



UNIVERSITY OF CATANIA

PHD IN BUSINESS ECONOMICS & MANAGEMENT

*Genesis and conceptualization
of coopetition strategy*

SUPERVISOR
Giovanni Battista Dagnino

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Anna Minà

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INTRODUCTION

1. SETTING THE SCENE

Strategy studies have traditionally focused on competitive interactions between firms that entail, either or both, structural advantages at the industry or infra-industry level (Porter, 1980; Schmalensee, 1985) or heterogeneous resource and competence deployments to obtain competitive advantages vis-à-vis competitors (Barney, 1991; Peteraf, 1993; Dierickx and Cool, 1994; Teece et al., 1997).

During the late 1980s, strategy studies started to develop new views that concerns cooperative relationships between firms intended as an alternative paradigm to competitive interactions. A shift from a win-lose to a win-win perspective emerged as well as a convergence of interests that justified an integration of heterogeneous resources, skills and capabilities to improve firms' performances (Dyer and Singh, 1998). Nonetheless, strategy literature was still focused on either competitive or cooperative relationships, assuming that "like water and oil, competition and cooperation do not mix" (Gomes-Casseres, 1996: 70-71).

While firms have to compete and cooperate simultaneously with each other for value creation in business practices, academic research regarded for a long time the neologism "coopetition" (coined by Ray Noorda, CEO of Novell) as a "quasi-illegitimate word" (Dagnino, 2007: 4). Notwithstanding that, the relevance of combining competition and cooperation and the idea of "sleeping

with the enemy” has existed before the term coopetition arose and Nalebuff and Brandenburger (1996) celebrated the emergence of a new mindset in management studies.

In the last decade, the idea of integrating both competition and cooperation in the value creation phase has gradually paved the way for the formation and enucleation of an entire theoretical body of research regarding cooperative inter-firm relationships (Bengtsson and Kock, 2000) and in which firms are engaged in a win-win game with changeable results (Dagnino, 2009). Table 1 demonstrates the types of interfirm relationships and their traits.

Table 1: Types of interfirm relationships

	COMPETITION	COOPERATION	COOPETITION
AGENT INTERESTS IN THE VALUE CREATION PROCESSES	Conflicting interests	Fully converging interests	Partially converging interests
TYPE OF GAME	Win-lose game	Balanced positive sum game	Balanced but variable positive sum game
KEY VARIABLE	Market power, competing resource and competence endowments, innovation	Complementary resource and competence endowments deployed for the benefit of both agents	Competing and complementary resource and competence endowments deployed for partially convergent objectives

Source: Adaptation from Mocciaro and Minà (2009)

2. RESEARCH MOTIVATIONS

The aim of this dissertation is to grasp the *processes underlying the genesis and theoretical affirmation of coopetition as management innovation*. There are two main reasons justifying the decision to study of the notion of coopetition. First, coopetition strategy represents a relevant economic phenomena in a number of environments, such as high-tech and services industries (i.e. financial services). Consequently, managers and practitioners solicit to grasp coopetition as a

strategic option and ask for tools to manage both the competitive and cooperative elements of this “multifaceted” relationship (Dowling et al., 1996).

Second, the lack of a shared conceptualization of coopetition in strategic management literature explains why such solicitation from the business community has not been satisfied. As frequently occurs in management inquiry, the practice of coopetition was ahead of the theory of coopetition.

Given the premises reported above, we argue that a comprehensive *understanding of the coopetition process and of its rationale* can help entrepreneurs and executives to properly recognize it and call for motivation for applicable tools to manage it. Consequently, the purpose of this dissertation is to clarify to what extent and under which boundary conditions it is appropriate to apply the concept of coopetition. Therefore, we proceed to an in-depth scrutiny of the theoretical foundations of coopetition strategy and to carefully assess its novelty through the use of various complementary methodological lenses (i.e., the philosophical lens, bibliometric methods, and categorical analysis).

3. OBJECTIVES OF THE RESEARCH

As earlier mentioned, this dissertation aims to analyze the notion of coopetition from different angles. In more detail, the purposes of this research are threefold:

- I. to shed light on the microfoundations and the core nature of coopetition, and to decipher its current terminological fragmentation. Specifically, we combine microfoundational investigation with an epistemological enquiry, to study the processes underlying coopetition’s philosophical origin and

conceptual confirmation. Then, we can explain why coopetitive relationships exist and what underpins their main features;

- II. to investigate the meanings of coopetition that have affirmed in the managerial literature so far and whether the coopetition concept is being reified. Reviewing the entire panel of existing studies on the topic allows us to map the state of the art of coopetition studies as well as to explore whether (or not) concept of coopetition has received confirmation in scholarly articles or is an open notion;
- III. to dig deeper in the newness of coopetition and explore the role of academia in shaping and diffusing coopetition as management innovation. Specifically, moving from the socio-cognitive model of technological evolution (Garud and Rappa, 1994), our challenge is to shed light on the reciprocal interaction between the beliefs that researchers hold, the artifacts they have created and the evaluation routines that legitimize and support in diffusing coopetition contributions within the research community.

4. STRUCTURE OF THE DISSERTATION

The structure of the dissertation includes three key chapters; each of them presents us with a specific epistemological and methodological goal. The dissertation is organized as follows:

- Chapter I: *“Unraveling the philosophical microfoundations of Coopetition: the influence of the Chinese yin-yang approach on Western critical thought”*;

- Chapter II: “*Coopetition as an Emergent Construct: Identifying a Reification Process through a Bibliometric Analysis*”;
- Chapter III: “*Conceptualizing Coopetition Strategy as Management Innovation*”.

While each chapter is aimed to be a contribution in its own right and can be read separately from the others, they are an integral part of the larger context of this study.

4.1. Chapter I: “Unraveling the philosophical microfoundations of Coopetition: the influence of the Chinese yin-yang approach on Western critical thought”

Chapter I aims to explore the core nature and the antecedents of cooperative relationships. We argue that bridging ideas from one theoretical domain can be useful to address an issue or explain a phenomenon in another domain (Floyd, 2009: 1057). Then, we combine a microfoundational investigation with an epistemological inquiry to disentangle the nature of coopetition. In fact, microfoundations research coupled with philosophical analysis allows us: (a) to identify the nature of coopetition; (b) to highlight the elements that distinguish the phenomenon of coopetition from its strategy; (c) to show the dichotomy between spontaneous behaviors and deliberate goal-seeking, as well as between deliberate and emergent cooperative strategies (Mariani, 2007).

The purpose of this chapter is to verify whether coopetition may represent a new way of managing relations and, hence, explore the processes underlying the emergence and affirmation of coopetition through the lens of philosophical

investigation. Drawing on the influence of the Chinese “middle way” on Western modern thought, we explore the evolutionary paths of cooperation and assess the double logic of cooperation in Western philosophy. In more detail, we investigate the philosophical microfoundations of cooperation through a brief analysis of Chinese yin-yang philosophy and its influence on four Western “cooperative philosophers”: David Hume, Adam Smith, Immanuel Kant and Søren Kierkegaard. These men all lived between 1750 and 1850 and were affected by the Eastern philosophical wave. For each thinker, we elaborate the cooperative arguments that they used, which helps us to identify the essence of cooperation. Therefore, we outline a synopsis of Western thought on cooperation. Then, we explain whether cooperative behavior is truly contained in human nature or is generated by external behaviors. Such an investigation shows that cooperation does not draw on the breaking-part logic, but from an integrative view in which opposites – competition and cooperation – are interdependent and reciprocally integrated in a unique strategy. Furthermore, we deem it helpful to elucidate the distinction between the phenomenon of cooperation and cooperative strategy and investigate how and to what extent an understanding of the two essential elements of cooperative behavior (i.e., cooperative competition and competitive cooperation). Table 2 demonstrates an overview of chapter I.

Table. 2: Overview of chapter I

Purpose	This study aims to lead the way in investigating the essence of coopetition by using the lens of the “coopetition paradox”. Therefore, it explores the processes underlying the emergence and affirmation of coopetition through the lens of philosophical investigation.
Research questions	What is the nature of coopetition? What are its microfoundations?
Method	Qualitative analysis – in-depth and comparative assessment of the philosophical literature
Sample	“Quartet” of coopetitive philosophers: Hume, Smith, Kant, Kierkegaard
Findings	<ul style="list-style-type: none"> - The “paradox mindset” is key to understanding the essence of coopetition. - To distinguish between the phenomenon of coopetition and coopetitive strategy. - To explain how and to what extent an understanding of the two essential elements of coopetitive behavior (i.e., cooperative competition and competitive cooperation) may be fruitful for research.
Research limitations	<ul style="list-style-type: none"> - The analysis “only” covers four Western thinkers labeled “coopetitive philosophers” in the century that spanned from 1750 to 1850; - The focus is on the individual, which is seen as the epistemological basis for macro-level investigations. Therefore, such a study does not explore the organizational contingencies of the individual in competing firms.
Main contributions / originality	<ul style="list-style-type: none"> - It shows that the essence and genesis of coopetitive strategy is closely linked to the (broader or narrower) structure of interest convergence. - To introduce coopetition as third way of looking at relationships combining the advantages associated with both competitive and cooperative actions. - It sheds light on the dichotomy between spontaneous behavior and deliberate goal-seeking, that is, between deliberate and emergent coopetitive strategies.

4.2. Chapter II: “Coopetition as an Emergent Construct: Identifying a Reification Process through a Bibliometric Analysis”

Chapter II aims to thoroughly explore the state of the art of coopetition studies in order to investigate how coopetition has been socially constructed and what meanings have been credited to it. By using the bibliographic coupling method, we offer an overview of 82 studies published from January 1996 to December 2010: 53 papers in the journals of the Institute for Scientific Information (ISI) and further 29 articles published in three edited academic books.

Bibliometric tools also make it possible to pinpoint influential studies and their interrelationships that have supported the theoretical evolution of a field. Such a mapping process shows the degree of connection and cohesion among

study references and then whether or not the concept can be considered as reified, meaning that the abstract notion of “cooperating and competing” is adopted with no real referent. Furthermore, by investigating how the authors approach the field, the dissertation grasps the reification process underlining coopetition studies.

The bibliometric analysis shows that a common understanding of coopetition and cooperative dynamics is still missing. Hence, we do not have a shared conceptualization of coopetition. Research mentions coopetition simply assuming that the meaning of the concept is clear without specifying the assumptions they make while using it. In fact, different assumptions are often made that lead to different attributed meanings.

The problem of identifying an univocally shared definition of coopetition has never been clearly solved in extant literature even if the reification process has been started. Table 3 demonstrates an overview of chapter II.

Table. 3: Overview of chapter II

Purpose	To present a systematic review of the literature on coepetition strategy and, hence, explore whether or not the coepetition construct is being reified.
Research questions	What meanings of coepetition are affirmed in the literature so far? Second, to what extent in this process is the coepetition construct being reified and to what extent is it being allowed to remain open for further construction and interpretation?
Method	Bibliometric coupling approach.
Methodological details	Cluster analysis complete linkage and multidimensional scaling.
Sample	82 studies published from January 1996 to December 2010: 53 papers in the journals of the Institute for Scientific Information and a further 29 articles published in three edited academic books.
Findings	The chapter draws a detailed picture of structure of coepetition strategy literature. It identifies two main analyses. The former maps the intellectual structure of the coepetition literature, and hence, the significant issues explored by coepetition studies and the contributions influencing the definition of coepetition. The latter develops a scrutiny of authors' approaches to coepetition to dig deeper into the reification process. Both analyses make it possible to frame the roots of the field and its future line of research.
Research limitations	<ul style="list-style-type: none"> - Bibliometric methods apply the benefits of objectivity to assess the link on paper, however they ignore the many reasons authors may have for citing earlier papers; - The cluster analysis of articles assumes as hypothesis that each paper could belong exclusively to a cluster.
Main contributions / originality	<ul style="list-style-type: none"> - It clarifies emerging themes in coepetition studies. - By identifying the topic themes of articles that have been most influential, it is possible to understand conceptualizations of the coepetition construct that are not only emerging but are also becoming reified and affirmed in management studies; - It explores the intellectual structure of research, and offers the systematization of existing studies on coepetition;

4.3. Chapter III: “Conceptualizing Coepetition Strategy as Management Innovation”

A management innovation typically represents a breakthrough. It is not easily recognizable and has a slow reification process. Therefore, chapter III addresses the challenge to explore coepetition as management innovation.

Drawing from the idea that academia is a key player in searching new managerial knowledge, chapter III investigates the evolution of coepetitive literature and the theoretical processes through which coepetition has been presented as management innovation. More explicitly, we attempt to understand

in what ways coopetition can be considered a management innovation and, if so, what are the social and cognitive processes that unfold over time as coopetition develops.

By doing so, we introduce the socio-cognitive model of technological evolution (Garud and Rappa, 1994). Therefore, we analyze the reciprocal interaction between beliefs that researchers hold, the artifacts they created, and the evaluation routines that legitimize and help in diffusing coopetition contributions within research community.

We develop a categorical analysis of coopetition literature using the management innovation perspectives (i.e. the institutional, fashion, cultural and rational perspectives). In doing so, this chapter sheds light on different approaches to coopetition (beliefs), and in each instance identifies the underlying tools used to manage coopetition. Such systematization helps one to understand the newness of coopetition compared with simple competition or cooperation, as well as to grasp the contextual and organizational aspects that support the “new” practices, structures, and processes on which coopetition strategies depend. Table 4 demonstrates an overview of chapter III.

Table. 4: Overview of chapter III

Purpose	To depict coopetition as a management innovation and propose a socio-cognitive model of coopetition.
Research questions	In what ways is coopetition a management innovation? If it is management innovation, what drivers support the emergence of coopetition? What are the social and cognitive processes that unfold over time as coopetition develops? What does the conceptualization of coopetition as a management innovation suggest concerning how to manage coopetition?
Method	Categorical analysis.
Sample	82 studies published from January 1996 to December 2010: 53 papers in the journals of the Institute for Scientific Information and a further 29 articles published in three edited academic books.
Findings	<ul style="list-style-type: none"> - Coopetition has the same characteristic traits of management innovation that are: (a) novelty; (b) change in the means to obtain a given end; (c) ambiguity and uncertainty; (d) process of emergence and affirmation of coopetition; - The socio-cognitive process that unfold over time as coopetition develops shows the two cyclical processes of individual and shared cognition.
Main contributions / originality	<ul style="list-style-type: none"> - It clarifies how coopetition involves new management practices, processes, and structures to support organizational value creation; - It shows the interaction between community of scholars, beliefs and artifacts that help to explain the emergence and affirmation of coopetition and how such a process can lead to the creation of new theoretical paths; - It proposes a frame of action – analytical levels, contextual factors, organizational features, and structures and processes of coopetition strategies – which identifies the drivers of coopetition interactions; - The methodological approach it develops may be useful for the investigation of existing literature in other management fields of inquiry.

5. REFERENCES

- Barney J.B. (1991), “Firm Resources and Sustained Competitive Advantage”, *Journal of Management*, 17.
- Bengtsson M., Kock S. (2000), “Coopetition in business network – to cooperate and compete simultaneously”, *Industrial Marketing Management*, 29.
- Dierickx I., Cool K. (1994), “Asset stock accumulation and sustainability of competitive advantage”, *Management Science*, 35(12), December.
- Dagnino G.B. (2009), “Coopetition strategy: A new kind of interfirm dynamics for value creation”, in Dagnino G.B., Rocco E. (eds.) *Coopetition Strategy: Theory, Experiments and Cases*, London, Routledge.
- Dyer J.H., Singh H. (1998), “The relational view: Cooperative strategy and Sources of interorganizational competitive advantage”, *Academy of Management Review*, 23(4).
- Floyd S. W., (2009) “Borrowing Theory: What Does This Mean and When Does It Make Sense in Management Scholarship?”, *Journal of Management Studies*, 46(6), July.

- Garud R., Rappa M.A., (1994), "The Socio-cognitive Model of Technology Evolution: The Case of Cochlear Implants", *Organization Science*, 5(3), August.
- Lado A., Boyd N.G., Hanlon S.C. (1997), "Competition, cooperation, and the search for economic rents: A syncretic model", *Academy of Management Review*, 22(1).
- Mariani, M.M. (2007), "Coopetition as an Emergent Strategy: Empirical Evidence from an Italian Consortium of Opera Houses", *International Studies of Management & Organization*, 37.
- Mocciaro Li Destri A., Minà A. (2009), "Coopetitive Dynamics in Distribution Channel Relationships: An Analysis of the Italian Context in the Twentieth Century", *Finanza, Marketing, Produzione*, 2.
- Nalebuff B., Brandenburger A. (1997), *Coopetition*, HarperCollinsBusiness, London.
- Porter M.E. (1980), *Competitive Advantage*, The Free Press, New York.
- Schmalensee R. (1985), "Do markets differ much?", *American Economic Review*, 75.
- Teece D.J., Pisano G., Shuen A. (1997), "Dynamic capabilities and strategic management", *Strategic Management Journal*, 18(7).

CHAPTER I

UNRAVELING THE PHILOSOPHICAL MICROFOUNDATIONS OF COOPETITION: THE INFLUENCE OF THE CHINESE *YIN-YANG* APPROACH ON WESTERN CRITICAL THOUGHT

Abstract

This article aims to shed light on the microfoundations underlying the genesis and conceptual confirmation of the notion of coopetition in strategic management. Because the consideration of individual action is required to scrutinize the microfoundations of coopetition, we investigate problematics and apply the paradox view to the consistency of partial interest convergence, which epitomizes simultaneously competitive and cooperative actions, with human nature. We capture the antecedents of coopetitive relationships, drawing on the influence of the Chinese “middle way” on Western modern thought, explores the evolutionary paths of coopetition and assesses the double logic of coopetition in Western philosophy. More specifically, by systematically juxtaposing a quartet of “coopetitive philosophers” (i.e., David Hume, Adam Smith, Immanuel Kant, and Soren Kierkegaard) who all lived between 1750-1850, the article contributes to the basic foundations that distinguish between the *phenomenon* of coopetition and the *strategy* of coopetition as well as investigates the dichotomy between deliberate and emergent coopetitive strategies.

Key words: Coopetition, self interest, human nature, philosophical microfoundations.

“Whether I am moving in the world of sensate palpability or in the world of thought, I never reason in conclusion to existence, but I reason in conclusion from existence. For example, I do not demonstrate that a stone exists but that something which exists is a stone. The court of law does not demonstrate that a criminal exists but that the accused, who does indeed exist, is a criminal. Whether one wants to call existence an accessorium [addition] or the eternal prius [presupposition], it can never be demonstrated”. (Soren Kierkegaard, *Philosophical Fragments*, 1844, III).

1. INTRODUCTION

The last twenty-five years has witnessed a profound, twofold shift in the theoretical and practical evaluation of interfirm relationships: (a) a transition in the 1980s and 1990s from an emphasis on competitive relationships to a stress on cooperative relationships and (b) the acknowledgement of the relevance of cooperative dynamics in the 2000s. Ray Noorda, then the CEO of Novell, developed the idea of cooperation in the early 1990s. As soon as the word “cooperation” appeared in management literature, the neologism was immediately considered to be a “quasi-illegitimate word” because neither the academic world nor the managerial community had emphasized it (Dagnino, 2007: 4). It was only after the pioneering works of Nalebuff and Brandenburger (1996) and Brandenburger and Stuart (1996) that cooperation became visible in the management realm and then an awareness of this new way of looking at interfirm relationships gained legitimacy.

Although advances in cooperation research have been made in the past decade through intense and open conversation in diverse international venues (Baglieri et al., 2008), cooperation is still a “liquid construct” (Dagnino and Rocco, 2009) due to its multifaceted dynamics, complexity and instability

(Castaldo and Dagnino, 2009).

Consequently, we asked, what is the nature of coopetition? How can we investigate its microfoundations? To disentangle this intricacy, we studied the processes underlying coopetition's philosophical origin and conceptual confirmation. Thus, we can explain why coopetitive relationships exist and what underpins their main features.

Although earlier strategic management studies focused on the levels of firms and industries, various authors (Felin and Foss, 2005, 2006; Abell et al., 2008) have recently argued that “microfoundations have become an important emerging theme in strategic management” (Abell et al., 2008: 1). This contention has led to the apparent resurgence of attention on the crucial role of individuals and groups in management research. Because there are no conceivable causal mechanisms in the social world that “work solely on the macro” level (Abell et al., 2008: 1), microfoundations research is considered the requisite preliminary step to explain the many hidden aspects of coopetition at various macro levels of investigation.

Based on the conviction that “bridging ideas from one theoretical domain to address an issue or explain a phenomenon in another domain” (Floyd, 2009: 1057) can be a rewarding research strategy, we combine *microfoundational investigation with epistemological inquiry* to identify the nature of coopetition. In fact, microfoundations research coupled with philosophical analysis seems to be a superior strategy for identifying the nature of coopetition and the role of the individual in coopetitive dynamics. Furthermore, by adopting an epistemological stance, we can pinpoint elements that distinguish the phenomenon of coopetition

from its strategy and disentangle the dichotomy between spontaneous behaviors and deliberate goal-seeking or between deliberate and emergent cooperative strategies (Mariani, 2007).

We investigate the philosophical microfoundations of cooperation through a brief analysis of Chinese yin-yang philosophy and its influence on four Western “cooperative philosophers” (David Hume, Adam Smith, Immanuel Kant and Søren Kierkegaard). We then sketch a conceptual framework to explain whether cooperative behavior is truly contained in human nature or is generated by external behaviors. Drawing on Dagnino (2009), we argue that cooperation is a matter of “incomplete interest (and goal) congruence” that, instead of merely coupling competition and cooperation, combines them. We anticipate that, based on a philosophical investigation of the microfoundations of cooperation, we will be able to shed light on the following three cooperation subjects:

- elucidate the distinction between the phenomenon of cooperation and cooperative strategy (Nalebuff and Brandenburger, 1996, Luo, 2007: 143; Padula and Dagnino, 2007; Gnyawali, and Park, 2008). Earlier studies on cooperation strategy considered cooperation a “hybrid strategy” that involves deliberate and spontaneous strategic behaviors (Dagnino, 2007). A philosophical investigation helps to disentangle the dichotomy between phenomenon of cooperation and cooperative strategy. Specifically, cooperation as phenomenon regards the emergence of a spontaneous behavior, that we may evaluate only by analyzing individual motives and actions. Conversely, cooperation strategy concerns a intentional goal-seeking action, where individuals are relatively extraneous to phenomena

because only collective facts determine individual behavior. Obviously coopetition strategy could be emerge as deliberate (planned) and emergent (not planned, but conscious) cooperative strategies (Mariani, 2007). Thus, we understand this dichotomy's implications for relationship stability between actors;

- investigate how and to what extent an understanding of the two essential elements of cooperative behavior (i.e., *cooperative competition* and *competitive cooperation*) may be fruitful for research. This approach allows the “coopetitor” to act as a competitor who is interested in cooperation and/or as a cooperator who cannot stay away from competition.

By exploring the influence of the Chinese middle way approach in coopetition literature, we introduce coopetition as management innovation that *requires novelty in ideas, practices, structures and processes* that go beyond a simple coupling of competitive and cooperative practices. Coopetition represents a third way of looking at interfirm relationships combining the advantages associated with both competitive and cooperative actions. As management innovation, coopetition transforms logics and mindsets, because it implies a shift from a logic that is based on breaking-wholes-into-their-separate-parts to a logic that is based on an integrated, holistic perspective on overall firm strategy. Such approach opens new management issues, like the management of tensions in cooperative relationships.

The remainder of this paper is divided into five sections. Section Two lays out the pathway of analysis: the level of investigation, the Eastern and Western

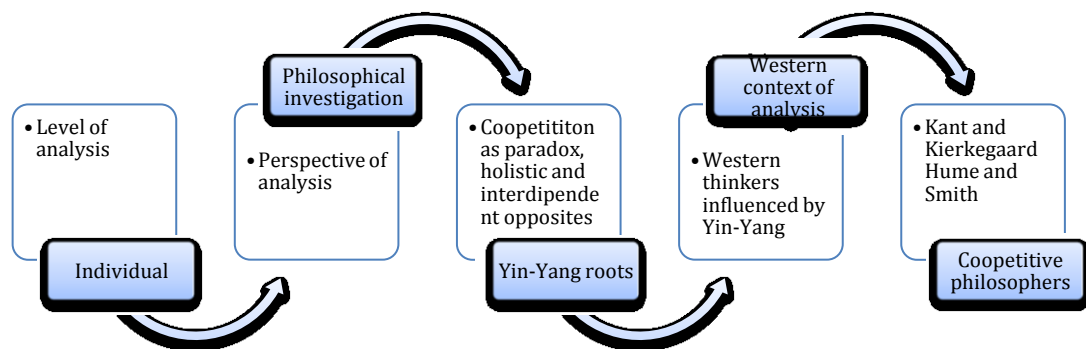
philosophical contexts, the period of investigation, and the epistemological and methodological perspectives that the Western thinkers used. These thinkers are David Hume (1711-1776), Adam Smith (1723-1790), Immanuel Kant (1724-1804) and Søren Kierkegaard (1813-1855). In Section Three, we introduce the Chinese *yin-yang* philosophical viewpoint and discuss how the Chinese mindset spread through Europe in the eighteenth century and influenced the thought of the four Western philosophers. Section Four is dedicated to the analysis of the four thinkers, whom we label as “coopetitive philosophers.” For each thinker, we elaborate the coopetitive arguments that they used, which help us to identify the essence of coopetition. Finally, in Section Five, we outline a synopsis of Western thought on coopetition, draw some conclusions underlining our study’s implications for coopetition theory, and discuss limitations and avenues for future research.

2. PATHWAY OF ANALYSIS

Both academics and practitioners have attributed increasing relevance to understanding the inner nature of coopetition, and in this context, the investigation of coopetition’s microfoundations is an intriguing challenge. This growing interest is evidenced by the increasing number of results dedicated to coopetition and coopetition strategy that a simple Google search retrieves (more than 100,000 results if we combine two searches on December 5, 2010). Publications and working papers on the issue have proliferated in the last decade. Figure 1 illustrates how we investigate coopetition’s microfoundations. First, we justify our decision to study the micro-level of coopetition. Second, we explain our study’s theoretical contribution based on its philosophical, analytical lens. After

identifying the stimulus of the Chinese mindset, we focus on the time period during which it gained significance and inspect the influence of Yin-yang philosophy on Western thought. Finally, we justify our focus on the four Western philosophers mentioned above and introduce their philosophical methodologies.

Figure 1: Research Design following a bottom-up approach



2.1. Level of analysis

Research in strategy has been strongly influenced by approaches mainly focusing on “supra-individual antecedents when seeking to account for firm-level firm – related outcomes” (Foss, 2009, p. 22). Recently explicit attention, mainly in strategic management and organizational theory, has been paid to the need of microfoundations and theory-building from foundations rooted in assumptions about individuals (Foss, 2009).

Micro-foundation entails a search for the «deep structure» underneath aggregate phenomena. Three main reasons of why micro-foundations could be considered as critical for management emerge. First, macro-level analysis presents alternative explanations. This means that there are likely to many alternative lower-level explanations of macro-level behavior which cannot be rejected with

macro-analysis alone. Even building large samples on the basis of macro units of analysis, the main problem of alternative explanations may persist.

Second, to gain and sustain competitive advantage, management intervention has to take place with an eye to the micro-level. As Foss (2010) reported, “it makes little sense to argue that managers can directly intervene on the level of, for example, capabilities. Perhaps, however, managers can influence capabilities, for example, by hiring key employees (in which case the micro-level is directly involved) or by changing overall recruitment policies, reward systems, etc., all of which involves the micro-level” (2010: 15).

Third, according to Coleman (1990), the explanations that are based on the microfoundations are more stable than the one that remain at the systemic (macro) level, since the macro level represents the result of the actions of its different component parts. Therefore, it is quite difficult to define “who affected what”.

We aim to explore the nature of cooperation and its foundations. The nature of cooperation varies depending on the perspective taken from an actor point of view - wherein actor is defined as an individual or organization (Tidstrom, 2008) - , in this study we draw from Deutsch (1973), who notes that most everyday situations involve complex sets of goals and sub goals. It is therefore possible for individuals to be interdependent and cooperative concerning one goal (i.e. winning a game), while individually competitive other considering another goal (i.e. being the best player of the team).

We moved from the idea that “organizations are made up of individuals, and there is no organization without individuals” (Felin and Foss, 2005: 441). Actually, firm-level constructs are rooted on individuals and also the impact of

such constructs on firm-level outcomes are mediated by individuals their interactions (Abell et al., 2008). Likewise, the nature of coopetition (strategy and/or phenomenon) should be explored by starting on individual actions, in order to improve understanding of the aggregate ramifications of such coooperative behaviors and hence, shift from micro to macro levels of investigation (Coleman, 1990). We identified the appropriate levels of disaggregation between the micro and macro perspectives by considering an adequate number of weak ties between the unit of analysis and its higher levels. Unlike the traditional way of thinking pursued by Max Weber and Frederick Taylor in the early twentieth century (in which institutions, not individuals, are central to society), we argue that institutions are not the appropriate level of investigation. Rather, individual action is the unit at which to study coopetition's microfoundations. This approach is grounded in the difference between human behavior, stemming from human nature and internal laws and higher analytical levels of investigation that are external to the human being.

This article moves from the vision of Protagoras, for whom man was "the measure of all things," to Austrian economics and Eastern cultures (e.g., Hindu or Chinese). Throughout, individual action and interaction (Hayek, 1952; Elster, 1989; Coleman, 1990) are two key constructs for analysis (Elster, 1989: 74) to investigate the theoretical mechanisms underlying coopetition. The central theme of this article is, therefore, that *individual action* is the initial level of a multilevel arrangement (Hitt et al., 2007) because it allows us to access the nature of coopetition. For any other level, the complexity of managing many variables that influence the emergence of coopetition renders it difficult for us to identify its

core nature. Conversely, individual action is a crucial variable because it helps us to verify the reasons for heterogeneity in cooperative individual behaviors, the ways in which intentional action can develop into a strategic phenomenon (Coleman, 1990) and the extent to which context influences cooperation's emergence.

2.2. Philosophical context of analysis

Cooperation, in essence, emphasizes the interaction of two antithetical behaviors (i.e., competition and cooperation), which we view as a paradox. A paradox is “an idea involving two opposing thoughts or propositions that, however contradictory, are equally necessary to convey a more imposing, illuminating, life-related or provocative insight into truth than neither fact can muster in its own right. What the mind seemingly cannot think, it must think” (Slaatte 1968: 4).

Management scholars frequently borrow and integrate theories from different research fields (Floyd, 2009). Our analysis bridges insights from one theoretical domain – specifically, paradox vision from philosophy - to explain a phenomenon in another domain (i.e., strategic management). We adopt the approach that “theory extension in the focal domain is based on ideas in the parent” (Floyd, 2009: 1057) and address the challenges and opportunities associated with using inter-disciplinary theoretical approaches (Zahra and Newey, 2009) to investigate the philosophical microfoundations of cooperation. Moreover, philosophical inquiry is relevant for both *explorative results*, which can satisfy the human instinct to ask questions, and *heuristic goals*, which can provide new solutions and integrate, develop and renew existing ones. Thus, the essence of

philosophy is to discuss the most important issues of human existence and to highlight their theoretical relevance for understanding and discovering the limits of our own knowledge. Therefore, philosophy is a significant lens of investigation for cooperation.

Sophist philosophers in ancient Greece investigated the opposition between nature (as universal and spontaneous) and culture (as a system of norms). According to them, human behavior is the product of innate nature and individual experience. Various philosophers, from the ancient Greeks to the Taoists and the nineteenth-century existentialists, have regarded human nature and existence as an apparent paradox (Barrett, 1998). This contention has also found fertile ground in management literature (Lewis, 2000). Paradox¹ requires us to focus on two opposing poles because “the presence of each pole can significantly affect the other pole and the influence would be missed or ignored if a paradoxical view was not used” (Chae and Bloodgood, 2006: 4). Thus, although they form a seeming contradiction, the paradox’s elements operate simultaneously (Cameron and Quinn, 1988).

Traditionally, Western philosophy has focused on breaking ideas into parts, and Eastern philosophy² has emphasized integrating various ways of thinking. Specifically, the Chinese philosophical tradition emphasizes an integrative perspective of “opposing voices,” or *yin and yang*. Yin and yang synthesize two complementary aspects that constantly interact and are reciprocally included in each element. In other words, “integration is not the sum or

¹ As Cameron and Quinn (1988) suggest, the concept of a paradox is different from other terms such as dilemma or conflict because “in a paradox no choice needs to be made between two or more contradictions or opposing voices” (Chen, 2002: 181).

² Generally speaking, Eastern philosophy embraces a group of philosophies and religions originating in India, China, Japan, Southeast Asia, and Arabic countries.

combination of parts, which is a paradigm grounded in Western philosophy. Rather, it is the totality of the relationships that blends all the parts together” (Chen, 2002: 180).

Because Western thought on the inner paradox of competitive and cooperative actions is not clearly visible, our analysis focuses on four Western philosophers who were influenced in one way or another by the yin-yang mindset. We also address their thoughts on human nature to discover novel ways to identify and understand the “coopetition strategy paradox.”

2.3. Period of investigation

Because “philosophy is a child of its age,” (Ware, 1999: 6), it is necessary to situate each philosopher in the global context in which his thought developed. Our analysis considers four Western thinkers in the century-long period spanning from 1750 to 1850. First, our choice of this period is closely linked to the assimilation of Chinese philosophical elements, such as the holistic view or the concept of paradox, into Europe and, hence, to their influence on the evolution of Western thought. Beginning in the seventeenth century, reports by Jesuit priests and merchants significantly contributed to the diffusion of information about “mysterious” China. Consequently, philosophers became more interested in the Chinese mindset, which had an impressive impact on Western philosophy in the eighteenth century and part of the nineteenth.

Second, during the eighteenth century, with the spread of thinking that viewed experimental and mathematical methods as universally valid (“the way of proceeding from self-evident first principles to demonstrated conclusions, from

the simple to the complex,” Morrow, 1923: 60), natural and social thinkers adopted scientific methods to explore individuals and their characteristics. The doctrines and theoretical positions developed in that century focused on the assumption that “to be nothing but a more or less complex derivative of the elements already found in the individual” (Morrow, 1923: 60). Actually, “all the sciences have a relation, greater or less, to human nature, and that however wide any of them may seem to run from it, they still return back by one passage or another. Mathematics, natural philosophy, and natural religion are to some extent dependent on the science of man” (Hume, 1740). This example confirms the relevance of investigating human nature’s essential characteristics and its self-interest, which drives individual behaviors.

Focusing on the right truncation of the period under scrutiny (1750-1850), the philosophical context of the first half of the nineteenth century was Romantic; it involved the emergence of German Idealism³ that, in all of its forms⁴, emerged from the crisis of the Enlightenment and underscored rational criticism and scientific naturalism. We choose to focus on that century, and hence, consider the age of Enlightenment and the Romanticism in order to present a broader context in which investigate the nature of cooperation. Actually, by including two different historical and philosophical periods, we can frame the emergence of cooperation in Western thought in a static (Enlightenment) versus dynamic (Romantic) vision of the world, such as both in a rational versus sentiments or feelings driven context. Surprisingly, in that period Søren Kierkegaard, one of the founders of

³ Idealism considers *essence* as considering the universe via intellect and, hence, the possibility of existence, whereas *existence* takes place in a concrete reality because it represents the implementation of these possibilities.

