HOW NOVELTY IS GENERATED. COGNITIVE PROCESSES IN ORGANIZATION

Tesi di Dottorato di ELENA BRUNI, matricola 963766

Coordinatore del Dottorato   **Supervisore del Dottorando**

Prof.ssa Anna Comacchio   **Prof.ssa Anna Comacchio**

HOW NOVELTY IS GENERATED. COGNITIVE PROCESSES IN ORGANIZATION

A dissertation by

Elena Bruni

PhD Candidate in Management – XXIX Cycle

Department of Management, Ca′ Foscari University of Venice

THESIS ABSTRACT

This thesis, based on three distinct yet interconnected papers, is a closer examination of how novelty emerges in organizational context, with a focus on cognitive mechanisms. Specifically, this work intends to provide theoretical contributions and empirical evidence on how a novel concept emerges, by explaining the cognitive mechanisms at the basis, and by determining the role of metaphors in these processes. It starts with a critical reviews and systematization of the extant literature on metaphor of the last thirty years that helps in identifying gaps and novel research questions that will be address by this elaborate. Thereby, the second empirical work of this thesis addresses the issue of how innovators elaborate different types of innovation. By analysing their metaphorical language, this research contributes to the literature of innovation and entrepreneurship, providing empirical evidence about how innovation process is ex post rationalized by entrepreneurs to overcome criticalities. The third article is a longitudinal study of how the web site The Huffington Post business model is a truly new concept, based on a process of conceptual combination. By a detailed analysis of cognitive processes, this work contributes theoretically to the cognitive perspective on business model innovation and adds to the management research on conceptual combination.

Keywords: novelty**,** metaphor, cognitive studies, business model innovation, innovation.

ACKNOWLEDGMENTS

TABLE OF CONTENTS

LIST OF FIGURES

LIST OF TABLES

1. INTRODUCTION

Theoretical background

The fil rouge of this thesis is the exploration of how novelty emerges within organizations, focusing on the cognitive dynamics that drive its emergence.

In management literature, there is a growing interest in adopting the cognitive lens to investigating innovation processes as generated by two cognitive processes: analogical thinking and conceptual combination (Dahl and Moreau, 2002; Ward, 2004; Siedel and O' Mahony, 2014; Martins, Rindova and Greenbaum, 2015). Conceptual combination is a basic mental operation that creates a new entirely concept by combining two or more existing basic concepts (Wisniewski, 1997a; 1997b). Differently from analogical reasoning, conceptual combination rests on differences rather than similarities, and combination is not a mere summation of the concepts being merged, but a richer and novel concept (Fauconnier, 1997; Thagard and Verbeurgt, 1998; Gärdenfors, 2000; Fauconnier and Turner, 2002; Ward, 2004). Management literature already stressed that new processes and business models are changed operating at combination of concepts (Martins *et al.*, 2015), and that concepts and concept components are used to generate novelty (Hargadon and Sutton, 1997; Seidel, 2007; Seidel and O' Mahony, 2014).

Organizational scholars also recognize that analogies and metaphors are critical devices to enhance creativity (Seidel, 2007; Seidel and O'Mahony, 2014), and to generate new solutions in highly creative environment (Hargadon and Sutton, 1997). However, novelty generation by conceptual combination has been mainly studied to understand the emergence of novel theories in management studies (Cornelissen, 2005; Nonaka, 2006; Tsoukas, 2009; Oswick *et al.*, 2011; Boxembaum and Rouleau, 2011) with no empirical examinations in innovation fields.

Cognitive literature has explored the emergence of novelty by language, providing empirical understanding of how concepts are combined to create new meanings and human accomplishments (Fauconnier and Turner, 2002: vi), novel theories and creative ideas (Ward *et al.*, 1997). Language

and, in particular metaphors, plays a key role in triggering creativity and novel solutions. Metaphors in fact structure our language, thought and action, because the conceptual system itself is fundamentally metaphorical (Lakoff and Johnson, 1980).

Despite the relevance of metaphor in management literature, a critical systematization is still missing. The debate on metaphor is still fragmented and there is a need to understand how this literature has contributed to management scholars as a whole. A critical understanding of the main contributions permits to ascertain what are the main contributions so far, what are the links among different streams of literature, in order to identify the gaps and novel research questions to investigate.

