2	3	4	5

Capacidades para la intermediación en innovación	1	2	3	4	5
Capacidad de abstracción:					
1. Capacidad de diagnosticar la situación del sector y sus empresas					
2. Capacidad para interpretar y comprender las necesidades de los proveedores y clientes relacionados con el sector.					
3. Capacidad para identificar las necesidades técnicas y tecnológicas de las empresas afiliadas.					
4. Capacidad para identificar las necesidades administrativas, comerciales y de talento humano presentes en las empresas afiliadas.					
Capacidad analógica:					
5. Capacidad para buscar soluciones a los problemas identificados en las empresas afiliadas, dentro de la asociación o el mismo sector.					
6. Capacidad para buscar soluciones a los problemas identificados en las empresas afiliadas, por fuera de la asociación u otros sectores.					
7. Capacidad para la búsqueda y contratación de expertos que brinden solución a los problemas de las empresas afiliadas.					
Capacidad de adaptación:					
8. Capacidad para plantear, liderar y dirigir proyectos de innovación en las empresas afiliadas.					
9. Capacidad para asesorar y acompañar la implementación de proyectos de innovación en las empresas afiliadas.					
10. Capacidad para adaptar en las empresas afiliadas soluciones observadas en otras industrias, sectores y/o empresas.					
11. Capacidad para desarrollar alianzas o contratos con expertos en implementación de soluciones a los problemas de innovación de las empresas afiliadas.					

5. FUNCIONES DE INTERMEDIACIÓN DE LA INNOVACIÓN

Las siguientes son actividades de las empresas afiliadas, en las cuales la Asociación posiblemente las ha apoyado o no. Por favor indique con una X la mejor opción para cada actividad.

¿Con qué frecuencia apoya a la mayoría de sus empresas afiliadas en ésta actividad?				
Nunca	Pocas veces	A veces	Generalmente	Muchas veces
1	2	3	4	5

Actividades de las empresas afiliadas a la Asociación	1	2	3	4	5
Previsión y Diagnóstico:					
Definición de una dirección estratégica general para la empresa					
1. Realización de diagnósticos de la situación interna y externa de la empresa					
2. Previsión de cambios en el entorno político, económico, sociocultural, tecnológico, ecológico y legal a nivel nacional y/o internacional					
Búsqueda y procesamiento de la información					
3. Realización de informes (verbales y/o escritos) de análisis sobre la situación interna de la empresa					
4. Realización de informes (verbales y/o escritos) que sintetizen el contexto de la empresa (realidad, oportunidades y amenazas, por ejemplo).					
Procesamiento, generación y combinación del conocimiento:					
5. Aprovechamiento de la información, análisis y estudios de diagnóstico y pronóstico, (internos y/o externos) para apoyar la toma de decisiones administrativas (finanzas, mercadeo, logística, gestión humana, informática, etc.) dentro de la empresa.					
6. Aprovechamiento de la información, análisis y estudios de diagnóstico y pronóstico, (internos y externos) para apoyar la toma de decisiones de asuntos técnicos (producción, I+D, desarrollo de productos y servicios, etc.) dentro de la empresa.					
Control de acceso y funciones de intermediación:					
7. Búsqueda de asesores expertos para la compañía					
8. Búsqueda de aliados estratégicos para el desarrollo de proyectos de la empresa					
9. Búsqueda de fuentes de financiación externas para nuevos proyectos de desarrollo de la empresa (subvenciones, créditos, avales, etc.)					
Prueba, validación y formación:					
10. Realización de controles y/o evaluaciones de gestión administrativa, desempeño del personal y/o del clima organizacional de la empresa					
11. Realización de pruebas de calidad y/o efectividad de procesos, productos y/o servicios.					
12. Realización de programas de formación para la empresa					
Acreditación y estándares:					
13. Aplicación de estándares nacionales e internacionales para el diseño, producción y comercialización de productos y servicios.					
14. Certificación de calidad para procesos, productos y/o servicios					
15. Certificaciones medio ambientales					
Regulación y arbitraje:					
16. Solución de diferencias y conflictos con clientes, competidores y/o proveedores					
17. Solución de diferencias y conflictos con entidades asociativas, gubernamentales y/o europeas.					
18. Aplicación de regulaciones nacionales y/o europeas en la empresa					

Propiedad intelectual: protección de los resultados:					
19.	Registro de derecho de propiedad intelectual sobre marcas, nombres, invenciones y diseños industriales.				
20.	Registro de derechos de propiedad industrial concedidos por organizaciones supranacionales con efectos a nivel comunitario o internacional.				
Comercialización: explotación de los resultados:					
21.	Desarrollo de las actividades ordinarias de mercadeo, ventas y servicio al cliente a nivel nacional e internacional				
22.	Consecución de nuevos clientes y/o desarrollo de negociaciones especiales para ventas a nivel internacional.				
Evaluación de los resultados:					
23.	Desarrollo de informes de evaluación de la gestión (verbales y/o escritos).				
24.	Desarrollo de actividades de auditoría y control de la empresa				
Redes y conexión entre industrias:					
25.	Participación en reuniones, actividades, acuerdos y/o redes de colaboración con agentes de otras industrias				

6. PARTICIPACIÓN DE LA ASOCIACIÓN EN LOS TIPOS DE INNOVACIÓN DE SUS EMPRESAS AFILIADAS.

Las siguientes son actividades innovadoras que pueden haber sido realizadas por la mayoría de sus empresas afiliadas. Por favor indique con una X la mejor opción para cada una de ellas.

¿En qué grado la Asociación apoya a la mayoría de sus empresas afiliadas en esta actividad innovadora?				
Nunca	Pocas veces	A veces	Generalmente	Muchas veces
1	2	3	4	5

Resultados de innovación de las Empresas Afiliadas a la Asociación	1	2	3	4	5
Innovación de Modelo de Negocio					
1.	Reflexión, diseño y/o ajuste del modelo de ingresos, costes, gastos, financiación y/o capitalización de la empresa.				
2.	Ajuste o desarrollo de un nuevo modelo de negocio para la empresa.				
Innovación de Redes					
3.	Consecución de nuevos aliados estratégicos para la empresa como pueden ser organizaciones de la cadena de valor de la industria, organizaciones públicas y/o privadas que brinden apoyo.				
Innovación de Estructura					
4.	Reflexión y rediseño de la estructura organizacional de la empresa (nuevos cargos, funciones y equipos de trabajo).				
5.	Mejora o implementación de nuevos sistemas de información y comunicación (procesamiento, almacenamiento y transmisión de información)				
Innovación de Proceso					
6.	Innovación en los métodos y técnicas de producción de los productos y/o desarrollo de los servicios.				
Innovación de Producto					
7.	Creación de nuevos productos y servicios.				
8.	Modificación de productos y servicios existentes a través del desarrollo de nuevas características y funcionalidades.				
Innovación de Servicio al cliente					
9.	Fortalecimiento de los servicios prestados a los clientes. Incremento del soporte brindado a los clientes.				

Innovación de Canales						
10.	Ajustes y creación de nuevos canales de distribución de los productos y la oferta de los servicios.					
Innovación de Marca						
11.	Reflexión y ajustes de las marcas existentes, así como creación de nuevas marcas de la empresa.					
Innovación de Compromiso con el Cliente						
12.	Creación de acciones y proyectos para relacionarse de manera cercana con sus clientes. Desarrollo de actividades que van más allá del servicio al cliente y el servicio postventa.					

7. IDENTIFICACION DE INTERMEDIARIOS DE INNOVACION DE SUS EMPRESAS AFILIADAS.

Este punto pretende definir la relevancia de los intermediarios de innovación en el apoyo a las actividades de sus empresas afiliadas. Por favor marque una X para la mejor opción asociada a cada uno de los intermediarios presentados.

¿En qué grado estos intermediarios de innovación apoyan la gestión diaria de la mayoría de sus empresas afiliadas?				
Nunca	Pocas veces	A veces	Generalmente	Muchas veces
1	2	3	4	5

Intermediarios de innovación para las Empresas Afiliadas a la Asociación	1	2	3	4	5
1. Empresas de consultoría o consultores independientes					
2. Centros tecnológicos y de investigación					
3. Universidades					
4. Cámaras de comercio					
5. Asociaciones y otras organizaciones empresariales a las que pertenezcan o estén afiliadas					
6. Clusters a los que pertenezcan y colaboren					
7. Organizaciones de certificación y evaluación					
8. Agencias y organizaciones públicas de apoyo a la innovación (regionales, nacionales y europeas)					
9. Centros de apoyo al emprendimiento y desarrollo empresarial					
10. Otro: _____					

8. RAZONES TRAS LOS SERVICIOS DE INTERMEDIACION EN INNOVACION DE LA ASOCIACION.

En general, qué grado de importancia tienen las siguientes razones para que las empresas afiliadas soliciten apoyo, soporte y asesoría a su Asociación. Por favor marque con una X la mejor opción para cada una de las razones.

Ninguna	Poca	Bastante	Mucho	Es clave
1	2	3	4	5

Se solicita apoyo y asesoría a la Asociación porque ésta ofrece ...	1	2	3	4	5
1. Reducción, minimización y división de los costes de innovación de las empresas afiliadas					
2. Oferta de soluciones ajustadas a las necesidades particulares de innovación de las empresas asociadas					
3. Excelente atención y servicio al cliente					
4. Acceso a conocimiento técnico y tecnológico especializado para las innovaciones de las empresas asociadas					
5. Acceso a conocimiento especializado en metodologías y sistemas de gestión administrativa					
6. Apoyo económico a las iniciativas de innovación de las empresas asociadas					
7. Formación para el personal de la empresa afiliada					
8. Apoyo en la selección de intermediarios requeridos por las empresas afiliadas					
9. Disminución de los tiempos de innovación de las empresas afiliadas					
10. Oportunidad de compartir riesgos con agentes externos al desarrollar procesos de innovación					
11. Acceso rápido a tecnología ya probada en la industria.					
12. Acceso a conocimiento y contacto con agentes pertenecientes a otras industrias					
13. Soluciones frente a situaciones de crisis en la empresa afiliada o el sector					

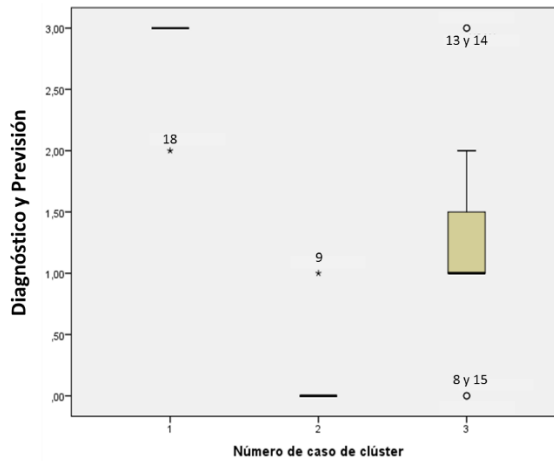
Annex 4. Box plots for cluster analysis

This annex shows the 17 Box plots. Each one grouped the three cluster studies that were developed.