⁴ We refer to Kant’s transcendental idealism, Fichte’s ethical idealism, and the absolute idealism of the romantics (Ameriks, 2000).

existentialist philosophy⁵, gained prominence by exploring man in his individuality to show the relevance of his character, thereby anticipating a significant part of twentieth-century philosophy's questions.

2.4. The quartet of coepetitive philosophers

To grasp coepetition's microfoundations, we perform our analysis in two phases. In the first phase, we identify coepetitive roots in the Chinese middle way, which emphasizes the paradoxical vision epitomized in the coexistence of conflicting forces. In the second phase, we have meticulously analyzed all the Western philosophers who have lived and developed their thoughts in the period from 18th to 19th century that is characterized by the Age of Enlightenment and the Romanticism. Then, we selected only the philosophers that:

- were influenced by Chinese mindset in their thoughts;
- explored human nature;
- recognized the duality conflict-cooperation inside human nature.

Therefore, we explore the thought of four Western philosophers: David Hume (1711-1776), Adam Smith (1723-1790), Immanuel Kant (1724-1804) and Søren Kierkegaard (1813-1855).

Our choice of these figures is based on four key motives (see Table 1). First, as we discuss in the next section, they were all influenced, directly or indirectly, by the rapid dissemination of the Chinese mindset in Europe in the eighteenth century and by the Eastern way of investigating paradoxes. Second, these philosophers focused on human nature and emphasized human individuality

⁵ Existentialism reverses previous idealistic relationships, stating that essence does not give meaning to existence (Adorno, 1940). Rather, it is existence that gives validity to essence because, in implementing their uniqueness, individuals achieve their own essence.

and the phenomenon of paradoxical human behaviors. In his *Treatise of Human Nature*, David Hume (1740) recognized that morality is essential to control man’s self-aggrandizing instincts so that he can benefit from cooperation, even if he does not try to ground morality in God or reason, but in tradition. In contrast, Smith (1776) and Kant (1784) argued that, although people need to interact, human nature pushes them to take advantage of others for personal reasons. Similarly, nineteenth-century Danish thinker Kierkegaard pointed out the relevance of understanding human nature as dualistic (e.g., love/hate, birth/death, self/other) to advance human learning. Indeed, human action is underpinned by enlightened self-interest and self-improvement, which are also achieved via cooperation with others (Griesinger, 1990; Kanungo and Conger, 1993). Third, these thinkers, although from different European regions, all lived in the same historical period (1750-1850) and were exposed to the “atmosphere” of their time, which embraced the spirit of two successive centuries.

Table 1: Motives for studying the quartet of cooperative philosophers

WHY HAVE WE STUDIED THIS QUARTET OF COOPERATIVE PHILOSOPHERS (HUME, SMITH, KANT, KIERKEGAARD)?	1. The four thinkers were influenced, directly or indirectly, by the rapid diffusion of Chinese thought in Europe in the eighteenth century and by the Eastern way of looking at paradoxes
	2. All focused on human nature, emphasizing the prominence of human individuality and a mix of paradoxical human behaviors
	3. Although they came from different European regions, they all lived in the same historical period (1750-1850) and were exposed to the same atmosphere that embraced the spirit of two successive centuries
	4. From theoretical sampling to philosophical sampling

Finally, we drew on the social sciences’ case-based research method, which relies on the basic principles of theoretical sampling (Pettigrew, 1990) to select cases for investigation. We used analogical reasoning to adopt “philosophical sampling.”

As known, in theoretical sampling cases are chosen for reasons beyond statistical considerations; they are chosen for their relevance to a study's research questions and their potential to replicate its analytical framework (Glaser and Strauss, 1967; Mason, 1996). Similarly, using analogical reasoning, our study of the four thinkers is an appropriate philosophical sampling research strategy to identify the essence of coopetition. Thus, we can minimize the influence of context in determining each thinker's coopetitive stance. Furthermore, we juxtapose the four philosophers' ideas to discern whether their local cultural contexts influenced the emergence of the coopetitive dimension in each of them.

Since each philosopher presented a relatively unique epistemological and theoretical coopetitive viewpoint, we map the philosophical positions and identify the elements (such as self-interest, morality, human perspective and preconditions to coopetition) underlying each coopetitive position. This mapping is an important step to highlight each philosopher's perspective and the similarities and/or contradictions that are helpful in providing a general definition of coopetition and its core variables.

2.5. Methodological perspectives adopted in the analysis of coopetition microfoundations

Although it often remains unacknowledged, individuals tend to adopt coopetitive behaviors and to create mutual relationships depending on both situational variables and natural inclinations (Luo et al., 2006). We thus take two theoretical sides of interpreting human actions into account: methodological individualism and methodological collectivism.

Methodological individualism is a philosophical method to evaluate collective phenomena by analyzing individual motives and actions. It confirms the ontological assumption that “social phenomena, including collectives, should be analyzed in terms of individuals” (Popper, 1968: 341; Nagel, 1961; Elster, 1989; Reutlinger and Koch, 2008) because “only the individual thinks, only the individual reasons, only the individual acts” (Mises, 1951: 97). Conversely, methodological collectivism requires that “sociological method as we practice it [rests] wholly on the basic principle that social facts must be studied as things, that is, as realities external to the individual. There is no principle for which we have received more criticism; but none is more fundamental” (Durkheim, 1952: 39). In other words, methodological collectivists argue that individuals are *extraneous* to phenomena because only “collective facts” can determine individual behavior or outcomes at lower analytical levels. Accordingly, individual behavior is driven by organizations that prioritize unified action (Felin and Hesterly, 2007).

We draw on the distinction between methodological individualism and methodological collectivism and combine the two perspectives to investigate the phenomenon of cooperation and categorize it according to the influence of nature and/or ‘culture’ (intended in the broader sense) in the determination of human behavior. Starting in Section Four, we develop a chronological analysis of each thinker’s thought on cooperation. We then distinguish the philosophers who emphasized the presence of cooperation in human nature (or the immanent view of cooperation, in Kantian terms) from other theorists who believed that context influences human behavior (the ecological or transcendent views of cooperation). In the next section, we investigate the influence of the Chinese middle way on

European thought in the eighteenth century.

3. CHARACTERISTIC TRAITS OF COOPETITION IN THE YIN-YANG MINDSET

Coopetition encapsulates the coexistence of contrasting and interacting forces. Therefore, Eastern thinking and, more specifically, the “Chinese middle way” (Chen, 2001, 2002) are an important point of departure for understanding “this apparent paradox” (Chen, 2002: 179) that paves the way for our investigation of the microfoundations of coopetition.

Drawing on the literal translation of the term “China” in the Mandarin language (“middle kingdom”), the Chinese middle way is philosophically rooted in the attempt to find coherence between nature and mind, such as the harmony between opposing propositions that complement rather than oppose each other. This harmony ensures a constant and dynamic balance in all things. Two of the most important milestones in Chinese thought - Confucian philosophy and the yin-yang theory of the universe - highlight the need of adopting a holistic approach to manage competing and contradictory tendencies.

According to yin-yang philosophy, all aspects and events of the universe are formed from the tension between *yin* and *yang*⁶. They are like two sides of the same mountain (Legge, 1994: 29); *yin* represents the north and is destructive, passive and negative, and *yang* represents the south and embraces positive, constructive and active principles (Di Wing-tsit Chan, 1963: 244; Tsai, 2004).

⁶ There is a dark side in the origin of the yin-yang mindset. Whereas pioneers that discussed yin-yang dynamics were the philosophers belonging to the homonymous school, the “yin-yang ideas must be sought in very ancient times” (Hang, 1988: 211) and in Chinese classics, such as *Tao-te-ching* and *Huainanzi*.

Although they are mutually opposing forces, *yang* is generated from *yin* and vice versa. Together, they create the “*qi*,” or vital energy, of the universe (Legge, 1994), from which everything comes into existence.

As Luo (2004) suggested, this paradox-solving, yin-yang doctrine derived from Chinese Taoism could be used to study to coopetition. We do not see coopetition as a mere coupling of competition and cooperation dynamics but as a matter of “incomplete interest (and goal) congruence” (Dagnino, 2009), with an emphasis on *interest*. Therefore, we highlight some unique aspects of coopetitive relationships that echo the three main characteristics of the yin-yang philosophical perspective: (a) the holistic view, (b) the paradox perspective and (c) the integration of interdependent opposites (Chen, 2001) (see Table 2).

Drawing on the Eastern concept of holism, in which all of the elements of human life are inseparable, cooperation and competition can only be defined reciprocally. This means that cooperative and competitive issues are strictly intertwined and difficult to separate. Likewise, whereas cooperation and coopetition are opposing forces forming a paradox, they are not necessarily involved in a state of tension; rather, they coexist and are interdependent. Two opposites (such as competition and cooperation) may be interdependent in nature and shape together something that is considered paradoxically integrated (Chen, 2008). According to the yin-yang approach, interdependence implies that each element (i.e. cooperation) can exist only in the context of the other (i.e. competition). Consequently, “they need not be resolved as in a dialectical situation; rather, they may be integrated harmoniously” (Chen, 2002: 188). Thus, the concept of interdependent opposites in the yin-yang holistic viewpoint of

integrating opposites can reconcile the cooperation-competition polarity and serve as the first microfoundations of cooperation in the Chinese philosophical perspective.

Table 2: Characteristic traits of cooperation in the yin-yang mindset

WHY IS COOPERATION PHILOSOPHICALLY ROOTED IN YIN-YANG?	Holism	Cooperative and competitive issues are strictly intertwined and difficult to separate
	Paradoxical integration	An integrated whole formed by contradictions ⁷
	Interdependent opposites	Each element can exist only in the context of the other

In other words, cooperation represents the characteristic traits of holism, paradoxical integration and interdependent opposites that remind to the yin-yang mindset. Therefore, to be explored, a more expansive framework should be built “on the premise that two opposites may in fact may be interrelated or interdependent and that together they may form a new theoretical construct” (Chen, 2008: 3).

3.1. The influence of the Chinese middle way on Western thought in the eighteenth century

Having identified why cooperation is philosophically rooted in the concept of yin-yang, it is epistemologically relevant to investigate how it spread in the Western world and how the holistic, paradoxical and interdependent elements of cooperation appeared in Western thought. Historically, as Cressey (1945) reported, “cultural traits from China have been slowly entering Europe for more than two

⁷ This definition differs from the Western conceptualization of paradox as exclusive and dichotomous opposites (Humpden-Turner, 1981).

thousand years” (1945: 595). Such ideas were widely disseminated in Europe over four main historical periods⁸, but the seventeenth and eighteenth centuries were the most intensive period of interaction between Chinese and Western cultures. The diaries and stories that Western merchants, diplomats, missionaries, and travelers wrote about the Americas, Africa, Persia, India, China, and the Indies appealed to man’s propensity to travel through fantasy and escape from his reality and confirmed Europe’s increasing interest in Eastern culture, the perceived influence of which increased (Davis, 1983).

Descriptions of China were particularly appealing. “Through Europe’s enthusiastic response to Jesuits’ presentations, China entered the realm of Popular European culture in the early seventeenth century” (Mungello, 2005: 84). These Catholic missionary activities brought about an unprecedented understanding of Chinese civilization and moral philosophy in Europe⁹.

The discovery of China had a profound impact on the cultural and political identity of European intellectuals: “China was the first civilization found by Westerners that could be neither ignored nor destroyed. Nor could it be integrated in Europe’s cultural identity” (Fuchs, 2006: 36). Rather, it became one of the most influential factors in Europe’s social change and reception of new ideas as Europe developed a greater enthusiasm for Oriental ideas than its own classical background. In several fields such as ethics, political thought, philosophy of science, theology, “the spread of knowledge about Asian beliefs, institutions, arts,

⁸ According to Cressey (1945), the four most important phases of interaction between China and the Western world are the era of silk trade with Rome, the Arab empire, the Mongol Empire and, finally, the eighteenth century.

⁹ The Jesuit order used to make a twofold accommodation in their missionary project. Acting as individuals, they tried to fully adapt to the Chinese culture. As missionaries, they created a bridge to China to convert people to the Catholic faith.

and crafts was of genuine and serious interest for European rulers, humanists, churchmen, governmental reformers, religious thinkers, geographers, philosophers, collectors of curiosities, artists, craftsmen and the general public” (Lach, 1965: xx).

Chinese culture had a profound impact also on the traditional Western mindset wherein the emphasis is on the breaking-part logic and the idea that paradox is intended as exclusive and dichotomous, rather than the harmonious integration among opposites. In this vein, table 3 summarizes the main characteristic traits and elements of Yin-Yang philosophy and Western viewpoint.

Table 3 – Summary of Yin-yang philosophy and Western viewpoint

	YIN-YANG VIEWPOINT			WESTERN VIEWPOINT		
EMPHASIS	Harmony, not-separable concepts			Breaking- part logic, dichotomy		
CHARACTERISTIC TRAITS	Holism	Paradoxical integration	Interdependent opposites	Atomism	Exclusively contraposition	Independent opposites

Although various Western thinkers were influenced in their philosophy, directly or indirectly, by the Chinese yin-yang mindset, our goal of exploring the philosophical microfoundations of cooperation compels us to focus on four Western philosophers whose thought is linked to the concept of cooperation: David Hume, Adam Smith, Immanuel Kant and Soren Kierkegaard.

Influenced by Bayle, David Hume could not escape the Oriental influence in the intellectual atmosphere of Europe in his time (Jacobson, 1969) and, more specifically, Mencius’ theory on the nature of man, or the doctrine of universal sympathy¹⁰.

¹⁰ Actually, regarding sympathy, David Hume stated in his *Treatise of Human Nature* that “*This certain, that sympathy is not always limited to the present moment, but that we often feel by*

In addition, Adam Smith's doctrine of the "invisible hand" and the concept of "sympathy" both recall the Taoist idea of the rational adjustment of all interests to one another in human society. This similarity confirms his conceptual link with Mencius' concept of sympathy, which influenced Smith's *Theory of Moral Sentiments* (1759) (Maverick 1946). In addition, Wei-Bin Zhang (2000) showed that Smith and Confucius were similar in many of their principles, such as the conception of man. Accordingly, Confucius' conception of a gentleman is closely related to Smith's superior prudence, although his practical sentiments were employed in different contexts. The former was concerned with the nation, but the latter focused on the family (Wei-Bin Zhang, 2000: 119).

In his famous epithet, Nietzsche called Kant the "Chinaman of Königsberg" (Palmquist, 2001). Although Kant never strayed far from his birthplace, he nevertheless explored and wrote about Chinese philosophy and culture. As Schönfeld showed, Kant was strongly influenced in his formative years by several German thinkers, three of whom were fascinated by Chinese thought: Leibniz, Wolff and Binfinger (Schönfeld, 2006). Beginning with the Jesuit reports, Leibniz was genuinely interested in learning about Eastern culture (Lach, 1945) and supported its assimilation into the intellectual climate of sixteenth century Europe. Thus, after Leibniz, Eastern philosophy, such as Indian, Buddhist,

communication the pains and pleasures of others, which are not in being, and which we only anticipate by the force of imagination. For supposing I saw a person perfectly unknown to me, who, while asleep in the fields, was in danger of being trod under foot by horses, I shou'd immediately run to his assistance; and in this I shou'd be actuated by the same principle of sympathy, which makes me concern'd for the present sorrows of a stranger (Hume, 1740/1978: II. ii. 9). This is similar to what Mencius had stated earlier: "When I say that all men have a mind which cannot bear to see the sufferings of others, my meaning may be illustrated thus:-nowadays, if men suddenly see a child about to fall into a well, they will without exception experience a feeling of alarm and distress. They will feel so, not as a ground on which they may gain the favor of the child's parents, nor as a ground on which they may seek the praise of their neighbors and friends, nor from a dislike to the reputations of having been unmoved by such a thing" (Mencius, 1990: II. i. 6).

and traditional Chinese thought, was a major feature in European thought (Jacobson, 1969).

Leibnitz was particularly impressed by Chinese high moral and practical philosophy; he was also fascinated by the *Yi Jing* or *Book of Changes*, which includes the *Tai ji* principle, or the yin yang view of the world. As Mungello (2005) reported, the German Christian Wolff also influenced Kant's philosophy (1679-1754). Inspired by Leibniz, Wolff is considered to be the first Enlightenment thinker to praise China and to borrow the "practical philosophical concept" of the Chinese mindset. He argued that Confucianism "contained a rational ethic that was both logically consistent and offered practical benefits to the individual and society" (Mungello, 2005: 119). Finally, Wolff's student Bilfinger applied Yin-yang and concepts of *dao* to his research on energy and used humanity (*ren*) and reciprocity (*shu*) for his political analyses. It is interesting to note that, although Kant did not know much about China nor care for its philosophy, he became familiar with three concepts stemming from the Chinese mindset - humanity, reciprocity, and the holistic view of nature - via the influence of several German thinkers. Thus, Kant shared a theoretical link with Confucius (Schönfeld, 2006).

Finally, the debate over whether Kierkegaard was influenced by an Oriental mindset continues to be unresolved. Some authors (Connell, 2009) have attempted to compare Confucius' thoughts and Kierkegaard's thought historically. However, these scholars admitted the "perversion" of such a project (Rosemont, 1986: 201) because of the contrast between Kierkegaard's individuality and Confucius' focus on the social dimension of mankind. Actually, whereas the

former was fervently Christian and philosophically influenced by the German Romantic movement of the Scheleger brothers (e.g., Novalis) and by Hegel's writings, Confucius "was none of these things" (Rosemont, 1986: 201). Such contrasts can discourage comparisons between the two thinkers. Nevertheless, despite these apparent contrasts, other authors (Jung, 1969) have found a common ground between Existentialism and Confucianism and have noted the shared commitment to "a concrete analysis of the ordinary existence of man in the world" (Jung, 1969: 189). According to Kierkegaard, because all of the epistemological aspects of a human's selfhood are important, they "must commonly work together to give the knowing self a concrete yet total picture of reality" (Slaatté, 1995: VII). Through Kierkegaard's rejection of reason's monopoly over the determination of truth, we can identify Kierkegaard's holistic view of human existence and connect it to the Chinese mindset.

4. WESTERN CRITICAL THOUGHT ON COOPETITION: A PROPOSED PHILOSOPHICAL QUARTET

Above, we showed that, to trace the microfoundations of coopetition, we must investigate Chinese philosophy and particularly the yin-yang doctrine of harmony between two opposing forces (competition and cooperation), which are actually reciprocally generated. Having investigated the extent to which the Chinese mindset influenced Western philosophy, we can explore how coopetition both coalesced with contemporary Western thought and how it broke its existing logic in dealing with an apparent paradox. The present section is devoted to an analysis of the "coopetitive philosophers" (Hume, Smith, Kant and Kirkegaard). We

analyze their philosophical stance on human nature and the influence of nature and/or ‘culture’ (intended in the broad sense) in determining human behavior. We use this analysis to identify elements that may be helpful in unraveling the roots of cooperation and the logical and chronological sequences of competitive and cooperative forces. We begin by analyzing the thought of the Scottish Enlightenment thinker, David Hume.

4.1. From cooperation to competition: David Hume

Beginning with the Introduction to his *Treatise of Human Nature*, David Hume (1711-1776) emphasized the theoretical relevance of investigating the “science of man”. Because “it is evident that all the sciences have a relation, greater or less, to human nature and that, however wide any of them may seem to run from it, they still return back by one passage or another” (Hume, 1740/1978: Intr.), a philosopher must approach the core, which is human nature itself. It is well-known that in *The Treatise* (1740) and *An Inquiry concerning Human Understanding* (1748), Hume emphasized the roles of experience and observation in determining human characteristics, feelings, inclinations and behaviors and confirmed his attempt to “ground all reasoning concerning human nature upon ordinary experience and observation” (Holmes, 2007: 392). He did so by developing a method for the moral investigation of the mind and by taking into account the vagaries of human behavior.

In keeping with the empirical tradition of Bacon, Newton¹¹, Locke, Shaftesbury, Mandeville and Hutcheson on the adaptation of philosophy to moral subjects, Hume tried to define the “science of man” by reducing it to a set of general principles¹² in which human actions and nature are the “*only solid foundation for the other science*”.

By analyzing the ordinary facts of everyday life and human interaction, Hume considered several aspects of mankind and, more specifically, the key determinants of human behavior. According to Hume, man’s actions and beliefs are dominated by his passions, and he is a “slave to the passions and is instrumental in allowing individuals to follow and obtain their natural inclinations”. Humean moral philosophy, in contrast to natural philosophy, takes into account passions, morals, politics and criticisms and identifies benevolence and generosity as the proper moral motivations to distinguish between *natural* and *artificial virtues*. The former consist of “actions which do good one by one, each act having value independent of whether similar acts are performed by oneself and others on other occasions,” and the latter are “acts inessential conformity to established conventions, which do good only as they are supported by general conformity” (Baier, 1979: 1). Natural virtues such as sympathy are durable traits and exist even when they are not expressed in specific behaviors because they are intrinsic to human nature. In contrast, artificial virtues require a stronger demand and must be uniform in a society “since the value of any one just act or one person’s character trait depends upon the support received from the similar acts

¹¹ As Wertz argued, the Newtonian influence in Hume’s thought pushes him to employ the conceptual achievements of the “new science” in the study of man and separates him from previous British historians” (Wertz, 1975: 486).

¹² Accordingly, we convey an analogy with Newton’s explanation of the behavior of matter in terms of the laws of gravitation (Holmes, 2007).

and traits of others” (Baier: 1979: 3). Thus, artificial virtues are motivated by *duty*.

This disparity helps to highlight the cooperative dimension in Hume’s thinking. According to the Scottish philosopher, human nature and its feelings of selfishness, benevolence or other neutral impulses are not “given”¹³. Human conduct is the result of a trade-off between individuals’ mental and human qualities and the circumstances in which they are involved (natural and artificial characteristics that push to determine human behavior), although artificial virtues, in terms of conventions, primarily determine cooperative behaviors.

Humans have a natural propensity for sympathy and the recognition of others’ impressions and emotions¹⁴. Although Hume acknowledged a natural “sympathy” for others and thus had a milder view of human nature than did Hobbes, he argued for man’s selfishness and limited generosity to show that individuals are naturally limited in their kindness. “Men being naturally selfish, or endowed only with a confined generosity, are not easily induced to perform any action for the interest of strangers, except with a view to some reciprocal advantage, which they had no hope of obtaining but by such a performance” (Hume, 1740/1978: B.3.II.5). Therefore, individuals are inclined to be “partially” kind to those with whom they enter relationships, but they behave kindly towards strangers and enemies.

¹³ We refer to the differences between Hume and Shaftesbury, Hutcheson and Mandeville, for which compassion, and sympathy are essential parts of human nature and explain why individuals could be susceptible to the sufferings of the others.

¹⁴ Hume argued that there is “*no quality of human nature is more remarkable than sympathy*.” *Sympathy* is the natural inclination to perceive and understand feelings and sentiments of others. Because men are moral subjects, “*This is still more conspicuous in man, as being the creature of the universe, who has the most ardent desire of society*” (Hume, 1740/1978: B.2.II.7).

Despite the potential benefits of cooperation and because of the natural human inclination toward selfishness, people do not cooperate, especially to avoid being vulnerable to those who may take advantage of them. Consequently, artificial virtues (e.g., conventions) can play a significant role in the development of cooperative games. Actually, conventions synthesize the general sense of a common interest via which members use certain rules to regulate their conduct. As such, conventions are intended to provide a remedy to human self-interest, which arises from the concurrence of certain qualities of the human mind with external situations. In other words, due to his milder view of human nature, Hume argued that individuals are more inclined to create cooperative games with those whom they know because they distrust others. Nonetheless, they cannot ignore the competitive thrusts inside their own human nature. Therefore, even if they seem collaborative, they act in a cooperative game. The Humean individual is cooperative and thus exhibits the competitive forces that emerge in a cooperative game.

Here, we have shown Hume's theoretical contribution to the development of cooperation studies. By identifying the paradoxical nature of human beings and underlining their inclination to be partial friends, we capture in Hume's thought the partial convergence of interests, and hence, the requisite precondition for the emergence of cooperation. Moreover, the importance of understanding the "other" and predicting competitors and their behavior justifies the individual's lack of trust in human behavior. Since individuals do not trust in people, cooperation in Humean's thought appears as a strategy in which conventions play a significant role in the emergence of *competitive cooperation*.

Table 4 – Philosophical Explanations Underlying Coopetition Strategy

Perspective of investigation	Characteristic traits				Methodological perspective	Coopetition view
	Self interest	Moral philosophy	Human perspective	Preconditions to coopetition		
Contextual	Relevant	Based on benevolence and generosity	Both benevolent and self-interested. Men are naturally selfish or endowed only with a confined generosity.	Natural vs. artificial virtues, Conventions	Methodological collectivism	Strategy

4.2. From competition to coopetition: Adam Smith

Chronologically, Adam Smith (1723-1790) is the second philosopher in our investigation. Like the Scottish thinkers of his time, Smith adopted a naturalist approach to mankind to investigate the relationship between self-interest and sociability, or the influence of political, economic and social institutions on social behavior.

Smith focused on human nature, which confirms his superior understanding of man’s nature vis-à-vis his contemporaries (Coase, 1976). In each work, he tried to explore the core nature of all humans and underscored their opposing characteristics (Witzum, 1998: 493).

Two concepts are central in Smith’s view of human nature: *self-interest*, in terms of self-love and selfishness; and *sympathy* and/or benevolence. However, “pure and immortal selfishness is not what Smith meant by self-love, nor is his idea of sympathy purely other oriented or equivalent to benevolence” (Black, 2006: 7); thus, we explore each term here to gain a better understanding of the

philosopher's thought.

In *The Wealth of Nations* (1776, WN), Smith used various concepts to emphasize that people's feelings are based on their own well-being, which motivates them and leads them to perform the right actions. Specifically, self-interest and self-love¹⁵ are one's own interests, even though they are not necessarily at others' expense. Selfishness requires that each man attend to his interests without regard to, or at the expense of, others (Black, 2006: 8). Furthermore, based on the virtue of taking care of oneself (Witzum, 1998), we can also attribute prudence to the self-interested aspect of human character.

In contrast, in *The Theory of Moral Sentiments*, Smith (1759) underscored the relevance of sympathy as an "other-regarding" category of mankind: that is, the ethically conscious aspect of the human being, his feelings and acts of benevolence. As the Scottish philosopher argued, sympathy is "fellow feeling with any passion". Because people are naturally social creatures who "stand in need of each others' assistance" (Smith; 1759; 1976: 85), feelings for another's passion begin with experiencing one's own passions (Black, 2006). These passions show the empathetic and compassionate sides of human nature.

In their analyses of Smith's two main works (henceforth *TMS* and *WN*, respectively), several authors (Viner, 1927; Collard 1978; Heilbroner 1982, Young, 1997) have argued for an apparent contradiction between this "double face" of human nature¹⁶. If "*it is not from the benevolence of the butcher, the*

¹⁵ Reading the *TMS*, it is possible to highlight how Smith has a "Stoic vision" of self-love in which each man is primarily aimed and more able to take care of himself than any other person.

¹⁶ In this vein, Viner (1927) reported that the Germans coined the term "Das Adam Smith Problem" to denote the failure to understand and unveil the contradictions between Smith's works (Viner, 1927). Recently, Rosenberg also tried to focus on this potential contrast. As he reported, if the knowledge of Smith has been confined to Smith's milestones such as *The Wealth of Nations*,

brewer, or the baker, that we expect our own dinner, but from their regard to their own interest” (Smith, 1776: 14), how is it possible that there are evidently some principles in man’s nature, “*which interest him in the fortune of others, and render their happiness necessary to him, though he derives nothing from it except the pleasure of seeing it?*” (Smith, 1759/1976: 9).

Actually, Smith’s emphasis on sympathy could be unrelated to the self-interest motive in the WN, such that cooperation and self-interest would be conflicting impulses. Whereas sympathy refers to the human ability to take an interest in the fortunes of others, self-interest is a motive for people to promote their own well-being.

Nevertheless, various authors (e.g., Black, 2006) have argued that there is no dichotomy in Smith’s treatments of human behavior and confirmed the possibility of reconciling the ethical ideas of sympathy and benevolence with the pursuit of self-interest. This argument can be supported by exploring the two different interpretations of the selfish man’s interest in the fortune of others. The first point of view requires that people be interested in the fortunes of others only for their spontaneous and genuine motivations. People’s natural inducement to take care of themselves does not mean that they cannot be interested in others. Thus, it is possible to define two independent elements in human character: the motive each person has to act in his own interest and the interest he has in the happiness of others (Witztum, 1998).

On the other hand, the second interpretation presupposes that the

even reading from the *Theory of Moral Sentiment* that “*the wise and virtuous man is at all times willing that his own private interests should be sacrificed to the public interest of his own particular order or society*” (Smith, 1758/1976: 235) could lead to surprises regarding Smith’s recognition of self-sacrificing altruism in human nature (Rosenberg, 1990: 1).

happiness of others is as important to people as their own, which confirms that selfishness is misleading. Accordingly, actions and their motives can be summarized in a single impulse: man's disposition toward others. By focusing on people's interests as the major force behind their actions, we show that human nature includes not only selfishness and malevolence, but also benevolence and sympathy. Consequently, individuals can appear to be "self-interested", even though they may also have positive interests in other's happiness.

The above discussion is valuable because it draws conclusions about the emergence of cooperation in Smith's thought. The Smithian view of human nature shows that selfish men can also be sympathetic, and therefore, cooperative impulses cannot originate from good feelings, sympathy, pity, or compassion "for the help of their brethren". Because Smith's conception of man is both sympathetic and self-interested, an empathetic feeling for the misery of others cannot explain why people cooperate with each other.

Cooperation requires that each partner in the relationship has bargaining power and is not a simple social exchange between the actors. In fact, interactions of pity or compassion would consist of an unbalanced and temporary relationship between individuals, in which the partner in the "strong position" would be the "giver". As Coase pointed out, "there is no way in which this cooperation could be secured through the exercise of benevolence" (1976: 27) because it is highly personal and may be the dominant, or at least an important, factor in interpersonal relationships.

As Smith (1776) reported, man in civilized society "stands at all times in need of the cooperation and assistance of great multitudes, while his whole life is

scarce sufficient to gain the friendship of a few persons” (Smith, 1776). Because man is not sufficient to himself, individuals follow their selfish tendencies to cooperate with others to obtain everything they need. Smith’s focus on self-interest in WN, such as in the famous butcher-brewer-baker passage, aimed to stress the minimum requirements to establish markets, that is, impersonal market exchanges between strangers or mere acquaintances rather than strong interpersonal connections (White, 1999: 56). The market is not simply a mechanism to secure individuals’ cooperation; rather, the specialization of labor is linked to the human attempt to improve the self, and it for this goal that the self-interested side of human nature emerges. In other words, because “the foundation of modern political economy” is the human “propensity to truck, barter, and exchange one thing for another” (Smith, 1776/1981: 25), Smith assumes that people are naturally capable of benevolence, self-love and self-interest. Nonetheless, man is naturally competitive in pursuing his economic interests, so he chooses to cooperate only to improve himself. Consequently, Smith introduces a second type of competition, which we call *cooperative competition*, because cooperative impulses and human exigencies push the individual to adopt competition strategies.

A second important insight emerges when we juxtapose Smith’s thought with Hume’s. First, both Scottish philosophers presented a collective interpretation of the competitive phenomenon and introduced a “milder” view of human nature in which individuals are naturally inclined to be benevolent and prudent for themselves. Indeed, Hume attributed a significant role to sympathy in defining the cooperation game, which justifies the weaker influence of human

nature in shaping cooperation in his philosophy than in Smith's. In contrast, Smith's contribution to cooperation lies in his recognition of the double-faceted dimension of human nature, or its benevolent and self-interested sides; according to his work, sympathy does not influence the emergence of cooperation.

Table 5 – Philosophical Explanations Underlying Cooperation Strategy

Perspective of investigation	Characteristic traits				Methodological perspective	Cooperation view
	Self interest	Moral philosophy	Human perspective	Preconditions to cooperation		
Contextual	Relevant	Sympathy, compassion, and pity	Both benevolent and self-interested	Specialization of labor	Methodological collectivism	Strategy

4.3. Cooperation as a phenomenon stemming from human nature:

Immanuel Kant

The emergence of modern science, the theoretical conflict between continental rationalism and British empiricism, and the declining role of religion in the moral and political life of the eighteenth century all represent the context in which Kant's philosophy appeared. Immanuel Kant (1724-1804) was one of the most influential intellectuals in the modern age. His metaphysical, moral, and political philosophies mirrored Copernicus' revolution of inverting an ancient perspective of the world (Friedman, 1979). Moreover, his transcendental and critical idealism not only synthesized his predecessors' work (e.g., Descartes, Leibniz, Hobbes, and Hume) but also shaped a new direction for later schools of thought, "including Hegel's dialectical philosophy of history and Husserl's and Heidegger's phenomenology" (White, 2009: 61).

Kantian philosophy focused on the priority of the subject over the object and the investigation of human beings and the role of reason (Cicovacki, 2001: 151) in determining behavior. According to Kant, individuals are both metaphysical and moral beings. They can understand the “*phenomenon*” (stemming from empirical experience), but not the “*noumenon*” (the soul, the world or God); the mind can only perceive the ideas of the latter. As Kant wrote in the *Critique of Practical Reason* (henceforth, CPR), human beings are “finite rational beings” (Kant, 1788/1997: 23) that are responsible for their actions and subjected to law. Actually, each individual “can never be altogether free from desires and inclinations because they rest on physical causes, do not of themselves accord with the moral law, which has quite different sources” (Kant, 1788/1997: 71). The individual cannot ignore the commands of moral law.

Kant’s view of human nature considers two “different realities”. The first reality refers to “the world of sense” and is subject to natural inclinations; the latter reality is manifested in the “intelligible world” for which men obey the universal moral law (Fackenheim, 1992: 260). Based on the assumption that finite and rational individuals “constantly strive for the unattainable goal” of following the moral law (Kant, 1788/1997: 72), we can introduce a dichotomy and a “Kantian paradox” that postulates both the goodness of individual freedom and the need to obey the moral law. Kant’s ethics emphasized the necessity of grounding morality in *a priori* principles and thus stated that all morally worthy actions are done “from duty”. In contrast to Hume¹⁷, Kant argued that only the

¹⁷ Hume believes that only the duties associated with artificial virtues are generally motivated by the sense of duty.

moral law has the inducement to goodness that we can contrast with the natural human inclination to “radical evil”.

In Kant’s “pragmatic approach” to the study of human beings and the evolution of society (Kant, 1798), people are considered “free agents” interacting with each other. It is through this interaction that antagonism emerges in society. Kant wrote in *Ideas for a Universal History from a Cosmopolitan Point of View* (1784), “by “antagonism” I mean the unsocial sociability of men, i.e., their propensity to enter into society, bound together with a mutual opposition which constantly threatens to break up the society”. This passage highlights the cooperative dimension of Kant’s thought. “Man has an inclination to associate with others, because in society he feels himself to be more than man, i.e., as more than the developed form of his natural capacities. But he also has a strong propensity to isolate himself from others, because he finds in himself at the same time the unsocial characteristic of wishing to have everything go according to his own wish. Thus he expects opposition on all sides because, in knowing himself, he knows that he, on his own part, is inclined to oppose others. (...). “Man wishes concord; but Nature knows better what is good for the race; she wills discord. He wishes to live comfortably and pleasantly; Nature wills that he should be plunged from sloth and passive contentment into labor and trouble, in order that he may find means of extricating himself from them. The natural urges to this, the sources of unsociableness and mutual opposition from which so many evils arise, drive men to new exertions of their forces and thus to the manifold development of their capacities” (Kant, 1784/1963: IV).