For instance, few empirical studies have attempted to analyse how metaphorical language influence novelty emergence (Hargadon and Douglas 2001; Dahl and Moreau, 2002; Seidel and O'Mahony, 2014), and there is still scant empirical research on the mechanisms underlying novelty generation. A microfoundation study on innovation could help to better identify the dynamics of these processes. Novelty is not just an individual cognitive process, but it frequently emerges from a social interplay where language plays a key role in such interactions (Gioia *et al.*, 1994; Grant and Oswick, 1996; Heracleous and Jacobs, 2008).

To conclude, this thesis aims at investigating these issues that the literature has not tackled so far. First, how the debate on metaphor has impacted management scholars and which are the research questions that are not still investigated. Second, to provide empirical explorations of how entrepreneurs convey novelty and how conceptual combination and metaphors play a decisive part in transforming intuitions and ideas into successful innovations. These issues are still open questions in management literature and this work attempts to provide some answers.

Purpose of the thesis

The thesis as a whole contributes to the understanding of the emergence of novelty within organizational settings, shedding lights on cognitive mechanisms at micro level of analysis. Overall,

it provides both empirical and theoretical evidence on how a new concept emerges by conceptual combination process. Moreover, how metaphors influences and shapes how we theorize organizations and how metaphors reflect the way entrepreneurs innovate.

Literature recognised that at the basis of radical new ideas there is the process of bringing together existing ideas or components and creating new, unexpected and powerful relations among them, that give rise to a totally new way of conceiving an object (Seidel, 2007), a function or business models (Martins *et al.*, 2015).

Though the relevance of these studies, the literature sheds hardy any light on the analysis of conceptual combination process and on the dynamics that lead to the generation of a new idea, product, business model.

The three papers aim to advance the understanding of the dynamics, the processes, and the role of metaphors in novelty generation by an empirical investigation. Moreover, the literature reviews is meant to give visibility to that heterogeneous corpus of studies on metaphor to better understand the phenomenon of novelty generation.

In order to fill these gaps, this thesis poses the following research questions: i) *How has been developing the debate on metaphor in the last three decades in management literature* ii) *how do entrepreneurs use metaphors to explain the innovation process?* and *in particular, what can metaphors highlight about different types of innovation?* iii) *how is a new business model generated through conceptual combination?*

The three independent yet complementary studies together answer the overarching question: how novelty emerges and which are the impacts of the cognitive processes?

Structure of the thesis

The theoretical and practical relevance of how novelty emerges is the main motivator of the studies that compose this dissertation. The dissertation is structured in three independent but complementary studies: a conceptual paper and two empirical researches.

The first paper explores novelty from a language viewpoint, the generation of metaphors. Management literature has been investigating metaphor from different theoretical perspectives and methodological lenses over thirty years. Despite a call for a critical systematization (Cornelissen *et al.*, 2008), no effort has been done towards this direction. While research on metaphors might be seen as a very specialised discussion among a few experts, leading management scholars have shown that metaphors are significant to organizational life (Tsoukas, 1991; 1993; Cornelissen, 2005, 2006a, 2006b; Cornelissen *et al.*, 2005, 2008; Cornelissen and Kafouros, 2008; Oswick *et al.*, 2002; Boxembaum and Rouleau, 2011), and they play a crucial role in understanding organizational problems like interpretation and framing (Schön, 1979, 1993; Weick, 1989) or how individuals deal with complexity (Hargadon and Sutton, 1997). This article then provides the most recent, comprehensive and systematic analysis of studies on metaphors in management literature of the last thirty years. It is a critical reflection on metaphors both in management theory (how they have been studied by business scholars) and in management life (how they are used by individuals in organization when novelty has to be generated or explained). It provides an original and comprehensive framework of four dimensions: multiplicity of metaphors, metaphor in theory, metaphor in action, and their cognitive dynamics. This study contributes to the theoretically understanding of the debate around metaphor and it suggests that are still empirical phenomena that scholars should investigate further.