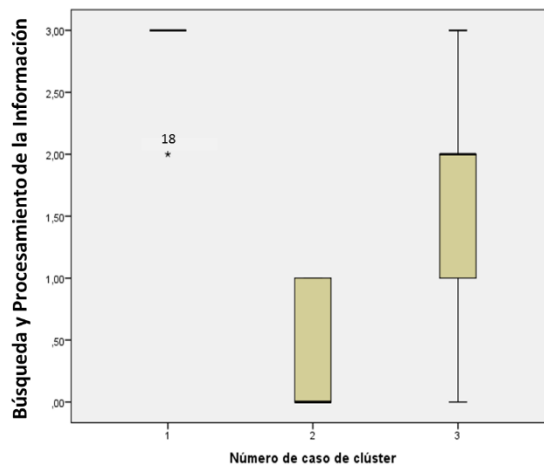
For its understanding see the explanation in Chapter 5. In addition, the asterisks and circles that appear in the diagrams show the associations that present values distant to the median of their cluster. The asterisks are at 1.5 times the median, while the circles at 3 times of it.

a) Box plots for the topic functions of intermediation.

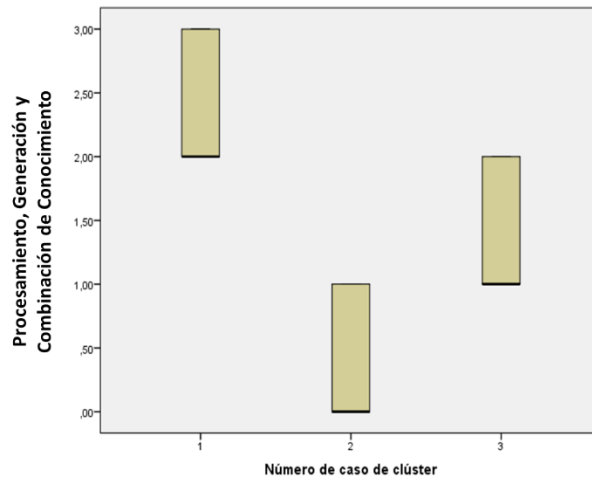
a.1. Box plots for diagnostic and forecasting functions.



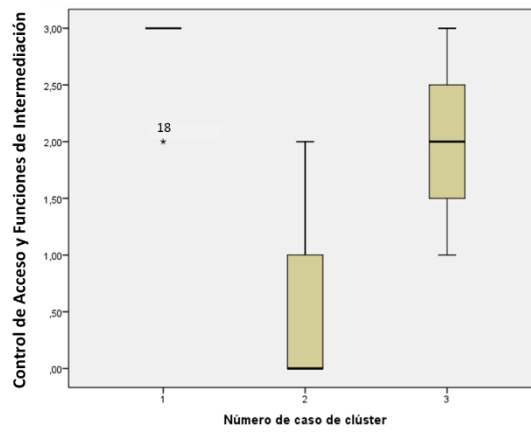
a.2. Box plots for scanning and information processing functions.



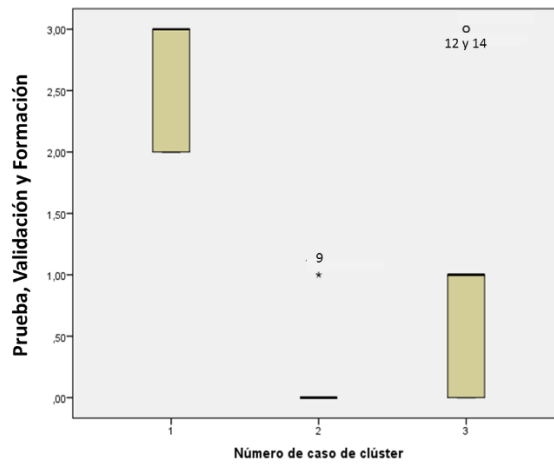
a.3. Box plots for knowledge processing, generation and combination/recombination functions.



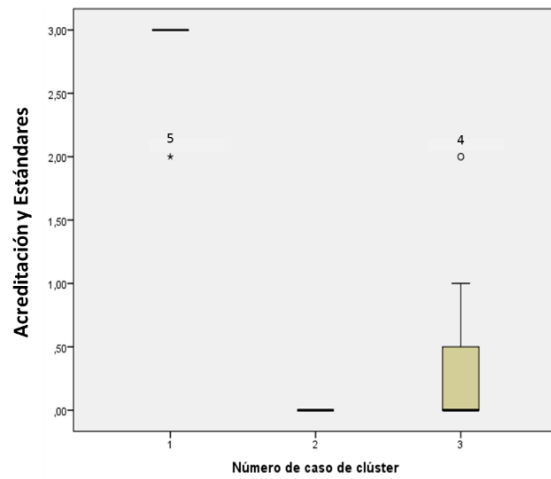
a.4. Box plots for gatekeeping and brokering functions.



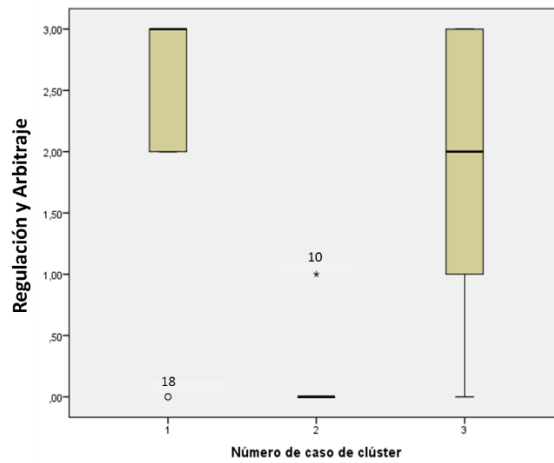
a.5. Box plots for testing, validation and training functions.



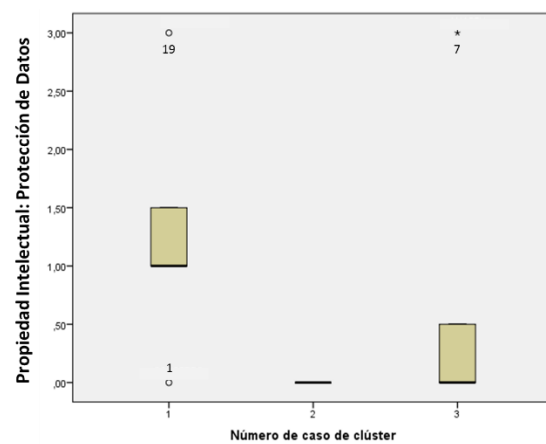
a.6. Box plots for accreditation and standards functions.



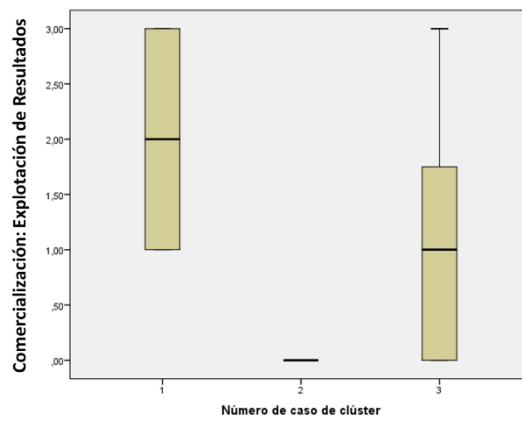
a.7. Box plots for validation, regulation and arbitration functions.



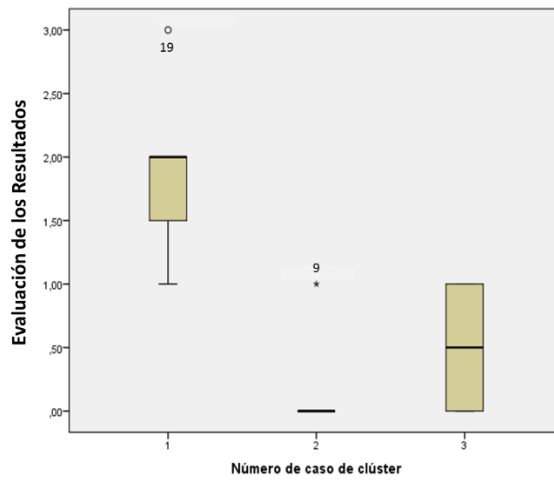
a.8. Box plots for intellectual property functions.



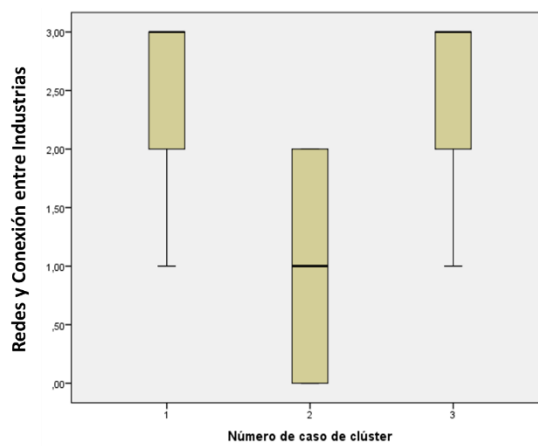
a.9. Box plots for commercialization functions.



a.10. Box plots for assessment and evaluation of outcomes functions.

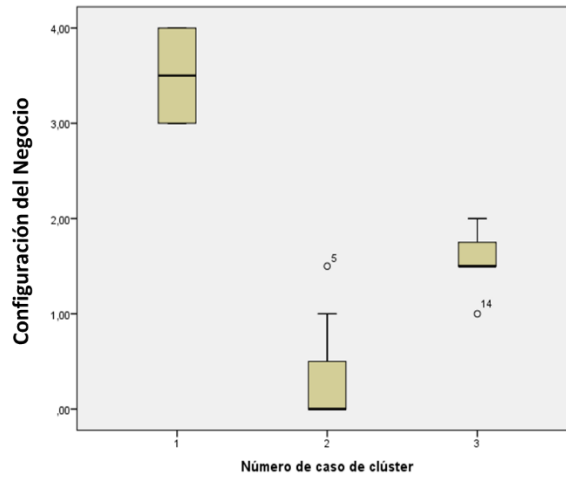


a.11. Box plots for networking and connection between industries.