Kant’s contribution to the phenomenon of coopetition is evident in his denial of the principle of contradiction and his recognition that various elements can be influenced by opposing forces¹⁸. Individuals know that “*the development of all the capacities, which can be achieved by mankind, is attainable only in society, and more specifically in the society with the greatest freedom. Such a society is one in which there is mutual opposition among the members*” (Kant, 1784/1963: V).

Despite the relevance of social interaction for individual development, man’s internal propensity to follow his unsocial tendencies explains the presence of competitive impulses in a cooperative scheme. This explanation justifies the emergence of coopetition, which we define here as *competitive cooperation*. Through Kant’s view of human nature, we can identify the phenomenon of coopetition in terms of unpredictable behaviors stemming from human nature and distinguish Kant’s thought from Hume and Smith’s concepts of coopetition.

Table 6 – Philosophical Explanations Underlying Coopetition Strategy

Perspective of investigation	Characteristic traits				Methodological perspective	Coopetition view
	Self interest	Moral philosophy	Human perspective	Preconditions to coopetition		
Contextual	Relevant	Based on reason and sense of duty	Both benevolent and self-interested	Unsocial sociability of men – human nature –	Methodological individualism	Phenomenon

¹⁸ Kant argues that the acceptance of the principle of contradiction leads the theorist to underrepresent the extent of conflict in the world and its constructive aspects. Actually, it is from the stark oppositions of good and evil principles that we can consider morality.

4.4. Between the aesthetic and ethical spheres: Søren Kierkegaard's cooperative insights

Søren Kierkegaard (1813-1855) was an important anti-modern thinker who thoroughly investigated human existence and crossed the boundaries of theology, psychology and philosophy. His array of original conceptual contributions to philosophy emphasized concrete human reality over abstract thinking, which went against the trend of modern philosophy from Descartes to Hegel. He was the first exponent of existentialism and criticized Descartes' philosophical statement (Kierkegaard, 1985: 38) *cogito ergo sum*, and the Hegelian system¹⁹ (Bogen, 1961; Watts, 2007). Kierkegaard argued that existence gives validity to essence, and, therefore, abstract concepts and universal ideas, such as Plato's forms or Kant's categorical imperative, should be rejected for a recognition of the concrete and the spiritual in the human condition and in subjectivity.

Most of Kierkegaard's works focused on individuals and their natures and possibilities. According to the Danish philosopher, human existence is characterized by the presence of "opposite and contradictory demands" that are held together by an individual's choice. This opposition between the temporary and eternal ways of life, the two spheres of human existence and the two definitions of the "self" ("aesthetic" and "ethical") could provide some insights into the emergence of cooperation. Specifically, the aesthetic sphere is based on intellectual or sensory pleasures and emphasizes the atomistic perspective of

¹⁹ As Grimsley (1965) reported, "Kierkegaard's opinion, Hegel's philosophy took the form of a highly abstract speculation upon topics that were so remote from man's everyday experience that they seemed to lack authentic reality." Actually, "the Hegelians" lofty pretensions to have "explained" the grandiose problems of "world-history" and the still vaster problem of "being" and the "absolute" simply ignored the radical fact regarding the individual's personal existence" (Grimsley, 1965: 384).

individuals. These individuals are self-interested and consider others a means to obtain their momentary pleasures; this interaction is therefore non-reciprocal. In contrast, the second stage of human existence focuses on moral codes and duties derived rationally (*à la* Kant) or by conventions (*à la* Hume) that define interactions with others and allow individuals to be coherent actors²⁰.

Individuals situated in the first sphere of human existence have the capacity to discover their illusory and self-serving existence; thus, they can freely decide to change their way of life. In this sense, they are “influenced” by the fact that adopting cooperative behaviors could improve their condition. Based on the premise that mutual relationships and interactions with other individuals help them to transition from an “illusory” condition to a more ethical one, we can identify a cooperative dimension in Kierkegaard’s thought. This premise confirms the coexistence of cooperative impulses in a competitive system characterized by self-interest, which we define here as the *cooperative competition* phenomenon.

Table 7 – Philosophical Explanations Underlying Coopetition Strategy

Perspective of investigation	Characteristic traits				Methodological perspective	Coopetition view
	Self interest	Moral philosophy	Human perspective	Preconditions to coopetition		
Contextual	Relevant	Stemming from God	Opposing and contradictory demands held together by an individual’s choice	Decisions to consider the ethical dimension in human existence	Methodological individualism	phenomenon

²⁰ Although the relationship between Kant and Kierkegaard is certainly complex, it is possible to identify a link between their thought because “Kierkegaard agrees fully with Kant that the sensuous erotic can never generate moral duties” (Schrader, 1968: 694).

5. DISCUSSION AND CONCLUSIONS

This study was inspired by the idea that cooptition is not a fully dichotomized construct anchored in combining competition and cooperation, but rather a matter of “incomplete interest congruence” (Dagnino, 2009). Accordingly, we argued that the “paradox mindset” is key to understanding the essence of cooptition. In this perspective, the paradox, the holistic view, and the integration between interdependent opposites are the fundamental elements that epitomize the paradox-solving yin-yang doctrine of balance and harmony, which lays the groundwork for identifying the emergence of cooptition. More specifically, using the Eastern mindset, we emphasize the importance of integrating two variables that are usually seen in stark opposition (i.e., cooperation and competition). Instead, we contend that they are complementary and reciprocally incorporated. In this fashion, we try to go beyond a monodimensional view of cooptition to consider it as a *multidimensional* concept.

As we have shown, the essence of cooptition is embedded in Eastern cultures, and therefore, Eastern people are instinctively driven to more easily understand cooptition than Westerners. In Western thought, conversely, the paradox between conflict and cooperation is not clearly visible. To solve this puzzle and to allow for the acknowledgement of cooptition in Western thought, we have identified and scrutinized the philosophies of a quartet of “cooptitive philosophers”: David Hume, Adam Smith, Immanuel Kant and Søren Kierkegaard. Thus, we identified the conceptual microfoundations of cooptition in Western thought. Cooptition is a novelty in Western management theories and practices, that implies a shift from the breaking-part logic to an integrative

viewpoint. Therefore, we framed cooptation as a management innovation, in which the “invention and implementation of a management practice, process, structure, or technique that is new to the state of the art, and is intended to further organizational goals” (Birkinshaw *et al.*, 2008, p. 825). Cooptation is here conceived as a new way of looking at interfirm relationships that presents a revolutionary mindset. Such managerial innovation transforms the way many functions and activities work in organizations” (Birkinshaw and Mol, 2006, p. 81).

This last section of the paper is organized into two main parts. In the next subsection, we summarize the results of our comparative assessment of four cooptative philosophers and present the specific cooptative traits associated with them. Finally, in the second subsection, we outline the main conclusions of our investigation, the implications of our study for advancing cooptation theory and the avenues for future research.

5.1 Synopsis of Western thought on cooptation

Through our analysis of four cooptative philosophers who lived between 1750-1850 and our rejoining of the dichotomy in interpreting human action (methodological individualism and methodological collectivism), we elucidated the underlying elements of cooptation (such as the hidden influences of the Chinese yin-yang effect, its characteristic traits, and the core nature of a cooptative view). We also explained how to discriminate between cooptative phenomena and cooptative strategy (see Table 8).

Table 8 – Summary of Philosophical Explanations Underlying Coopetition Strategy

Historical period	Thinker	Perspective of investigation	Characteristic trait	Methodological perspective	Coopetition view
1740-50	David Hume	Contextual	Morality is essential to control man's self-aggrandizing instincts	Methodological collectivism	Coopetition strategy
1780-90	Immanuel Kant	Human nature	Human interaction for personal reasons	Methodological individualism	Coopetition phenomenon
1760-1770	Adam Smith	Contextual	Invisible hand	Methodological collectivism	Coopetition strategy
1850s	Søren Kierkegaard	Human nature	Double-faceted human nature	Methodological individualism	Coopetition phenomenon

As table 8 illustrates, the methodological individualist philosophers (Kant and Kirkegaard) saw coopetition as a *phenomenon* that emerges from within the human being, but their methodological collectivist counterparts (Hume and Smith) saw coopetition as a *strategy* that stems from the human desire to improve his/her own individuality while considering external realities (as society). Furthermore, we argue that a more complete understanding of the epistemological genesis of coopetition requires the introduction of an additional level of investigation based on the influence of nature and/or 'culture' (intended in the broad sense) on human behavior. This level of investigation allows us to begin to explore the logical sequence of competitive and cooperative drives.

Table 9 – Critical Positions of the Four Western Coopetitive Philosophers

Influence of human nature on coopetitive behavior	High	Kant	Smith
	Low	Kierkegaard	Hume
		Individual	Collective

Investigative perspectives of coopetition

Table 10 – Characteristic Traits of Coopetition

Influence of human nature on coopetitive behavior	High	Competitive cooperation as a phenomenon	Cooperative competition as a strategy
	Low	Cooperative competition as a phenomenon	Competitive cooperation as a strategy
		Individual	Collective

Investigative perspectives of coopetition

Using two-by-two matrices in Tables 9 and 10, we clarify the critical position of each philosopher and outline the most relevant traits of coopetition. Jointly considered, Tables 9 and 10 allow the reader to understand the kinds of coopetition that emerged in these philosophical works.

For a coopetitive, individualist perspective of investigation, both Kant and Kierkegaard (though with some minor differences) emphasized that coopetition is a *natural* phenomenon emerging within the human being because it is strictly connected to his/her behavior. More specifically, drawing on Kantian philosophy, which recognizes that human beings have an intrinsic interest in cooperation but are naturally competitive, we introduce the so-called *competitive cooperation phenomenon*. In this phenomenon, the individualist perspective of investigation of coopetition links up with the higher influence of human nature in determining coopetitive behavior.

We find a different perspective of coopetition in Kirkegaard’s philosophy that corresponds to the lower influence of human nature on coopetitive behavior and the individual perspective analysis. Kierkegaard argued that, because external

forces influence men, cooperative interactions can be more useful in improving people's condition than can compete. This stance, which we define as the “*cooperative competition phenomenon*”, confirms the emergence of cooperation strategy.

We represented the work of Hume and Smith by drawing on the collective perspective to investigate cooperation. More specifically, Smith considered cooperation a strategy stemming from the human desire to improve the self. People are naturally benevolent, self-loving and/or self-interested. Men “deliberately” choose to compete to pursue their economic interests, and thus, we recognize a higher influence of human nature in defining cooperative behavior. Henceforth, men decide to cooperate *only* because it is the natural consequence of specialization processes (Kalyvas and Katznelson, 2001), although cooperation implies being influenced by others' behaviors. Because the market can operate on the basis of the participants' pursuit of their self-interest (White, 1999), each specific economic transaction helps to define the collective well-being. Accordingly, we use Smith's argument to pinpoint the emergence of a cooperation strategy, although Smith did not distinguish whether cooperation strategy is deliberate or emergent. Actually, Smith did not explain, beyond the individual decision to specialize, whether each individual is aware that a higher level of specialization induces him/her to cooperate in the future because he did not define the decision to interact with others or the nature of interpersonal relationships.

Smith stressed the role of the individual in configuring “the market”. Despite his focus on the market over the individual, Smith did not consider how the market (or any part of it) may spontaneously create the conditions for the

emergence of cooperation. Indeed, Smith focused on how it is possible to create a market that moves from the idea of self-interest to the “*impartial spectator*”. Smith’s work helps us to explain why the market exists, but it does not help us to identify how the market can change individual behavior. Hume emphasized, in a way different than Smith, the role of conventions (or institutional frames) in explaining how cooperation may emerge in the context of mutual, interpersonal relationships. In Table 11, we propose a synopsis of these defining elements in the philosophical microfoundations of cooperation. We introduce the main aspects of competition and cooperation that emerge in each cooperative philosopher’s thought, in order to capture the elements of cooperation microfoundations. Specifically, we consider self interest as the proxy of competition and morality as the proxy of cooperation. Then, we introduce the human perspective in which each philosopher shapes the combination of competitive (self interest) and cooperative (morality) forces.

Table 11 – Elements Underlying the Emergence of Cooperation (for each philosopher)

	DAVID HUME	IMMANUEL KANT	ADAM SMITH	SØREN KIERKEGAARD
SELF INTEREST	Relevant	Relevant	Relevant	Relevant
MORAL PHILOSOPHY	Based on benevolence and generosity	Based on reason and sense of duty	Sympathy, compassion, and pity	Stemming from God
HUMAN PERSPECTIVE	Both benevolent and self-interested. Men are naturally selfish or endowed only with a confined generosity. Partial friends	Both benevolent and self-interested	Both benevolent and self-interested	Opposing and contradictory demands held together by an individual’s choice
PRECONDITIONS TO COOPERATION	Natural vs. artificial virtues, Conventions	Unsocial sociability of men – human nature –	Specialization of labor	Decisions to consider the ethical dimension in human existence

5.2 Limitations and conclusions

This paper explored the key philosophical stances of cooperative human action and undertook a comparative analysis of four Western cooperative philosophers who were influenced by the yin-yang mindset. Thus, our study identified the preconditions for the emergence of cooperation and its specific generative mechanisms and thereby contributed to the growing field of cooperation research.

Our analysis adds to the previous literature in two ways. First, as we emphasized above, this paper addressed one of the most important questions in strategic research: what is the nature of cooperation? To the best of our knowledge, no study has attempted to explore the paradoxical relationship between cooperation and cooperation; this study aims to lead the way in investigating the essence of cooperation by using the lens of the “cooperation paradox”. In this regard, our first contribution is to introduce cooperation as a third way of looking at interfirm relationships combining the advantages associated with both competitive and cooperative actions. Cooperation can be considered as management innovation, since it requires new logics and mindsets. Therefore, it implies a shift from a logic that is based on breaking-wholes-into-their-separate-parts to a logic that is based on an integrated, holistic perspective on overall firm strategy.

We stimulate scientific debate by going beyond the conventional understanding of cooperation as a monodimensional combination of cooperation and competition. By unraveling the philosophical microfoundations of cooperation, we showed that the essence and genesis of cooperative strategy appear to be closely linked to the (broader or narrower) structure of interest convergence.

Table 12 – Coopetition overview

	COMPETITION	COOPERATION	COOPETITION
AGENT INTERESTS IN THE VALUE CREATION PROCESSES	Conflicting interests	Fully converging interests	Partially converging interests
SPECIFIC TRAITS	Interchangeable win-lose game	Balanced positive sum game	Balanced but variable positive sum game
COMMITMENT BETWEEN AGENTS	None/Low	High mutual commitment	Variable

Source: Adaptation from Mocciaro Li Destri and Minà (2009).

Second, by comparing the ideas of Adam Smith and David Hume, we identified the double logic in coopetition literature and thus shed light on the dichotomy between spontaneous behavior and deliberate goal-seeking, that is, between deliberate and emergent cooperative strategies (Mariani, 2007). Although Smith did not distinguish whether cooperative strategy is deliberate or emergent, Hume emphasized the role of institutional frames and conventions. Thus, Hume’s thought clearly elucidated how cooperative strategy emerges when individuals craft stable relationships with other cooperative actors.

As in any investigation, this study has certain limitations that may nonetheless open avenues for future investigation. First, we acknowledge that our analysis “only” covered four Western thinkers, whom we labeled “cooperative philosophers” in the century that spanned from 1750 to 1850. Because our study was largely based on an in-depth and comparative assessment of the philosophical literature in this period, we recognize that the historical context gives our analysis a foundation of non-neutrality and generalizability. Notwithstanding this

limitation, we justified our study of the philosophical quartet by identifying the role that the Chinese yin-yang perspective (such as the holistic view and the concept of paradox) played in the evolution of their ideas and, in general, Western thought. This consideration leaves room to expand the inquiry to other thinkers who lived at that time and in other historical periods.

A second limitation is related to this study's analytical focus, which aimed to unravel the microfoundations of coopetition. We investigated the nature of coopetition and cooperative behavior by focusing on the individual, which is seen as the epistemological basis for macro-level investigations. Accordingly, this study is the initial step in an intriguing research field. Therefore, such study does not explore the organizational contingencies of the individual in competing firms. This leads to conclusions that the first area for future research on coopetition is the identification of the main determinants of cooperative relationships at higher levels of analysis, such as groups of individuals, business firms, and interorganizational networks, to study the emergence of other cooperative traits.

A second area of further investigation is the idea of enriching the list of competitive philosophers. We argue that it is important to stimulate the debate exploring whether other philosophers of the 20th century – such as the Existentialists or the Pragmatists have captured the coexistence of competitive and cooperative forces acting together.

In the spirit of inter-disciplinary research, a third area for further investigation in coopetition studies is the burgeoning field of neuroscience and its methods, which have recently entered the field of management research. We suspect that, through the scientific investigation of the operation of the brain and

the nervous system, it would be possible to grasp the mental dynamics underlying the emergence and adoption of cooperative strategies.

Finally, we suggest that it is important to stimulate the debate on cooperation throughout the world so that it may become a global target of scrutiny. As this study has shown, cooperation is a multifaceted phenomenon that offers various and exciting opportunities for investigation. We hope that this article lays the groundwork for research on cooperation and its strategy to provide new insights for academics and applicable knowledge for practitioners.

5. REFERENCES

- Abell, P., T. Felin, Foss N. (2008), "Building Micro-foundations for the Routines, Capabilities, and Performance Links", *Managerial and Decision Economics*, 29, 489-502.
- Adorno, T. W. (1940), "Husserl and the Problem of Idealism", *The Journal of Philosophy*, 37, 6-7.
- Ameriks, K. (2000), *German Idealism*. Cambridge University press: Cambridge.
- Barrett, D. (1998), *The paradox process: Creative business solutions—Where you least expect to find them*. AMACOM: New York.
- Bengtsson, M., Kock S. (2000), "Coopetition" in Business Networks—to Cooperate and Compete Simultaneously" *Industrial Marketing Management*, 29, 411-426.
- Bengtsson, M., Kock S. (2003), "Tension in Co-opetition" paper presented to the Academy of Marketing Science Annual Conference 2003, Washington D.C.
- Bogen, J. (1961), "Remarks on the Kierkegaard-Hegel controversy", *Synthese*, 13, 372-389.
- Bonel, E., Rocco E. (2007), "Coopeting to Survive; Surviving Cooperation" *International Studies of Management & Organization*, 37, 70-96.
- Brandenburger, A.M., Stuart H.W. (1996), "Value – based Business Strategy", *Journal of Economics & Management Strategy*, 5, 5-24.

- Cameron, K.S., Quinn R.E. (1988), "Organizational Paradox and Transformation", in Quinn R.E., Cameron K.S. (eds.), *Paradox and Transformation: Toward a Theory of Change in Organization and Management*, Ballinger: Cambridge, MA.
- Castaldo, S. Dagnino G.B. (2009), "Trust and coopetition: the strategic role of trust in interfirm cooperative dynamics", in Dagnino G.B., Rocco E. (eds), *Coopetition strategy, theory, experiments and cases*, Routledge: London.
- Cicovacki, P. (2002), "Introduction: Kant's Practical Philosophy Today", *Journal of Value Inquiry*, 36, 151-159.
- Chae, B., Bloodgood J.M. (2006), "The paradoxes of knowledge management: An eastern philosophical perspective", *Information and Organization*, 16, 1-26.
- Chen, M.-J. (2001), *Inside Chinese Business: A Guide for Managers Worldwide*. Harvard Business School Press: Boston.
- Chen, M.J. (2002), "Transcending Paradox: The Chinese "MiddleWay" Perspective", *Asia Pacific Journal of Management*, 19, 179-199.
- Chen, M.J. (2008), "Reconceptualizing the Competition-Cooperation Relationship A Transparadox Perspective", *Journal of Management Inquiry*, 17 (4): 288-304.
- Coleman, J.S. (1990), *Foundations of social theory*. Harvard University Press: Cambridge, MA.
- Collard, D. (1978), *Altruism and Economics*. Oxford University Press: New York.
- Connell, G.B. (2009), "Kierkegaard and Confucius: The Religious Dimensions of Ethical Selfhood", *Springer Science*, 8, 133-149.
- Dadrian, V.N. (1968), "Kant's Concepts of "Human Nature" and "Rationality": Two Arch Determinants of an Envisioned "Eternal"", *Journal of Peace Research*, 5, 396-401.
- Dagnino, G.B. (2009). "Coopetition strategy : a new kind of interfirm dynamics for value creation", in Dagnino, G.B., Rocco E. (eds), *Coopetition strategy, theory, experiments and cases*. Routledge: London.
- Dagnino, G.B., Rocco E. (2009), *Coopetition strategy, theory, experiments and cases*. Routledge: London.
- Davis, W.W. (1983), "China, The Confucian Ideal, and the European Age of Enlightenment," *Journal of the History of Ideas*, 44, 523-548.
- Deutsch, M. (1973), *The Resolution of Conflict: Constructive and Destructive Processes*. Yale University Press: New Haven, CT.
- Durkheim E. (1952), *Suicide: A study in sociology*. Routledge: London.

- Elster, J. (1989), *Nuts and bolts for the social sciences*. Cambridge University Press: Cambridge.
- Fackenheim, E.L. (1992), “Kant and Radical Evil” in Kant I. (eds) *Critical Assessments*, Vol. III, Routledge: London.
- Felin, T., Foss N.J. (2005), “Strategic organization: a field in search of micro-foundations”, *Strategic Organization*, 3, 441–455.
- Felin, T., Foss N.J. (2006), “Individuals and Organizations: Thoughts on a micro-foundations Project for Strategic Management and Organizational Analysis”, *Research Methodology in Strategy and Management*, 3, 253-288.
- Felin, T., Hesterly W.S. (2007), “The knowledge-based view, nested heterogeneity, and new value creation: philosophical considerations on the locus of knowledge”, *Academy of Management Review*, 32, 195-218.
- Friedman, R.Z. (1979), “Kant’s third Copernican Revolution”, *Laval théologique et philosophique*, 35, 21-33.
- Fuchs, T. (2006), “The European China-receptions from Leibniz to Kant”, *Journal of Chinese Philosophy*, 33, 35-49.
- Glaser, B.G., Strauss A.L. (1967), *The discovery of grounded theory*. Aldine: Chicago.
- Gnyawali, D.R., Park B.J. (2008), “Drivers of Co-Opetition for Technological Innovation”, paper Submitted for EIASM Workshop on “Coopetition” strategy—stretching the boundaries of “coopetition”, 2008, Madrid.
- Gnyawali, D.R., He J., Madhavan R. (2006), “Impact of Co-Opetition on Firm Competitive Behaviour: An Empirical Examination”, *Journal of Management*, 32, 507-530.
- Gnyawali, D.R., Madhavan R. (2001), “Cooperative Networks and Competitive Dynamics: A Structural Embeddedness Perspective”, *Academy of Management Review*, 26, 431-445.
- Griesinger, D.W. (1990), “The human side of economic organization”, *Academy of Management Review*, 15, 478-499.
- Grimsley, R. (1965), “Kierkegaard and Leibniz”, *Journal of the History of Ideas*, 26, 383-396.
- Hamel, G., Doz Y.L., Prahalad C.K. (1989), “Collaborate with Your Competitors and Win”, *Harvard Business Review*, 67, 190-196.
- Hampden-Turner, C. (1981), *Maps of the Mind*. Macmillan: New York.

- Hang, T.T. (1988), 'The Unity of Yin and Yang: A Philosophical Assessment,' in (eds) Liu S., Allison R.E., *Harmony and Strife, Contemporary perspectives, East & West*. The Chinese University Press: Hong Kong.
- Hayek, F.A. (1952), *The counter-Revolution of Science*, The Free Press: Glencoe, IL.
- Henderson, B.D. (1967), "Brinkmanship in business", *Harvard Business Review*, 45, 49-56.
- Heilbroner, R.L. (1982), "The Socialization of the Individual in Adam Smith", *History of Political Economy*, 14, 427-439.
- Hill, C.C., Li H. Davies B. (2003), "The Paradox of Co-Operation and Competition in Strategic Alliances: Towards a Multi-Paradigm Approach", *Management Research News*, 26, 1-20.
- Hitt, M.A, Beamish P. W., Jackson S.E., Mathieu J.E. (2007), "Building Theoretical and Empirical Bridges across Levels: Multilevel Research In Management", *Academy of Management Review*, 50, 1385-1399.
- Holmes, O.W. (2007), "Descartes, Hume, Kant and Diderot: The Interconnectedness of the self and nature", in (eds) Tymieniecka A.T. *Anacleta Husserliana the Yearbook of Phenomenological Research*, II, Springer: Dordrecht, The Netherlands.
- Hume, D. (1740), *A Treatise of Human Nature*, in (eds) Nidditch P. H. (1978), Oxford University Press: Oxford.
- Kalyvas, A. Katznelson I. (2001), "The Rethoric of the Market: Adam Smith on Recognition, Speech and Exchange", *The Review of Politics*, 63, 549-579.
- Kant, I. (1784), "Idea for a Universal History from a Cosmopolitan Point of View", in (eds) Lewis W.B. (1963), *Kant on History*. The Bobbs-Merrill: Indianapolis.
- Kant, I. (1788), *Critique of Practical Reason*, in (eds) Gregor. M. (1996), Cambridge University Press: Cambridge.
- Kierkegaard, S. (1843), *Philosophical Fragments*, in (eds) Hong H. V. and E. H. Hong (1976), Indiana University Press: Indiana.
- Kanungo, R.N., Conger J.A. (1993), "Promoting altruism as a corporate goal", *Academy of Management Executive*, 7, 37-48.
- Lach, D.F. (1965), *Asia in the Making of Europe*. University of Chicago Press: Chicago.
- Lach, D.F. (1945), "Leibniz and China", *Journal of the History of Ideas*, 6, 436-455.

- Lado, A.A., Boyd N.G., Hanlon S.C. (1997), "Competition, Cooperation, and The Search for Economic Rents: A Syncretic Model", *Academy of Management Review*, 22, 110-141.
- Legge, J. (1994), *The Chinese Classics: The Ch'un Ts'ew, with Tso Chuen*. SMC Publishing: Taipei.
- Lewis, M.W. (2000), "Exploring Paradox: Toward a More Comprehensive Guide", *Academy of Management Review*, 25, 770-776.
- Luo, Y. (2005), "Toward cooptition within a multinational enterprise: a perspective from foreign subsidiaries", *Journal of World Business*, 40, 71-90.
- Luo, Y. (2007), "A Cooptition Perspective of Global Competition", *Journal of World Business*, 42, 129-144.
- Luo, X., Slotegraaf R.J., Pan X. (2006), "Cross-Functional "Cooptition": The Simultaneous Role of Cooperation and Competition Within Firms", *Journal of Marketing*, 70, 67-80.
- Mariani, M.M. (2007), "Cooptition as an Emergent Strategy: Empirical Evidence from an Italian Consortium of Opera Houses", *International Studies of Management & Organization*, 37, 97-126.
- Maverick, L.A. (1946), *China: A Model far Europe*, Paul Anderson Co.: San Antonio, CA.
- Mason, J. (1996), *Qualitative reasoning*. Sage: London.
- Mises, L. (1951), *Socialism*. Yale University Press, New Haven, CT.
- Mocciaro Li Destri, A., Minà A. (2009), "Coopetitive Dynamics in Distribution Channel Relationships: An Analysis of the Italian Context in the Twentieth Century", *Finanza, Marketing, Produzione*, 2.
- Mungello, D.E. (2005), *The Great Encounter of China and the West, 1500-1800*. Rowman and Littlefield Publishers: Lanham, MD.
- Nalebuff, B., Brandenburger A.M. (1996), *Co-opetition*. HarperCollinsBusiness: London.
- Nagel, E. (1961), *The structure of science: Problems in the logic of scientific explanation*. Harcourt, Brace & World: New York.
- Padula, G., Dagnino G.B. (2007), "Untangling the Rise of Cooptition - The Intrusion of Competition in a Cooperative Game Structure", *Int. Studies of Management and Organization*, 37, 32-52.
- Pettigrew, A.M. (1990), "Longitudinal field research on change. Theory and practice", *Organization Science*, 1, 267-292.

- Pang-White, A.A. (2009), "Nature, Interthing Intersubjectivity, and the Environment: A Comparative Analysis of Kant and Daoism", *Springer Science*, 8, 61-78.
- Popper, K.R. (1968), *Conjectures and refutations: The growth of scientific knowledge*. Harper & Row: New York.
- Ritala, P., Välimäki K., Blomqvist K., Henttonen K. (2009), "Intrafirm coopetition, knowledge creation and innovativeness", in Dagnino G.B., Rocco E. (eds) *Coopetition strategy, theory, experiments and cases*. Routledge:London.
- Rocha H., Goshal S. (2006), "Beyond Self-Interest Revisited", *Journal of Management Studies*, 2006, 43, 585–619.
- Rosemberg, N. (1990), "Adam Smith and the Stock of Moral Capital", *History of Political Economy*, 22, 1-18.
- Rosemont, H. (1986), "Kierkegaard and Confucius: on finding the way", *Philosophy East and West*, 36, 201-212.
- Rumsey, J.P. (1990), "Agency, human nature and character in Kantian theory", *The Journal of Value Inquiry*, 24, 109-121.
- Schelling, T. (1960), *The Strategy of Conflict*. Harvard University Press: Cambridge, MA.
- Schneider, K.J. (1990), *The paradoxical self: Toward an understanding of our contradictory nature*. Insight Books: New York.
- Schönbaumsfeld, G. (2007), *A Confusion of the Spheres*, Oxford Press: Oxford.
- Schönfeld, M. (2006), "From Confucius to Kant – The Question of Information Transfer", *Journal of Chinese Philosophy*, 33, 67-81.
- Schrader, G. (1968), "Kant and Kierkegaard on Duty and Inclination", *The Journal of Philosophy*, 65, 688-701.
- Slaatté, H.A. (1968), *The Pertinence of Paradox*. Humanities Press: New York.
- Slaatté, H.A. (1995), *A Re-Appraisal of Kierkegaard*. University Press of America: Lanham, Maryland.
- Smith, A. (1759), *The Theory of Moral Sentiments*. (eds) Raphael D. D. and A. L. Macfie (1976), Oxford University Press: Oxford.
- Smith, A. (1776), *An Inquiry into the Nature and Causes of Wealth of Nations*. (eds) Campbell R. H. and A. S. Skinner (1981), Liberty Press: Indianapolis, IN.
- Tsai, A. (2004), "Where does the Yin Yang Symbol come from?", *The International Journal of Healing and Carling*, 4, 1-3.

- Young, J.T. (1997), *Economics as a Moral Science: The Political Economy of Adam Smith*. Edward Elgar: Cheltenham, U.K.
- Ware, R.B (1999), *Hegel. The logic of Self-consciousness and the Legacy of subjective Freedom*. Edimburg University Press: Edimburg.
- Wing-tsit C. (1963), *A Source Book in Chinese Philosophy*. Princeton University Press: Princeton.
- Viner, J. (1927), ‘Adam Smith and Laissez Faire,’ *The Journal of Political Economy*, 35, 198-232.
- Von Neumann, J., Morgenstern O. (1944), *Theory of Games and Economic Behavior*. Princeton University Press: Princeton.
- Watts, D. (2007), “The Paradox of Beginning: Hegel, Kierkegaard and Philosophical Inquiry”, *Inquiry*, 50, 5-33.
- Wei-Bin Z. (2000), *On Adam Smith and Confucius – The Theory of Sentiments and The Analects*. Nova Science Publishers, Inc, Huntington: New York.
- Wertz, S.K. (1975), ‘Hume, History and Human Nature,’ *Journal of the History of Ideas*, 36, 481-496.
- White, M.D. (2010), “Adam Smith, Immanuel Kant: On Markets, Duties and Moral Sentiments”, *Social Economics*, 39, 53-60.
- Zahra, S.A., Newey L.R. (2009), “Maximizing the impact of organization science: theory-building at the intersection of disciplines and/or fields”, *Journal of Management Studies*, 46, 1059–75.

CHAPTER II

COOPETITION AS AN EMERGENT CONSTRUCT: IDENTIFYING A REIFICATION PROCESS THROUGH A BIBLIOMETRIC ANALYSIS

Abstract

Given the interest in coopetition and the associated intellectual ferment, one might suppose that a common understanding is developing. In fact, a shared conceptualization of coopetition is not yet in sight. In this paper we explore two research questions. First, what meanings of coopetition are affirmed in the literature so far? Second, to what extent in this process is the coopetition construct being reified and to what extent is it being allowed to remain open for further construction and interpretation? Through the use of a bibliographic coupling analysis, we identify the theoretical roots and orientations of studies that have focused on coopetition, and suggest likely directions for future developments.

Key words: Coopetition, reification, bibliometric coupling.

1. INTRODUCTION

Coopetition is an emergent construct in strategic management research. While Henderson (1967), Deutsch (1973), Hamel, Doz and Prahalad (1989) all argued for the strategic relevance of cooperating with competitors to secure competitive advantage, it was Brandenburger and Nalebuff (1996) who initially clarified the function of coopetition – the coexistence of competition and cooperation - in strategic decision making. Since this seminal work, other authors (e.g., Bengtsson and Kock, 2000; Gnyawali and Madhavan, 2001, 2006; Dagnino, 2009) have dugged into the forms that cooperative relations can take. In fact, by googling “coopetition”, we have generated 947,000 references at August 2011! Published papers and books on coopetition and sessions at meetings and international conferences confirm a growing interest on the key topic.

In this paper we explore two questions. First, how has coopetition been constructed and defined in the literature (Berger and Luckmann, 1966) and what meanings have been attributed to it? Extant literature has used the idea of coopetition in several ways (Tidström, 2008). Some studies look at the core idea as the “coexistence of cooperation and competition” (Brandenburger and Nalebuff, 1996; Bengtsson and Kock, 2000), while others consider it the “partial convergence of interests between actors” (Dagnino 2009).

Second, is the coopetition concept being reified and fixed in scholarly articles or is it being allowed to remain open for further construction and interpretation? Reification processes could lead to the objectification of the coopetition concept so that it achieves a taken-for-granted meaning. We argue that

since coopetition is a new field of inquiry, it is important to clarify the use of the construct as it develops in scholarly communications. Does it support exploration of the phenomena and, if so, how, or if its meaning and application increasingly fixed and limited. Following Lane, Koka and Pathak (2006), our aim is to show how “coopetition” has emerged and how it may have been changed due to reification processes. We will consider how coopetition is collectively understood and suggest directions for future coopetition research.

We use bibliographic coupling tool to organize the coopetition studies published from 1996 to 2010 based on the reference works they share. Based on their shared references, we can identify the theoretical roots and orientations that studies share. This mapping process identifies the degree of connection and cohesion among study references and then, whether or not the concept can be considered as reified, meaning that the abstract notion of “cooperating and competing” is adopted with no real referent. Using bibliometric methods such as coupling analysis, one can also identify the themes in the different research papers and so how the content of the coopetition field is being defined.