The second paper explores how entrepreneurs rationalize ex post different innovation processes, providing deeper insights about how critical events are linguistically elaborated and transmitted. Metaphors and analogies play a crucial role in strategic change (Cornelissen, Holt and Zundel, 2011; Gioia and Chittipeddi, 1991) and in framing critical events, in particular during innovation processes (Ward, 2004; Hargadon and Sutton, 1997; Seidel and O'Mahony, 2014). Relying on semi-structured interviews, this paper shows how entrepreneurs count on metaphors to explain events of innovation, and in particular that each type of innovation (product, marketing, process, organizational, and strategic) is simplified differently through the use of metaphorical

language in an attempt to differentiate innovations and to provide a rational structure to events. By bridging cognitive studies on metaphors (Kövecses, 2015; Lakoff and Johnson, 1980) with insights from entrepreneurship and innovation literature, this paper elaborates on how entrepreneurs linguistically represent their effort in generating and developing different types of innovation.

Finally, the third paper starts from studies that considers conceptual innovation at the heart of different types of novelty generation (Martins *et al.*, 2015). Drawing on cognitive studies (Genter, 1983; Ward *et al.*, 1997) and in particular on the construct of conceptual blending (Fauconnier and Turner, 2002), this paper responds to the recent call for investigating conceptual combination as a key driver of business model innovation (Martins *et al.*, 2015). Through the case study of *The Huffington Post*, this paper shows that the new business model introduced in the newspaper sector is based on a process of conceptual combination. By analysing the salient features of the conceptual innovation and its dynamics, this article shows how THP creatively combined specific features of the newspaper and blog business models. The paper provides empirical and theoretical discussion of a business model as a result of conceptual combination. This paper contributes to the recent discussion in business model innovation literature (Martins *et al.*, 2015) showing which are the features and the phases of conceptual combination process, scarcely investigated by prior studies. By exploring how a new business model emerges as a selectively driven combination of two separated business models, it shows that business model requires an accurate fine tuning and it is something more than an assembling of components previously in existence. Finally, it contributes to the understanding of the cognitive processes that generates a new business model innovation, providing an empirical contribution to management literature that has adopted conceptual combination only from a theoretical viewpoint (Tsoukas, 2009).

Contributions

This work as a whole aims to contribute to management studies with a deeper understanding of the phenomenon of novelty generation. By drawing on more recent findings in cognitive literature

(Fauconnier and Turner, 2002; Thagard, 2012), the purpose of the dissertation is to bring new perspectives in analysing how novelty emerges in organizations and in theory development. By using an assortment of methods, this study also attempts to look at the phenomenon of novelty from different angles, trying to produce different but integrated points of view of the same phenomenon.

The first paper aims at providing a comprehensive mapping of three decades of research on metaphors. It is a systematization of the large but fragmented set of studies, and it provides a conceptual framework by which we can read the debate on metaphors. It wants to depicts the state of the art of the literature and it could be a starting point from where scholars can start a future research journey to exploring novel questions on the interplay of metaphor and novelty, on the emergence process of metaphors, and on their multiplicity. Both second and third paper add to the literature providing new empirical findings on the topic of conceptual innovation and metaphors.

The two empirical studies provide new insights to entrepreneurship literature, looking at how entrepreneurs deal with innovation processes. With the first empirical study, we analyse how entrepreneurs linguistically elaborate and rationalize ex post about innovation processes. By bridging literature on metaphor, innovation and entrepreneurship, the investigation of metaphor suggests that metaphorical language hides numerous information about how innovation processes are elaborated. Moreover, it shows that each type of innovation has a different cognitive pattern that helps entrepreneurs to better manage tasks and activities. This empirical study contributes to entrepreneurship literature because it indicates psychological and cognitive aspects of entrepreneurial activities scarcely investigated. Moreover, it fills a gap in innovation studies. Enlarging the scope of analysis to other types of innovation and not only focusing on new product development, it shows that each type of innovation is conceived differently and that organizational innovation is still central but not clearly understood by innovators.