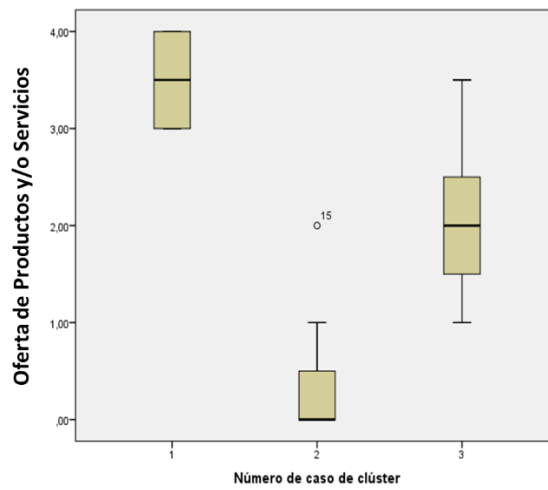
b) Box plots for the topic of support for innovation activities of ACs.

b.1. Box plots to support innovation activities for business configuration.



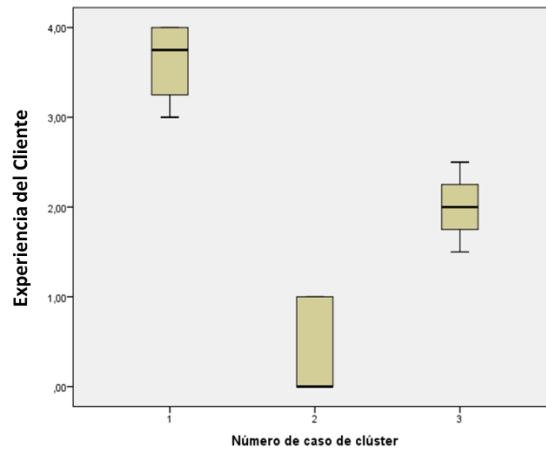
Innovation activities for business configuration integrate the innovations in business model, networks, organizational structure and processes.

b.2 Box plots to support innovation activities for the offering of products and/or services.



The innovation activities for the offering correspond to product innovations.

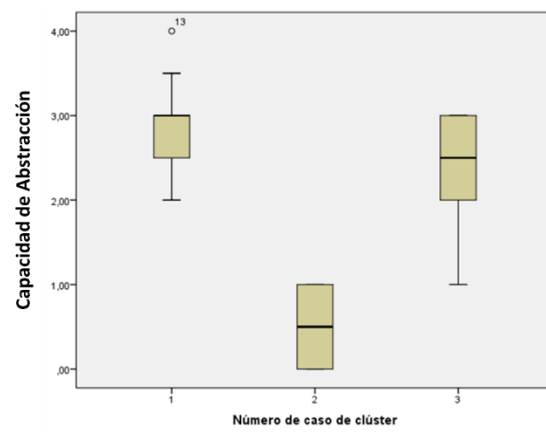
b.3 Box plots to support innovation activities for customer experience.



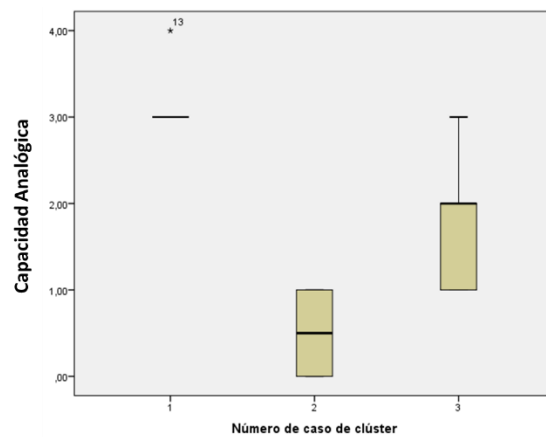
Innovation activities for the customer experience integrate innovations in customer service, channels, branding and customer engagement.

c) Box plots for the subject of intermediation capacities.

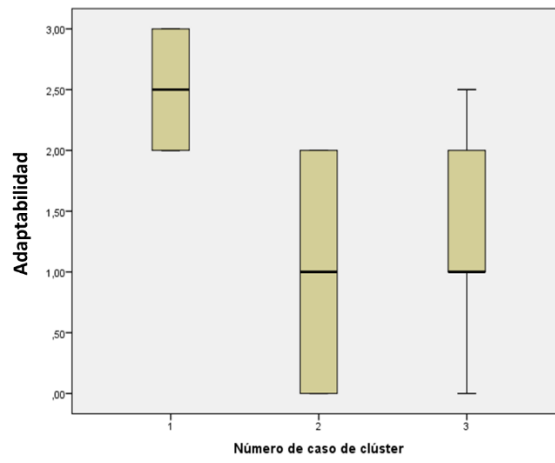
c.1 Box plots for abstraction capacity.



c.2. Box plots for analogic capacity.



c.3. Box plots for adaptation capacity or adaptability.



Annex 5. Theoretical Maturity Model of Innomediation Capacity MMIIC – Version 1

Modelo de Madurez de la Capacidad de Innomediación de las Asociaciones Empresariales (Teórico, versión 1)						
Descripción del Modelo						
Dimensiones y Factores	Etapa 1	Etapa 2	Etapa 3	Etapa 4	Etapa 5	Etapa 6
	Representación	Innovación ad hoc	Compromiso con la innovación	Gestión de la innovación	Intermediación en innovación	Sistema de innovación
A. Dimensión: Capacidad de Maduración						
Características de la etapa	La principal función de la AE es la de representar a sus empresas afiliadas, así como la de defender y promover sus intereses económicos y sociales.	En medio del anterior panorama, y sin ninguna intencionalidad o planeación, se presentan algunas acciones puntuales y esporádicas de innovación (generalmente de carácter incremental) para la misma AE o para alguna de sus EAs.	En esta etapa, la innovación se presenta como una necesidad estratégica de la AE y sus EAs y surge el compromiso como planteamiento de los directivos de la AE. El tema, aunque se observa en la planeación, no tiene un claro desarrollo como en la siguiente etapa. Continúan las acciones innovadoras.	La innovación y la estrategia están claramente relacionadas y planteadas. Adicionalmente, existen procesos, procedimientos, programas, herramientas y recursos, bajo un modelo de innovación para el desarrollo de la AE y el apoyo a sus EAs.	Aquí, la AE comprende que no solo debe innovar para sí, sino que su vocación, su misión, está en el apoyo que debe brindar a sus EAs en sus procesos de innovación. Por ello, decide estratégicamente ser un intermediario de innovación bajo el rol de facilitador, portador o fuente de innovación.	La asociación se ve y actúa como una comunidad de innovación colaborativa, que tiene una clara estrategia de creación de valor para sus EAs y sus aliados, así como unas reglas de juego para interactuar entre sí, y cuyo objetivo es la competitividad del sector.
B. Dimensión: Condiciones Organizacionales						
b.1. Estrategia y objetivos	Existencia de estatutos	Adicionalmente, una planeación estratégica general	Adicionalmente, una planeación estratégica específica para la AE	Adicionalmente, una declaración estratégica dinámica para la AE	Adicionalmente, una declaración estratégica dinámica para la AE y sus EAs	Adicionalmente, una declaración estratégica dinámica, amplia visión de red
b.2. Funciones y procesos	Legales, administrativos y de servicios ordinarios	Legales, administrativos y de servicios ordinarios y extraordinarios	Adicionalmente, procesos de mejoramiento de la AE y algunos servicios de apoyo a las AEs	Además, procesos de contratación de ciertos proveedores de solución	Además, procesos de acompañamiento a las AEs, subcontratación y coordinación de proveedores	Procesos de comunicación interna y externa a la asociación. Alianzas con diversidad de agentes.
b.3. Organización y comunicación	Organigrama básico de una asociación.	Estructura básica que atiende algunas tareas extraordinarias	Estructura básica con ciertos puntos flexibles para responder a necesidades específicas	Estructura semi flexible con responsables para atender nuevos tipos de programas	Organización estructurada para tender sus propias necesidades y las de sus EAs, con sus propios recursos o recursos externos.	Estructura que combina la formalidad del organigrama con la informalidad de una red de colaboración con diversos agentes. Formación de Clusters.
b.4. Relación con las empresas afiliadas	Prestación servicios básicos	Prestación servicios básicos	Adicionalmente, prestación de servicios específicos	Atención de sus necesidades y servicios de respuesta	Atención de sus necesidades y acompañamiento en la solución	La AE y sus EAs se relacionan como nodos de una red, cooperan, colaboran y compiten.
b.5. Aliados y proveedores	Casi nulos	Muy pocos	Muy pocos	Proveedores de servicios	Proveedores de soluciones específicas de la industria o externos	Aliados de largo plazo para la construcción de la red