The paper is organized as follows. To begin, we discuss the reification issue in the social sciences and the emergence of coopetition as a field of study. In section 3, we present and discuss the methodological features of the research, justify the sampling, and introduce the analysis. In sections 4 and 5, we combine our bibliometric coupling technique with multivariate statistical techniques to develop alternative visual maps of the coopetition research field. The first mapping offers a survey of the coopetition literature in terms of the definitions and meanings attributed to it, while the second offers a mapping of different

authors' approaches to cooperation studies. In section 6, we discuss our results and suggest future research opportunities.

2. THEORETICAL BACKGROUND

We explore the meaning of cooperation and how currently, the concept is being gradually reified to become an objective part of accepted strategic reality (Pinch and Bijker, 1984).

The etymology of *reification* draws on the Latin, “res” = thing - and “facere” = make - and so literally reification means “making into a thing” or thing-ification. Specifically, reification refers to the process whereby people make use of a concept they have created as if it was, in fact, a natural, inevitable, objective and factual aspect of reality. To be conceived of as real, any concept must have the character of a “thing” and reification is the process whereby the “characteristic of thing-hood becomes the standard of objective reality” (Berger and Pullberg, 1965: 200). Money and citizenship are examples of socially constructed concepts that have obtained “*the stamp of scientific authenticity*” (Astley, 1985: 497) even though these concepts exist only because within a society they are currently accepted as being a part of an objective and stable reality.

Several scholars have investigated reification processes. In *Capital*, Marx (1867/1976) discusses “human labor” in the context of the reification of the “economy” and “society” concepts. A reification process reverses the idea that it is people and individuals who make up society and shows that, as well, there are societal forces experienced as objective and independent in their existence (Marx,

1867/1976). Actually, reification is the “experience of society in the form of objects and processes which are independent of human beings and which dominate over them” (Morrison, 2006: 105). By reifying man’s work activity, “human labor” is changed into something that is separable from man (Ahrne, 1974) to a concept that does not depend on the actions a man takes but, instead, is something that governs man with its rules as these relate it to other abstract, reified concepts like the “economy” and “society.” In this sense, reification is the process whereby man becomes estranged from his own will and work.

Lukacs (1971) suggested there are aspects of goods exchange processes that extend to any form of social interaction²¹ and he argues further that individuals often perceive others as simply objects. To show how individuals are first distinguished and then separated from their actions, Berger and Luckmann (1966) identified reification as a product of human activity. Starting with the observation that humans produce social structures and, in turn, social structures produce humans, Berger and Pullberg (1965) emphasize the idea that through social construction processes, man creates himself as a social being and this social reality reflects constructed contingent needs and interests (Boghossian, 2006). In spite of its apparent objectivity²², a reified state may not objectively exist even as the human mind can create an objective conception of the state. In fact, Berger and Luckmann (1966) recognized how constructed concepts can become so reified that human activity is no longer recognizable. Reification is extreme, for

²¹ In *History and Class Consciousness*, Lukacs (1971) adopted Marx’s construct - the relations between people are depicted as relations between things - to describe how labor could be considered an objective concept not related to workers’ productive activity (Lane, Koka and Pathak, 2006).

²² “The color green is green”, “the moon revolves around the earth, and the earth around the sun” are statements we use to depict objective reality and with which we make sense of the world around us because, generally, everyone agrees on such statements.

example, when human actions are depicted as non-human natural events.

Controversial positions have historically characterized the reification of a construct and the consequences stemming from this process. Some authors (e.g., Lane, Koka and Pathak, 2006) consider reification to be “problematic” in theory building and testing because it allows researchers to assume a as being taken for granted rather than exploring the way it develops and clarifying the assumptions made in using it. If one adopts the latter approach, however, what meaning the construct has may simply erode. Given the newness of coopetition research, it is important to understand the meanings of coopetition affirmed in studies and to explore the reification processes that may define, refine and revise the concept.

3. RESEARCH METHODOLOGY: BIBLIOMETRIC COUPLING APPROACH

We identify the intellectual roots of coopetition research by examining the research studies they reference. We use a bibliometric approach that enables a quantitative analysis of citations.

Bibliometric tools also make it possible to explore research studies in terms of pinpointing influential studies and their interrelationships that have supported the theoretical evolution of a field. The idea is to identify topically related groupings and groupings based on “core documents.” Articles and their references are our units of analysis (Schneider and Borlund, 2004). We adopt the bibliometric coupling method to discover the structure implicit in these article references (McCain, 1990).

Introduced by Kessler (1963), coupling analysis “allows the user to

examine relationships between papers based on the cited references that they share” (Garfield, 1988: 160). As shared references indicate thematic proximity, bibliographic coupling focuses on reference commonality to highlight the resemblance of theoretical sources (Kessler, 1963). Papers with citation similarity are referring to and retrieving similar information and so exhibit similar dependence on previous work.

3.1. Data source

Our data base consists of 82 studies published from January 1996 to December 2010: 53 papers in the journals of the Institute for Scientific Information and a further 29 articles published in three edited academic books. We began by retrieving all papers published in the management, economics, business, and finance field categories of the ISI Web of Science database with titles, abstracts, or keywords containing the expressions “coopetition” or “co-opetition”²³. To complete our data base, we included Brandenburger and Nalebuff’s (1996) pioneering contribution, and two recently edited books: Dagnino and Rocco (2009) and Yami, Castaldo, Dagnino and Le Roy (2010) that include article collections by coopetition researchers. These books extended our database by 29 studies.

We checked that no duplications or other inappropriate elements are included in the database. Differences in the order of author names and different titles for the same paper did in fact generate duplication and by removing this duplication, we ensured our database consists of unique work.

²³ Although early studies considered the term, *co-petition*, subsequent works use the *coopetition* term. In this study, we consider both terms to refer to the same concept.

3.2. Step of analysis I: The intellectual structure of the coopetition literature

We want to map the significant issues explored by coopetition studies and the contributions influencing the definition of coopetition. We used the 82 studies in our sample to build a square matrix in which the rows and columns represented the articles and the cells indicated the number of shared references. We normalized the cell scores to adjust for the fact that different authors have propensities to cite more or fewer references or that journal referencing guidelines might have affected referencing. We also found that some scholars cite more and some fewer studies and some mainly reference their own work. To avoid the contamination of such practices on measurement scales (Hair et al., 1992; Harrigan, 1985), we used the cosine measure formula (Salton and McGill, 1983) defined as follows: where is the number of common references between i and j , and are the number of references in the papers i and j , respectively. We subject the matrix of normalized couplings to a cluster analysis to highlight similarity and heterogeneity of articles based on shared and different citations (Ahlgren and Jarneving, 2008). The mapping process clusters articles based on the numbers of shared references. By using cluster analysis and analyzing article content in each cluster, we can identify the research themes associated with the clusters. We also found that within clusters, there were several subgroupings with high internal homogeneity and external heterogeneity and so we will explore these underlying themes. Drawing on previous studies (Ahlgren and Jarneving, 2008; Han and Kamber, 2000), we developed a cluster analysis with complete linkage to the

matrix of normalized coupling strengths.

Multidimensional scaling (MDS) enables a graphical depiction of the clusters of coopetition studies based on the proximity of study references. Each article is represented by a point in the map space and as two studies have similar references, the distance between the two points in the space is smaller. Given similar references, the assumption is that the intellectual content of the studies may also be similar (Osareh; 2003). When two studies cite different references, however, they are located far from each other in the mapping space. Through a coupling analysis of the references drawn on by the 82 studies, we have a framework outlining a basis for defining the coopetition research field. An analysis of article content should suggest the themes coopetition focuses upon.

3.3. Step of analysis II: The scrutiny of authors' approach to coopetition

In step two we dig deeper in order to study the reification of coopetition studies. We argue that reification process can be explored by shifting the unit of analysis from the coopetition topic to researchers' views of coopetition indicated by how different researchers investigate the construct. By exploring authors' approaches to the study of coopetition, we answer the following questions: do authors dig deep to explore the core nature of coopetition or do they simply mention the concept as a reference? Do authors seek to make theoretical or empirical contributions concerning the study of coopetition? Do they contribute uniquely to the development of the coopetition field or do they simply adopt a cooperative framework developed in other studies?

Differently from the previous analysis – in which we consider all the

shared references cited by all the 82 articles, no matter which reference topic they share - in our coupling analysis, we keep the same number of cooperation articles (82) and consider only the shared references on cooperation cited by all 82 cooperation articles. Using cluster analysis and analyzing article content, we identify the researcher approaches to the issue of cooperation. As the reification approach emerges in clustered papers, we can identify the basis for any reification emerging in cooperation studies. We use similar multivariate statistical techniques as in the previous stage to carry out this exploration.

A more fine-grained analysis on cooperation literature

We now focus on the 53 papers published in the journals monitored by the Institute for Scientific Information. Our purpose is to show how cooperation has been defined in these journals and to develop a clearer image of studies in cooperation. It will also be possible to identify which of these approaches have been further developed in the articles in two recent edited books (Dagnino and Rocco, 2009 and Le Roy et al. 2010).

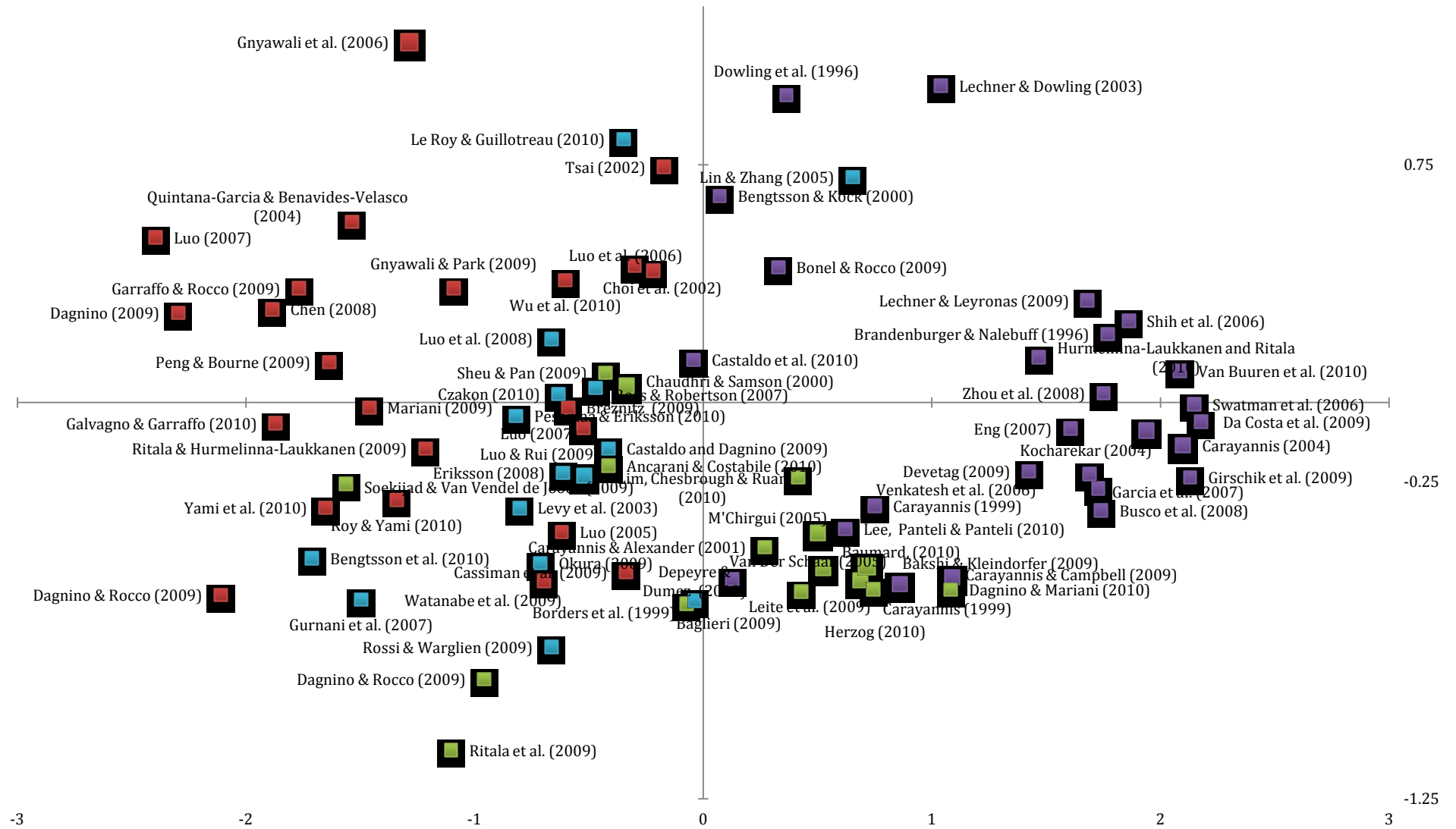
4. MAPPING THE COOPERATION LITERATURE: DEFINITIONS AND MEANINGS ATTRIBUTED TO IT

The goal is to use references cited in articles on cooperation strategy to discover different underlying themes that characterize this emerging literature. Visual inspection of the dendrogram and the coefficient analysis suggest four separate clusters:

- a) the relational dimension of the cooperation construct;

- b) the strategic dimension of coopetition;
- c) contextual factors leading to the emergence cooperative phenomena;
- d) attempts to model and define coopetition.

Figure 1 demonstrates the map of the analysis I. Specifically, red color indicates the papers that consider the relational dimension of the coopetition construct; color blue indicates papers that consider the strategic dimension of coopetition; the green color shows papers that consider the factors leading to the emergence cooperative phenomena and; finally, violet color indicates papers that attempt to model and define coopetition.



4.1. Cluster A: The relational dimension of the coopetition construct

Cluster A focuses on relationships where coopetition processes are manifest, e.g., at the interfirm, firm and intra-organizational level. Within the cluster and based on similar references, we discuss five subgroups:

- a) The coopetition construct. These studies consider how to develop theories about coopetition in interfirm relationships and suggest perspectives for developing such theory;
- b) Theoretical lenses to interpret cooperative relations: these studies identify theoretical lenses used to analyze cooperative dynamics. Though firms may cooperate to generate value, they are still competitors with regard to the appropriation of value. Connections between coopetition, resource availabilities, and desired competence are developed;
- c) Cooperation at the interfirm level;
- d) Cooperation at the firm-level;
- e) Cooperation at the intrafirm level.

Cluster A is composed by 21 essays with 7 book chapters and 14 papers published in scientific journals. All of the studies focus on cooperation concept (Garraffo and Rocco, 2009; Garraffo and Galvagno, 2010), its nature (Dagnino, 2009), different kinds of cooperative relationships (Luo, 2007) and how to distinguish cooperation from cooperative alliances (where the emphasis is on cooperation). The following table 1 reports how the studies divide among the subgroups.

Table 1: The relational dimension of Coopetition

RESEARCH FOCUS	ESSAYS
<i>The coopetition construct</i>	Quintana-García & Benavides-Velasco, 2004; Luo, 2007; Chen, 2008; Dagnino 2009; Yami, et al., 2010; Garraffo & Rocco, 2010; Garraffo & Galvagno, 2010; Le Roy & Yami, 2010
<i>Lenses to interpret cooperative relations</i>	Gnyawali, et al., 2006; Peng & Bourne, 2009; Ritala & Hurmelinna-Laukkanen, 2009; Gnyawali, & Park, 2009; Mariani, 2009; Breznitz, 2009
<i>Coopetition at the interfirm level</i>	Choi et al., 2002; Wu et al., 2010
<i>Coopetition at the firm level</i>	Cassiman et al., 2009; Watanabe, Lei & Ouchi, 2009
<i>Coopetition at the intrafirm level</i>	Tsai, 2002; Luo, 2005; Luo et al., 2006

The coopetition construct

The core idea is that “coopetition is an important philosophy” going “beyond the conventional rules of competition and cooperation” (Luo, 2007: 129) that may enable achievement of the advantages associated with both (Brandenburger and Nalebuff, 1996). As Shane and Venkataraman (2000) suggest, such new lens should have interpretation abilities that explain and predict empirical phenomena that other theoretical streams cannot explain.

Quintana-García and Benavides-Velasco (2004) review how concepts developed in the fields of transaction-cost economics, game theory and the resource-based view of the firm are reflected in coopetition studies. They also identify alternative behaviors – unilateral cooperation, mutual cooperation, unilateral defection and mutual defection – that might stem from the blending of competitive and cooperative attitudes.

Chen (2008) distinguishes coopetition studies in terms of a) competition-oriented cooperation studies in which competitive attributes are used to evaluate cooperative agreements – such as alliances or joint ventures, and b) cooperation-

oriented competitive studies in which cooperation-related variables are used to predict competitive concerns.

Dagnino's (2009) framework simultaneously considers competitive and cooperative relations. His conceptualization is based on actor interests and game structure and that cooptition reflects "incomplete interest (and goal) congruence" in firm interdependencies. Since partner interests are not perfectly aligned, activities can be coupled or decoupled. By focusing on interests, it is possible to suggest that cooptition is not simply a linking of competition and cooperation but more like a relational interdependence that evolves and changes between individuals, teams, firms and networks.

Lenses to interpret cooptitive relations

These studies identify lenses to analyze the emergence of cooperative relations among competitors. Drawing on game theory, the resource-based view, transaction cost economics and network theory (Lado *et al.*, 1997, Quintana-Garcia and Benavides-Velasco, 2004; Peng and Bourne, 2009), for example, these cooptition studies distinguish clearly between value creation and appropriation processes. Gnyawali and Park (2009) note that the best alliance partner for a firm is sometimes a strong competitor (Ipken and Tsang, 2000) and emphasize collaborations with rivals to gain competitive advantage (Hamel, Doz and Prahalad, 1989). Hurmelinna and Laukkanen (2009) also use game-theory insights, to show cooptition has two dimensions: collaboration is collective action for value creation and competition is individual action for value

appropriation. While an innovation may be created jointly, appropriating its value is something to compete over.

Gnyawali *et al.*, (2006) focus on the creation and appropriation of value by considering how cooptation affects competitive behavior. They argue that firms engaging in cooptation are often enmeshed in a cooptative network. A firm's network position in terms of its number of connections and non-redundant ties influences that rationale for simultaneous competition and cooperation (Peng and Bourne, 2009). Different structural positions reflect resource asymmetries and associated benefits such as easier or earlier access to network information or knowledge.

The development of cooptation dynamics can also be stimulated by institutional contexts (Mariani, 2009; Breznitz, 2009). For example, Mariani (2009) in his study of opera firms subject to cost cutting pressures from a government funding agency discusses how these contextual changes encouraged the formation of cooptative strategies amongst the opera companies. He introduced the idea of *imposed cooperation* to describe the policies implemented by the institutional environment and *induced cooptation* as the organizational reactions of the opera companies to this imposed policy. In his study of creation of cooptation strategies in high-tech industries, where the pressure of constantly innovation is overbearing, Breznitz (2009) shows that cooptation is not standardized, and hence, always leads to the same industrial outcomes. On the contrary cooptation should be analyzed as specific institution system leading to the development of specific capabilities that are requested by the context.

Interfirm Coopetition

This subgroup within the cluster focuses on the coopetition dynamics that occur at the inter-firm level. Choi et al. (2002) and Wu *et al.* (2010) focus on cooperation between competing suppliers, in which coopetitive relations imply there is some basis of common interest among competing suppliers.

Firm-level coopetition

At the firm level, there are two contributions by Cassiman et al. (2009) and Watanabe et al. (2009). For Cassiman et al. (2009), coopetition helps explain how in their R&D process, firms may combine internal and external innovation activities. Drawing on their STMicroelectronics case study, the paper shows how to profit from innovation activity firms balance their cooperative interest in co-creating value through R&D projects with competitive pressures to capture any value created. Watanabe et al. (2009) draw on their case study of Canon to show that the co-evolution of indigenous technology development and market learning encourages cooperation with competitors.

Intrafirm coopetition

These three papers focus on coopetition as it occurs at the intra-organizational level. Tsai (2002) investigated the effectiveness of coordination mechanisms on knowledge sharing in intra-organizational networks among units that collaborate and compete with each another. “While competing with each other, business players also cooperate among themselves to acquire new knowledge from each other” (Tsai, 2002: 180). Hence, coopetition may involve cooperation in the form

of shared knowledge but competition can emerge as units then attempt to use shared knowledge to outperform their partners (Khanna et al, 1998).

Within firms, functional areas are often forced to simultaneously cooperate and compete. Luo et al. (2006) consider how functional units manage cross-functional cooperation and competition to achieve competitive advantage, in terms of firm's customer service and financial performance. This also seems to be an example of a cooperative situation introduced by pressures from outside the units as occurred in the Mariani (2009) and Breznitz (2009) studies.

Luo (2005) also delineates cooperation processes within a globally coordinated multinational enterprise. To gain new knowledge and exploit economies of scope, subunits cooperate with each other. However, they are also expected to compete in that they are compared in terms of their ability to reach goals. According to the author, situations in which there is simultaneously interunit cooperation and competition can be distinguished in a typology consisting of aggressive demander (low cooperation and high competition), ardent contributor (high cooperation and low competition), silent implementer (both low), and network captain (both high).

4.2. Cluster B: The strategic dimension of cooperation

Cluster B depicts cooperation as new strategic dimension that may allow firms to gain competitive advantage. Studies in cluster B emphasize the advantages of shifting from competitive or cooperative dynamics to a cooperative dynamic.

Within the cluster, there are two subgroups:

- (a) Moving from the cooperation-competition dichotomy to a coopetition strategy
- (b) Coopetition as coupling of competition and cooperation.

Cluster B includes 17 essays made up of 9 book chapters and 8 other papers from academic journals (See table 2).

Table 2: The strategic dimension of coopetition

RESEARCH FOCUS	ESSAYS
<i>Moving from a cooperation-competition dichotomy to coopetition strategy</i>	Levi et al., 2003; Gurnani et al., 2006; Luo, 2007; Luo et al., 2008; Luo & Rui, 2009; Dagnino & Rocco, (i) 2009; Castaldo & Dagnino, 2009; Baglieri, 2009; Okura, 2009; Rossi & Warglien, 2009; Bengtsson et al., 2010; Czakon, 2010
<i>Coupling competition and cooperation</i>	Lin & Zhang, 2005; Ross & Robertson, 2007; Eriksson, 2008; Le Roy & Guillotreau, 2010; Pesämaa & Eriksson, 2010;

Moving from a cooperation-competition dichotomy to coopetition strategy

These studies emphasize the value of shifting from competitive or cooperative strategies to a coopetitive strategy (Luo, 2007; Baglieri 2009) that lead to a more-fine grained understanding of coopetition and its drivers, processes and outcomes (Bengtsson *et al.*, 2010).

Czakon (2010), for example, notes how studies have focused on the “deliberate side” of competition strategies while few consider its “emergent side”. He suggests the need to rethink coopetitive strategy so that it encompasses longer time periods. Castaldo and Dagnino (2009) explore how trust helps shape the multidimensional structure of coopetition. They identify three basic properties of a coopetitive environment including its inner complexity, relative instability and contextuality and this leads to a trust-based dynamic model for the evolution of coopetition. In an experiment Rossi and Warglien (2009) observe the determinants of coopetitive behavior in a group formed by a principal and two

agents. The structure of their experiment blends vertical agency relationships with peer interactions to clarify the processes operating in cooperative situations. The study shows how a principal's fairness significantly affects agent behaviors and that principals tend to act less fairly in triangular rather than in dyad relationships.

Other studies focus on addressing the interplay of competition and cooperation by looking at alliance dynamics (Luo et al., 2008) or focusing on supply chain cooperation, in which the incentives of the cooperation partners (product supplier who invests in a technology and the buyer who develops a product market) depend on cost structures and market uncertainties. Finally, Luo and Rui (2009) also suggest that cooperation as one of four dimensions of ambidexterity: co-orientation, co-competence, co-opetition and co-evolution (Gurnani, Erkoc and Luo, 2006).

Cooperation as coupling of competition and cooperation

These studies consider cooperation as a hybrid strategy that enables the benefits of separate competition and cooperation strategies to be exceeded (Le Roy and Guillotreau, 2010; Pesämaa and Eriksson; 2010). Presumably, cooperation is somewhere on the continuum between cooperative and competitive strategies (Eriksson, 2008). Conceptually, then, an equal balance generates symmetric cooperation, while more competitive or cooperative thrusts lead to competitive-based cooperation or cooperative-based cooperation. Such a conceptualization (Lin and Zhang, 2005; Ross and Robertson, 2007) justifies mention of cooperation in

terms of the coupling of competition and cooperation processes, but the studies do not identify cooperation strategies *per se*.

4.3. Cluster C: Factors leading to the emergence of cooperative phenomena

Cluster C depicts the interdependent nature of cooperation dynamics and suggests that cooperative strategies represent a new way to look at strategic interdependence. Within the cluster, two subgroups share similar references:

- (a) Strategic interdependence as an antecedent of cooperation;
- (b) The cooperative context.

Cluster C consists of 17 studies including 9 papers published in scientific journals and 8 book chapters. Table 3 shows how these studies divide into subgroups.

Table 3: Factors leading to the emergence of cooperative phenomena

RESEARCH FOCUS	ESSAYS
<i>Strategic interdependence as an antecedent of cooperation</i>	Ritala et al., 2009; Dagnino & Mariani, 2010; Herzog, 2010; Soekijad & van Wended de Joorde, 2010
<i>The cooperative context</i>	Chaudhri & Samson, 2000; Carayannis & Alexander, 2001; Borders et al., 2001; M'Chirgui, 2005; Van Der Schaar & Shankar, 2005; Her-Jiun Sheu & Chao-Yi Pan, 2009; Dagnino & Rocco (c), 2009; Leite et al., 2009; Carayannis et al., 2009; Ancarani & Costabile, 2010; Baumard, 2010; Lim et al., 2010

Strategic interdependence as an antecedent of cooperation

Dagnino and Mariani (2010) focus on the entrepreneurial firm's strategic role in bridging the gap between capability space and opportunity space. Using the academic incubator of the University of Bologna (AlmaCube) as a case study, they describe the role of cooperation during value creation in entrepreneurial contexts.

Ritala et al., (2009) investigate the role of intrafirm coopetition in knowledge creation. Firms adopt competitive and cooperative maneuvers as they create new knowledge. Ritala et al., (2009), develop a process model of innovation that shows how the two contradictory logics alternate and are critical for knowledge creation and innovativeness. The process starts with knowledge and information that flows from internal and external sources to the company. In the second step cooperation in the form of knowledge sharing makes existing explicit knowledge. Individuals having access to information may internalize it to their tacit knowledge. In the third step new combinations of ideas are created even if the emerging ideas can compete with each other. The more cooperation and sharing ideas there is, the more novel the ideas and the more competition there may be between them. In this phase we see the start of actual cooperative-competitive coexistence (coopetition).

Soekijad and van Wenden de Joorde (2010) focus on three dimensions: the homogeneity or heterogeneity of resources, the separation of competitive and cooperative activities, and the relevance of trust in order to explore how knowledge-intensive firms manage coopetition relationships. Through an inductive approach they analyzed two case studies of multiparty alliances between knowledge-intensive organizations and found that organizations can apply several mechanisms to manage coopetitive relationships. First, in terms of partners selection, by developing coopetition with partners that are heterogeneous in terms of information flows, but homogeneous in terms of status flows. Second, by separating competition and cooperation dynamics. Third, by building and fostering relational capital.

Dagnino and Mariani (2010) argue that coopetition occurs to the extent that actor interests partially converge (Dagnino, 2009). Ritala et al. (2009) and Soekijad and van Wended de Joorde (2010) argue that a clear separation of competition and cooperation logics is necessary if coopetitive relations are to be durable (Bengtsson and Kock, 2000).

The coopetitive context

These studies consider the role of the environmental context in emerging coopetitive dynamics (Chaudhri, Samson and Kerin, 2000; Borders *et al.*, 2001; M'Chirgui, 2005; Van Der Schaar and Shankar, 2005; Her-Jiun Sheu and Chao-Yi Pan, 2009; Baumard, 2010) and observe that context becomes central in deciding to adopt coopetition (Ancarani and Constabile, 2010) in technology-driven environments, such as high-tech industries (Carayannis and Alexander, 2001; Carayannis *et al.*, 2009; Lim *et al.*, 2010) where knowledge system's competitiveness and superiority is determined by the ability to combine and integrate different knowledge and innovation modes via coopetition (Carayannis and Alexander, 2001). Context is seen as an external force that pushes firms to adopt coopetition, considering it the better fit in order to gain competitive advantage.

4.4. Cluster D: Attempts to define and model of coopetition

Studies in cluster D dig deeper into the coopetition mindset. Some studies (Nalebuff and Brandenburger, 1996; Dowling et al., 1996) were early contributions aimed mainly at defining the phenomenon. More recently, studies

have attempted to develop a better understanding of the coopetition logic of action. Bengtsson and Kock (2000) approach to coopetition identifying three coopetitive relationships among competitors emerge - cooperation-dominated, competition-dominated and an equal relationship - depending on the emphasis placed on cooperation or competition. Some researchers draw on the game theoretical approach of Brandenburger and Nalebuff (1996) to develop coopetitive models (Carayannis, 1999; Venkatesh et al., 2006; Hurmelinna-Laukkanen and Ritala, 2009; Bakshi and Kleindorfer, 2009) to tell managers what to emphasize contingent on the situations their firms face (Da Costa et al., 2007) or when and why a mixed-motive game, such as coopetition, may fail (Devetag, 2009). Others develop new approaches to formalizing and looking at coopetition. Bonel and Rocco (2009) develop an in-depth analysis of coopetition driven-effects suggesting how to better manage a coopetition strategy, while Castaldo et al., (2010) the role of third-part organizations in dealing with the challenge of developing coopetitive dyadic relations (see table 4).

Table 4: Attempts to model coopetition

RESEARCH FOCUS	ESSAYS
<i>Attempt to model coopetition</i>	Brandenburger & Nalebuff, 199; Dowling et al., 1996; Bengtsson & Kock 2000; Lechner & Dowling 2003; Carayannis, 2004; Kocharekar, 2004; Shih et al., 2006; Venkatesh et al., 2006; Swatman et al., 2006; Eng, 2007; Zhou et al., 2008; Garcia et al., 2007; Busco et al. (2008); Bonel & Rocco, 2009; Da Costa et al., 2009; Devetag, 2009; Girshik et al., 2009; Carayannis and Campbell 2009; Bakshi and Kleindorfer 2009; Castaldo et al., 2010; Depeyre & Dumez, 2010; Hurmelinna-Laukkanen & Ritala 2010; Lee, & Panteli, 2010; Van Buuren' et al., 2010;

4.5. A spatial representation of the literature

At this point we present the two dimensional solution was $RSQ = 0,79987$ and a stress value of 0,23512 confirming a 2-dimensional solution accurately represents our data (McCain, 1990). The horizontal axis of the map defines three aspects

represented in the coopetition literature: relationships, strategy and phenomenon. Drawing from the bottom to the top of the vertical axis, the dimension seems to identify theoretical at the bottom versus empirical contributions at the top.

5. MAPPING AUTHORS' APPROACH TO COOPETITION STUDIES

In the introduction to their book on “Coopetition, winning strategies”, Yami *et al.* (2010) summarize the work of the pioneers (Brandenburger and Nalebuff, 1996; Bengtsson and Kock, 2000) and raise the following questions: Should we have coined a new term like coopetition? Is coopetition just a fashionable concept or does it constitute a revolution in strategic thinking?

Drawing on the pioneering Nalebuff and Brandenburger (1996)'s contribution, we see a distribution of citations where the early increase reflects the flourishing initial interest in the potential contribution of the topic. Starting from 2006 the number of references stabilize and seem to depend on the different paths of approach. We argue that authors' approaches to investigating coopetition help explain the questions they answer and also address any reification processes that may be underlying coopetition studies. Exploring why authors cite only coopetition milestones helps clarify how they grasp coopetition, ideas and may highlight whether coopetition is a reified concept. For each paper, table 5 reports the number of references referring to coopetition and the overall number of references.

Table 5: Number of references referring to coopetition and the overall number of references

	COOPETITION REFERENCES	OTHER REFERENCES	TOTAL REFERENCES
1996			
Dowling, Roering, Carlin and Wisnieski (1996)	0	51	51
Brandenburger and Nalebuff (1996)	0	128	128
1999			
Borders, Johnston and Rigdon (1999)	1	14	15
Carayannis and Alexander (1999)	1	37	38
Carayannis (1999)	1	53	54
2000			
Chaudhri, Samson (2000)	1	13	14
Bengtsson and Kock (1999)	1	63	64
2001			
Carayannis and Alexander (2001)	2	16	18
2002			
Choi, Wu, Ellram, Koka (2002)	3	90	93
Tsai (2002)	0	60	60
2003			
Levy, Loebbecke and Powell (2003)	1	21	22
Lechner, Dowling (2003)	0	75	75
2004			
Quintana-Garcia and Benavides-Velasco (2004)	5	48	53
Carayannis, Alexander (2004)	1	15	16
Kocharekar (2004)	1	11	12
2005			
Van der Schaar (2005)	1	24	25
M'Chirgui (2005)	1	32	33
Lin and Zhang (2005)	2	35	37
Luo (2005)	2	54	56
2006			
Gnyawali, He and Madhavan (2006)	3	52	55
Shih, Tsai, Wu and Lu (2006)	0	59	59
Venkatesh, Chintagunta and Mahajan (2006)	1	22	23
Luo, Slotegraaf and Pan (2006)	2	79	81
Swatman, Krueger and van der Beek (2006)	0	77	77
2007			
Eng (2007)	2	60	62
Ross and Robertson (2007)	2	61	63
Garcia, Bardhi and Friedrich (2007)	0	18	18
Luo (2007)	3	30	33
Chi, Holsapple and Srinivasan (2007)	1	76	77
Luo (2007)	2	48	50
Gurnani, Erkoc and Luo (2007)	3	17	20
2008			
Eriksson (2008)	5	57	62

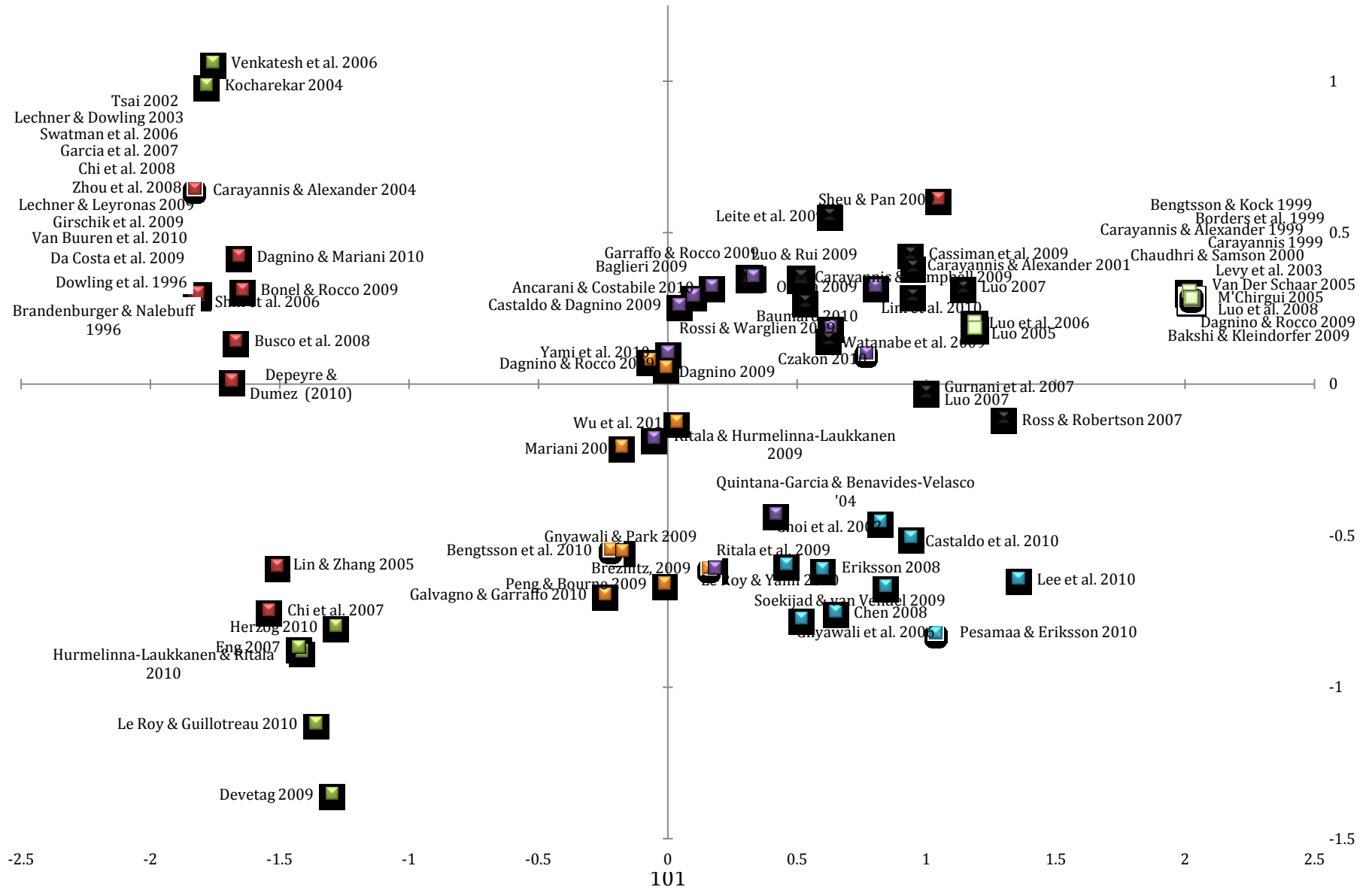
	COOPETITION REFERENCES	OTHER REFERENCES	TOTAL REFERENCES
Chen (2008)	5	49	54
Busco, Giovannoni and Scapens (2008)	2	74	76
Zhou, Deng and Wu (2008)	0	10	10
Luo, Shenkar and Gurnani (2008)	1	92	93
Chi, Holsapple and Srinivasan (2008)	0	66	66
2009			
Luo and Rui (2009)	4	45	49
Ritala and Hurmelinna-Laukkanen (2009)	9	55	64
Bakshi and Kleindorfer (2009)	1	41	42
Peng and Bourne (2009)	10	45	55
Gnyawali and Park (2009)	11	70	81
da Costa, Bottura and Boaventura (2009)	2	19	21
Sheu and Pan (2009)	0	66	66
Leite, Lopes and Silva (2009)	3	27	30
Cassiman, Di Guardo and Valentini (2009)	2	25	27
Lechner and Leyronas (2009)	0	83	83
Watanabe, Lei and Ouchi (2009)	3	40	43
Carayannis and Campbell (2009)	3	84	87
Dagnino and Rocco (2009)	9	15	24
Dagnino (2009)	8	51	59
Garraffo, Rocco (2009)	5	40	45
Ritala, Valimaki, Blomqvist and Henttonen (2009)	9	26	35
Castaldo and Dagnino (2009)	7	74	81
Breznitz (2009)	8	92	100
Baglieri (2009)	5	52	57
Soekijad; van Vendel de Joode (2009)	6	46	52
Mariani (2009)	10	40	50
Bonel and Rocco (2009)	3	50	53
Girschik, Rossi, Boutellier (2009)	0	10	10
Okura (2009)	3	24	27
Rossi, Warglien (2009)	4	25	29
Devetag (2009)	1	22	23
Dagnino and Rocco (2009)	1	5	6
2010			
Lim, Chesbrough and Ruan (2010)	2	27	29
van Buuren, Buijs and Teisman (2010)	0	57	57
Lee and Panteli (2010)	2	66	68
Hurmelinna-Laukkanen and Ritala (2010)	2	73	75
Wu, Choi and Rungtusanatham (2010)	8	60	68
Yami, Castaldo, Dagnino, Le Roy, Czakon (2010)	8	20	28
Bengtsson, Eriksson and Wincent (2010)	15	26	41
Galvagno and Garraffo (2010)	18	54	72
Czakon (2010)	3	42	45

	COOPETITION REFERENCES	OTHER REFERENCES	TOTAL REFERENCES
Baumard, (2010)	3	47	50
Dagnino, Mariani (2010)	4	51	55
Depeyre, Dumez (2010)	3	25	28
Castaldo, Mollering Grosso and Zerbini (2010)	3	50	53
Pesamaa and Eriksson (2010)	3	44	47
Roy and Yami (2010)	5	26	31
Herzog (2010)	3	24	27
Ancarani and Costabile (2010)	5	55	60
Le Roy and Guillotreau (2010)	2	25	27

The goal is to use the shared references on coopetition cited by all 82 articles to discover how the different researchers investigate the construct and dig deeper into the reification of coopetition. Visual inspection of the dendrogram and the coefficient analysis suggest seven separate clusters:

- a) convertors: researchers that aim to convert coopetition construct into a more tangible one;
- b) theorists: to stimulate new theoretical insights;
- c) developers: to extend existing theory;
- d) challengers: to address specific questions related to coopetition;
- e) users: researchers use the concept for other studies;
- f) ceremonials;
- g) milestoners and reifiers.

Figure 2 demonstrates the map of the analysis II. Specifically, red color indicates the milestoners and reifiers; olive green color indicates the ceremonials; blue color shows the challengers; orange color indicates the theorists; black color indicates the users; violet color indicates the developers and; finally, green color indicates the convertors.



5.1. Cluster A: Convertors

Cluster A includes all the studies that draw on Nalebuff and Brandenburger’s approach of looking at coepetition and share the idea of “converting a liquid word into a tangible one” (Dagnino and Rocco, 2009). These studies have a low number of coepetition citations (less than two). The authors consider coepetition as the simultaneous combination of cooperation and competition (Carayannis and Alexander, 2001; Carayannis, 1999; Bengtsson and Kock, 2000, Levy et al, 2003; Chaudhri, Samson and Kerin, 2000; Borders, Johnston and Rigdon, 2000; M’Chirgui, 2005; Van Der Schaar and Shankar, 2005). Most authors (Bengtsson and Kock, 2000; Chaudhri et al. 2000; Levy *et al.*, 2003) pursue a case study approach that often reveals itself as effective when theory is relatively underdeveloped (Eisenhardt, 1989), research boundaries are not clear and there is a need to investigate the issue within a real-life context (Yin, 1994) (See table 6).

Table 6: Convert articles

AUTHORS’ APPROACH	ESSAYS
<i>Convertors</i>	Borders et al. 2001; Carayannis, 1999 ; Carayannis & Alexander 2001; Bengtsson & Kock 2000; Chaudhri & Samson 2000 ; Levy et al. 2003; M’Chirgui, 2005; Van der Schaar 2005; Luo 2005; Luo et al. 2006; Luo et al. 2008; Bakshi & Kleindorfer 2009; Dagnino & Rocco, 2009 [c].

5.2. Cluster B: Theorists

Cluster B includes contributions where coepetition citations vary from between 6 and 18. The authors review prior research before linking new ideas and directions to the construct. Some of them (Dagnino, 2009;, Dagnino and Rocco, 2009; Garraffo and Galvagno, 2010; Bengtsson *et al.*, 2010) recognize the relevance to develop new theoretical insights that advance our understanding of coepetition. Some other (Gnyawali and Park, 2009; Peng and Bourne, 2009;, Breznitz, 2009;

Mariani, 2009; Wu *et al.*, 2010) focus more on the factors, actors, decisional processes and environment contexts that shape cooperative strategies. This cluster differs from cluster A in the way authors look at cooperation. Convertors attempt to render the cooperation concept more intelligible often through case studies. Theorists theorize about cooperation and debate the theoretical aspects of cooperation phenomenon. They advance new theoretical paths, challenge or clarify existing knowledge about cooperation, synthesize recent ideas and initiate a search for new claims by identifying and delineating a novel theoretical problem (see table 7).

Table 7: Theory articles

AUTHORS' APPROACH	ESSAYS
<i>Theorists</i>	Brenzitz 2009; Dagnino & Rocco 2009[i]; Dagnino 2009; Gnyawali & Park 2009; Peng & Bourne 2009; Mariani 2009; Bengtsson et al. 2010 Galvagno & Garraffo 2010; Wu et al. 2010.

5.3. Cluster C: Developers

Cluster C studies aim at extending theory in ways that permit development of testable knowledge-based claims. Cluster C studies make empirical and conceptual contributions and highlight their significance to the management field. Developers draw on problems that have been identified in previous literature to highlight the emergent contribution of co-opetitive strategy ideas. Some provide conceptual models and frameworks (Castaldo and Dagnino, 2009; Ritala and Hurmelinna-Laukkanen 2009; Ritala *et al.* 2009; Rossi and Warglien 2009; Ancarani and Costabile 2010; Yami *et al.*, 2010) while others apply the cooperation-based view to empirical settings such as university-industry relationships (Baglieri, 2009), franchising relationships (Czako, 2010) and the biotech industry (Quintana-Garcia & Benavides-Velasco 2004). move from

theoretical and empirical contributions to advance coopetition in managerial practices (see table 8).

Table 8: Developers articles

AUTHORS' APPROACH	ESSAYS
<i>Developers</i>	Quintana-Garcia & Benavides-Velasco 2004; Baglieri 2009; Castaldo & Dagnino 2009; Garraffo & Rocco 2009; Okura 2009; Ritala & Hurmelinna-Laukkanen, 2009; Ritala <i>et al.</i> , 2009; Rossi & Warglien 2009; Ancarani & Costabile 2010; Czakon 2010; Yami <i>et al.</i> , 2010.

5.4. Cluster D: Challengers

Cluster D contributions have between 2 and 6 coopetition citations. All refer to previous research to identify challenges coopetition studies should deal with including carry out investigations of the paradoxical nature of coopetition (Chen, 2008), the nature of cooperative relationships between actors (Choi *et al.*, 2002), the influence that third-part organizations can have on cooperative relations (Castaldo *et al.*, 2010), how coopetition affects firm competitive behavior (Gnyawali *et al.*, 2006), and how firms manage coopetition relationships (Soekijad and van Wended de Joorde, 2010) (see table 9).

Table 9: Challengers articles

AUTHORS' APPROACH	ESSAYS
<i>Challengers</i>	Choi <i>et al.</i> , 2002; Chen, 2008; Castaldo <i>et al.</i> , 2010; Gnyawali <i>et al.</i> , 2006; Eriksson 2008; Le Roy & Yami, 2010; Pesamaa & Eriksson, 2010; Soekijad & van Vendel, 2009; Lee <i>et al.</i> , 2010.

5.5. Cluster E: Users

These studies aim to adopt coopetition ideas à la Brandenburger and Nalebuff (1996) in other research fields such as supply chain management, organizational learning (Watanabe *et al.*, 2009; Baumard, 2010), high-tech industries (Carayannis and Alexander, 2001; Carayannis and Campbell, 2009) or international business (Gurnani *et al.*, 2007; Luo 2007 a, Luo, 2007b; Luo and

Rui, 2009). Studies attempt to make abstract ideas more concrete so they can be applied in other fields (see table 10).

Table 10: Users articles

AUTHORS' APPROACH	ESSAYS
<i>Users</i>	Carayannis & Alexander 2001; Gurnani et al., 2007; Luo 2007a; Ross & Robertson 2007 Luo 2007b; Luo & Rui 2009; Carayannis and Campbell, 2009; Da Costa et al., 2009; Leite et al., 2009; Cassiman et al., 2009; Watanabe et al., 2009; Baumard 2010; Lim et al., 2010.

5.6. Cluster F: Ceremonials

Studies in Cluster F have cooperation citations of between 1 and 3 for these papers usually introduce cooperation for simply ceremonial reasons and often, they cite only the earliest contributions to the study of cooperation. In particular, these studies usually recognize Nalebuff and Brandenburger's (1995) book as the starting point through which the study of cooperation was affirmed (see table 11).

Table 11: Ceremonials articles

AUTHORS' APPROACH	ESSAYS
<i>Ceremonials</i>	Kocharekar 2004; Venkatesh et al. 2006; Eng 2007; Herzog 2010; Hurmelinna-Laukkanen & Ritala 2010; Devetag 2009; Le Roy & Guillotreau 2010

5.7. Cluster G: Milestoners and reifiers

The size and positioning of the cluster G both help in explaining the emergence of two different subgroups, that only share the lack of similar references and we have discovered through qualitative analysis:

- Milestoners;
- Reifiers.

Table 12 shows how these studies divide into subgroups.

Table 12: Milestoners and reifiers articles

AUTHORS' APPROACH	ESSAYS
<i>Milestoners</i>	Brandenburger & Nalebuff, 1996; Dowling et al., 1996.
<i>Reifiers</i>	Tsai, 2002; Lechner & Dowling, 2003; Carayannis & Alexander, 2004; Lin & Zhang, 2005; Shih et al., 2006; Swatman et al., 2006; Garcia et al., 2007; Chi et al., 2007; Chi et al., 2008; Zhou et al., 2008; Busco et al., 2008; Bonel & Rocco, 2009; Girschik et al. 2009; Lechner & Leyronas, 2009; Sheu & Pan, 2009; Dagnino & Mariani, 2010; Depeyre & Dumez, 2010; Van Buuren et al., 2010.

Milestoners

Studies in this cluster are seminal pieces that firstly introduced and explored cooperation phenomenon. Nalebuff and Brandenburger (1996) are considered the pioneers. They focus on a game theory approach to show how cooperating with complementors can make the “pie bigger” rather than competing over a fixed pie. At the same time, Dowling et. al. (1996) approached cooperation in terms of multifaceted relationships, that are buyers or suppliers in direct or indirect competition or partners in competition - included elements of competitive and cooperative relationships.

Reifiers

Studies in this sub-group consider the idea that cooperation is a reified term and, hence, intelligible in its meaning and understanding. Researchers approach cooperation as a socially constructed concept already accepted as part of objective and stable reality. As cooperation is an intelligible concept, it does not imply or require further explanation. In referring to cooperation, authors do not cite previous studies.

5.8. A spatial representation of the reification process of coopetition

We present a two dimensional solution for which $RSQ = 0,96449$ and the stress value is $0,09920$ and so this 2-dimensional solution adequately represents our data (McCain, 1990). As we saw in the previous analysis, the vertical axis distinguishes theoretical versus empirical contributions. The horizontal axis distinguishes different stages in the conceptualization of the coopetition concept. For studies authored by milestoneers, reifiers and ceremonials, the coopetition concepts is considered well defined. Developers and theorists are in the middle of the axis and see some conceptualization but also recognized it is possible to dig deeper into the dynamics of coopetition. Users, challengers and convertors at the other end of the axis, in contrast, perceive coopetition to be at a low stage of conceptualization.

5.9. An assessment of whether the reification of coopetition is robust to sample variations

We did an additional step to provide a more fine-grained analysis of the reification process of coopetition by investigating the interest coopetition has received in academic journals. This analysis shows no significant differences from previous analyses that considered all of coopetition studies as the clusters are generally confirmed. The only difference is that two references included in cluster G – milestoneers and reifiers – now belongs to cluster F – ceremonials. Considering the high conceptual similarity between reifiers and ceremonials, we argue that such a result confirms that our analysis is robust to variations in the sample.

6. DISCUSSION

We have attempted to identify the meanings of coopetition affirmed in managerial studies and delineate the reification process that has occurred with respect to the coopetition concept. We conducted two analyses. Analysis I mapped the intellectual structure of the coopetition literature. Through a coupling analysis of 82 articles, we identified and graphically represented clusters of coopetition studies based on the proximity of the study references. Our results suggest the articles cluster into four groupings: studies with references that refer to *the relational dimension underlying competitive approaches*, studies with references that refer to the *strategic dimension of competition*, studies that simply refer to the *factors leading to the emergence of coopetition phenomena* and studies with references that refer to *modeling approaches* (e.g., game theory) to define coopetition.

Analysis II aimed to show how the coopetition concept has emerged and changed in terms of its reification and objectification. We drew on the idea that discovering the authors' approaches for studying coopetition helps to dig deeper into the reification processes affecting the concept. We identified how the various researchers investigated the construct and whether they approached coopetition concept considering it as a reified term. Our results suggest articles cluster into six groupings: authors that recognize the relevance of *converting coopetition into a more tangible concept*; authors that aim to *stimulate new theoretical insights*; authors that extend or *develop knowledge about coopetition*; authors that propose *challenges by raising questions related to coopetition processes*; authors that *use coopetition concepts in other studies*; authors that cite coopetition only for

ceremonial reasons; and milestoneers and authors that approach to coopetition as a reified concept.

The joint consideration of the results of the two analyses helps in exploring which were the main researchers' approaches that influenced the evolution of the field so far.

Cluster A regards the relational aspects of coopetition underline the focus of theoretical studies. Starting from Tsai (2002), most papers are written by: (a) theorists (Dagnino, 2009; Peng and Bourne, 2009; Gnyawali and Park, 2009; Mariani, 2009; Breznitz, 2009; Galvagno and Garraffo, 2010) that aim to investigate the conceptual lens related to the coopetition construct; challengers that address specific topics on coopetition (Choi et al. 2002; Gnyawali et al., 2006; Chen, 2008; Le Roy and Yami, 2010) and; (b) developers (Quintana-Garcia and Benavides-Velasco, 2004; Ritala and Hurmelinna-Laukkanen, 2009; Garraffo and Rocco, 2009; Yami et al., 2010).

Cluster B includes studies that depict coopetition as new strategy combining competitive and cooperative elements to allow firms to gain competitive advantage. The purpose is to extend existing knowledge on coopetition (Levy et al., 2003; Luo et al., 2008; Dagnino and Rocco, 2009[i]; Bengtsson et al., 2010) and to develop ideas that better explain the shift from cooperation-competition dichotomy to coopetition strategy (Castaldo and Dagnino, 2009; Baglieri, 2009; Okura, 2009; Rossi and Warglien, 2009; Czakon, 2010).

Cluster C focuses on the influence of the context on the emergence of coopetition strategy. This cluster has a prevalence of authors who are: (a)

convertors (Borders et al., 1999; Chaudhri and Samson, 2000; M'Chirgui, 2005; Van der Schaar, 2005; Dagnino and Rocco, 2009 [c]) and; (b) users (Carayannis and Alexander, 2001; Carayannis and Campbell, 2009; Leite et al., 2009; Baumard, 2010; Lim et al., 2010). This confirms the relevance of converting coopetition into a more tangible conceptualization.

Cluster D explores coopetition by building models that better explain coopetition dynamics. This group consists of: (a) users (Carayannis, 1999; Bengtsson and Kock, 2000; Luo et al., 2006; Bakshi and Kleindorfer, 2009); (b) ceremonials (Kocharekar, 2004; Venkatesh et al., 2006; Eng 2007; Devetag, 2009; Hurmelinna-Laukkanen and Ritala, 2010); (c) milestoneers (Brandenburger and Nalebuff, 1996; Dowling et al., 1996) and; (d) reifiers (Lechner and Dowling, 2003; Shih et al., 2006; Swatman et al., 2006; Garcia et al., 2007; Zhou et al., 2008; Busco et al. 2008; Bonel and Rocco, 2009; Lechner and Leyronas, 2003; Van Buuren et al., 2010; Depeyre and Dumez, 2010). This cluster suggests that the more we define models to explain coopetition strategy, the less we focus on the conceptual aspects, and we approach coopetition by considering it as a socially-constructed, and clearly defined term.

Generally, our bibliometric analyses show that clusters differ not only in terms of theoretical perspectives, methodologies applied and level of investigation, but also for the conceptual meaning of coopetition. These analyses suggest that researchers adopting the coopetition construct have developed a strong and focused research community, and hence, it is likely that the construct has not been reified. There is still a lack of a coherent framework that explains how firms decide to adopt cooperative maneuvers besides the simple coexistence

of competition and cooperation. Therefore, coopetition is still a “liquid construct” (Dagnino and Rocco, 2009) due to its complexity and instability (Castaldo and Dagnino, 2009). Nonetheless, analysis II shows that a few papers assume coopetition as defined construct. Differently from absorptive capacity literature, that has used the concept in a reified manner, a few papers have attempted to refine or extend the construct’s definition (Lane, Koka and Pathak, 2006).

It makes sense, therefore, argue that the emergence of a coopetition reification process has started but is still unended.

Our study suggests that two different definitions are in the process of reification. The former conceptualizaion is mainly emergent in academic community and reminds us that the core idea of coopetition is the act of cooperating with competitors, “sleeping with the enemies” (Gnyawali and Park, 2009: 308). The latter conceptualization is more reified and concerns the idea that coopetition is the simultaneous combination of cooperation and competition. No coopetition studies include both the relational and the strategic elements implicit in the coopetition concept. Although the most cited sources, both Nalebuff and Brandenburger (1996) and Bengtsson and Kock (2000) also consider only one and not the other.

7. CONCLUSION

We developed two analyses that are complements in the process of exploring coopetition. In identifying the intellectual structure of the field (analysis I), we have framed also three aspects related to coopetition. Coopetition is firstly a new kind of *relationship* including both competitive and cooperative dynamics. Such

relationship can manifest itself at different level of analysis, from individual within groups in organizations, at interfirm level, and among networks.

Secondarily, coopetition has become a *strategy* through which firms get competitive advantage. The shift from the cooperative and competitive strategy to coopetition shows the emergence of a new strategy that including both the maneuverings. If firms are able to find - coherently with the contexts in which they operate - tools to manage coopetition, they should succeed more than what they could gain through the simply competition or cooperation. Finally, coopetition is also a phenomena that can find empirical manifestations also in other fields of inquiry, such as sociology, neurology.

Through the investigation of authors' approaches to coopetition (analysis II) we have had confirmation that a reification approach has been developed and then the emergence of a coopetition reification process has started but has not ended. We can affirm that coopetition is not a theory yet but a theorizing of coopetition is an ongoing process (Weick, 1995).

This paper contributes to the literature in two ways. In comparison to a traditional literature content analysis (Nerur, Rasheed and Natarajan, 2008), our study uses a bibliographic coupling analysis to clarify emerging themes in coopetition studies. We assume that sources of intellectual ideas, i.e., references, are useful to identify patterns in the intellectual activity in the coopetition research domain. Further, by identifying the topic themes of articles that have been most influential, it is possible to understand conceptualizations of the coopetition construct that are not only emerging but are also becoming reified and affirmed in management studies.

Our study is subject to the limitations associated with bibliometric methods. As Garfield (2001) reported, coupling analysis is attractive because it is objective and unobtrusive. Nonetheless, one cannot determine whether articles are cited by authors because they share a thought or simply because they do not agree with it. Bibliometric methods simply ignore the many reasons authors may have for citing earlier papers. Some researchers cite only authors that share their thoughts but others cite authors who they do not agree with in order to underline different positions in the field.

8. REFERENCES

- Afuah, A. (2000), "How Much Do Your Co-opetitors' Capabilities Matter in The Face of Technological Change?", *Strategic Management Journal*, 21.
- Ahgren, P., Bo Jarneving (2008), "Bibliographic coupling, common abstract stems and clustering: comparison of two document-document similarity approaches in the context of science mapping", *Scientometrics*, 76(2).
- Ancarani, F. Costabile M., (2010), "Coopetition dynamics in convergent industries: designing scope connections to combine heterogeneous resources", in Castaldo, S., Dagnino G.B. and Le Roy, F., (eds) *Coopetition, winning strategies for the 21th Century*, Elgar: Publishind Northampton, MA.
- Astley, W.G. (1985), "Administrative science as socially constructed truth", *Administrative Science Quarterly*, 30.
- Baglieri, D. (2009), "Coopetitive strategies for knowledge creation: managing university-industry relationship in biotechnology", in Dagnino, G.B. , E. Rocco (2009), (eds) *Coopetition strategy, theory, experiments and cases*. Routledge: London.
- Bakshi, N., Kleindorfer P. (2009), "Co-opetition and Investment for Supply-Chain Resilience", *Production and Operations Management*, 18(6): 583-603.
- Bakshi, N., Kleindorfer P. (2009), "Co-opetition and Investment for Supply-Chain Resilience", *Production and Operations Management*, 18 (6): 583-603.

- Barrett, D. (1998), *The paradox process: Creative business solutions—Where you least expect to find them*. New York: AMACOM
- Barretta, A. (2008), “The functioning of co-opetition in the health-care sector: An explorative analysis”, *Scandinavian Journal of Management*, n. 24.
- Baumard, P., (2010), “Learning in cooperative environments”, in Czakon W. (2010), “Emerging cooperation: an empirical investigation of cooperation as inter-organizational relationship instability”, in (eds) Castaldo, S., Dagnino G.B., Le Roy F., *Coopetition, winning strategies for the 21st Century*, Elgar: Publishing Northampton, MA.
- Bengtsson, M., Kock S. (2000), “Coopetition in business networks - to cooperate and compete simultaneously”, *Industrial Marketing Management*, 29 (5): 411-426.
- Bengtsson, M., Eriksson J., Wincent J., (2010), “Coopetition: new ideas for a new paradigm”, in Castaldo, S., Dagnino G.B. and Le Roy, F., (eds) *Coopetition, winning strategies for the 21st Century*, Elgar: Publishing Northampton, MA.
- Berger, P.L., Luckmann, T. (1966), *The social construction of reality*, Doubleday N.Y.
- Bonel, E., Rocco E. (2007), “Coopeting to Survive; Surviving Cooperation”, *International Studies of Marketing & Organization*, vol. 37, n. 2.
- Bonel, E., P. Pelizzari, Rocco E. (2008), “Coopetition and complementarities: Modeling Cooperation Strategy and Its Risks at an Individual Partner Level”, *Management Research*, 6(3).
- Borders, A.L., Johnston W.J., Rigdon E.E. (2001), “Beyond the dyad: Electronic commerce and network perspectives in industrial marketing management”, *Industrial Marketing Management*, 30(2): 199-205.
- Breznitz, D., (2009), “Globalization, cooperation strategy and the role of the state in the creation of new high-technology industries: the case of Israel and Taiwan”, in Dagnino, G.B., E. Rocco (2009), (eds) *Coopetition strategy, theory, experiments and cases*. Routledge: London.
- Busco, C., Giovannoni E., Scapens R.W. (2008), “Managing the tensions in integrating global organisations: The role of performance management systems”, *Management Accounting Research*, 19 (2): 103-125.
- Carayannis, E.G. (1999), “Fostering synergies between information technology and managerial and organizational cognition: the role of knowledge management”, *Technovation*, 19 (4): 219-231.
- Carayannis, E.G., Alexander J. (1999), “The wealth of knowledge: converting intellectual property to intellectual capital in cooperative research and technology management settings”, *International Journal of Technology*

Management, 18 (3-4): 326-352.

- Carayannis, E.G., Alexander J. (2001), Virtual, wireless mannah: a co-opetitive analysis of the broadband satellite industry, *Technovation*, 21 (12): 759-766.
- Carayannis, E.G., Alexander J. (2004), "Strategy, structure, and performance issues of precompetitive R&D consortia: Insights and lessons learned from SEMATECH", *Ieee Transactions on Engineering Management*, 51 (2): 226-232.
- Carayannis, E.G., Campbell D.F.J. (2009), "Mode 3' and 'Quadruple Helix': toward a 21st century fractal innovation ecosystem", *International Journal of Technology Management*, 46 (3-4): 201-234.
- Cassiman, B., Di Guardo M.C., Valentini G., (2009), "Organising R&D Projects to Profit From Innovation: Insights From Co-petition", *Long Range Planning*, 42 (2): 216-233.
- Castaldo, S., Dagnino G.B., (2009), "Trust and coopetition: the strategic role of trust in interfirm cooperative dynamics", in Dagnino, G.B., Rocco E. (2009), (eds) *Coopetition strategy, theory, experiments and cases*. Routledge: London.
- Castaldo, S., Mollering G., Grosso M., Zerbini G. (2010), "Exploring how third-party organizations facilitate coopetition management in buyer-seller relationships", in Castaldo, S., Dagnino G.B., Le Roy, F., (eds), *Coopetition, winning strategies for the 21th Century*, Elgar: Publishing Northampton, MA.
- Chaudhri, V., Samson D. (2000), "Business-government relations in Australia: Cooperating through task forces", *Academy of Management Executive*, 14 (3): 19-27.
- Chen, M.J. (2008), "Reconceptualizing the Competition-Cooperation Relationship A Transparadox Perspective", *Journal of Management Inquiry*, 17 (4): 288-304.
- Chi, L., Holsapple C.W., Srinivasan C. (2007), "Competitive dynamics in electronic networks: A model and the case of interorganizational systems", *International Journal of Electronic Commerce*, 11(3): 7-49.
- Chi, L., Holsapple C.W., Srinivasan C. (2008), "Digital systems, partnership networks, and competition: The co-evolution of IOS use and network position as antecedents of competitive action", *Journal of Organizational Computing and Electronic Commerce*, 18 (1): 61-94.
- Choi, T.Y., Wu Z.H., Ellram, L., Koka B.R. (2002), "Supplier-supplier relationships and their implications for buyer-supplier relationships", *Ieee Transactions on Engineering Management*, 49 (2): 119-130.

- Czakon, W. (2010), "Emerging coopetition: an empirical investigation of coopetition as inter-organizational relationship instability", in Castaldo, S., Dagnino G.B., Le Roy, F., (eds) *Coopetition, winning strategies for the 21st Century*, Elgar: Publishing Northampton, MA.
- Da Costa, E.A., Bottura C.P., Boaventura J.M.G., Fischmann A.A. (2009), The game to play: expanding the co-opetition proposal through the strategic games matrix, *International Journal of Conflict Management*, 20 (2): 132 – 157.
- Dagnino, G.B. (2009), "Coopetition strategy: a new kind of interfirm dynamic for value creation", in (eds) Dagnino, G.B., Rocco E. (2009), *Coopetition strategy, theory, experiments and cases*. Routledge: London.
- Dagnino, G.B., Rocco E. (2009), *Coopetition strategy, theory, experiments and cases*. Routledge: London.
- Dagnino, G.B., Rocco E. (2009), "Coopetition strategy: a "path recognition" investigation approach", in (eds) *Coopetition strategy, theory, experiments and cases*. Routledge: London.
- Dagnino, G.B., Rocco E. (2009), "Converting a "liquid" word into a tangible word", in (eds) *Coopetition strategy, theory, experiments and cases*. Routledge: London.
- Dagnino G.B., Mariani M. (2010), "Coopetitive value creation in entrepreneurial contexts: the case of AlmaCube", in Castaldo, S., Dagnino G.B., Le Roy, F., (eds) *Coopetition, winning strategies for the 21st Century*, Elgar: Publishing Northampton, MA.
- Dagnino G.B., Minà A., (2010), "Unraveling The philosophical microfoundations of Coopetition: the influence of the Chinese Yin-yang approach on Western critical thought", presented at the 4th workshop on Coopetition and Innovation, June, 17-19, 2011.
- Depeyre C., Dumez H., (2010), "The role of architectural players in coopetition: the case of the US defence industry", in (eds) Castaldo, S., Dagnino G.B., Le Roy, F., *Coopetition, winning strategies for the 21st Century*, Elgar: Publishing Northampton, MA.
- Deutsch, M. (1973), *The Resolution of Conflict: Constructive and Destructive Processes*. Yale University Press: New Haven, CT.
- Devetag, M.G. (2009), "Coordination and trust as prerequisites of coopetition: experimental evidence", in Dagnino, G.B., Rocco E. (2009), (eds) *Coopetition strategy, theory, experiments and cases*. Routledge: London.
- Dowling, M.J., Roering W.D., Carlin B.A., Wisnieski J. (1996), "Multifaceted relationships under coopetition - Description and theory", *Journal of Management Inquiry*, 5 (2): 155-167.

- Eng, T.Y. (2007), "An investigation of internet coordination mechanisms in network organizations", *Journal of Interactive Marketing*, 21 (4): 61-75.
- Eriksson, P.E. (2008), Achieving Suitable Coopetition in Buyer-Supplier Relationships: The Case of AstraZeneca, *Journal of Business-To-Business Marketing*, 15 (4): 425-454.
- Galvagno, M., Garraffo F., (2010), "The promise of coopetition as a new theoretical perspective in Strategic Management", in Castaldo, S., Dagnino G.B. and Le Roy, F., (eds) *Coopetition, winning strategies for the 21th Century*, Elgar: Publishind Northampton, MA.
- Garcia, R., Bardhi F., Friedrich C. (2007), "Overcoming consumer resistance to innovation", *Mit Sloan Management Review*, 48 (4): 82.
- Garfield, E. (1988), "Current Comments", *Essays of an Information Scientist*, 11.
- Garraffo, F., Rocco E. (2009), "Competitor analysis and interfirm coopetition: a two-step model to assess the rival's interest and commitment in a cooperative agreement", in (eds) Dagnino, G.B. and Rocco E. (2009), *Coopetition strategy, theory, experiments and cases*. Routledge: London.
- Girschik, S.R., Rossi A., Boutellier R. (2009), "Bargaining in the European automotive industry:coopetitive models and laboratory experiments", in (eds) Dagnino, G.B., Rocco E. (2009), *Coopetition strategy, theory, experiments and cases*. Routledge: London.
- Gnyawali, D.R., Madhavan R. (2001), "Cooperative Networks and Competitive Dynamics: A Structural Embeddedness Perspective", *Academy of Management Review*, 26, 431-445.
- Gnyawali, D.R., Park B.J. (2009), "Co-opetition and Technological Innovation in Small and Medium-Sized Enterprises: A Multilevel Conceptual Model", *Journal of Small Business Management*, 47 (3): 308-330.
- Gnyawali D.R., He J.Y., Madhavan R. (2006), "Impact of co-opetition on firm competitive behavior: An empirical examination", *Journal of Management*, 32 (4): 507-530.
- Gurnani, H., Erkoc M., Luo Y.D. (2007), "Impact of product pricing and timing of investment decisions on supply chain co-opetition", *European Journal of Operational Research*, 180 (1): 228-248.
- Hair, J.F., Anderson R.E., R.L. Tatham, W.C. Black, (1992), *Multivariate Data Analysis* (3rd ed.), Macmillan, New York.
- Hamel, G., Doz Y.L., Prahalad C.K. (1989), "Collaboration with Your Competitors - and Win", *Harvard Business Review*, vol. 67, n. 1.
- Harrigan, K.R. (1985), "An application of clustering for strategic group analysis", *Strategic Management Journal*, 6(1).