C. Dimensión: Capacidad de Innovación e Innomediación						
<i>C.1 Soporte organizacional para desarrollar la capacidad de innovación e innomediación</i>						
c.1.1. Estrategia y liderazgo	Misión y objetivos centrados en representación y defensa de intereses	Misión y objetivos centrados en representación y defensa de intereses y algunos servicios de apoyo a los afiliados	Estrategia con algunos planteamientos sobre la innovación en la AE y sus EAs	Estrategia con una fuerte declaración sobre la innovación de la AE y sus EAs.	Estrategia con afirmaciones y sobre el deber de la AE de apoyar la innovación de sus EAs, así como tácticas para hacerlas realidad.	La estrategia de la AE la visualiza como un sistema de innovación, como una comunidad de innovación colaborativa.
c.1.2. Funciones y procesos	Ninguno	Iniciativas esporádicas de mejoramiento	Algunos proyectos concretos de innovación para la AE	Programas y proyectos de innovación para la AE	Procesos concretos de servicios de intermediación para apoyar la innovación de sus EAs	Procesos y proyectos de interrelación de todos los agentes de la AE para lograr resultados de innovación
c.1.3. Ambiente y clima organizacional	Cerrado a la innovación	Ambiente muy poco abierto a la innovación	Pocos incentivos a la innovación	Incentivos y medios para la innovación.	Apertura para la solución de problemas por medio de procesos de innovación	Ambiente de red abierto y flexible a la innovación colaborativa.
c.1.4. Recursos e infraestructura	Ninguno	Pocos recursos propios	Recursos propios	Recursos propios destinados a proyectos de innovación de la AE	Propios y externos destinados a proyectos de innovación de la AE y sus EAs	Propios y externos destinados a apoyar los juegos de innovación de la AE y sus EAs
<i>C.2 Conocimiento y competencias</i>	Ninguno	Improvisación para la mejora de ciertas situaciones	Bajas conocimientos y capacidades para la innovación de la AE y la innomediación para sus EAs.	Explotación de conocimientos y capacidades para la innovación de la AE. Baja capacidad de absorción.	Explotación y exploración de conocimientos y capacidades para la innovación de la AE y la innomediación. Capacidad media de absorción.	Ambidestreza desarrollada. Sensemaking desarrollado. Capacidad de absorción altamente desarrollada. Capacidad de acompañamiento altamente desarrollada.
<i>C.3 Proceso de innovación</i>						
c.3.1 Proceso de innovación	Ninguno	Incremental	Relevante, innovación incremental o radical para la AE	Gestión de proyectos y programas para la innovación de la AE	Gestión de proyectos y programas estratégicos para la innovación de la AE	Gestión de proyectos y programas estratégicos para la innovación de la AE
c.3.2. Proceso de innomediación	Ninguno	Incremental para ayuda puntual de un afiliado	Relevante, innovación incremental o radical para las EAs	Gestión de proyectos y programas para la innovación de las EAs	Algún rol concreto: a) Facilitador de innovación b) Portador de innovación c) Fuente de innovación	Se observa una Comunidad de Innovación Colaborativa con un Juego de innovación y una Comunidad de innovación concreta.
c.3.3. Funciones de innomediación	Representación y control de acceso a la AE	Servicios informales. Funciones de formación y apoyos concretos	Algunos servicios formales de mejoramiento. Funciones de redes y conexión básicas. Previsión y diagnóstico	Servicios formales de innovación. Portafolio de servicios para la innomediación. Funciones de procesamiento y generación de conocimiento básico.	Amplio portafolio de servicios para la innomediación. Prestación de todo tipo de funciones de innomediación	Amplio portafolio de servicios para la innomediación. Prestación de todo tipo de funciones de innomediación
c.3.4 Resultados de la innomediación	Ninguno	Mejora incremental de la AE en algún tipo de innovación	Mejora incremental de la AE en algún tipo de innovación	Mejora incremental y/o radical de las EAs en algún tipo de innovación	Innovación incremental y/o radical de las EAs en algún tipo de innovación Cambio organizacional de las EAs.	Innovación incremental y/o radical de las EAs en algún tipo de innovación Cambio organizacional de las EAs. Incremento de la competitividad del sector.

Modelo de Madurez de la Capacidad de Innomediación de las Asociaciones Empresariales (Teórico, versión 1)						
Desafíos por etapas del Modelo						
Dimensiones y Factores	Etapa 1	Etapa 2	Etapa 3	Etapa 4	Etapa 5	Etapa 6
	Representación	Innovación ad hoc	Compromiso con la innovación	Gestión de la innovación	Intermediación en innovación	Sistema de innovación
B. Dimensión: Condiciones Organizacionales						
b.1. Estrategia y objetivos		Una declaración estratégica general para la AE	Una declaración estratégica detallada de la AE	Declaración estratégica dinámica, con procesos periódicos de reflexión	Declaración estratégica dinámica y flexible volcada a los servicios para las EAs	Declaración estratégica enfocada no solo en las EAs sino también en la construcción de un ecosistema colaborativo
b.2. Funciones y procesos		Procesos legales, administrativos y de servicios definidos de manera informal	Procesos establecidos formalmente	Procesos y proyectos definidos formalmente. Personal empoderado.	Procesos, proyectos y funciones definidos. Alto nivel de empoderamiento del personal.	Procesos de comunicación interna y externa a la asociación. Alianzas con diversidad de agentes del ecosistema.
b.3. Organización y comunicación		Estructura básica que atiende algunas tareas extraordinarias	Estructura básica y un poco flexible para atender solicitudes de apoyo por parte de las asociaciones	Estructura semi flexible con responsables para atender nuevos tipos de programas	Organización estructurada para tender sus propias necesidades y las de sus EAs, con sus propios recursos o recursos externos.	Estructura que combina la formalidad del organigrama con la informalidad de una red de colaboración con diversos agentes. Formación de Clusters.
b.4. Relación con las empresas afiliadas		Prestación de servicios básicos y espacios de comunicación y encuentro	Adicionalmente, espacios informales de comunicación, dialogo entre AE y EAs.	Atención de necesidades de la EAs y servicios concretos de respuesta	Atención de sus necesidades y acompañamiento en la solución	La AE y sus EAs se relacionan como nodos de una red, cooperan, colaboran y compiten.
b.5. Aliados y proveedores		Definir algunos proveedores	Definición de algunos proveedores y aliados	Definición de aliados para la solución de problemas	Trabajo constante con aliados para llevar soluciones y acompañamiento a las EAs	Aliados de largo plazo para la construcción de la red
C. Dimensión: Capacidad de Innovación e Innomediación						
<i>C.1 Soporte organizacional para desarrollar la capacidad de innovación e innomediación</i>						
c.1.1. Estrategia y liderazgo		Una declaración estratégica general para la AE	Una declaración estratégica detallada que haga referencia a la innovación.	Declaración estratégica detallada que incluya la gestión de la innovación	Declaración estratégica que exprese la intención, servicios y programas de apoyo a la innovación de las EAs	Declaración estratégica que visualice a la AE como una red de organizaciones, que incluya una estrategia colaborativa con ellas.
c.1.2. Funciones y procesos		Iniciativas esporádicas de mejoramiento	Algunos proyectos concretos de innovación para la AE	Programas y proyectos de innovación para la AE	Portafolio formal de servicios basados en las 11 funciones de innomediación.	Procesos y proyectos de interrelación de los stakeholders internos y externos de la AE para lograr resultados de innovación
c.1.3. Ambiente y clima organizacional		Dirección abierta a desarrollar mejoras	Dirección de la AE consiente de la necesidad de innovar y con planes para ello	Ambiente abierto a la innovación, sus proyectos y programas.	AE abierta a recibir solicitudes de apoyo de sus EAs y con respuestas concretas para apoyarlas en innovación. Actividades de internacionalización.	Ambiente de red abierto y flexible a la innovación colaborativa. Presencia de diversos agentes. Apertura a federaciones y confederaciones. Actividades de internacionalización.

c.1.4. Recursos e infraestructura		Pocos recursos propios. No hay responsables de innovación.	Recursos propios. Hay responsables periódicos por las iniciativas de innovación.	Recursos propios destinados a proyectos de innovación de la AE. Existe un responsable de la innovación en la AE.	Propios y externos destinados a proyectos de innovación de la AE y sus EAs. Cobro por servicios de apoyo a la innovación. Búsqueda y gestión de proyectos con recursos nacionales e internacionales. Hay responsables y expertos para la innovación.	Propios y externos destinados a apoyar los juegos de innovación de la AE y sus EAs. Desarrollo bajo estructura de Cluster.
<i>C.2 Conocimiento y competencias</i>		Improvisación para la mejora de ciertas situaciones	Bajas conocimientos y capacidades para la innovación de la AE y la innomediación para sus EAs.	Explotación de conocimientos y capacidades para la innovación de la AE. Baja capacidad de absorción.	Explotación y exploración de conocimientos y capacidades para la innovación de la AE y la innomediación. Capacidad media de absorción.	Ambidestreza desarrollada. Sensemaking desarrollado. Capacidad de absorción altamente desarrollada. Capacidad de acompañamiento altamente desarrollada.
<i>C.3 Proceso de innovación</i>						
c.3.1 Proceso de innovación	Ninguno	Incremental	Relevante, innovación incremental o radical para la AE	Gestión de proyectos y programas para la innovación de la AE	Gestión de proyectos y programas estratégicos para la innovación de la AE	Gestión de proyectos y programas estratégicos para la innovación de la AE
c.3.2. Proceso de innomediación	Ninguno	Incremental para ayuda puntual de un afiliado	Relevante, innovación incremental o radical para las EAs	Gestión de proyectos y programas para la innovación de las EAs	Decisión estratégica sobre alguno de estos roles: a) Facilitador de innovación b) Portador de innovación c) Fuente de innovación	Se observa una Comunidad de Innovación Colaborativa con un Juego de innovación y una Comunidad de innovación concreta.
c.3.3. Funciones de innomediación	Representación y control de acceso a la AE	Servicios informales. Funciones de formación y apoyos concretos	Algunos servicios formales de mejoramiento. Funciones de redes y conexión básicas. Previsión y diagnóstico	Servicios formales de innovación. Portafolio de algunos servicios para la innomediación. Funciones de procesamiento y generación de conocimiento básico.	Amplio portafolio de servicios para la innomediación. Prestación de todo tipo de funciones de innomediación	Amplio portafolio de servicios para la innomediación. Prestación de todo tipo de funciones de innomediación
c.3.4 Resultados de la innomediación	Ninguno	Mejora incremental de la AE en algún tipo de innovación	Mejora incremental de la AE en algún tipo de innovación	Mejora incremental y/o radical de las EAs en algún tipo de innovación.	Innovación incremental y/o radical de las EAs en alguno de los 10 tipos de innovación. Cambio organizacional de las EAs.	Innovación incremental y/o radical de las EAs en algún tipo de innovación Cambio organizacional de las EAs. Creación de valor como comunidad. Incremento de la competitividad del sector.

Annex 6. Maturity Model of Innomediation Capacity MMIIC – Version 2

Definición y descripción de las Etapas de Madurez de las Asociaciones empresariales como Intermediarias de Innovación, resultado del análisis del *focus group*.

Objetivo:

Presentar la síntesis de las propuestas generadas en el *focus group* realizado con varios directivos de asociaciones navarras el 18 de mayo de 2017 en la Facultad de Ciencias Económicas y Empresariales de la Universidad de Navarra.

Este trabajo pretende definir un Modelo de Madurez compuesto por seis etapas de desarrollo de una asociación, que le permitan crecer en términos de su rol de intermediaria de innovación.

A) Etapas de Madurez propuestas por las asociaciones:

Tras una dinámica de *storytelling* y la puesta en común de los planteamientos de los tres grupos de directivos, las etapas, nombres y descripciones generales propuestas fueron las siguientes:

Etapa 1: Surgimiento, Constitución y Representación

El surgimiento está marcado por la reunión de personas representantes de sus empresas, quienes por medio de una dinámica que se podría denominar “foro de conocimiento”, intercambian sus experiencias y necesidades. Como resultado, la identificación de problemas y objetivos comunes les lleva a unirse y plantearse la constitución de una asociación. Así, estas personas se convierten en los asociados pioneros, que llevan la voz y sirven de interlocutores entre las empresas y los agentes que pueden dar solución a sus problemas. En este proceso se define un líder o gerente que guíe las acciones de representación de los intereses comunes de las compañías.

Posteriormente, esta nueva organización enfrenta un periodo de conocimiento interno fuerte en el que se destacan los esfuerzos de autoconocimiento de las empresas participantes, de allí el uso de herramientas como el DAFO, la identificación de recursos con los que se cuenta, y la realización de unos primeros estudios de mercado. Así mismo, se presentan las primeras iniciativas de formación básica.

Etapa 2: Empezando a andar y a solucionar los primeros problemas

Esta etapa se caracteriza por la presencia de un gerente y un número todavía bajo de asociados, pero muy comprometidos. En primera medida, se buscan soluciones a las necesidades planteadas en la etapa anterior. Por ello, se comienza a reaccionar ante problemas concretos, urgentes y de corto plazo para generar resultados y mostrar capacidad. Sin embargo, como no todos los problemas se pueden solucionar, se empieza a definir una hoja de ruta y alcance de la asociación. Es así como se generan los primeros servicios propios de la asociación para responder a demandas concretas de los asociados, lo cual repercute en una baja autonomía de la asociación. En esta etapa, se consolidan los órganos de gobierno y se desarrollan los primeros planteamientos estratégicos.

Etapa 3: Consolidación y estrategia

En esta etapa hay una consolidación de la estructura organizacional de la asociación, en la cual están definidas funciones y responsabilidades, y el rol del gerente cobra gran importancia. Así mismo, hay una consolidación de los planteamientos estratégicos que se reflejan en planes de acción frente a problemáticas planteadas, planes de trabajo concretos y primeras definiciones e iniciativas de innovación. En este punto, los miembros confían en la asociación y la reconocen como “experta”, de allí que le vean como un referente a dónde acudir para solucionar problemas que supera sus experiencias.

Etapa 4: Liderazgo, propuesta de valor y primeras alianzas

La asociación lidera y cuenta con la credibilidad de su grupo de empresas afiliadas, las cuales son de diversos tamaños. En consecuencia, el número de asociados crece. La asociación se caracteriza por tener poder de decisión, cierta independencia de sus miembros, tener una operación y estructura consolidadas. En cuanto a la innovación, ya se han superado diversos conflictos de intereses y existe cultura de colaboración en el sector. Se realizan acciones de innovación a pesar de ser conscientes que otras organizaciones copian los buenos resultados alcanzados. Se realizan cursos para adquirir conocimiento especializado para el sector y existe presupuesto para la innovación, proveniente de fondos propios o de gestión de proyectos externos. En este punto, se observan las primeras acciones y resultados de la internacionalización. Como existe conciencia del tipo de aportación de valor que ofrece la asociación, surgen alianzas con organizaciones similares y cercanas a ella. Por ello se incorporan a asociaciones de carácter nacional, y se hacen acuerdos con organizaciones del sector con las que se comparte una misma problemática y situación.

Etapa 5: Apertura y diversificación

La asociación es madura, ha desarrollado capacidades internas para la dirección general de la organización, la gestión de la innovación, el manejo de alianzas y la internacionalización. Ahora cuenta con algunos expertos dentro de su equipo. Por tal razón, se abre a relaciones con organizaciones y expertos de otros sectores, ámbitos y contextos geográficos, como son las universidades y los centros tecnológicos. Con ello, busca conocimientos diversos que le aporten

y complementen su actual propuesta de valor, con el objetivo de plantearse nuevos retos y objetivos alcanzables. Es una etapa donde se “copian” y “adaptan” soluciones de otros contextos sectoriales y geográficos.

Etapa 6: Comunidades colaborativas de innovación

En esta etapa la asociación co-evoluciona con otras organizaciones y centros de conocimiento claramente identificados, desarrolla innovación cerrada y abierta de forma continua, donde se destacan los procesos de cooperación y colaboración, así como una clara estrategia de I+D+i. Para soportar esta dinámica, en algunos casos, la asociación impulsa la creación de nuevas organizaciones como pueden ser clusters, centros tecnológicos o consultoras. En otros casos, la asociación se transforma en cluster para asumir nuevos retos, y generalmente conserva su estructura de asociación para enfrentar esta nueva etapa. Como consecuencia, en esta etapa las asociaciones se convierten en agentes sociales de referencia, se transforman en “trenes” que movilizan la sociedad.

Reflexiones sobre este ejercicio:

- Una descripción detallada de estas etapas debe considerar varias perspectivas:
 - Debe tener en cuenta el contexto y el desarrollo histórico de las asociaciones.
 - Debe considerar las características propias de cada sector y sus empresas.
 - Debe comprender que en cada una de las etapas se presentan situaciones propias de los cuatro niveles de una organización: el nivel de la persona, el nivel de los equipos de trabajo, el nivel organizacional y el finalmente, el nivel inter-organizacional.
- Así mismo, es importante tener en cuenta que esta propuesta como “modelo” es una simplificación de la compleja y dinámica realidad del crecimiento de una asociación. Por tal razón, tan solo pretendemos esclarecer unos momentos “típicos” que al parecer experimentan todas las asociaciones. Su objetivo es servir de guía (y no de norma obligatoria) para el diagnóstico y proyección de las asociaciones.
- La importancia de los recursos económicos para el desarrollo de la asociación es tal, que generó tres interpretaciones del proceso de madurez.
 1. Bajo la primera interpretación, la asociación surge y crece poco a poco gracias a las cuotas de sus miembros y en etapas avanzadas busca financiación por medio del desarrollo de proyectos externos (regionales, nacionales o internacionales). Aquí, la innovación se da de forma paulatina.
 2. Una segunda posición, también considera las cuotas como base, pero encuentra en etapas intermedias, que el cobro de servicios “extras” es una fuente de sostenimiento que conlleva un proceso más ágil de innovación que el anterior.
 3. En la tercera interpretación, la asociación surge y de forma paralela al recibimiento de las cuotas, busca proyectos que financien su operación tan pronto como sea posible. Bajo esta lógica, la innovación es dirigida, en gran medida, por el enfoque de los proyectos.
- Fue poca o nula la mención de la importancia de las juntas directivas en todo este proceso de madurez.

B) Caracterización de las seis etapas de Madurez:

Con la idea de profundizar en la descripción de las etapas de madurez, los directivos propusieron una serie de iniciativas que opinan están asociadas a cada una de ellas. Para ello, cada uno de los tres grupos, por medio del consenso, identificó y asignó tareas, decisiones, acciones, tipos de documentos y/o resultados asociados a tres tipos de grupos de iniciativas: (a) estrategia y cultura; (b) organización, estructura y recursos; y (c) procesos de innovación. El resultado de este ejercicio, se presenta a continuación en la siguiente tabla.

Propuesta Etapas de Madurez de las Asociaciones Empresariales como Innomediarias (Modelo - versión 2)						
Grupos de iniciativas	Etapa 1	Etapa 2	Etapa 3	Etapa 4	Etapa 5	Etapa 6
	Surgimiento, Constitución y Representación	Empezando a andar y a solucionar los primeros problemas	Consolidación y estrategia	Liderazgo, propuesta de valor y primeras alianzas	Apertura y diversificación	Comunidades colaborativas de innovación
Estrategia y estructura	<ul style="list-style-type: none"> Misión y visión inicial y básica. Internacionalización como motivación (en algunos casos). 	<ul style="list-style-type: none"> Vivencia de una primera “crisis existencial” Contratación de un gerente. Plan estratégico general. Generación de un grupo “motor” que lidere la estrategia. 	<ul style="list-style-type: none"> Misión y visión 2.0 Jornadas de planeación y reflexión La innovación aparece en la estrategia. Gerente líder de las iniciativas de innovación. 	<ul style="list-style-type: none"> Jornadas de planeación y reflexión enfocadas en la opción de abrirse y crear otras organizaciones. Plan estratégico que incluye acciones de innovación. Definición de una estrategia de internacionalización Momento de “persuadir y convencer”. 	<ul style="list-style-type: none"> Plan estratégico de innovación Podría darse la creación de un cluster o la conversión a uno. 	<ul style="list-style-type: none"> Se vive la internacionalización constantemente. Participación o alianza con un cluster.
Organización, estructura y recursos	<ul style="list-style-type: none"> Adquisición de software básico para la gestión de la AE. Creación de base de datos proveedores generales 	<ul style="list-style-type: none"> Estructura organizacional sólida. Acuerdos puntuales con proveedores Subcontratación de estudios o asesorías generales Creación de base de datos de proveedores de servicios 	<ul style="list-style-type: none"> Asignación y distribución de responsabilidades Visibilidad interna de resultados 	<ul style="list-style-type: none"> Grupos de trabajo para repartir el juego. Visibilidad externa de resultados Realización de informes para valorar la importancia de la innovación. Búsqueda de recursos externos para la innovación. 	<ul style="list-style-type: none"> Definición de personal responsable de innovación dentro de la asociación. Definición de presupuesto para la innovación. Alianzas con proveedores. Búsqueda de recursos externos para la innovación. 	<ul style="list-style-type: none"> Creación de un departamento de innovación. Medición constante de la innovación Uso de software especializado. Subcontratación de estudios o asesorías generales
Procesos de innovación	<ul style="list-style-type: none"> Identificación de problemas de los asociados Búsqueda de soluciones y posibles subvenciones y ayudas. 	<ul style="list-style-type: none"> Procesos de diagnóstico (DAFO). Adquisición de software especializado para el sector Servicios de formación general. Involucramiento de algunos asociados en proyectos y estructuras organizacionales. Algunos proyectos con subvenciones. 	<ul style="list-style-type: none"> Vinculación a programas regionales o nacionales de innovación. Definición de servicios de apoyo a la innovación de los asociados. Implementación de nuevas tecnologías para las asociaciones. Cultura de la innovación entre los asociados 	<ul style="list-style-type: none"> Creación de organizaciones especializadas para la innovación Decisión oferta de servicios de innovación Cultura de la innovación entre los asociados Visitas de asociados a otras experiencias y ferias Desarrollo de cursos para la innovación 	<ul style="list-style-type: none"> Vinculación a programas regionales o nacionales de innovación. Definición de un proceso concreto de innovación. Creación de base de datos de proveedores de innovación. Oferta de servicios de apoyo a la innovación de los asociados. 	<ul style="list-style-type: none"> Creación de organizaciones especializadas para la innovación Vinculación a programas regionales o nacionales de innovación. Definición de un proceso concreto de innovación. Desarrollo de cursos para la innovación

Nota: Las frases de colores, se refieren a iniciativas propuestas que se repiten en dos o más etapas. Debemos revisarlas para definir donde quedarán asignadas.