- Herzog, T., (2010), "Strategic Management of cooperative relationships in CoPS-related industry", in Castaldo, S., Dagnino G.B., Le Roy, F., (eds) *Coopetition, winning strategies for the 21th Century*, Elgar: Publishing Northampton, MA.
- Henderson, B.D. (1967), "Brinkmanship in business", *Harvard Business Review*, March-April, n. 67205.
- Hill, C.C., Li H., Davies B. (2003), "The Paradox of Co-Operation and Competition in Strategic Alliances: Towards a Multi-Paradigm Approach", *Management Research News*, 26(1).
- Hurmelinna-Laukkanen, P., Ritala P. (2010), "Protection for profiting from collaborative service innovation", *Journal of Service Management*, 21(1): 6-24.
- Kessler, M.M., "Bibliographic coupling between scientific papers". *Amer. Document*. 1963, 14.
- Kocharekar, R. (2004), "An IT architecture for nimble organizations: Managing access from cyberspace", *Information Systems Management*, 21 (2): 22-30.
- Lado, A.A., Boyd N.G., Hanlon S.C., (1997), "Competition, Cooperation, and The Search for Economic Rents: A Syncretic Model", *Academy of Management Review*, 22(1).
- Lane, P.J. Koka, B.R., Pathak, S. (2006), "The Reification of Absorptive Capacity: A Critical Review and Rejuvenation of the Construct", *Academy of Management Review*, vol. 31, n. 4.
- Le Roy, F., Guillotreau P. (2010), "Successful strategy for challengers: competition or cooperation within dominant firms?", in (eds) Castaldo, S., Dagnino G.B., Le Roy, F., *Coopetition, winning strategies for the 21th Century*, Elgar: Publishing Northampton, MA.
- Lechner, C., Dowling M. (2003), "Firm networks: external relationships as ,s for the growth and competitiveness of entrepreneurial firms", *Entrepreneurship and Regional Development*, 15 (1): 1-26.
- Lechner, C., Leyronas C. (2009), "Small-Business Group Formation as an Entrepreneurial Development Model", *Entrepreneurship Theory and Practice*, 33 (3): 645-667.
- Lee, J.Y.H., Panteli N. (2010), "Business strategic conflict in computer-mediated communication", *European Journal of Information Systems*, 19 (2): 196-208.
- Leite, R.S., Lopes H.E.G., Silva S.A.D. (2009), "Strategy and Cooperative Relationships: the case of Nova Serrana cluster", *Rbgn-Revista Brasileira De Gestao De Negocios*, 11 (30): 65-78.

- Levy, M., Loebbecke C., Powell P. (2003), "SMEs, co-opetition and knowledge sharing: the role of information systems", *European Journal of Information Systems*, 12 (1): 3-17.
- Lim, K., Chesbrough H., Ruan Y. (2010), "Open innovation and patterns of R&D competition", *International Journal of Technology Management*, 52 (3-4): 295-321.
- Lin, C.Y.Y., Zhang J. (2005), "Changing structures of SME networks: Lessons from the publishing industry in Taiwan", *Long Range Planning*, 38 (2): 145-162 Apr.
- López-Gomez, J., Molina-Meyer M. (2007), "Modeling coopetition", *Mathematics and Computers in Simulation*, 76.
- Lukacs, G. (1971), *History and class consciousness: Studies in Marxist dialectics*. Merlin Press, London.
- Luo, Y.D. (2005), "Toward coopetition within a multinational enterprise: a perspective from foreign subsidiaries", *Journal of World Business*, 40 (1): 71-90.
- Luo, Y. (2007) "From foreign investors to strategic insiders: Shifting parameters, prescriptions and paradigms for MNCs in China", *Journal of World Business*, 42 (1): 14-34.
- Luo, Y.D. (2007), "A coopetition perspective of global competition", *Journal of World Business*, 42 (2): 129-144.
- Luo, Y.D., Rui H.C. (2009), "An Ambidexterity Perspective Toward Multinational Enterprises From Emerging Economies", *Academy of Management Perspectives*, 23 (4): 49-70.
- Luo, X.M., Slotegraaf R.J., Pa X. (2006), "Cross-functional "coopetition": The simultaneous role of cooperation and competition within firms", *Journal of Marketing*, 70 (2): 67-80.
- Luo, Y.D., Shenkar O., Gurnani H. (2008), "Control-cooperation interfaces in global strategic alliances: a situational typology and strategic responses", *Journal of International Business Studies*, 39 (3): 428-453.
- Mariani, M. (2009), "Emergent cooperative and cooperative strategies in interorganizational relationships: empirical evidence from the Australian and Italian operas", in Dagnino, G.B., Rocco E. (2009), (eds) *Coopetition strategy, theory, experiments and cases*. Routledge: London.
- McCain, K.W. (1990), "Mapping authors in intellectual space: A technical overview", *Journal of the American Society for Information Science*, 41.
- M'Chirgui, Z. (2005), "Smart card industry: a technological system", *Technovation*, 25 (8): 929-938.

- Nalebuff, B., Brandenburger A.M. (1996), *Co-opetition*, HarperCollinsBusiness: London.
- Okura, M. (2009), "Coopetitive strategies to limit the insurance fraud problem in Japan", in (eds) Dagnino, G.B., Rocco E. (2009), *Coopetition strategy, theory, experiments and cases*. Routledge: London.
- Osareh, F., (1996), "Bibliometrics, Citation Analysis and Co-Citation Analysis: A Review of Literature I.", *Libri*, 46.
- Peng, T.J.A., Bourne M. (2009), "The Coexistence of Competition and Cooperation between Networks: Implications from Two Taiwanese Healthcare Networks", *British Journal of Management*, 20 (3): 377-400.
- Pesamaa, O., Eriksson P., (2010), "Coopetition among nature-based tourism firms: competition at local level and cooperation at destination level", in Castaldo, S., Dagnino G.B., Le Roy, F., (eds) *Coopetition, winning strategies for the 21th Century*, Elgar: Publishing Northampton, MA.
- Pinch, T.J., Bijker, W.E. (1984), "The Social Construction of Facts and Artefacts: or How the Sociology of Science and the Sociology of Technology might Benefit Each Other", 14.
- Poole, M.S., Van de Ven A.H. (1989), "Using Paradox to Build Management and Organization Theories." *Academy of Management Review* 14.
- Quintana-Garcia, C., Benavides-Velasco C.A. (2004), "Cooperation, competition, and innovative capability: a panel data of European dedicated biotechnology firms", *Technovation*, 24(12): 927-938.
- Ritala, P., J. Hallikas, Sissonen H. (2008), "Coopetitive networks in the ICT sector", *International Journal of Business Environment* , 2 (1).
- Ritala, P., Hurmelinna-Laukkanen P. (2009), "What's in it for me? Creating and appropriating value in innovation-related coopetition", *Technovation*, 29 (12): 819-828.
- Ritala, P., Valimaki K., Blomqvist K., Henttonen K., (2009), "Intrafirm coopetition, knowledge creation and innovativeness", in Dagnino, G.B., E. Rocco (2009), (eds) *Coopetition strategy, theory, experiments and cases*. Routledge: London.
- Ross, W.T., Robertson D.C. (2007), "Compound relationships between firms", *Journal of Marketing*, 71 (3): 108-123.
- Rossi, A., Warglien M. (2009), "An experimental investigation of fairness and reciprocity as determinants of intraorganizational coopetition", in (eds) Dagnino, G.B., Rocco E. (2009), *Coopetition strategy, theory, experiments and cases*. Routledge: London.
- Roy, P., Yami S. (2010), "Coopetition within an oligopoly: impacts of a disruptive strategy", in Castaldo, S., Dagnino G.B., Le Roy, F., (eds)

- Coopetition, winning strategies for the 21th Century*, Elgar: Publishind Northampton, MA.
- Salton, G., McGill M. (1983), *Introduction to Modern Information Retrieval*, McGraw-Hill, New York.
- Schneider, K.J. (1990), *The paradoxical self: Toward an understanding of our contradictory nature*. New York: Insight Books.
- Schneider, J., Borlund, P. (2004), "Introduction to bibliometrics for construction and maintenance of thesauri: methodical considerations", *Journal of Documentation*, 60(5).
- Sheu H.J., Pan C.Y. (2009), "Cost-system choice in a multidimensional knowledge space: traditional versus activity-based costing", *International Journal of Technology Management*, 48 (3): 358-388.
- Shih, M.H., Tsai H.T., Wu C.C., Lu C.H. (2006), "A holistic knowledge sharing framework in high-tech firms: game and co-opetition perspectives", *International Journal of Technology Management*, 36 (4): 354-367.
- Soekijad, M. Van Wendel de Joorde R. (2009), "Coping with coopetition in knowledge-intensive multiparty alliances: two case studies", in Dagnino, G.B. , E. Rocco (2009), (eds) *Coopetition strategy, theory, experiments and cases*. Routledge: London.
- Swatman, P.M.C., Krueger C., Van Der Beek K. (2006), "The changing digital content landscape - An evaluation of e-business model development in European online news and music", *Internet Research*, 16 (1): 53-80.
- Tidström, A. (2008), "Perspective on coopetition on an actor and operational level", *Management Research*, 6(3), Fall , : 205–215.
- Tsai, W.P. (2002), "Social structure of "coopetition" within a multiunit organization: Coordination, competition, and intraorganizational knowledge sharing", *Organization Science*, 13 (2): 179-190.
- Van Buuren, A., Buijs J.M., Teisman G. (2010), "Program management and the creative art of coopetition: Dealing with potential tensions and synergies between spatial development projects", *International Journal of Project Management*, 28 (7): 672-682.
- Van Der Schaar, M., Shankar S. (2005), "Cross-layer wireless multimedia transmission: Challenges, principles, and new paradigms", *Ieee Wireless Communications*, 12 (4): 50-58.
- Venkatesh, R., Chintagunta P., Mahajan V. (2006), "Research note-sole entrant, co-optor, or component supplier: Optimal end-product strategies for manufacturers of proprietary component brands", *Management Science*, 52 (4): 613-622.

- Watanabe, C., Lei S.Y., Ouchi N. (2009), "Fusing indigenous technology development and market learning for greater functionality development-An empirical analysis of the growth trajectory of Canon printers", *Technovation*, 29 (4): 265-283.
- Weick, K.E. (1995), "What Theory is not, Theorizing is", *Administrative Science Quarterly*, 40: 385-390.
- Wu, Z.H., Choi T.Y., Rungtusanatham M.J. (2010), "Supplier-supplier relationships in buyer-supplier-supplier triads: Implications for supplier performance", *Journal of Operations Management*, 28 (2): 115-123.
- Xu H., Teo H.H, Wang H. (2003), "Foundations of SMS Commerce Success: Lessons from SMS Messaging and Co-opetition", *IEEE Computer Society*, n. 3.
- Yami, S. Castaldo, S., Dagnino G.B., Le Roy F., Czakon W., (2010), "introduction – coopetition strategy: towards a new form of inter-organizational dynamics?", in Castaldo, S., Dagnino G.B. and Le Roy, F., (eds) *Coopetition, winning strategies for the 21th Century*, Elgar: Publishind Northampton, MA.
- Zhou, M., Deng F.Q., Wu S. (2008), "Coordination game model of co-opetition relationship on cluster supply chains", *Journal of Systems Engineering and Electronics*, 19 (3): 499-506.
- Zineldin, M. (2004), "Co-opetition: the organization of the future", *Marketing intelligence & Planning*, 22(7).

CHAPTER III

CONCEPTUALIZING COOPETITION STRATEGY AS MANAGEMENT INNOVATION

Abstract

In this paper we attempt to respond to the question: Is coopetition a new way of looking at interfirm relationships? To do so, by presenting coopetition as management innovation, academic contributions have shaped the way for the coopetition idea to be able to spread. Our intent is to examine the contribution that academia has made in shaping and implementing coopetition strategies. Furthermore, we present the socio-cognitive model underlying the understanding of coopetition. This systematic understanding will help us appreciate the novelty of coopetition vis-à-vis separate competition and cooperation practices as well as the contextual and organizational features that support the new practices, structures and processes around which coopetition strategies revolve.

Keywords: Coopetition, management innovation, assumptions, socio cognitive model.

1. INTRODUCTION

Inspired by the pioneering work of Nalebuff and Brandenburger (1996) a significant body of research has focused on *coopetition dynamics* (e.g., Bengtsson and Kock, 2000; Gnyawali and Madhavan, 2001, Gnyawali et al, 2006; Luo, 2005, 2007), in other words, the simultaneous manifestation of competitive and cooperative forces. While a number of studies have examined the rationale underlying the coopetition phenomenon (Dowling et al, 1996; Lado et al, 1997; Dagnino, 2009) and its micro-foundations and evolution (Dagnino and Minà, 2010), recent interest has shifted to the exploration and understanding of the circumstances and contexts in which coopetition processes occur (Okura, 2008; Peng and Bourne, 2009).

This paper depicts coopetition as management innovation (Friedman, 1991). In particular, we draw on Birkinshaw et al.'s (2008) definition of management innovation as involving *new* management practices, processes and structures intended to further organizational goals. We consider the extent to which coopetition processes involve management innovation and whether this alternative conceptual perspective can better explain coopetition dynamics.

While a great deal of interest has developed around coopetition dynamics, this body of knowledge does not directly consider how coopetition may add new ideas to strategic understanding. By considering studies of coopetition as if they were studies of management innovation, we explore the socio-cognitive model underlying the coopetition literature. Specifically, we investigate how such a model can lead the emergence of new management practices, processes and structures that support organizational value creation.

Specifically, we ask: *In what ways is coopetition a management innovation? If it is a management innovation, what are the drivers that support the emergence of coopetition? What are the social and cognitive processes that unfold over time as coopetition develops?* Finally, we take into account the contributions that coopetition as a management innovation advance concerning how to manage coopetition.

Given the questions reported earlier, and moving from the socio-cognitive model of technological evolution (Garud and Rappa, 1994), our challenge is to shed light on the reciprocal interaction between the beliefs that researchers hold, the artifacts they create, and the evaluation routines that legitimize and help in diffusing coopetition contributions within the research community. This interaction gives rise to two cyclical processes. The former process is at the micro level of *individual* cognition, where evaluation routines coming from the research community legitimate and select the artifacts that in turn come to reinforce the researchers' beliefs. Once evaluation routines become the groundwork for scholars constructing individual reality, they will build papers coherently with the established routines.

The latter process concerns the macro level of *shared* cognition of coopetition studies, where commonly accepted evaluation routines become a shared reality that influences scholars in defining their artifacts. We argue that our understanding of coopetition depends on what self-consciousness observers bring to analysis (Allison, 1971). Specifically, what scholars judge important depends not only on the evidence of what has occurred, but also on the 'conceptual lens' through which they look at and examine that evidence. The overall assessment of

the extent to which coopetition is management innovation is likely to be a matter of perspective, expertise and degree. A systematization of coopetition through the lens of management innovation will possibly help us understand the novelty of coopetition compared to competition and cooperation processes, occurring separately rather than simultaneously, and help us identify aspects of contexts and organizations that support the 'new' practices, structures and processes through which competition strategies emerge.

The paper makes three contributions. Conceptually speaking, it clarifies how coopetition involves new management practices, processes and structures to support organizational value creation. Our aim is to use the lens of management innovation to systematize the process of coopetition. This conceptual lens will highlight aspects of coopetition processes that would otherwise be ignored.

Secondly, following Garud and Rappa (1994), we show how the interaction between the scholarly community, beliefs and artifacts can help in explaining the emergence and affirmation of coopetition as well as how such a process may lead to the creation of new theoretical paths.

Thirdly, following Dunbar and Statler (2009), we identify the fundamental beliefs (i.e., ontological, epistemological and ethical assumptions) behind extant management innovation perspectives (i.e., rational, institutional, cultural and fashion) and consider how the resulting assumptions map the coopetition literature. By categorizing coopetition texts based on their assumptions, we uncover the analytical levels, contextual factors, organizational features, and structures and processes of coopetition strategies. Hence, we create a frame of action in which it is possible to identify the drivers of coopetition interactions.

Finally, we propose a methodological approach to analyze the beliefs of researchers. Hence, we support that categorical analysis of coopetition may be fruitful in the investigation of existing literature in other management fields of inquiry.

The paper is organized as follows. In section two we frame management innovation as a field of study and recognize the distinguishing traits of different perspectives on management innovation. In section three we introduce the socio-cognitive model of management innovation. In section four we advance propositions on why coopetition should be considered a management innovation. In section five we explain the method of investigation for the socio-cognitive model of coopetition emergence and affirmation and justify the sample. In section six we adopt the perspectives of management innovation to categorize the coopetition literature in terms of the different assumptions made, and then we discuss our main results. In section seven we discuss the socio-cognitive model of coopetition emergence and affirmation. Finally, in section eight we present our conclusions.

2. CONCEPTUAL PILLARS

Strategy literature emphasizes the centrality of innovation in a firm's competitive advantage and why research on the management of innovation processes is often a cornerstone of strategic inquiry. Most studies focus on *technological* innovation, although *managerial* innovations may also create value over time (Hamel, 2006). Recently a management innovation subfield focusing on technological and product innovation has emerged (Mol and Birkinshaw, 2009).

2.1. Characterizing elements of a management innovation

Birkinshaw and Mol (2006) suggest that “management innovation has over time dramatically transformed the way many functions and activities work in organizations” (2006: 81). Over the past century firms have achieved performance thresholds (Hamel, 2006) that have attracted research attention. Scientific management, ROI analysis and capital budgeting, and brand management are innovations that have shaped today’s management thinking and practice.

Four key elements characterize management innovation. Firstly, management innovation requires the introduction of *novelty* into managerial activities (Hargrave and Van de Ven, 2006; Van de Ven and Poole, 1995). Novelty implies significant change as a result of a commitment to deconstruct management orthodoxies and develop new, unprecedented approaches that may fit better with the aim of firms to gain competitive advantage.

Secondly, since management innovation also alters “how managers do what they do” (Hamel, 2006: 4), it is expected to create *ambiguity and uncertainty*. This is because new logics, functions and activities may not work as expected. In fact, there is usually no clarity as to how a management innovation will influence a firm’s performance.

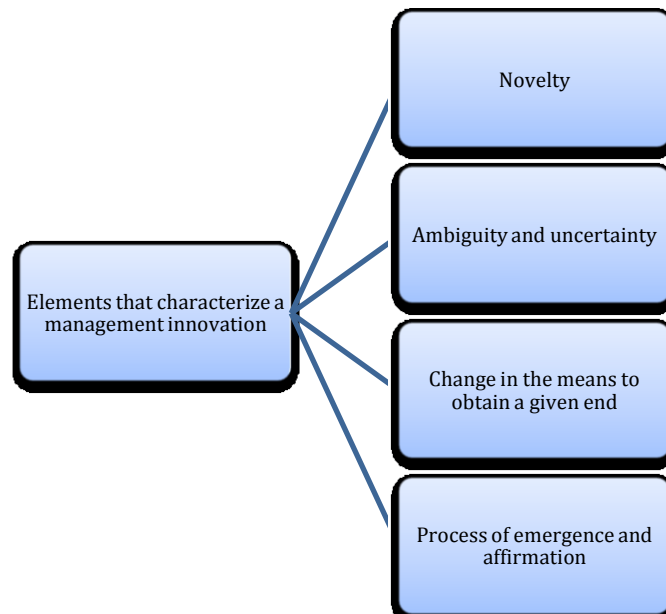
Thirdly, the organizational tension to innovate takes into account two complementary aspects: the *ends* of organizations and the *means* through which they sustain themselves and attain their objectives (Quinn and Rohrbaugh, 1983). Therefore, management innovation is the “invention and implementation of a management practice, process, structure or technique that is new to the state of the

art” (Birkinshaw et al, 2008: 825)²⁴ in order to obtain a given purpose. This conceptualization underscores that a management innovation implies a change in the means to obtain a given end. In fact, the transformation of the logics, mindsets, functions and activities that work in organizations plays a role in managing the means-ends dynamics, finding a better way to attain the goal.

Fourthly and finally, *a management innovation comes about through four key processes*: (a) motivation; (b) invention; (c) implementation; (d) theorization and labeling (Birkinshaw et al., 2008). Specifically, “changes perceived in the environment (motivation) lead to variations in management practices (invention), some of which are then subject to internal selection (implementation) and retention (theorization and labeling)” (2008: 831). Generally, the retention phase of theorization and labeling is characterized by denomination issues. An innovation is denominated in terms of its type. The same innovative phenomenon may be denominated differently or, in some cases, may not even be recognized as an innovation. Even management innovations with the same name may have different conceptualizations associated with them. As individuals inside and outside an organization make sense of and validate a management innovation, they give it legitimacy. Figure 1 summarizes the elements that characterize management innovation.

²⁴ The extant literature shows little consistency in the terminology. For some researchers (Kimberly, 1981; Abrahamson, 1996) management innovation implies the emergence of something new not found earlier. For others (Zbaracki, 1998; Mol and Birkinshaw, 2009) management innovation is something that is new to a particular firm that may have been adapted from another context.

Figure 1: Characterizing elements of a management innovation



2.2. A socio-cognitive model for the emergence of management innovation

In the preceding section, while we framed the four-model process of management innovation emergence, we did not pay attention to its cognitive roots. Drawing from the socio-cognitive model of technological evolution (Garud and Rappa, 1994), in this section we argue that it is relevant to investigate the reciprocal interaction between beliefs, artifacts and evaluation routines underlying the evolution of the cooperation literature.

The first element of the model concerns the *beliefs* researchers hold about what is and is not technically feasible, and which influence the emergence of new technological outcomes. Therefore, beliefs include the “rules of thumb” (Sahal, 1981) or “search heuristics” (Nelson and Winter, 1982) that researchers employ “to address technological problems as well as the cause-and-effect relationships between different facets that might influence technological outcomes” (Garud and Rappa, 1994: 346). In the conceptualization of a management innovation beliefs

are defined as fairly stable bodies of knowledge, a system of ontological, epistemological and ethical assumptions. They see how such management innovation works and set the vision next to the evolution of managerial practices. They usually concern accepted research principles and rules of procedures that give rise to artifacts and are externalized as evaluation routines. Hence, we are liable to compare assumptions from various authors or conceptual perspectives and, in doing so, we discover that our understanding of management innovation varies according to the ontological, epistemological and ethical assumptions of each observer.

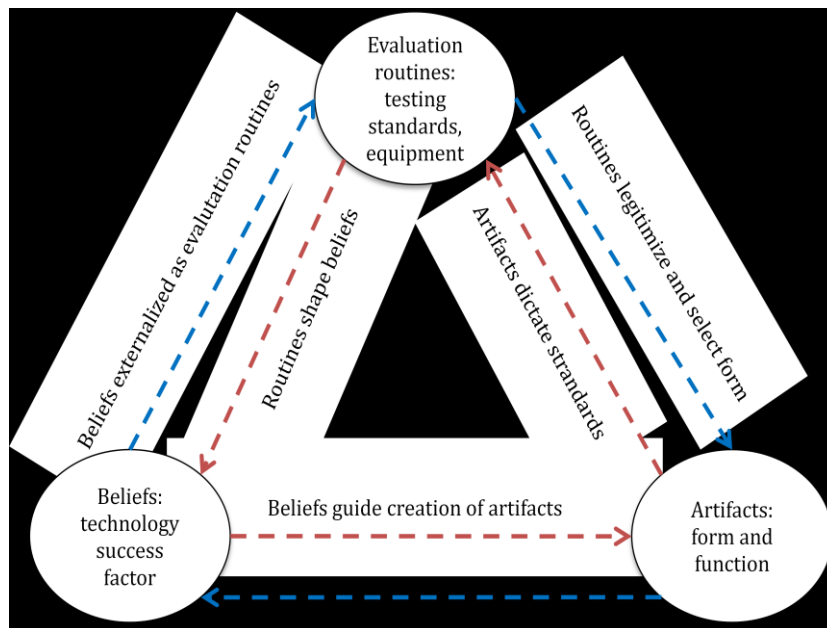
The second element of the model concerns the *socio-cognitive artifacts* that focus on the forms and characteristics of an innovation. The characteristics refer to how the new practice is used or interpreted. Understanding the evolution of management innovation from this point of view requires an appreciation not only of how the practice evolves, but also of what functions it serves over time. Each observer traces the main attributes and definitions, although constituents of a new management practice's form may vary. As a consequence, scholars find it significantly complicated to redirect their research to other paths. Therefore, they tend to persist on their chosen path. This explains how socio-cognitive elements such as artifacts influence the researchers' future beliefs.

Finally, the third element of the model concerns the *evaluation routines*. These are related to the testing standards and equipment of innovation. Consequently, management innovation manifests itself in certain practices that acquire confirmation within a community of research. In fact, the scientific community plays a role in the affirmation and diffusion of a management

innovation. On one hand, evaluation routines legitimize and select new representations and characteristics of a management innovation, while on the other hand new artifacts dictate new evaluation routines.

In summary, innovation emerges as the reciprocal interaction between two cyclical processes. The former process is the micro level of analysis, where individual cognition is influenced by evaluation routines that are designed to judge specific artifacts and to reinforce the researchers' beliefs. The latter is the process of affirmation of a management innovation at the macro level of shared cognition, where established evaluation routines shape a shared reality that addresses projective research lines.

Figure 2: Socio-cognitive model for the emergence of management innovation



Source: Garud and Rappa (1994), p.346

3. COOPETITION AS ‘SOMETHING NEW’ VERSUS ‘OLD WINE IN A NEW BOTTLE’

In this section we explore the novelty implicit in coopetition practices and argue why, as a result, coopetition may be considered a management innovation. Specifically, we identify the characteristics of coopetition and explain how such traits are also typical of managerial innovation strategies.

Coopetition implies establishing collaborative relationships with rivals “to create a pie and compete when it comes to dividing it up” (Brandenburger and Nalebuff, 1996: 5). The pairing of competition with cooperation, or “sleeping with the enemy” (Gnyawali and Park, 2009: 308).

Interfirm relationships existed long before Nalebuff and Brandenburger (1996) coined the term ‘coopetition’ (Dagnino and Rocco, 2009). Unlike studies that see coopetition as the simple combination of two separately identified strategies (cooperation and competition), coopetition is novel if it is thought of as a new way of looking at interfirm relationships. Such a conceptualization is not based on a logic that distinguishes separate strategies but on a view that looks at competition and cooperation as reciprocally integrated responses to changing contexts that a firm then combines into a unique strategy.

In fact, Chen (2002) and Dagnino and Minà (2010) suggest that coopetition strategy should be thought of in terms of yin-yang philosophy²⁵, where cooperation and competition issues are continually intertwined but one or the other may be emphasized more or less at any particular point in time; that is,

²⁵ Yin and yang synthesizes complementary aspects of a process that constantly interact and are reciprocally included as an organization evolves over time. In other words, ‘integration is not the sum or combination of parts, which is a paradigm grounded in Western philosophy. Rather, it is the totality of the relationships that blends all the parts together’ (Chen, 2002: 180).

coopetition exists only if cooperation and competition processes continually coexist in the same interfirm relationship. This state of affairs requires a managerial logic that goes beyond the simple coupling of competitive and cooperative practices at a particular point in time.

Proposition 1: Management innovation requires novelty in ideas, practices, structures and processes. Likewise, coopetition involves a new way of looking at interfirm relationships that builds on actions that are both competitive and cooperative. As a management innovation, coopetition implies a shift from a logic based on breaking-wholes-into-their-separate-parts at a particular point in time to a logic based on an integrated, holistic perspective leading to a firm's overall strategy that may emphasize competition or cooperation over time.

Some early studies noted how advantages accrue through cooperating with competitors (Henderson, 1967; Deutsch, 1973). However, strategy research was mainly focused on competition rather than cooperation with competitors. The extant research emphasizes structures that lead to competitive advantages over other firms (Porter, 1980) or heterogeneous resources and competences that also generate competitive advantages (Barney, 1991; Peteraf, 1993; Dierickx and Cool, 1994; Grant, 1999).

In the 1980s, however, there was a shift from a win-lose to a win-win scholarly perspective and concerns as to how a convergence of interests may justify an integration of heterogeneous resources, skills and capabilities to improve a firm's performance (Dyer and Singh, 1998). In interfirm relations, however, strategy literature still focused on either competitive or cooperative relationships – the assumption being that 'like water and oil, competition and cooperation do not mix' (Gomes-Casseres, 1996: 70–71). Researchers saw the benefits of cooperating to create value and competing to capture value; in fact,

both processes are potentially able to increase competitive (Hamel et al., 1989) and technological development advantage (Von Hippel, 1987; Teece and Jorde, 1989). Specifically, collaborative relationships between rivals and the integration of both competition and cooperation processes in value creation led to the emergence of a new theoretical body of research on coopetitive interfirm relationships (Nalebuff and Brandenburger, 1996; Bengtsson and Kock, 2000; Padula and Dagnino, 2007; Dagnino, 2009) that depicts firms pursuing a win-win game. Today the need to manage both the competitive and cooperative elements of “multifaceted” relationships (Dowling et al., 1996) paves the way for the emergence of a new approach in management which requires getting rid of both polarized conceptions of exclusively competition or cooperation mindsets.

Proposition 2: To serve as management innovation, coopetition requires abandonment of the exclusively cooperative or competitive perspectives that have historically dominated the strategic management literature.

Although a myriad of cases show how coopetitive dynamics are relevant for value creation, how to manage coopetition processes still remains an unsolved issue. Coopetition involves a positive variable-sum game, and hence it should change how managers manage. However, it is not easy for firms to combine competitive and cooperative thrusts and perspectives, and a complete understanding of the drivers of coopetition that may influence a firm’s performance does not exist.

Proposition 3: Management innovation implies uncertainty and ambiguity generated by the absence of sufficient information to predict probabilities of occurrence or results. Likewise, the assessment criteria and the ways to manage coopetition are not clear.

Competitive interactions between firms aim to allow structural advantages at the industry or infra-industry level or heterogeneous resource and competence

deployments which enable firms to obtain competitive advantages vis-à-vis competitors. In competitive interactions firms see these as opposed to one another in phases relative both to value creation and value appropriation. These relationships are characterized by: (a) the presence of conflicting interests between agents; (b) the potential interchangeability among agents; (c) the series of actions firms take to countervail future behaviors that other agents are expected to follow.

The basic idea of cooptation is that firms with complementary resources and competence are engaged in complex multilevel interactions which combine both competition and cooperation in the *value creation* phase. Firms compete and cooperate for the creation of value, whilst they may compete (or cooperate) as far as the value appropriation phase is concerned.

Proposition 4: In competitive relations firms are opposed to one another in the value creation phase. Although competition and cooptation share the same end (value creation), cooptation as management innovation implies a change in the means (both competitive and cooperative actions) used to create value.

To explore whether cooptation studies have followed the same four-phase model of emergence associated with management innovation (i.e., motivation, invention, implementation, and theorizing and labeling), we use a temporal bracketing research strategy (Langley, 1999; Van de Ven and Poole, 2002). We break down the time scale of the bulk of the cooptation literature into successive periods. The four sub-periods are: (a) 1996–1999 – The motivation phase where the drivers for cooptation processes emerge (b) 2000–2003 – The innovation phase where there is experimentation with cooptation ideas (c) 2004–2008 – The implementation phase where cooptation becomes a part of innovative management practice (d)

2009–2011 – The theorization and labeling phase where coopetition becomes a concept that is retained and legitimate in the strategy literature.

As far as the *motivation* phase is concerned, external change agents can identify opportunities and threats to inspire new ideas (Hamel, 2006; Birkinshaw et al., 2008). Various articles on coopetition, for example, argued for a new management perspective different from (and going beyond) the competitive and cooperative perspectives. In the early 1990s, for example, academics and business commentators noted how competition and cooperation could coexist, thus heralding the emergence of new concerns with regard to how such processes might be managed. In 1993 Ray Noorda, the founder of Novell, the software company, stated: “You have to compete and cooperate at the same time” (Noorda, 1993: 9). Brandenburger and Nalebuff (1996) introduced the multifaceted relationship they called coopetition (Dowling et al., 1996), a dynamic interfirm relationship going beyond competition or cooperation. They argued that the business environment was not characterized by cycles of competition taking turns with cooperation. Rather, both could, and did, occur simultaneously.

During the first period (1996–1999) the articles identified the coopetition challenges facing organizations and the need to deal with them. The difficulties firms face in a hypercompetitive arena and the need for faster responses (D’Aveni, 1994), for example, led to the introduction of the coopetition concepts “you can compete without having to kill the opposition” and “you can cooperate without having to ignore your self-interest” (Brandenburger and Nalebuff, 1996: 5).

In the *innovation* phase external change agents develop new solutions for

existing problems and then refine them in terms of how they might work in practice and in different contexts (Hamel 2006; Birkinshaw et al, 2008). In the period 2000–2003 the coopetition literature focused on two main issues: (a) exploring the ways in which coopetition emerges (b) investigating how coopetition works given the context of where it emerges. Exploring how coopetition emerges, Bengtsson and Kock (2000) noted that while coopetition is a complex concept, “cooperation and competition can be separated depending on the activities degree of proximity to the customer and on the competitors’ access to specific resources” (2000: 411). They argued that separation enables better management of coopetition. Tsai (2002) observed that “while competing with each other, business players also cooperate among themselves to acquire new knowledge from each other” (2002: 180) because, in coopetitive relationships, actors’ interests partially converge and this enables them to compete and cooperate at the same time (Dagnino, 2009). During the same period (2000–2003) interest grew in exploring how coopetition dynamics emerged. Researchers advanced new ideas as they scrutinized coopetition and sought to harmonize their theories with the empirical evidence, investigating, for example, how coopetition emerges in high-tech industries (Carayannis and Alexander, 2001; Tsai, 2002; Quintana-García and Benavides-Velasco, 2004) and in small or medium-sized enterprises (Levy et al., 2003). Therefore, while some researchers focused on building coopetition theory, others explored coopetition as it occurred in specific contexts.

In the *implementation* phase change agents influence practice (Barretta, 2008; Okura, 2008; Baglieri, 2009). During the period 2004–2008 studies

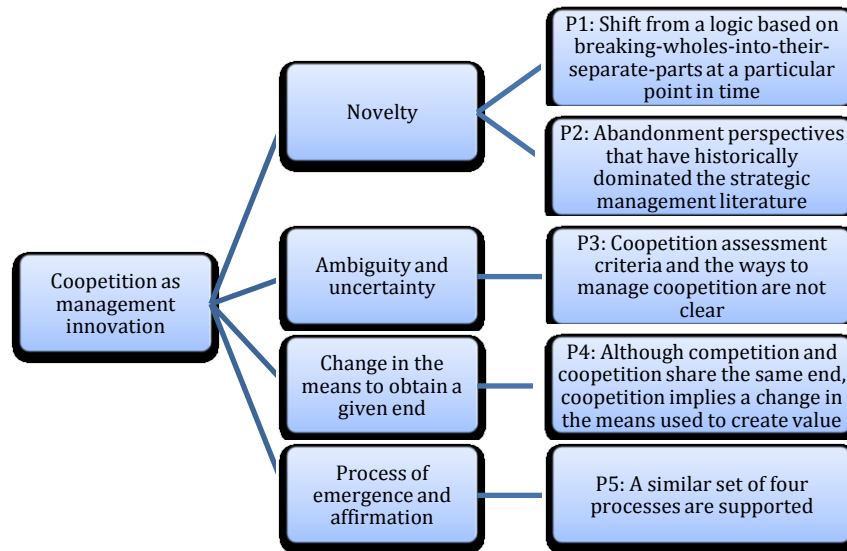
considered intra-firm (Dowling et al, 1996) and interfirm levels (Carayannis and Alexander, 2001; Xu et al., 2003; López-Gomez and Molina-Meyer 2007; Barretta, 2008) and how actors (Luo, 2007; Tidström, 2008), teams (Luo et al., 2006), firms (Loebecke and Van-Fenema, 1999; Afuah, 2000; Gnyawali and Madhavan, 2001; Mariani, 2007) and networks involved viewed unfolding events (Gnyawali et al., 2006; Ritala et al., 2008; Peng and Bourne, 2009), trying to explore different managing ways of being cooperative depending on the different actors involved in each level of investigation.