Annex 7. Maturity Model of Innomediation Capacity MMIC – Version 3

Etapa 1: La unión como solución	Etapa 2: Enfrentando problemas urgentes	Etapa 3: Estructuración y visión estratégica	
<p>El surgimiento está marcado por la reunión de personas representantes de sus empresas, quienes por medio de una dinámica que se podría denominar “foro de conocimiento”, intercambian sus experiencias y necesidades. Como resultado, la identificación de problemas y objetivos comunes les lleva a unirse y plantearse la constitución de una asociación. Así, estas personas se convierten en los asociados pioneros, que llevan la voz y sirven de interlocutores entre sus empresas y los agentes que pueden dar solución a sus problemas. En este proceso se define un líder o gerente que guíe las acciones de representación de los intereses comunes de las compañías. Esta nueva organización enfrenta un periodo de conocimiento interno fuerte en el que se destacan los esfuerzos de autoconocimiento de las empresas participantes, de allí el uso de herramientas como el DAFO, la identificación de recursos con los que se cuenta, y la realización de unos primeros estudios de diagnóstico. Así mismo, se presentan las primeras iniciativas de formación básica.</p>	<p>Esta etapa se caracteriza por la presencia de un gerente y un número todavía bajo de asociados, pero muy comprometidos. En primera medida, se buscan soluciones a las necesidades planteadas en la etapa anterior. Por ello, se comienza a reaccionar ante problemas concretos, urgentes y de corto plazo para generar resultados y mostrar capacidad. Sin embargo, como no todos los problemas se pueden solucionar, se empieza a definir una hoja de ruta y alcance de la asociación. Es así como se generan los primeros servicios propios de la asociación para responder a demandas concretas de los asociados. Esto repercute en una baja autonomía de la asociación. En esta etapa, se consolidan los órganos de gobierno y se desarrollan los primeros planteamientos estratégicos.</p>	<p>En esta fase hay una consolidación de la estructura organizacional de la asociación, en la cual están definidas funciones y responsabilidades. Los roles del gerente y los miembros de la junta directiva cobran gran importancia. Por ello, hay una consolidación de los planteamientos estratégicos y su aprobación por parte de la junta directiva. Estos se reflejan en planes de acción frente a problemáticas planteadas, planes de trabajo concretos y primeras definiciones, iniciativas formales y conciencia de innovación. Lo anterior se basa en esfuerzos de búsqueda e identificación de necesidades y oportunidades, algunas veces, fruto de estudios contratados a expertos sobre estos temas. En este punto, los miembros confían en la asociación y reconocen su efectividad, de allí que le vean como un referente a dónde acudir para solucionar sus problemas.</p>	
Etapa 4: Innovación y alianzas	Etapa 5: Apertura y diversificación	Etapa 6: Innovación en red	Etapa 7: Sistema de innovación
<p>La asociación lidera y cuenta con la credibilidad de su grupo de empresas afiliadas, las cuales son de diversos tamaños. Existe crecimiento del número de asociados. La asociación se caracteriza por tener poder de decisión, cierta independencia de sus miembros, tener una operación y estructura consolidadas. En cuanto a la innovación, ya se han superado diversos conflictos de intereses y existe cultura de colaboración en el sector. Se realizan acciones de innovación a pesar de ser conscientes que otras organizaciones copian sus resultados. Se realizan cursos para adquirir conocimiento especializado para el sector y existe presupuesto para la innovación, proveniente de fondos propios o de gestión de proyectos externos. En este punto, se observan las primeras acciones y resultados concretos de la internacionalización. Como existe conciencia del tipo de aportación de valor que ofrece la asociación, surgen alianzas con organizaciones similares y cercanas a ella. Por ello se incorporan a asociaciones de carácter nacional, y se hacen acuerdos con organizaciones del sector con las que se comparte una misma problemática y situación.</p>	<p>La asociación es madura, ha desarrollado capacidades internas para la dirección general de la organización, la gestión de la innovación, el manejo de alianzas y la internacionalización. Ahora cuenta con algunos expertos dentro de su equipo. Por tal razón, se abre a relaciones con organizaciones y agentes de otros sectores, ámbitos y contextos geográficos, como son las universidades y los centros tecnológicos. Con ello, busca conocimientos diversos que le aporten y complementen su actual propuesta de valor, con el objetivo de plantearse nuevos retos y objetivos alcanzables. Es una etapa donde se “copian” y “adaptan” soluciones de otros contextos sectoriales y geográficos.</p>	<p>La asociación se puede empezar a considerar una comunidad de innovación colaborativa, comienza a trabajar por proyectos regionales y en estructura de red con organizaciones que le complementan, tanto de su sector como de otros, con actividades similares o diferentes a las suyas. Estas pueden ser clusters, centros de investigación, universidades, consultoras, agencias especializadas, etc., con las cuales explora oportunidades de colaboración y comparte experiencias de innovación. Para soportar esta dinámica, en algunos casos, (1) la asociación impulsa la creación de nuevas organizaciones como pueden ser algunas de las anteriormente nombradas. En otros casos, (2) la asociación se transforma en cluster para asumir nuevos retos, y generalmente, (3) conserva su estructura de asociación para enfrentar esta nueva etapa. Como consecuencia, en esta fase las asociaciones se convierten en “locomotoras” que a nivel regional movilizan a los agentes económicos y sociales, y que tienen el desafío de sostener este nuevo grado de desarrollo.</p>	<p>Como comunidad de innovación colaborativa consolidada, la asociación de manera ordinaria co-evoluciona con otras organizaciones, centros de conocimiento y asociaciones claramente identificadas, de índole nacional e internacional, desarrolla innovación cerrada y abierta de forma continua, donde se destacan procesos de cooperación y colaboración, así como una clara estrategia de I+D+i. Existe un portfolio concreto de servicios conjuntos. Maneja proyectos relevantes y fondos internacionales. Se destaca la formación y experiencia de sus directivos, así como la alineación de pensamiento con la junta directiva. En general, estas asociaciones se mueven en entornos con cultura y políticas públicas que impulsan la asociatividad y los clusters. En este punto, la asociación cuenta con reputación no solo económica, sino también social, por ello, es referencia a nivel internacional.</p>

Modelo de Madurez de Intermediación en Innovación para Asociaciones Empresariales MMIIC (versión 3)

- Descripción de las Dimensiones y sus Factores -

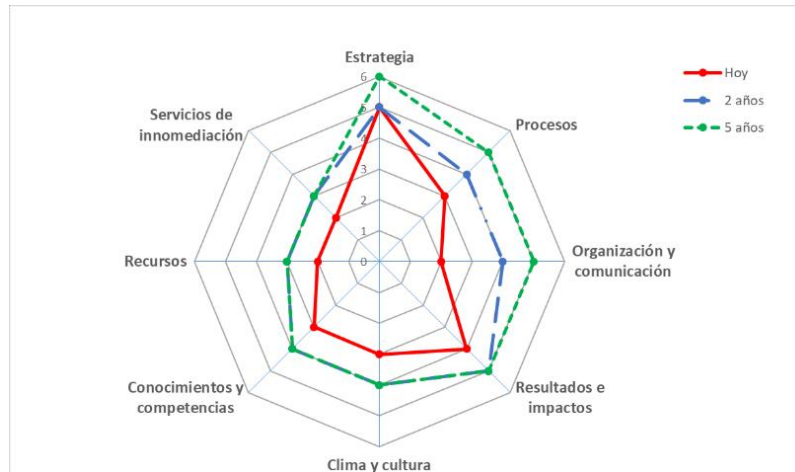
DIMENSIÓN 1: ETAPAS DE MADUREZ DE LA CAPACIDAD DE INNOMEDIACIÓN							
1. Etapas	Etapa 1: La unión como solución	Etapa 2: Enfrentando problemas urgentes	Etapa 3: Estructuración y visión estratégica	Etapa 4: Innovación y alianzas	Etapa 5: Apertura y diversificación	Etapa 6: Innovación en red	Etapa 7: Sistema de innovación
DIMENSIÓN 2: CONDICIONES ORGANIZACIONALES PARA LA INNOVACIÓN							
2.1. Estrategia	Estatutos de la asociación.	Planes para reaccionar a problemas urgentes. Visión estratégica informal.	Planeación estratégica formal con menciones a la innovación.	Planeación estratégica con iniciativas concretas de innovación, colaboración e internacionalización	Planeación estratégica dinámica que incluye alianzas, programas y proyectos de innovación locales.	Planeación estratégica con perspectiva de trabajo en red de colaboración con entidades diversas a nivel regional y nacional.	Planeación estratégica para el sistema internacional en el que interactúa la asociación. Programas y Proyectos de envergadura.
2.2. Procesos	Legales, administrativos y de prestación de servicios básicos.	Servicios concretos para solucionar problemas urgentes de empresas afiliadas. Procesos simples de comunicación.	Procesos de mejoramiento de la asociación y algunos servicios formales de apoyo a los afiliados. Estudios de diagnóstico.	Contratación de ciertos proveedores de solución. Procesos y/o proyectos de innovación. Comunicación constante con afiliados. Principios de Internacionalización.	Acompañamiento a los miembros. Subcontratación y coordinación de proveedores de soluciones para la innovación. Alianzas “simples” e internacionalización.	Comunicación interna y externa. Alianzas y negociación con diversidad de agentes. Gestión de proyectos regionales o nacionales. Exploración de oportunidades. Diversificación.	Colaboración con organizacionales diversas nacionales e internacionales. Proyectos de envergadura. Procesos colaborativos de I+D+i. Manejo de fondos internacionales.
2.3. Organización y comunicación	Definición de asamblea, junta directiva y gerente.	Gerencia que atiende necesidades prioritarias y servicios básicos. Asamblea y junta directiva pasiva.	Gerente líder que con un pequeño equipo o personal subcontratado realiza trabajos específicos. Junta directiva pasiva que respalda la gestión.	Asamblea más activa y participativa. Junta directiva propositiva que respalda nuevas iniciativas de la gerencia. Responsable de innovación.	Alineación de asamblea, junta directiva y gerencia. Existen varios responsables y expertos para atender diversas necesidades de los afiliados. Asociación afiliada a entidades superiores de orden nacional. Hay alianzas diádicas “uno a uno”.	Asamblea, junta directiva y gerencia alineados para funcionar en red con otras organizaciones, bajo alianzas “uno a muchos”. Comunicación constante con aliados. Reuniones y talleres de conocimiento e intercambio. Responsable de gestión de proyectos.	Junta directiva y Gerencia comprometidos en la dirección bajo un sistema de colaboración entre aliados internacionales. Hay alianzas “muchos a muchos”. Existen áreas de gestión de proyectos internacionales.
2.4. Resultados e Impacto	Fundación de la asociación, afiliación y unidad de los miembros.	Soluciones puntuales a problemas urgentes de los afiliados. Resultados de la formación básica impartida.	Mejoras incrementales en procesos. Identificación de necesidades y oportunidades. Primeros resultados de acciones de innovación, a veces con expertos externos.	Resultados de programas y proyectos sencillos y ordinarios de innovación con los afiliados. Subcontratación de proveedores de solución. Formación especializada.	Asociación reconocida a nivel local en su sector. Difusión e implementación de ciertas innovaciones en la mayoría de afiliados. Relaciones con agentes de otros sectores, ámbitos y contextos geográficos.	Asociación reconocida económica y socialmente a nivel regional como actor clave del sector. Existencia de diversas unidades estratégicas en la asociación o varias organizaciones trabajando en red.	Asociación referente a nivel nacional e internacional. Proponente de políticas públicas para el desarrollo económico y social. Convenios y alianzas internacionales para el desarrollo de grandes proyectos.

DIMENSIÓN 3: CAPACIDAD DE INNOVACIÓN E INTERMEDIACIÓN EN INNOVACIÓN

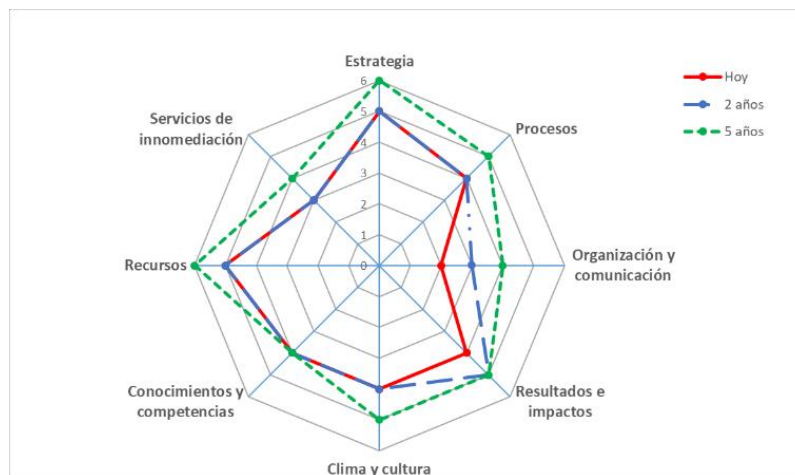
<p>3.1. Clima y Cultura para la innovación</p>	<p>Intensión de cambio y mejora de condiciones para las empresas afiliadas.</p>	<p>Incertidumbre sobre la respuesta de la asociación a problemas de sus afiliados. Apertura a formación básica y primeras soluciones propuestas. Se prioriza lo urgente.</p>	<p>Pensamiento estratégico y de innovación en la junta directiva y el gerente. Ejecución de proyectos puntuales de innovación. Hay algunos conflictos de intereses entre asociados. Exploración de necesidades y oportunidades.</p>	<p>Existe cultura de colaboración y conciencia general de la necesidad de innovar. Por ello, hay aprobación de planes estratégicos, de innovación y presupuestos que se desarrollan con ayuda externa, en varios casos. Mentalidad hacia la internacionalización.</p>	<p>Apertura de la innovación, por ello se hacen alianzas diádicas para colaborar con agentes específicos de otros sectores y geografías. Afiliación a organizaciones de nivel superior. Enfoque hacia el aprovechamiento de oportunidades. Por tanto, se definen responsables y expertos para estos temas en la asociación. Enfoque hacia la competitividad local.</p>	<p>La innovación se entiende como algo abierto que se debe trabajar en red entre varios agentes al mismo tiempo. Existen relaciones colaborativas y cooperativas. Se piensa en la diversificación de la actividad y la especialización por negocios. Enfoque regional y nacional.</p>	<p>Mentalidad de sistema, internacional y de RSE de la innovación. Se opina que la asociación debe generar sus propios procesos y resultados de I+D+i aplicados a su sector. Enfoque hacia la competitividad del sector a nivel internacional.</p>
<p>3.2. Conocimientos y competencias para la innovación</p>	<p>Identificación de necesidades. Manejo de grupos y solución de conflictos.</p>	<p>Gestión para la mejora de situaciones urgentes. Explotación de servicios básicos. Solución de conflictos.</p>	<p>Conocimientos y capacidades básicas para la planeación estratégica. Exploración de necesidades y oportunidades. Gestión de iniciativas puntuales de innovación.</p>	<p>Conocimientos y capacidades para gestionar la innovación. Baja capacidad de absorción. Bajo nivel de sensemaking. Baja capacidad de ambidestreza. Gestión de proyectos de innovación locales.</p>	<p>Capacidad media de absorción. Nivel medio de sensemaking. Capacidad media de ambidestreza. Baja capacidad de negociación. Gestión de proyectos de innovación regionales.</p>	<p>Capacidad para la dirección de negocios diversificados. Alta capacidad de absorción. Alto nivel de sensemaking. Capacidad alta de ambidestreza. Capacidad media de negociación. Gestión de trabajo en red. Gestión de proyectos de innovación nacionales.</p>	<p>Capacidad de absorción muy alta. Capacidad de sensemaking muy alta. Muy alta capacidad de ambidestreza. Alta capacidad de negociación y dirección de equipos multiculturales. Gestión de sistemas de innovación. Gestión de proyectos de innovación internacionales.</p>
<p>3.3. Recursos para la innovación</p>	<p>Ninguno.</p>	<p>Pocos recursos propios (cobro de cuotas). No hay destinación formal de recursos para la innovación.</p>	<p>Recursos propios (cuotas más cobro por servicios adicionales). No hay destinación formal de recursos para la innovación.</p>	<p>Principalmente recursos propios, más algunos externos, destinados a proyectos de innovación.</p>	<p>Recursos propios de la asociación o sus unidades de negocio (cuotas y servicios especializados), más búsqueda de fondos regionales o nacionales para el desarrollo de proyectos locales.</p>	<p>Principalmente consecución de fondos externos (nacionales o internacionales) para proyectos nacionales.</p>	<p>Principalmente consecución de fondos externos internacionales para proyectos nacionales.</p>
<p>3.4 Servicios de innomediación</p>	<p>Representación y control de acceso a la AE</p>	<p>Servicios informales. Servicios de formación y apoyos concretos. Networking entre los asociados.</p>	<p>Algunos servicios formales para la solución de problemas. Consecución de expertos. Networking a nivel local. Previsión y diagnóstico.</p>	<p>Servicios formales de innovación. Portfolio de servicios para la innomediación. Networking regional y nacional. Misiones comerciales. Funciones de procesamiento y generación de conocimiento básico. Formación especializada.</p>	<p>Amplio portafolio de servicios para la innomediación. Networking internacional. Conexión intersectorial. Consultoría. Acompañamiento en gestión de proyectos a los asociados.</p>	<p>Conexión internacional e intersectorial. Funciones de procesamiento y generación de conocimiento especializado. Búsqueda de fondos externos para la innovación de los asociados.</p>	<p>Vinculación al sistema de innovación internacional del sector. El portafolio de servicios de innomediación incluye servicios de acreditación y estándares, propiedad intelectual, y procesamiento y análisis de resultados del sector. Canalización de recursos internacionales para la innovación.</p>