In the *theorizing and labeling* phase actions to retain approaches can make new practices and ideas legitimate. The role of the academics at this stage is to build support for experiments by providing external validation and legitimacy. Recently the cooperation field has seen more interest in theorizing and labeling to systematize existing knowledge and to shape a shared conceptualization of cooperation. Though this we recognize that the search for a shared conceptualization of cooperation is still under way. In fact, the status of cooperation has increased dramatically in the strategy realm. It is a relatively hot topic for theorizing and exploring practice, with papers and books presented at meetings and international conferences. One might expect that the understanding of cooperation is nowadays converging towards a shared definition. However, there is little consistency in the use of the term. This explains why although a reification process regarding cooperation has undoubtedly fully started, the meaning of 'cooperation' is still open.

Proposition 5: Management innovation involves four processes: motivation, invention, implementation, and retention via theorization and labeling. In a similar way the literature on cooperation in strategic management studies suggests that a similar set of four processes have

supported its development.

Figure 3: Propositions on coopetition as management innovation



4. DATA COLLECTION AND METHODS

In advancing a set of propositions on the argument that coopetition may be considered a kind of innovation (i.e., management innovation) our challenge is to identify the social and cognitive processes that unfold over time as coopetition develops. We draw from Garud and Rappa's (1994) socio-cognitive model of technology evolution to explain how coopetition dynamics are the result of the reciprocal interaction between beliefs, artifacts and evaluation routines. While previous studies on coopetition have examined the social construction of the concept, in the present study we import this model to show how the interaction between beliefs, artifacts and evaluation routines leads to the creation of alternative conceptualizations of coopetition.

4.1. Sample

We have analyzed 82 studies on coopetition published between January 1996 and

December 2010 that represent a sample universe of the publications in this stream. Specifically, our sample consists of 53 papers that appeared in journals listed with the Institute for Scientific Information (ISI) and a further 29 articles published in three edited academic books. We retrieved all of the papers published in the management, economics, business and finance categories of the ISI Web of Science database with titles, abstracts or keywords that included the expressions 'coopetition' or 'co-opetition'. We also included Brandenburger and Nalebuff's (1996) pioneering contribution and two recent books edited by Dagnino and Rocco (2009) and Yami et al. (2010) that include articles released by coopetition researchers. These books extended our database by 29 studies.

To recognize the papers that consider coopetition as management innovation and to reduce subjective bias, we used a brainstorming technique to categorize the papers on coopetition. Each author was brainstormed individually, and subsequently all of the ideas were merged onto a large table of ideas. During this consolidation phase we wrote the sentences from each paper that are inspired by coopetition as management innovation.

Therefore, we reduced the sample, shifting from 82 studies on coopetition to a sub-sample of 37 articles because only these considered coopetition as a management innovation.

Table 1: Papers that approach to coepetition considering it as management innovation

PAPERS	WORDS TO MAKE ME THINK IT IS A MANAGEMENT INNOVATION
Dowling, Roering, Carlin and Wisnieski (1996)	<p>“Multifaceted relationships incorporate elements of both traditional cooperative and competitive relationships, posing new concerns about the management of interorganizational relations that have not been addressed by organization scholars” (pag. 155)</p> <p>“Dealing with firms in multiple roles, if not managed, may actually increase uncertainty” (pag. 155)</p> <p>“External and internal conditions may lead to explain why multifaceted relations exist” (pag. 155)</p>
Luo (2007)	<p>“Competitive collaboration also reduces the costs, risks, and uncertainties associated with innovation or new product development during global expansion” (pag. 131)</p>
Dagnino (2009)	<p>“Coopetition as a new interpretive category in strategy” (pag. 25)</p>
Breznitz (2009)	<p>“With the increasing fragmentation of production and the specialization in specific stages of production, and not whole, industries, different emerging economies need to develop different coopetition strategies that create and maintain very different competitive advantages, skills and management capabilities” (pag. 103)</p>
Mariani (2009)	<p>“New form of organizational dynamic” (pag. 166)</p>
Van de Shaar (2005)	<p>“New coopetition paradigm for wireless multimedia” (pag. 57)</p>
Luo et al. (2006)	<p>“Our study offers managers evidence that cooperation and competition should both be strategically stimulated across functions to promote intrafirm knowledge transfer and to enhance the firm’s customer and financial performance” (pag. 76).</p> <p>“Research also offers insight to managers regarding the importance of simultaneously managing cooperation and competition in cross-functional interactions” (pag. 76).</p>
Bakshi and Kleindorfer (2009)	<p>“Our bargaining analysis establishes the superiority of co-opetition over competition in the context of managing supply chain security” (pag. 595)</p>
Cassiman, Di Guardo and Valentini (2009)	<p>“Received theory provides some interesting results on the factors that explain the establishment and management of co-opetitive relationships at the firm level” (pag. 215)</p> <p>“Balancing co-operative and competitive forces in the innovation process to co-create value and to capture part of this value has become crucial to profit from innovation. this tension between value creation and value capture is present in each R&D project. (...) The capability to match the balance of co-operative and competitive forces in R&D projects explain the success of the innovation process” (pag. 217)</p> <p>“While the key argument of the paper is related to the management of co-opetitive forces at the level of individual R&D projects that lead to innovation, we also provide useful insights on how firms can manage critical knowledge cogeneration that forms the basis for their competitive advantage” (pag. 218)</p> <p>“Adopting a co-opetition perspective, we conceptualised firms’ R&D activities as an organisational process in which firms manage both co-operative and competitive actions” (pag. 229)</p> <p>“STMicroelectronics has spent years learning how to manage these co-opetition relationships making it an integral part of its innovation strategy. This capability helps explain the success of its innovation process” (pag. 230)</p>
Peng and Bourne (2009)	<p>“In highly turbulent and chaotic environments, strategic managers must develop new tools, new concepts, new organizations and new mindsets that allow simultaneous competition and cooperation” (pag. 398)</p>
M’Chirgui (2005)	<p>“Need for new organisational forms such as networking and system integrators, and co-opetition strategy” (pag. 929)</p> <p>“The close and dynamic interactions between numerous actors will affect the innovation process. (...) Consequently, we attend the emergence of new organisational and strategic configurations” (pag. 929)</p>
Depeyre and Dumez, (2010)	<p>“Coopetition can be seen the succession of strategic sequences articulating cooperation and competition developed at multiple levels” (pag. 126)</p>

PAPERS	WORDS TO MAKE ME THINK IT IS A MANAGEMENT INNOVATION
Van Buuren et al., (2010)	“The interplay between program management and project management can be characterized as a competitive modus of value creation (...).Managers seem to share a dual awareness. As a result of interdependency, managers realize that they need cooperation in order to realize their own objectives. In theory, they are in favour of achieving mutual added value. At the same time, they want to focus on realizing their own project/program ambitions. In cases of perceived controversies, competitive strategies are easily applied. This tension between project and program management seems to be inescapable. It could even be argued that a fruitful tension can contribute to the integrated and synchronized development of a complex system, such as a metropolitan region” (pag. 680)
Dagnino and Mariani (2010)	“Coopetition as a new kind of strategic interdependence among firms” (pag. 101) “Coopetition can be the appropriate spark to initiate value creation in very early stage entrepreneurial contexts, whereby entrepreneurs have to select their strategic course of action by capturing the right well-timed opportunities” (pag. 120)
Tsai (2002)	“Organizational units are indeed embedded in a social structure of coopetition in which there is a need to coordinate different units so that knowledge can be effectively shared” (pag. 180)
Girschik et al. (2009)	Coopetitive relations consider “the amount of interaction that they generate and because of their potential to trigger off a huge amount of coordination as well as conflict problems over the creation and distribution of value” (pag. 221)
Lin and Zhang (2005)	“To survive, companies must develop some features to meet the new requirements of the changed environment. Co-opetition structure’, describes how companies could be involved in a relationship that simultaneously contained co-operation and competition” (pag. 154)
Devetag (2009)	“Understanding when and why coordination failure occurs in a pure-motive game structure (where incentives are perfectly aligned) may contribute significantly to our understanding of when and why mixed-motive (coopetitive) relationships fail” (pag. 274)
Ross and Robertson (2007)	“New dominant logic is emerging in the marketing discipline, a logic of service-centered exchange that accords significant importance to managing external relationships. As this research illustrates, relationships with external partners are extremely important to the twenty-first-century firm” (pag. 108) “Within any given relationship, both competition and cooperation can, and often do, coexist and that the combination of the two leads to enhanced performance for the partner firms” (pag. 112)
Luo and Rui (2009)	“A more overarching perspective addressing “how to succeed” seems necessary to advance the research on internationalization of emerging economy enterprises. We supply such a perspective based on “ambidexterity”— viewing EM MNEs as ambidextrous organizations pursuing simultaneous fulfillment of two disparate, and sometimes seemingly conflicting, objectives. This article formalizes this new perspective and demonstrates its application using several case studies” (pag. 50)
Castaldo et al. (2010)	“Coopetition requires the management of tensions, if not dilemmas, resulting from the simultaneous presence of conflicting and converging goals between two parties”. We explore “the managerial option of involving a third party to deal with the challenge of developing a dyadic relationship that is both cooperative and competitive” (pag. 141)
Gnyawali et al. (2006)	“The existence of simultaneous cooperative and competitive relations possesses a unique dynamic that is just beginning to be understood (Ketchen et al., 2004). Firms in such coopetitive networks need to manage the paradox of simultaneous competition and collaboration, walking a fine line between cooperating with partners in good faith and maintaining a posture of vigorous competition with rivals” (pag. 509)
Pesamaa and Eriksson (2010)	“The idea of coopetition can be challenging in tourism, (...), tourism businesses are in part interdependent and in part competing against each other. We did not find any studies that elaborated on this social dilemma and proposed a strategic direction for developing programs to deal with this issue” (pag. 166-167)
Soekijad and van Vendel (2009)	“Firms need to identify ways by which to protect themselves from adverse consequences of these tensions and manage their coopetitive relationships” (...). “Therefore, the main challenge in such relationships is to find the right balance of competition and cooperation” (pag. 147)

PAPERS	WORDS TO MAKE ME THINK IT IS A MANAGEMENT INNOVATION
Roy and Yami (2010)	“The traditional dichotomy between competition and cooperation is no longer appropriate for understanding inter-firm relations. The concept of “coopetition” and its early developments focused mainly on the definition and the understanding of the nature of its ambiguity. The current challenge for scholars is to investigate various empirical contexts in order to discuss its key success factors and drivers” (pag. 187)
Brandenburger and Nalebuff (1996)	“Coopetition is a new mindset” (pag. 6)
Quintana-Garcia and Benavides-Velasco, (2004)	“Scholars and managers have recognized that striking a balance between both strategies (co-opetition) plays a key role in the performance and survival of enterprises” (pag. 928) “Co-opetition strategy has a positive effect on capacity to innovate to a greater extent than pure cooperative or competitive strategy” (pag. 931)
Okura (2009)	“both competition and cooperation exist in the insurance” “The purpose is to analyze the cooperative and competitive strategies pursued by Japanese life-insurance firms that face the problem of insurance fraud” (pag. 241)
Ritala and Hurmelinna-Laukkanen (2009)	“coopetition implies a clear distinction between value creation and appropriation: the innovation may be created jointly, but the appropriation of its value will be competed over, which is inherently individual action. Moreover, even the cooperative value-creation phase may be exposed to a certain amount of reservation. Thus, we claim that there are distinctive coopetition related factors present in value creation and value appropriation, and they are worth of further examination in order to understand the phenomenon more profoundly” (pag. 822)
Ritala et al. (2009)	“Coopetition (i.e. the simultaneous competition and cooperation) has emerged as a new issue in both research and practice” (pag. 64) “In order to create new knowledge and innovate, organizations need to utilize both competition and cooperation in their innovation processes” (pag. 65)
Rossi and Warglien (2009)	“The analysis of intrafirm coopetitive behavior becomes especially crucial in all organizations which involve elements such as temporary teams and independent (freelance) workers, as is the case of many knowledge intensive industries” (pag. 258)
Czakon (2010)	“Coopetition appears the third option of relationship development, beyond mutual adaptation or dissolution alone”. There is the “need to adapt and learn from coopetitors” (pag. 70).
Castaldo and Dagnino (2009)	“Coopetitive relationships form the groundwork from which to determine a research environment appropriate for investigating the analytical relevance of trust in much greater depth” and (...) “pursuing a synthesis of the two analytical dimensions” (pag. 91)
Garraffo and Rocco (2009)	“Syncretism between competition and cooperation fosters greater knowledge development, economic and market growth, and technological progress than either cooperation or coopetition alone. In fact, through competition players engage in a constructive conflict that stimulates, among other things, stronger innovation, which ultimately increase the size of the economic pie. At the same time, by cooperation, firms foster socioeconomic progress by spreading knowledge development and utilization” (pag. 46)
Baglieri (2009)	“New questions arise on how to harmonize dissimilar interests between universities and firms” and “what strategies should firms adopt in order to boost trust among academic researchers and mitigate competition for intellectual property right” (pag. 129)
Ancarani and Costabile (2010)	Recently the number of strategic interactions as well agreements between competitors has increased significantly (...). To master convergence, firms should widen the scope of their resources and competences and exercise different strategic options (coopetition) (pag. 217)
Bengtsson and Kock, (2000)	“New propositions about relationships between competitors are to be generated” (pag. 417)

4.2. Methodological steps to identify the beliefs in the social and cognitive processes of cooperation conceptualization

In order to identify the stages of the development of the cooperation conceptualization to clarify the beliefs that shape contemporary cooperation studies, we use the management innovation lens to focus on the drivers that pushed the cooperation literature to emerge.

Our research undertakes the following steps:

- (a) to identify the ontological, epistemological and ethical assumptions underlying each management innovation perspective;
- (b) to categorize cooperation contributions based on their ontological, epistemological and ethical assumptions. Such systematization will show the rational, institutional, fashion and cultural perspectives underlying each cooperation article;
- (c) to discuss the ways that a few dominant perspectives have emerged in the cooperation literature.

We shall begin by discussing the framework of analysis considering the assumptions emerging in the four perspectives of management innovation.

4.3. Framework of analysis: Assumptions of the four perspectives on management innovation

As mentioned in the conceptual pillars section, management innovation has recently received extensive research attention. As Birkinshaw et al (2008) discussed, four viewpoints have dominated the management innovation literature:

(1) a rational perspective (2) an institutional perspective (3) a cultural perspective

(4) a fashion perspective. Authors show how research work clusters around these four perspectives (Birkinshaw et al, 2008: 826).

A *rational perspective* addresses how management innovations affect organizational effectiveness. Studies identify variables that enable measurement of the relation between innovation and performance. The ontological assumption is that management innovation should focus attention on specific, identifiable variables that should logically support a relationship between innovation and efficiency while ignoring everything else by treating it as ‘just noise’.

The *institutional perspective* emphasizes the socio-economic conditions that emerge and influence how new management ideas take shape (Birkinshaw et al., 2008). It focuses on the preconditions to innovation and the drivers that push industries to innovate (ethical assumptions). The level of analysis is at the macro or societal level and no consideration is given to the role that local or internal organizational agents play in shaping the process. The epistemological assumptions are that management innovation is a complex process that unfolds over time within institutions that are influenced by institutional beliefs and external coercive, regulative and normative structures (Scott, 1998, 2005).

The *cultural perspective* focuses on organizational, individual and situational factors that affect a firm’s propensity to introduce and implement new management practices. This perspective explores how management innovation shapes and is shaped by a firm’s cultures and critical individuals in an organization (Birkinshaw et al, 2008: 827). Researchers assume that psychological and other human science studies can help develop an understanding of how personal and cultural variables influence management innovation.

The *fashion perspective* draws on Abrahamson (1996) and focuses on why certain practices develop, become popular and are widely diffused in some organizations. It explores the dynamics between the providers and the users of management ideas. The level of analysis can emerge at different levels because the perspective is concerned with both the industries supplying innovative ideas (macro level) and the behavioral reasons people and organizations (micro level) use to justify management innovation choices.

Each perspective highlights specific ontological, epistemological and behavioral assumptions. In fact, the works of management innovation researchers differ with regard to:

- the purpose of the study;
- ontological assumptions in terms of: (a) the substance of management innovation; (b) temporal sequencing;
- epistemological assumptions in terms of: (c) the knowledge lens; (d) the research method (e) the level of analysis (f) the unit of analysis;
- ethical assumptions in terms of: (g) the conditions for innovation emergence; (h) the consequences of the innovation.

Table 2 summarizes the ontological, epistemological and ethical assumptions underlying the four perspectives of management innovation. The representation highlights the peculiarities of management innovation as assessed from each perspective.

Table 2: Assumptions of four perspectives on management innovation

Features	Rational	Institutional	Cultural	Fashion
Core issue	Using logic to make firms work more effectively	Identifying the situational conditions that enable a management innovation to emerge and diffuses over time	How internal firm cultures shape and are shaped by management innovations shapes	How temporary demands or supplies support management innovation and diffusion
Ontological assumptions				
• <i>What is the substance of management innovation?</i>	Implementing causal relations that promote efficiency	Identifying what is appropriate given external conditions	Identifying what is appropriate given an organization's culture	Identifying how responsiveness to trends leads to management innovation
• <i>What is the temporal status?</i>	Static	Dynamic	Semi dynamic	Dynamic
Epistemological assumptions				
• <i>Through what knowledge lens is a management innovation understood?</i>	Modeling and managerial guidelines	Social and human sciences, systems and network analysis	Psychology and other human sciences	Social sciences and network analysis
• <i>By what method is a management innovation typically known?</i>	Logical models empirical testing using quantitative methods	Qualitative and quantitative evidence and case studies	Qualitative and quantitative evidence and case studies	Qualitative and quantitative empirical testing
• <i>What is the primary level of analysis for management innovation studies?</i>	Micro	Macro	Micro	Macro and micro
• <i>What is the primary focus of the analysis for management innovation studies?</i>	Output variables	Contextual conditions	Organization's cultural values	Interplay between contextual conditions and organizational values
Ethical assumptions				
• <i>Which psychological and/or socio-economic conditions drive management innovation?</i>	Desire for efficiency	The influence and power of institutional and other external forces	The influence of firm cultural factors	Recognition that adapting to trends has value.
• <i>What should management innovation achieve when implemented in organizations?</i>	Improvements in efficiency, competitiveness, and other measures of performance	Social legitimacy as determined in the organization's context	Improvements in internal commitment and morale leading to further innovations and other performance improvements	Improvements in reputation, social legitimacy and further innovations that improve morale.

Source: Adaptation from Dunbar and Statler (2009) and Birkinshaw et al., (2008)

4.4. Categorical analysis of coepetition literature

We deploy a *categorical analysis* of the coepetition literature. As Lyytinen et al (1998) suggest, categorical analysis uses a pre-specified set of categories to make inferences concerning the underlying meaning of texts (Weber, 1985). This

method helps clarify the content of coopetition literature using management innovation perspectives. In fact, the different perspectives may enable us to capture aspects of coopetition that might otherwise be hidden. Our analysis sheds light on different approaches to coopetition and considers implications for alternative ways of managing coopetition.

By identifying the ontological, epistemological and ethical assumptions the studies make, we are able to distinguish different types of coopetition studies and understand how the assumptions they make are associated with different perspectives of management innovation that shape the contemporary coopetition field.

Following the *rational perspective* (Chandler, 1962; Damanpour, 1987; Kaplan, 1998), the essence of coopetition strategy is to find out how firms can work effectively. Hence, studies explore: (a) the ways coopetition affects a firm's performance; (b) whether intended outcomes are achieved (Nalebuff and Brandenburger, 1996). The attention focuses on the role played by measures of resources, behaviors and information that channel flows to and from environments and between organizational units (Tsai, 2002). Scholars using a rational perspective adopt a modeling approach and quantitative methods to test and prescribe managerial guidelines (Dunbar and Statler, 2009). The focus is on outputs and on exploring whether coopetition increases a firm's profitability, since rational theorists assume that coopetition maximizes efficiency and increases competitiveness (Quintana-García and Benavides-Velasco, 2004; Ritala and Hurmelinna-Laukkanen, 2009; Ritala et al., 2009; Pesamaa and Eriksson, 2010).

According to the *institutional perspective* (Guillén, 1984), the essence of cooptation is reflected in socioeconomic conditions (Mariani, 2009) and the factors that enable organizations in an industry to develop a strategy (Castaldo et al., 2010). According to an institutional perspective, then, contextual conditions are the drivers that force adoption of a cooptative strategy (Bengtsson and Kock, 2000; Breznitz, 2009).

According to the *cultural perspective*, a firm's cultural context shapes the dynamics that influence a firm's cooptation strategy (Castaldo and Dagnino, 2009) by assessing whether there is a better fit that enables increased competitiveness. This implies that the essence of cooptation will differ across cases and over time depending on the events unfolding in a particular firm's context (Dagnino and Mariani, 2010). The concepts related to a cultural perspective are drawn from psychology and other human sciences.

Following the *fashion perspective* (Abrahamson, 1996), cooptation is the result of interplay between those currently adopting a cooptation strategy and the social fashion setters (e.g., consulting firms, management gurus, business mass-media publications and academia) and what they advocate (Van Buuren et al., 2009). A fashion perspective considers the extent to which convictions and beliefs regard cooptation as a fruitful approach to strategy (Luo and Rui, 2009).

Table 3: The coopetition literature: Its ontological, epistemological and ethical assumptions

PERSPECTIVE	PAPER	ONTOLOGY		EPISTEMOLOGY			ETHICAL	RESEARCH QUESTION
		SUBSTANCE	TEMPORAL STATUS	KNOWLEDGE LENS	METHOD	UNIT OF ANALYSIS		
I	Dagnino (2009)	Partner interests and goals are partially but not completely aligned	Dynamic	Social and human sciences, system and network analysis	Qualitative and quantitative methods and case studies	Partner interests	Partial alignment of partner interests may enable cooperation in some areas and competition in others	What is the nature of coopetition?
I	Breznitz (2009)	Systemic institutional configuration in which firms move from being more to less coopetitive	Dynamic	Social and human sciences, system and network analysis	Qualitative and quantitative methods and case studies	Contextual conditions	The role of public policy in shaping coopetition	What is the role of public policy?
I	Mariani (2009)	The simultaneous combination of competition and cooperation	Dynamic	Social and human sciences, system and network analysis	Qualitative and quantitative methods and case studies	Contextual conditions	Coopetition is required by external political conditions	How and why does coopetition emerge?
I	Castaldo et al. (2010)	Dyadic relationship that is both competitive and cooperative	Dynamic	Social and human sciences, system and network analysis	case studies	Contextual conditions	Third-party bridges and keep apart cooperation and competition	The role of third parties in enabling cooperative strategies
I	Ross and Robertson (2007)	Competition and cooperation coexist and the combination leads to enhanced performance for partner firms	Dynamic	Social and human sciences, system and network analysis	Qualitative methods	Contextual conditions	Firms need to cooperate and compete to enhance firm performance	What is the nature of cooperative relationships? How are they important for firms?
I	Bengtsson and Kock (2000)	Two firms cooperate in some activities and at the same time compete with each other in other activities leading to a conflicting and rivalrous relationship between competitors	Dynamic	Social and human sciences, system and network analysis	Case studies	Contextual conditions	Firms tend to more frequently cooperate in activities carried out at a greater distance from buyers and compete in activities closer to buyers. The driving force behind this behavior is the heterogeneity of resources	How the competitive and cooperative part of the relationship can be divided and managed.

I	Baglieri, (2009)	Situation in which competitors simultaneously cooperate and compete with each other	Dynamic	Social and human sciences, system and network analysis	Qualitative and quantitative methods and case studies	Contextual conditions in which the university-firm relationships emerge	Psychological conditions: promote knowledge creation and technology transfer Consequences: competitiveness, innovations and other performances	What strategies should firms adopt to boost trust among academic researchers and mitigate competition among intellectual property rights?
I	Ancarani and Costabile (2010)	The result of different types of strategic interactions between companies that compete and collaborate at the same time	Dynamic	Social and human sciences, system and network analysis	Qualitative and quantitative methods and case studies	Contextual conditions	Managing cooperation between competition is becoming a rule in today's business environment	How do cooperation dynamics develop in convergent industries?
I	M'Chirgui (2005)	Mix of competition and cooperation	Dynamic	Social and human sciences, system and network analysis	Case studies	Contextual and internal conditions	Conditions: to generate more profits but also to change the nature of business environment in favour of the stakeholder.	Exploration of smart card industry
I	Lin and Jing Zhang (2005)	Relationship that simultaneously contains co-operation and competition	Dynamic	Social and human sciences, system and network analysis	Case study	Input, throughput and output variables	No behavioral assumptions	How Taiwan's small-and-medium enterprises (SMEs) modified their network structures to meet the requirements of the changing environment
I	Dowling, Roering, Carlin and Wisnieski J. (1996)	Situation in which a buyer, supplier and/or partners is also a competitor	Both their external and internal environments.	Human sciences	Qualitative methods	Input, throughput and output variables	No behavioral assumptions	Which are the antecedents of multifaceted relationships (cooperation)?

R	Cassiman, Di Guardo and Valentini (2009)	Co-opetition is a synthesis between two opposite paradigms: the competitive paradigm, and the co-operative paradigm,	Static	Modeling and managerial guidelines	Quantitative case study	Output variables	Firms' R&D activities is an organisational process in which firms manage both co-operative and competitive actions	How to manage co-opetitive forces at the level of individual R&D projects?
R	Bakshi and Kleindorfer (2009)	Coexistence of competition and cooperation in supply chain	Static	Modeling and managerial guidelines	Quantitative methods, empirical testing and monitoring	Output variables	The superiority of co-opetition over competition in the context of managing supply chain security.	Which is the most efficient levels of investment for risk mitigation?
R	Luo et al. (2006)	Joint occurrence of cooperative and competitive behaviors,	Static	Modeling and managerial guidelines	Quantitative methods, empirical testing and monitoring	Output variables	Cross-functional cooperation has a stronger positive effect on customer-based performance than on financial based performance	How does cross-functional cooperation and competition enhance firm performance?
R	Van der Schaar (2005)	Judicious mixture of competition and cooperation	Static	Modeling and managerial guidelines	Quantitative methods, empirical testing and monitoring	Output variables	Coopetition is often advantageous in competitive environments.	Which is the optimization of cross-layer wireless?
R	Pesamaa and Eriksson (2010)	Combination of cooperation and competition at different levels	Static	Modeling and managerial guidelines	Quantitative methods, empirical testing and monitoring	Output variables	Firms are cooperating at a destination level in order to better able to compete against other networks of firms at other destinations	Do actors prefer to cooperate in favor of competition based on their perspective of risk?
R	Rossi and Warglien (2009)	Existence of simultaneously competitive and cooperative relationships between different organizational units	Static	Modeling and managerial guidelines	Quantitative methods, empirical testing and monitoring	Output variables	The level of cooperation between agents responds to the kindness of the principal	How does the principal's degree of fairness affects cooperation between two independent agents?
R	Devetag (2009)	The simultaneous combination of competition and cooperation	Static	Modeling and managerial guidelines	Quantitative methods, empirical testing and monitoring	Output variables	No behavioral assumptions	When and why coordination failure occurs in a mixed motive (coopetition) relationships?

R	Garraffo and Rocco (2009)	The search for and sustainability of economic rents through the simultaneous interplay of competition and cooperation	Static	Modeling and managerial guidelines	Empirical testing and quantitative method	Output variables	The higher the rival's perceived benefits the higher its interest in the focal firm's cooperative proposal, all else being equal	Which are the main factors a focal firm should consider for evaluating the rival's interest in cooperative agreement?
R	Girschik et al. (2009)	The simultaneous combination of competition and cooperation	Static	Modeling and managerial guidelines – game theory	Quantitative methods, empirical testing and monitoring	Output variables	When participants are forced to disclose information, fair play dominates and opportunistic behavior diminishes, to create a more cooperative environment	How to map cooperation in the European Automotive industry?
R	Ritala and Hurmelinna-Laukkanen (2009)	Collaborating with competitors	Static	Modeling and managerial guidelines	Quantitative methods, empirical testing and monitoring	Output variables	No behavioral assumptions	How innovation-related cooperation differs from cooperation between non-competitors in terms of value creation and value appropriation?
R	Ritala et al. (2009)	Situation where competition and cooperation co-exist in the same relationship	Static	Modeling and managerial guidelines	Empirical testing and quantitative method	Output variables	Intrafirm competition influence the different phases of the innovation process	How and by which processes cooperation inside a firm actually translates into increased performance and innovation?
R	Tsai (2002)	Simultaneously cooperative and competitive behavior among organizational units	Static	Modeling and managerial guidelines	Quantitative methods, empirical testing and monitoring	Output variables	While competing with each other, business players also cooperate among themselves to acquire new knowledge from each other.	how knowledge sharing is coordinated among competing units?

R	Quintana-García Benavides-Velasco (2004)	Partners collaborate and compete simultaneously	Static	Modeling and managerial guidelines	Quantitative methods, empirical testing and monitoring	Output variables	Co-opetition strategy has a positive effect on capacity to innovate to a greater extent than pure cooperative or competitive strategy	The effect of co-opetitive strategy on technological diversity and new product development.
R	Nalebuff and Brandenburger (1996)	cooperation and competition can be parts of one and the same relationship, and the concept co-opetition describes such relationship	Static	Modeling and managerial guidelines	Quantitative methods, empirical testing and monitoring	Output variables	Players tend to maximize their own interest	Presenting a set of guidelines that will “make it easier to explain the reasoning behind co-opetition strategy
C	Castaldo and Dagnino (2009)	Partial convergence of interest	Dynamic	Psychology and other human sciences	Qualitative and quantitative methods and case studies	Input, throughput and output variables	The passage of time and the changing conditions of trusting behaviors forge the dynamic shape of co-opetition and its environments	How trust helps in shaping co-opetitive dynamics?
C	Dagnino and Mariani (2010)	Co-opetition as a new kind of strategic interdependence among firms	Dynamic	Psychology and other human sciences	Case studies	Input, throughput and output variables	Entrepreneurial co-opetitive bridging gap, in which two entrepreneurs with partial convergent interests match the gap within the capability space and opportunity space	How can co-opetitive strategies emerge and be leveraged in entrepreneurial contexts?
F	van Buuren et al. (2009)	The fragile balance between fruitful cooperation and vital competition between projects within a program.	Dynamic	Social sciences	Case studies	Input, throughput and output variables	The interplay between program management and project management is characterized by co-opetition. Managers need cooperation to realize their own objectives. At the same time, they want to realize their own project	Does program management generate added value by achieving cohesiveness, or does it weaken the advantages of project management?
F	Luo and Rui (2009)	Simultaneous cooperation and competition between multinational enterprises	Dynamic	Social sciences	Qualitative and quantitative methods and case studies	Input, throughput and output variables	Cooperate with global partners. Simultaneously compete with them in various products around the world	Co-opetition in multinational enterprises

I & F	Soekijad and van Wendel de Joorde (2009)	Market situation in which competition and cooperation merge together	Dynamic	Social and human sciences, system and network analysis	Qualitative and quantitative methods and case studies	Contextual conditions	Organizations are more likely to behave opportunistically in a multiparty alliance control adding more pressure on the already delicate balance between cooperation and competition	How do knowledge-intensive organizations manage competition?
R & I	Okura (2009)	The simultaneous combination of competition and cooperation	Static	Modeling and managerial guidelines – game theory	Quantitative methods, empirical testing and monitoring	Output variables	Life-insurance firms cooperate to prevent fraud, but also compete to sell their insurance products	Which are the competitive and cooperative strategies pursued by Japanese life-insurance firms?
R & I	Czakon (2010)	Strategy designed to achieve better performance level through cooperation between competitors	Dynamic	Social and human sciences, system and network analysis	Case studies	Input, throughput and output variables	Emerging competition is a form of opportunistic behavior where one partner seeks the fulfillment of his own goal within a cooperative setting, regardless of the common goals and the interests of his partner	Is competition a deliberate positive sum-game strategy?
R & I	Gnyawali, He and Madhavan (2006)	Simultaneous cooperative and competitive relations	Dynamic	Social and human sciences, system and network analysis	Qualitative and quantitative methods and case studies	Output variables	“Firms can generate economic rents and achieve superior, long-run performance through simultaneous competition and cooperation	How co-competition— simultaneous cooperation and competition affect firm’s competitive behavior
I & C	Depeyre and Dumez (2010)	Cooperation with competitors	Dynamic – diachronic phenomenon	Social and human sciences, system and network analysis	Case studies	Contextual conditions	No behavioral assumptions	Which is the role of other actors (customers, regulators) in shaping competition?

I & C	Luo (2007)	Simultaneous competition and cooperation between global rivals	Both their external and internal environments.	Human sciences	Qualitative methods	Input, throughput and output variables	Rivals cooperate in some areas while competing in others to have significantly heightened economic, technological, and transactional interconnections between global rivals and strategic flexibility	Why cooperation occurs, which is the intensity and diversity of cooperation with major global rivals
R & I	Roy and Yami (2010)	The simultaneous combination of cooperation and competition	Dynamic	Modeling and managerial guidelines	Qualitative and quantitative methods and case studies	Output variables	Psychological reasons: the relevance of balancing individual and collective fates and profits and losses for the actors involved	Can the collective of firms in a cooperative arena manage the deviances of the individualistic moves?
I & C	Peng and Bourne (2009)	Coexistence of cooperation and competition	Dynamic	Social and human sciences, system and network analysis	Case studies	Contextual and internal conditions	two networks compete for healthcare market, technology, cost efficiency, and public influence. However, the network formation delivers cooperation in the areas of patient referrals, joint training and education, use of the burns-care unit and the central laboratory.	Do competition and cooperation coexist between networks and if so, how do they work?

5. DISCUSSION AND CONCLUSIONS

In this section we develop the analysis of the results of the application of the socio-cognitive model to coopetition emergence and affirmation. Therefore, we firstly depict the beliefs, artifacts and evaluation routines that build the social and cognitive processes of coopetition. Secondly, we develop the temporal bracketing approach to disentangle the evolution of coopetition. Finally, we adapt the Garud and Rappa (1994) model on coopetition studies and discuss the implications.

Beliefs, artifacts and evaluation routines are related to each other by reciprocal interactions. Beliefs lead to the creation of artifacts, which in turn shape the ideas of the researchers associated with the development of these artifacts. Similarly, beliefs are externalized by evaluation routines that in turn help in shaping individuals' viewpoints. Finally, routines legitimize and select the "form and structure" behind papers (Garud and Rappa, 1994: 346). On the other hand, artifacts define the path for developing the standards that will be evaluated.

In this study we consider the results of the categorical analysis of coopetition literature as a proxy for beliefs researchers hold about how they approach coopetition. As a proxy for artifacts that researchers create we choose all the articles that have assumed coopetition as management innovation. Finally, as a proxy for evaluation routines we focus on the citations that legitimize and help in diffusing such artifacts within the research community. To do so, we adopt the Publish or Perish open source software to consider the number of citations that each paper reports within the academic community.