Annex 8. Radial diagrams of maturity of business associations

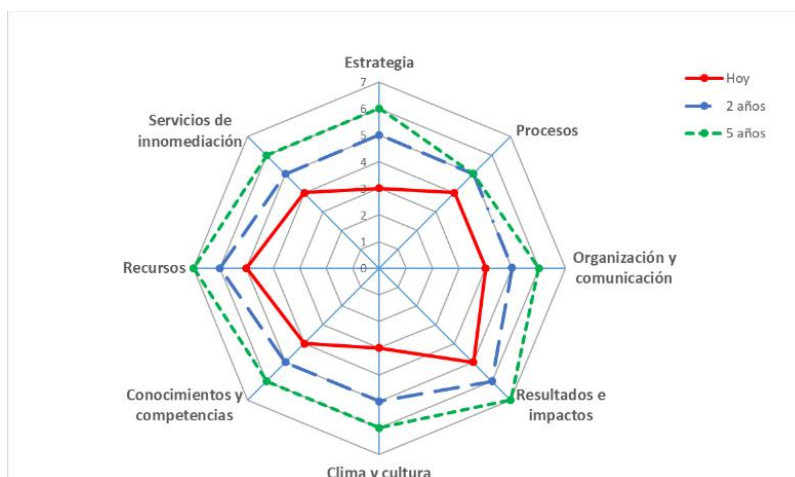
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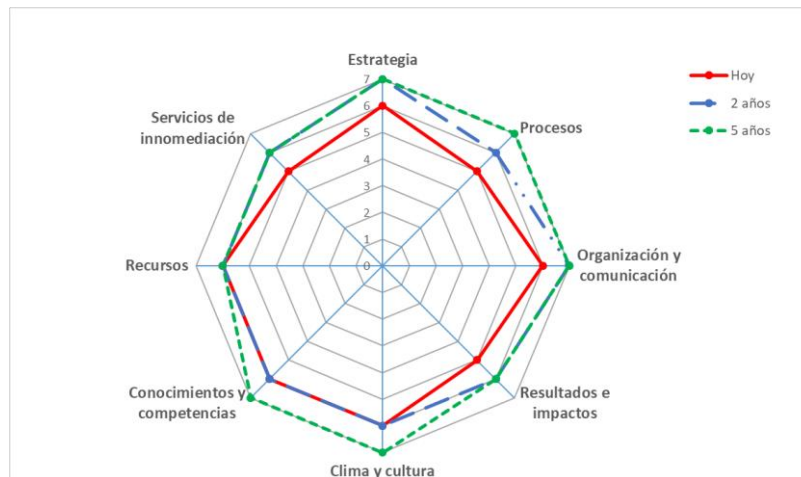
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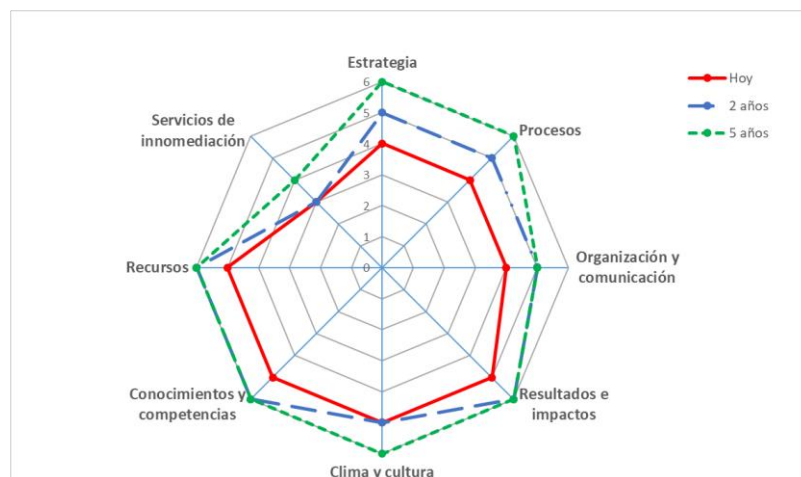
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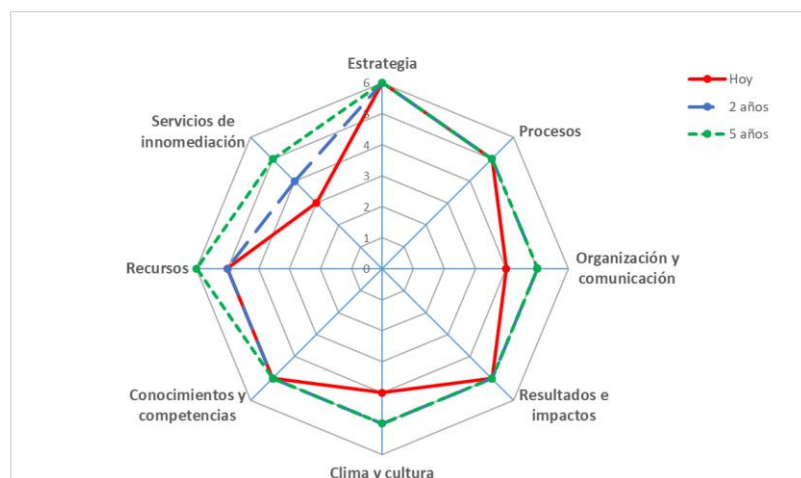
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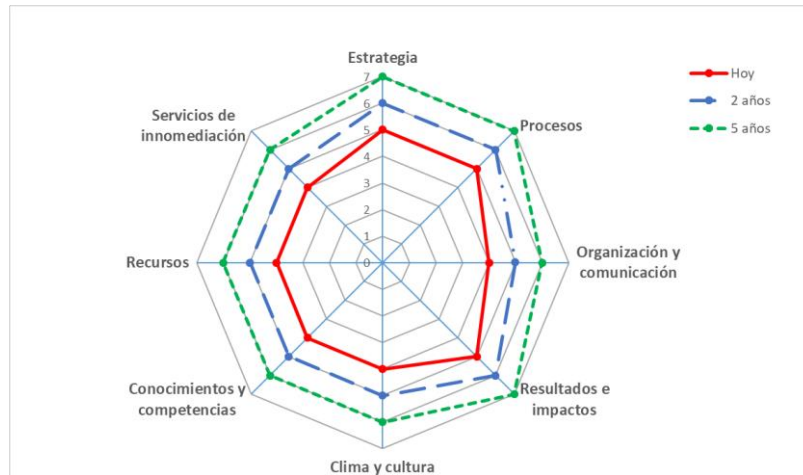
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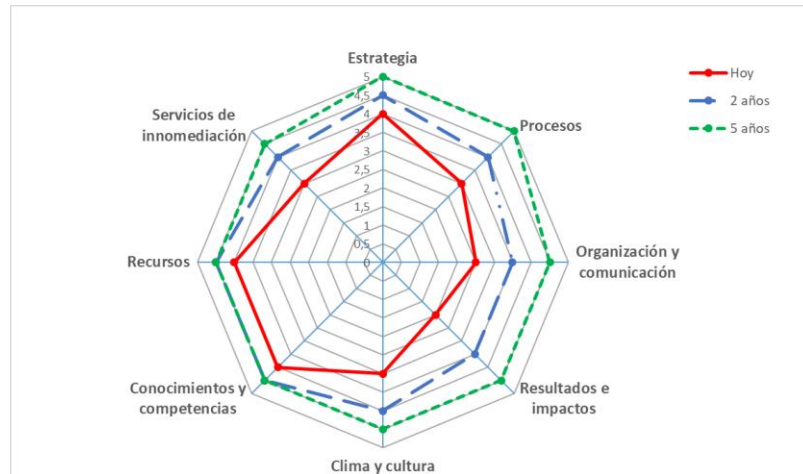
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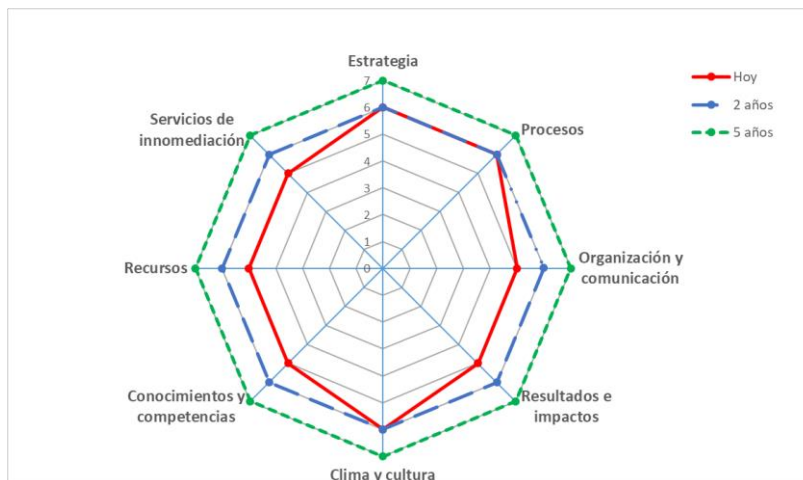
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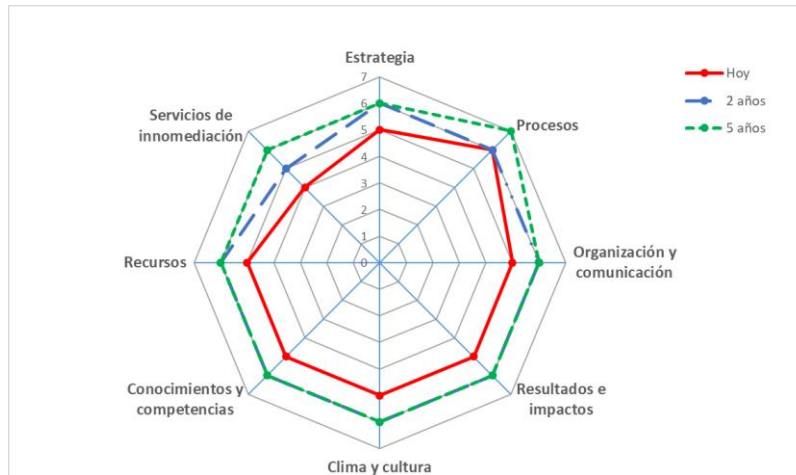
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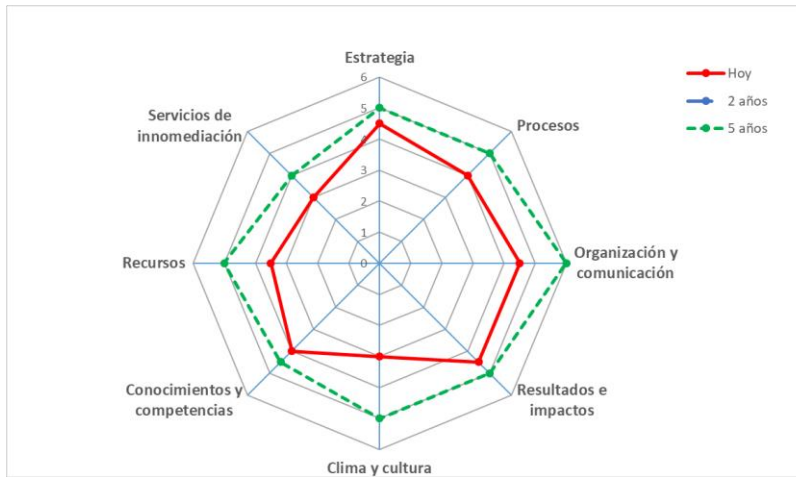
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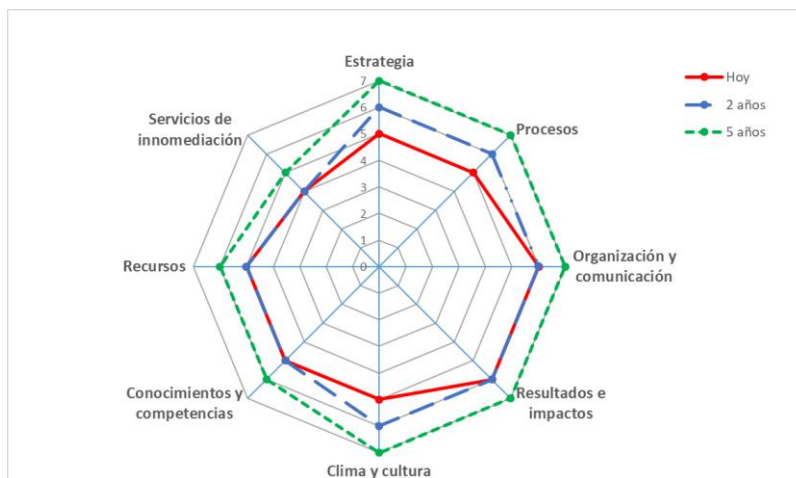
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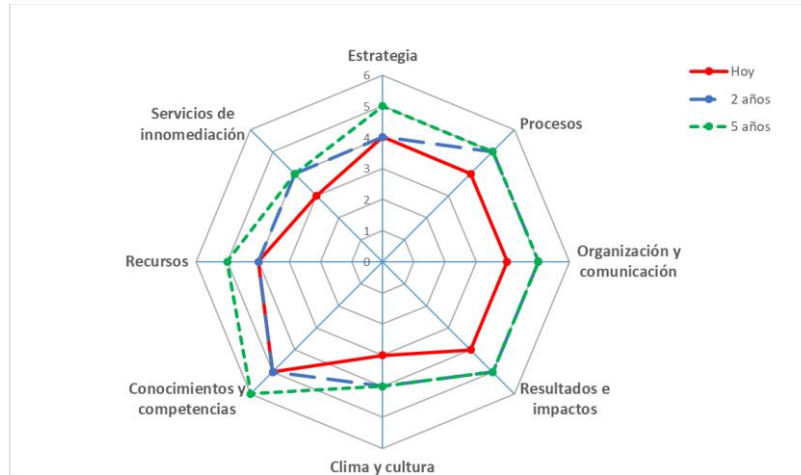
Association 11



Association 12



Association 13



Association 14