Table 4: Perspectives and citations of coepetition articles

Perspective	Paper	Citations
Institutional	M'Chirgui (2005)	10
	Dowling, Roering, Carlin and Wisnieski J. (1996)	78
	Baglieri, (2009)	0
	Ancarani and Costabile (2010)	0
	Dagnino (2009)	1
	Breznitz (2009)	2
	Mariani (2009)	3
	Castaldo et al. (2010)	0
	Ross and Robertson (2007)	36
	Lin and Zhang (2005)	22
	Bengtsson and Kock (2000)	437
	589	
Rational	Van der Schaar (2005);	0
	Luo et al. (2006)	115
	Bakshi and Kleindorfer (2009)	8
	Cassiman, Di Guardo and Valentini (2009)	9
	Pesamaa and Eriksson (2010)	1
	Rossi and Warglien (2009)	0
	Devetag (2009)	1
	Garraffo and Rocco (2009)	1
	Girschik et al. (2009)	0
	Ritala and Hurmelinna-Laukkanen (2009)	22
	Ritala et al. (2009)	1
	Tsai (2002)	647
	Quintana-García Benavides-Velasco (2004)	90
	Nalebuff and Brandenburger (1996)	71
	966	
Cultural	Castaldo and Dagnino (2009)	2
	Dagnino and Mariani (2010)	0
	2	
Fashion	van Buuren et al. (2010)	3
	Luo and Rui (2009)	21
	24	
Institutional and fashion	Soekijad and van Wendel de Joorde (2009)	1
	1	
Rational and institutional	Okura (2009)	1
	Czakon (2010)	2
	Gnyawali, He and Madhavan (2006)	69
	72	
institutional and cultural	Depeyre and Dumez (2010)	3
	Luo (2007)	68
	71	
Between rational and institutional	Roy and Yami (2010)	0
Between institutional and cultural	Peng and Bourne (2009)	6

Then we adopt the temporal bracketing research strategy and break down the time scale of the bulk of the coepetition literature into successive periods that are related to the four-phase model of emergence associated with management innovation (see section three). For each period of investigation we explore which papers emerged and the perspectives (rational, institutional, fashion and cultural) they are associated with. Accordingly, we are able to show which ontological, epistemological and ethical assumptions (beliefs) have led to the emergence and

development of coopetition contributions (artifacts) and the evaluation routines (research community).

The first period (1996–1999) concerns the motivation phase. Two milestones of coopetition literature appeared: Nalebuff and Brandenburger's (1996) contribution and the study by Dowling et al. (1996) on multifaceted relationships. The former assumes a rational perspective of coopetition. However, the paper by Dowling et al. (1996) addresses the influence of socioeconomic conditions in shaping the emergence of new management ideas (institutional perspective).

The second period (2000–2003) represents the innovation phase that is characterized by the preeminence of the institutional perspective as well as the rational perspective. Specifically, Bengtsson and Kock (2000) argue the relevance of considering the drivers at the macro level of analysis that push firms to adopt coopetition. However, Tsai (2002) assumes a rational perspective since he attempts to dig deeper into the mechanisms that make firms work more effectively (Tsai, 2002). The Publish and Perish open source software reported a huge number of citations. To date, Bengtsson and Kock's (2000) contribution reports 437 citations, while Tsai's (2000) contribution reports 647 citations. This means that scholarly beliefs and artifacts have had a huge impact on shaping the processes of the research community.

The third period (2004–2008) is still characterized by the domination of the rational perspective to model cooperative dynamics (Quintana-García and Benavides-Velasco, 2004; Van der Schaar, 2005; Luo et al, 2006) as well as the institutional perspective (Lin and Zhang, 2005; M'Chirgui, 2005; Ross and

Robertson, 2007) to implement innovative management practices. This occurs though the huge number of citations of articles adopting a rational perspective and it seems to confirm the higher status credited with regard to exploring the rationale behind coopetition. In this period we also witness integration between perspectives and the emergence of new ones. Gnyawali et al. (2006) integrate the rational and institutional lenses. Moving away from the idea of exploring the impact of coopetition in a firm's competitive behavior, they consider the competitive actions of firms involved and the influence of the context (network) in which firms are embedded. However, Luo's (2007) contribution emphasizes institutional and cultural dynamics in the investigation of coopetition, addressing a different research path that focuses on organizational, individual and situational factors that affect a firm's propensity to introduce and implement coopetition practices.

Finally, the fourth period (2009–2011) is characterized by an increasing number of studies that attempt to theorize and label coopetition. Coopetition is becoming a concept that is recognized and legitimate in strategy literature. Consequently, a number of articles (Castaldo and Dagnino, 2009; Dagnino, 2009) have moved away from the idea to dig deeper into the core nature of the competitive-cooperative relationship, adopting different conceptual lenses as well as integrating new ones. Coopetition studies still adopt the rational perspective (Bakshi and Kleindorfer, 2009; Cassiman et al, 2009; Devetag, 2009; Garraffo and Rocco, 2009; Girschik et al, 2009; Ritala and Hurmelinna-Laukkanen, 2009; Ritala et al, 2009; Rossi and Warglien, 2009; Pesamaa and Eriksson, 2010), the institutional perspective (Baglieri, 2009; Breznitz, 2009; Dagnino, 2009; Mariani,

2009; Ancarani and Costabile, 2010; Castaldo et al, 2010), the cultural perspective (Castaldo and Dagnino, 2009; Dagnino and Mariani, 2010), and the new emerging fashion perspective (Luo and Rui, 2009; van Buuren et al, 2010) that has only recently started its accrual. Furthermore, we see integrative positions between rational and institutional (Czakoń, 2006; Okura, 2009; Roy and Yami, 2010), between the institutional and the fashion perspectives (Soekijad and van Wendel de Joorde, 2009), and between the institutional and the cultural approaches (Peng and Bourne, 2009).

5.1. A representation of the socio-cognitive processes of coopetition studies

As we have reported above, the temporal bracketing analysis is a preliminary investigation methodology to frame the socio-cognitive processes that unfold over time as coopetition develops and to show the two cyclical processes of individual and shared cognition.

According to the micro level process of *individual* cognition, evaluation routines coming from the research community have legitimated and selected coopetition articles through the lenses of the rational and institutional approaches. Since coopetition implied the rethinking of existent management practices, the main focus of the literature was to explain the role of coopetition in the value creation processes as well as to explore how hypercompetitive environments led to the drivers of cooperative relations. This explains why rational and institutional approaches to coopetition studies have been emerging for twelve years (1996–2008). When coopetition was fully recognized by strategic management studies,

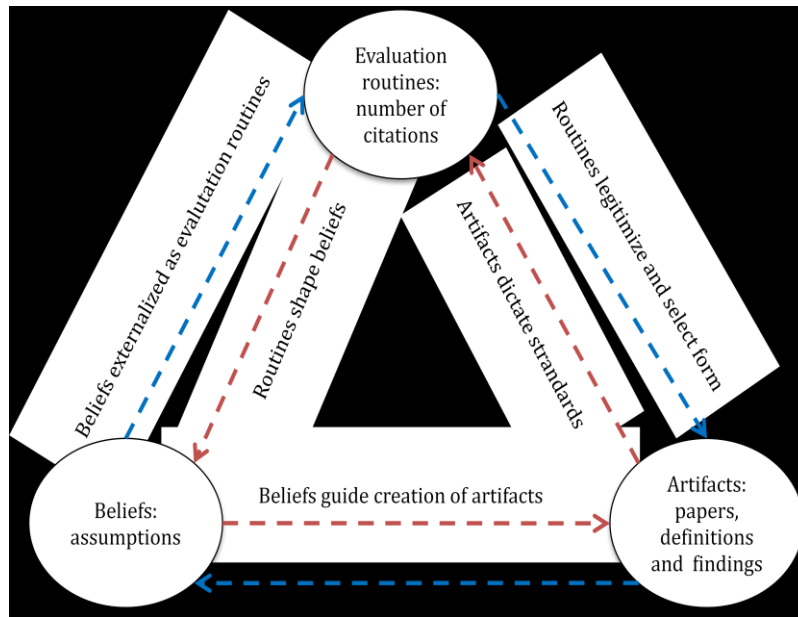
the scholarly community started to assume a new set of assumptions that have led to the emergence of new perspectives: the cultural and fashion approaches.

Following the macro level process of *shared* cognition, evaluation routines influence the scholars' beliefs and then the development of the articles on the cooperation topic. The relevance of shaping models for cooperation and defining the institutional forces that drive its emergence have addressed researchers' convictions. In this vein the dominant approaches (i.e., the rational and the institutional perspectives) have been reinforced, increasing the number of the papers adopting such perspectives as well as their citations.

The analysis of the evolution of cooperation studies makes possible two main insights. Firstly, after almost fifteen years of studies on cooperation we would have expected a reduction in articles claiming cooperation as innovation over time. Conversely, the notion of cooperation is still conceived as a novelty in management studies.

Secondly, if we consider the short time period of the emergence of the fashion perspective in cooperation articles, the number of citations reported is significantly high. In this vein we perceive the shaping of new evaluation routines, and hence a rapid diffusion of these perspectives. Figure 3 shows the two cyclical processes of individual (blue line) and shared cognition (red line).

Figure 4: A representation of the socio-cognitive processes of coopetition studies



Source: Adapted from Garud and Rappa (1994), p. 346

5.2. Contributions and future research

Scholars working in different disciplinary traditions – from sociology to management to economics – developed the coopetition construct. Coopetition has progressively acquired legitimation and citizenship in strategy and management studies, and the mechanisms that influence its development is an evolving topic. In order to participate in the growing debate, the study has attempted to contribute in four ways. Firstly, we have reinterpreted Garud and Rappa’s (1994) model to disentangle the emergence and affirmation of coopetition. The reciprocal interaction between researchers’ beliefs, artifacts they create, and evaluation routines coming from the research community has allowed us to explore two main processes. On one hand, we have shown the micro process of the formation of individual cognition that underscore how researchers build their own articles,

while on the other hand we have shown the macro processes of the formation of shared cognition that lead to the creation of new theoretical paths.

Secondly, the study presents a systematic assessment of the literature on coopetition using a management innovation lens to identify patterns in data from multiple studies. It presents the development of a scheme of categorical analysis that is helpful for the investigation of existing literature in other management fields of inquiry.

Thirdly, through the review of perspectives of management innovation (i.e., rational, institutional, cultural and fashion) and systematizations of its assumptions (i.e., ontological, epistemological and ethical assumptions) we have identified the beliefs of researchers and framed how they are mapped in the coopetition literature, and we clarify how coopetition represents a new management practice rather than a mix of competition and cooperation. Finally, we have uncovered the analytical levels, contextual factors, organizational features, and structures and processes of coopetition strategies, creating a frame of action in which to identify the drivers of coopetition interactions.

Although there is growing debate on cooperative dynamics, how to manage this new strategic option still remains an unsolved issue. In fact, the research agenda suggested by Gnyawali et al (2006) is still open: (a) how do increases in cooperative activity (e.g., number of cooperative ties) affect levels of competitive activity (e.g., number of competitive actions) (b) how does cooperative activity affect competition? Such studies may shed light on coopetition and its effects on a firm's performance.

6. REFERENCES

- Abrahamson, E. (1996), "Management Fashion" *Academy of Management Review*, 21 (1): 254-285.
- Afuah, A. (2000), "How Much Do Your Co-opetitors' Capabilities Matter in The Face of Technological Change?", *Strategic Management Journal*, 21.
- Allison, G.T. (1969), "Conceptual Models and the Cuban Missile Crisis", *The American Political Science Review*, 63 (3): 689-718.
- Baglieri, D. (2009), "Coopetitive strategies for knowledge creation: managing university-industry relationship in biotechnology", in Dagnino, G.B., E. Rocco (2009), (eds) *Coopetition strategy, theory, experiments and cases*. Routledge: London.
- Barney, J.B. (1991), "Firm Resources and Sustained Competitive Advantage", *Journal of Management*, Vol. 17.
- Barretta, A. (2008), "The functioning of co-opetition in the health-care sector: An explorative analysis", *Scandinavian Journal of Management*, 24.
- Benders, J., Van Veen, K. (2001), "What's in a fashion? Interpretative viability and management fashions", *Organization*, 8: 33-53.
- Bengtsson, M., Kock S. (2000), "Coopetition in business networks - to cooperate and compete simultaneously", *Industrial Marketing Management*, 29 (5): 411-426.
- Birkinshaw, J., Mol M. (2006), "How Management Innovation Happens", *MIT Sloan Management review*, 47 (4): 81 - 88.
- Birkinshaw, J., Hamel, G. Mol M.J. (2008), "Management innovation", *Academy of Management Review*, 33 (4): 825 - 845.
- Breznitz, D., (2009), "Globalization, coopetition strategy and the role of the state in the creation of new high-technology industries: the case of Israel and Taiwan", in (eds) Dagnino, G.B., Rocco E., (2009), *Coopetition strategy, theory, experiments and cases*. Routledge: London.
- Carayannis, E.G., Alexander J. (2001), Virtual, wireless manna: a co-opetitive analysis of the broadband satellite industry, *Technovation*, 21 (12): 759-766.
- Castaldo, S., Dagnino G.B., (2009), "Trust and coopetition: the strategic role of trust in interfirm coopetitive dynamics", in (eds) Dagnino, G.B., Rocco E. (2009), *Coopetition strategy, theory, experiments and cases*. Routledge: London.
- Castaldo, S., Mollering G., Grosso M., Zerbini G. (2010), "Exploring how third-party organizations facilitate coopetition management in buyer-seller relationships", in Castaldo, S., Dagnino G.B., Le Roy, F., (eds), *Coopetition, winning strategies for the 21th Century*, Elgar: Publishing Northampton, MA.

- Chandler, A.D. (1962), *Strategy and structure: Chapters in the history of the industrial enterprise*, Cambridge, MA: MIT Press.
- Chen, M.J. (2008), "Reconceptualizing the Competition-Cooperation Relationship A Transparadox Perspective", *Journal of Management Inquiry*, 17 (4): 288-304.
- Czakon, W. (2010), "Emerging coopetition: an empirical investigation of coopetition as inter-organizational relationship instability", in Castaldo, S., Dagnino G.B., Le Roy, F., (eds) *Coopetition, winning strategies for the 21st Century*, Elgar: Publishind Northampton, MA.
- Damanpour, F. Schneider M. (2006), "Phases of the Adoption of Innovation in Organizations: Effects of Environment, Organization and Top Managers", *Britisch Journal of Management*, 17: 215 – 236.
- Dagnino, G.B. (2009), "Coopetition strategy: a new kind of interfirm dynamic for value creation", in (eds) Dagnino, G.B., Rocco E. (2009), *Coopetition strategy, theory, experiments and cases*. Routledge: London.
- Dagnino, G.B., Rocco E. (2009), *Coopetition strategy, theory, experiments and cases*. Routledge: London.
- Dagnino, G.B., Rocco E. (2009), "Coopetition strategy: a "path recognition" investigation approach", in (eds) *Coopetition strategy, theory, experiments and cases*. Routledge: London.
- Dagnino, G.B., Rocco E. (2009), "Converting a "liquid" word into a tangible word", in (eds) *Coopetition strategy, theory, experiments and cases*. Routledge: London.
- Dagnino, G.B., Mariani M. (2010), "Coopetitive value creation in entrepreneurial contexts: the case of AlmaCube", in Castaldo, S., Dagnino G.B. and Le Roy, F., (eds) *Coopetition, winning strategies for the 21st Century*, Elgar: Publishing Northampton, MA.
- Dagnino G.B., Minà A., (2010), "Unraveling The philosophical microfoundations of Coopetition: the influence of the Chinese Yin-yang approach on Western critical thought", presented at the 4th workshop on Coopetition and Innovation, June, 17-19, 2010.
- Damanpour, F. (1987), "The adoption of technological, administrative, and ancillary innovations: Impact of organizational factors" *Journal of Management*, 13: 675–688.
- Depeyre, C., Dumez H. (2010), "The role of architectural players in coopetition: the case of the US defence industry", in Castaldo, S., Dagnino G.B. and Le Roy, F., (eds) *Coopetition, winning strategies for the 21st Century*, Elgar: Publishind Northampton, MA.
- Deutsch, M. (1973), *The Resolution of Conflict: Constructive and Destructive Processes*. Yale University Press: New Haven, CT.
- Devetag, M.G. (2009), "Coordination and trust as prerequisites of coopetition: experimental evidence", in Dagnino, G.B., Rocco E. (2009), (eds) *Coopetition strategy, theory, experiments and cases*. Routledge: London.

- Dierickx I., Cool K. (1994), "Asset stock accumulation and sustainability of competitive advantage", *Management Science*, 35 (12), December.
- Dyer J.H., Singh H. (1998), "The relational view: Cooperative strategy and Sources of interorganizational competitive advantage", *Academy of Management Review*, 23 (4).
- Dowling, M.J., Roering W.D., Carlin B.A. Wisnieski J. (1996), "Multifaceted relationships under coepetition - Description and theory", *Journal of Management Inquiry*, 5 (2): 155-167.
- Eccles, R.G., Nohria N. (1992), *Beyond the hype: Rediscovering the essence of management* Harvard Business School Press: Boston.
- Friedman, M. (1991), "Old wine in new bottles", *The Economic Journal*, 101: 33-40.
- Galvagno, M., Garraffo F., (2010), "The promise of coepetition as a new theoretical perspective in Strategic Management", in Castaldo, S., Dagnino G.B., Le Roy, F., (eds) *Coopetition, winning strategies for the 21th Century*, Elgar: Publishind Northampton, MA.
- Garraffo, F., Rocco E. (2009), "Competitor analysis and interfirm coepetition: a two-step model to assess the rival's interest and commitment in a coepetitive agreement", in (eds) Dagnino, G.B., Rocco E. (2009), *Coopetition strategy, theory, experiments and cases*, Routledge: London.
- Garud, R., Rappa M.A. (1994), "The Socio-cognitive Model of Technology Evolution: The Case of Cochlear Implants", *Organization Science*, 5(3), August: 344-362.
- Garud, R., Dunbar R.L.M., Bartel C.A. (2010), "Dealing with unusual experience: A narrative perspective on organizational learning", *Organization Science*, (on line): 1-15.
- Girschik, S.R., Rossi A., Boutellier R. (2009), "Bargaining in the European automotive industry: coepetitive models and laboratory experiments", in (eds) Dagnino, G.B., Rocco E. (2009), *Coopetition strategy, theory, experiments and cases*. Routledge: London.
- Gnyawali, D.R. Madhavan R. (2001), "Cooperative Networks and Competitive Dynamics: A Structural Embeddedness Perspective," *Academy of Management Review*, 26, 431-445.
- Gnyawali, D.R., He J.Y., Madhavan R. (2006), "Impact of co-opetition on firm competitive behavior: An empirical examination", *Journal of Management*, 32 (4): 507-530.
- Gnyawali, D.R., Park B.J. (2009), "Co-opetition and Technological Innovation in Small and Medium-Sized Enterprises: A Multilevel Conceptual Model", *Journal of Small Business Management*, 47 (3): 308-330.
- Gomes-Casseres, B. (1996), *The Alliance Revolution: The New Shape of Business Rivalry*, Harvard University Press: Cambridge MA.

- Grant, R.M. (1999), *Contemporary Strategy Analysis. Concepts, Techniques, Applications*, Blackwell: Oxford.
- Guillén, M.F. (1994), *Models of management: Work, authority, and organization in a comparative perspective*, University of Chicago Press: Chicago.
- Gurnani, H., Erkoç M. Luo Y.D. (2007), "Impact of product pricing and timing of investment decisions on supply chain co-opetition", *European Journal of Operational Research*, 180 (1): 228-248.
- Hamel, G. (2006), "The Why, What, And how of Management Innovation", *Harvard Business Review*, 84 (2): 72 – 84.
- Hamel, G., Y.L. Doz, Prahalad C.K. (1989), "Collaboration with Your Competitors - and Win", *Harvard Business Review*, 67 (1).
- Hargrave, T, Van den Ven A. (2006), "A Collective Action Model of Institutional Innovation", *Academy of Management Review*, 31.
- Henderson, B.D. (1967), "Brinkmanship in business", *Harvard Business Review*, march-april, n. 67205.
- Hill C.C., H. Li, Davies B. (2003), "The Paradox of Co-Operation and Competition in Strategic Alliances: Towards a Multi-Paradigm Approach", *Management Research News*, 26(1).
- Kaplan, R.S. (1998), "Innovation action research: Creating new management theory and practice" *Journal of Management Accounting Research*, 10: 89–118.
- Kimberly, J.R. (1981). Managerial innovation, in Nystrom P.C., Starbuck W.H. (Eds.), *Handbook of organizational design*, vol. 1: 84–104, Oxford University Press: New York.
- Lado, A.A., Boyd N.G., Hanlon S.C. (1997), "Competition, Cooperation, and The Search for Economic Rents: A Syncretic Model," *Academy of Management Review*, 22(1).
- Levy M., Loebbecke C., Powell P. (2003), "SMEs, co-opetition and knowledge sharing: the role of information systems", *European Journal of Information Systems*, 12 (1): 3-17.
- Lin, C.Y.Y., Zhang J. (2005), "Changing structures of SME networks: Lessons from the publishing industry in Taiwan", *Long Range Planning*, 38 (2): 145-162
- López-Gomez, J. Molina-Meyer M. (2007), "Modeling co-opetition", *Mathematics and Computers in Simulation*, 76.
- Luo, Y.D. (2005), "Toward co-opetition within a multinational enterprise: a perspective from foreign subsidiaries", *Journal of World Business*, 40 (1): 71-90.
- Luo, Y. (2007) "From foreign investors to strategic insiders: Shifting parameters, prescriptions and paradigms for MNCs in China", *Journal of World Business*, 42 (1): 14-34.

- Luo, Y.D. (2007), "A coopetition perspective of global competition", *Journal of World Business*, 42 (2): 129-144.
- Luo, X.M., Slotegraaf R.J., Pan X. (2006), "Cross-functional "coopetition": The simultaneous role of cooperation and competition within firms", *Journal of Marketing*, 70 (2): 67-80.
- Luo, Y.D., Shenkar O., Gurnani H. (2008), "Control-cooperation interfaces in global strategic alliances: a situational typology and strategic responses", *Journal of International Business Studies*, 39 (3): 428-453.
- Luo, Y.D., Rui H.C. (2009), "An Ambidexterity Perspective Toward Multinational Enterprises From Emerging Economies", *Academy of Management Perspectives*, 23 (4): 49-70.
- Mariani, M. (2009), "Emergent coooperative and cooperative strategies in interorganizational relationships: empirical evidence from the Australian and Italian operas", in Dagnino, G.B., Rocco E. (2009), (eds) *Coopetition strategy, theory, experiments and cases*. Routledge: London.
- Mol, M.J. Birkinshaw J., (2009), "The sources of management innovation: When firms introduce new management practices", *Journal of Business Research*, 62 (12): 1269 – 1280.
- Nalebuff, B., Brandenburger A.M. (1996), *Co-opetition*, HarperCollinsBusiness: London.
- Noorda, R. (1993), "Co-opetition", *Electronic Business Buyer*, December: 8–12.
- Ocasio, W. (1997) "Towards an attention-based theory of the firm" *Strategic Management Journal*, 18 (Summer Special Issue): 187–206.
- Okura, M. (2009), "Coooperative strategies to limit the insurance fraud problem in Japan", in (eds) Dagnino, G.B., Rocco E. (2009), *Coopetition strategy, theory, experiments and cases*. Routledge: London.
- Padula, G., Dagnino G.B. (2007), "Untangling the Rise of Coopetition - The Intrusion of Competition in a Cooperative Game Structure", *Int. Studies of Management and Organization*, 37: 32-52.
- Peng, T.J.A., Bourne M. (2009), "The Coexistence of Competition and Cooperation between Networks: Implications from Two Taiwanese Healthcare Networks", *British Journal of Management*, 20 (3): 377-400.
- Pesamaa, O., Eriksson P., (2010), "Coopetition among nature-based tourism firms: competition at local level and cooperation at destination level", in Castaldo, S., Dagnino G.B., Le Roy, F., (eds) *Coopetition, winning strategies for the 21th Century*, Elgar: Publishing Northampton, MA.
- Peteraf, M.A. (1993), "The cornerstone of competitive advantage: A resource-based View", *Strategic Management Journal*, 14.
- Poole, M.S., Van de Ven A.H. (1989), "Using Paradox to Build Management and Organization Theories." *Academy of Management Review*, 14.
- Quintana-Garcia C., Benavides-Velasco C.A. (2004), "Cooperation, competition, and innovative capability: a panel data of European dedicated

- biotechnology firms”, *Technovation*, 24 (12): 927-938.
- Riessman, C.K. (1993), *Narrative Analysis*, Sage, Newbury Park, CA
- Ritala, P., Hallikas J., Sissonen H. (2008), “Coopetitive networks in the ICT sector”, *International Journal of Business Environment*, 2 (1).
- Ritala, P., Hurmelinna-Laukkanen P. (2009), “What's in it for me? Creating and appropriating value in innovation-related coopetition”, *Technovation*, 29 (12): 819-828.
- Ritala, P., Valimäki K., Blomqvist K., Henttonen K., (2009), “Intrafirm coopetition, knowledge creation and innovativeness”, in (eds) Dagnino, G.B., E. Rocco (2009), *Coopetition strategy, theory, experiments and cases*. Routledge: London.
- Ross, W., LaCroix J, “In Negotiation Theory and Research: A Literature review and Integrative model”, *International Journal of Conflict Management*, 7 (4): 314–360.
- Ross, W.T. and Robertson D.C. (2007), “Compound relationships between firms”, *Journal of Marketing*, 71 (3): 108-123.
- Rossi, A., Warglien M. (2009), “An experimental investigation of fairness and reciprocity as determinants of intraorganizational coopetition”, in (eds) Dagnino, G.B. and Rocco E. (2009), *Coopetition strategy, theory, experiments and cases*. Routledge: London.
- Soekijad, M., van Wendel de Joorde R. (2009), “Coping with coopetition in knowledge-intensive multiparty alliances: two case studies”, in (eds) Dagnino, G.B., Rocco E. (2009), *Coopetition strategy, theory, experiments and cases*. Routledge: London.
- Scott, W.R (2005), “Institutional Theory: Contributing to a Theoretical Research Program”, in (eds), Smith K.G, Hitt M.A., *Great Minds in Management: The Process of Theory Development*, Oxford UK: Oxford University Press.
- Scott, W.R. and M. Ruef (1998), “A Multidimensional Model of Organizational Legitimacy: Hospital Survival in Changing Institutional Environments”, *Administrative Science Quarterly*, 43: 977-904.
- Stalter, M, Dunbar R.L.M. (2009), “A Historical perspective on organizational control”, in (eds), Sitkin S.B., Cardinal L.B., Bijlsma- Frankema K., *Organizational Control*, Cambridge, England: Cambridge University Press: 16-47.
- Teece, D.J., Jorde T. (1989), “Competition and Cooperation: Striking the Right Balance”, *California Management Review*, 31 (3): 25-37.
- Tidström, A. (2008), “Perspective on coopetition on an actor and operational level”, *Management Research*, 6 (3): 205–215.
- Tsai, W.P. (2002), “Social structure of "coopetition" within a multiunit organization: Coordination, competition, and intraorganizational knowledge sharing”, *Organization Science*, 13 (2): 179-190.

- Van Buuren, A., Buijs J.M., Teisman G. (2010), "Program management and the creative art of cooptation: Dealing with potential tensions and synergies between spatial development projects", *International Journal of Project Management*, 28 (7): 672-682.
- Van de Ven, A., Poole M.S. (1995), "Explaining Development and Change in Organizations", *Academy of Management Review*, 20 (3): 510-540.
- Von Hippel, E. (1987) "Cooperation between *rivals*: Informal know-how trading", *Research Policy*, 16 (6): 291-302.
- Xu, H., Teo H.H, Wang H. (2003), "Foundations of SMS Commerce Success: Lessons from SMS Messaging and Co-opetition", *IEEE Computer Society*, 3.
- Zbaracki, M.J. (1998), "The rhetoric and reality of total quality management" *Administrative Science Quarterly*, 43: 602– 638.

CONCLUSION

Since defining and developing the concept is essential to manage it, further progress in understanding coopetition requires sustained attention to the theoretical foundations.

In this vein, this dissertation has a specific objective: to explore *the processes underlying the genesis and affirmation of coopetition as management innovation*. We asked: what are the microfoundations of coopetition? In what ways is coopetition considered a management innovation? Is it possible to identify generally applicable criteria to recognize coopetition concept? And, finally, is coopetition a new way of looking at interfirm relationships, or more simply a reconceptualization of an old phenomena?

This dissertation is developed over three chapters that attempt to build a clearer foundation of coopetition, fifteen years after the inauguration of the concept.

Unraveling the philosophical microfoundations of coopetition, chapter I has argued that *coopetition is a novelty in Western management theories and practices*.

The study aimed to address two main contributions. First, it explored the essence and genesis of cooperative strategy that appear to be closely linked to the (broader or narrower) structure of interest convergence. Second, it has explained

coopetition as a third way of looking at relationships combining the advantages associated with both competitive and cooperative actions.

We have shown the influence of the Chinese middle way approach in coopetition literature, and the reasons why it implies a shift from the breaking-part logic to an integrative viewpoint. The paradox, the holistic view, and the integration between interdependent opposites are the fundamental elements that epitomize the paradox-solving yin-yang doctrine of balance and harmony, which lays the groundwork for identifying the emergence of coopetition.

Since the essence of coopetition is embedded in Eastern cultures, and therefore, in Western thought, conversely, the paradox between conflict and cooperation is not clearly visible. To make the aforementioned contribution and allow for the acknowledgement of coopetition in Western thought, we have scrutinized the philosophies of a quartet of “coopetitive philosophers”: David Hume, Adam Smith, Immanuel Kant and Søren Kierkegaard. Through the analysis of four coopetitive philosophers who lived between 1750 and 1850 and our rejoining of the dichotomy in interpreting human action, we elucidated the underlying elements of coopetition.

Specifically, the methodological individualist philosophers, Kant and Kirkegaard, helped us to frame coopetition as a *phenomenon* that emerges from within the human being, because it is strictly connected to his/her behavior.

Conversely, the methodological collectivist counterparts, Hume and Smith, helped us to capture coopetition as a *strategy* that stems from the human desire to improve his/her own individuality while considering external realities (as society). Furthermore, by comparing the ideas of Adam Smith and David Hume,

we disentangled the dichotomy between spontaneous behavior and deliberate goal-seeking, that is, between deliberate and emergent cooperative strategies. While Smith did not explain the difference between deliberate and emergent cooperative strategies, Hume clearly underlined the role of institutional frames and conventions in shaping deliberate cooperative strategies.

Building on the idea that has emerged in chapter I, competition mindsets require new logics, we asked further, *considering the lack of theoretical foundations: (a) how has cooperation been constructed and defined in the literature and what meanings have been credited to it?; (b) did the cooperation concept start a reification process in scholarly articles or is it being allowed to remain open for further construction and interpretation?*

To answer these questions, we have attempted to identify the meanings of cooperation that have been affirmed in managerial studies and delineated the reification process that has occurred with respect to the cooperation concept.

The contributions of this chapter to the management literature are twofold. First, by identifying the topic themes of articles that have been most influential, it is possible to understand conceptualizations of the cooperation construct that are not only emerging but are also becoming reified and affirmed in management studies. Second, it offers a methodological contribution using, for the first time, a bibliographic coupling investigation to clarify emerging themes in cooperation studies.

We have conducted two analyses using the bibliometric coupling approach on 82 articles published in the time spanning from January 1996 to December 2010.

The first investigation aimed to map the intellectual structure of the coopetition literature. Hence, we have identified and graphically represented clusters of coopetition studies based on the proximity of the study references. Specifically articles have been clustered into four groupings:

1. the relational dimension of coopetition construct;
2. the strategic dimension of coopetition;
3. factors leading to the emergence of coopetition phenomenon
4. attempts to define and model coopetition.

The second analysis has shown how the coopetition concept has emerged and changed in terms of its reification and objectification. We have argued that discovering the authors' approaches for studying coopetition helps us to dig deeper into the reification processes affecting the concept. Then, we have explored how various researchers have approached the construct and whether they consider it as a reified term. Our results suggest articles clustered into six groupings: convertors; theorists and developers; challengers; users; ceremonials; and milestoneers and reifiers.

The main conclusion is that researchers adopting the coopetition construct have developed a focused research community, and hence, we argue that the construct has not been reified even if the process has started. In fact, there is still a lack of a coherent framework that explains the ways through which firms decide

to adopt cooperative maneuvers besides the simple coexistence of competition and cooperation.

To decipher the current terminological fragmentation of cooperation, drawing from the idea that academia plays a key role in searching new managerial knowledge, chapter III has tried to disentangle the theoretical processes through which cooperation has been presented as management innovation. In this vein, we asked: *what is the socio-cognitive model that unfolds over time as cooperation develops as innovation?* In more detail, we have explored the ways in which cooperation can be considered a management innovation and, then asked what the social and cognitive processes are that unfold over time as cooperation develops.

We have adopted the Garud and Rappa (1994) model of technological evolution to cooperation studies. In doing so, we have investigated the reciprocal interaction between beliefs, artifacts, and evaluation routines. The model has allowed us: (a) to systematize knowledge on cooperation through the lens of management innovation. Such a systematization helped us understand the novelty of cooperation compared with the simple competition and cooperation and which contextual and organizational aspects support the “new” practices, structures and processes on which cooperation strategies depend; (b) to highlight the micro-level process of individual cognition of researchers building papers; (c); to underscore the macro-level process of shared cognition.

This chapter offered four main contributions. First, it presents cooperation as involving new management practices, processes, and structures to support organizational value creation. Second, through the investigation of reciprocal

interaction between academic community, beliefs and artifacts, the paper has framed the process that leads to the creation of new theoretical paths. Third, it has developed a frame of action wherein analytical levels, contextual factors, organizational features, and structures and processes of coepetition strategies have shaped the drivers of coepetition interactions. Finally, such a methodological approach (the categorical analysis that we have presented) could be fruitfully adopted in other management fields of inquiry, by categorizing their literatures through the ontological, epistemological and ethical assumptions emerging within each field of inquiry.

Taken together, the three chapters are able to offer a systematic examination of coepetition since they dig into its main foundations. As this study has shown, coepetition is a multifaceted phenomenon that offers various and exciting opportunities for investigation. We hope that this dissertation lays the groundwork for research on coepetition and its strategy to provide new insights for academics and applicable knowledge for practitioners.

On this groundwork, this dissertation opens new and fertile lines of research. First, since we identified the main determinants of coepetitive relationships at the individual level, it is worthy to shift the focus of coepetition research to other levels of inquiry, such as groups of individuals, business firms, and interorganizational networks.

Since the influence of management innovation on firms' performance are not clear, a second line of investigation observes how coepetitive relations affect the emergence of a firm's competitive advantage and financial performance.

Third, since the nature of coopetition relations is dynamic, we favor the relevance of exploring a typical “cycle of coopetition”; for example, from cooperation to coopetition to competition or from competition to coopetition to cooperation.

Finally, we suggest that it is important to stimulate further debates on coopetition, to coagulate it into a specific fully fledged research community.

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