The third study, by analysing the case of *The Huffington Post*, adds specifically to the literature of business model innovation (Martins *et al.*, 2015) and to that stream of management literature that have applied the lens of conceptual combination to understand knowledge generation (Tsoukas,

2009). By providing an empirical analysis of conceptual combination process, the paper advances the understanding of the key mechanisms of designing innovative business models and brings original empirical evidence on the cognitive mechanisms at the basis of a new business model development that has been mainly explored from a theoretical point of view.

Lastly, this thesis makes a contribution from a methodological perspective. For the first paper, a bibliometric approach has been applied to map the field and to detect the main contributions. The quantitative mapping has been enriched by an in depth qualitative analysis of the content of a number of articles, that is large than those considered in other bibliometric studies (Peteref *et al.*, 2013). The second paper is a qualitative analysis of metaphorical language of 39 interviews to entrepreneurs that narrate about how they succeed in different types of innovation processes. The protocol of metaphorical identification compiled by Pragglejaz Group (2007) together with Behavioural Events Interview technique is an innovative method to detect metaphors. In the third paper, content analysis technique and qualitative coding were combined to lighten how a new business model emerges during the process of its formation.

I would like to conclude with a remark to explain the broader motivation of this work. I have always been fascinated by words and by mechanisms that structure our language because, as the scientist Niels Bohr said, "we are suspended within the language" (cited in Zeldin, 2014). This summer I attended a symposium at AOM about metaphor. It was organized to celebrate the thirty years since Gareth Morgan published his successful book, *Images of Organization* (1986). During the discussion, he said that we cannot never understand things as they are. As researchers, we constantly try to comprehend and approach the real face of a phenomenon. He then continued claiming that metaphor is not an option: the theory we create, our knowledge, and our actions are always metaphorically driven. Thereby, understanding metaphors might help to shorten the distance between ourselves and things as they are.

REFERENCES

Boxenbaum, E. and Rouleau, L. 2011. New knowledge products as bricolage: Metaphors and scripts in organizational theory. *Academy of Management Review*, 36(2): 272–296.

Cornelissen, J. P. 2005. 'Beyond compare: metaphor in organization theory'. *Academy of Management Review*, 30: 751–64.

Cornelissen, J.P. 2006a. Metaphor in Organization Theory: Progress and the Past. *The Academy of Management Review*, Vol. 31, No. 2: 485–488.

Cornelissen, J.P. 2006b. Metaphor and the Dynamics of Knowledge in Organization Theory: A Case Study of the Organizational Identity Metaphor. *Journal of Management Studies*, 43 (4): 683–709.

Cornelissen, J.P., Durand, R. 2012. Beyond novelty: Conceptual blending and causality. *Academy of Management Review*, 37 (1): 152–154.

Cornelissen JP, Oswick C, Christensen LT, Phillips N. 2008. Metaphor in organizational research: Context, modalities and implications for research introduction. *Organization Studies*, 29 (1): 7–22.

Cornelissen, J.P. and Holt, R., Zundel, M. 2011. The role of analogy and metaphor in the framing and legitimization of strategic change. *Organization Studies*, vol. 32, (no 12): 1701–1716.

Cornelissen, J., and Kafouros, M. 2008. The Emergent Organization: Primary and Complex Metaphors in Theorizing about Organizations. *Organization Studies*, 29(7): 957–978.

Dahl, D., Moreau, P. 2002. The Influence and Value of Analogical Thinking During New Product Ideation. *Journal of Marketing Research*, 39(1): 47-60.

Fauconnier, G. 1997. *Mappings in thought and language*. Cambridge, U.K.: Cambridge University Press.

Fauconnier, G. and Turner, M. 2002. *The way we think*. New York: Basic Books.

Gärdenfors, P. 2000. *Conceptual Spaces-The Geometry of Thought*. Cambridge: MA, MIT Press.

Gentner, D. 1983. Structure-Mapping: A Theoretical Framework for Analogy. *Cognitive Science*, 7(2): 155–170.

Gioia, D. and Chittipeddi, K. 1991. Sensemaking and sensegiving in strategic change initiation. *Strategic Management Journal*, 12(6): 433–448.

Gioia, D.A., Thomas, J.B., Clark, S.M. and Chittipeddi, K. 1994. Symbolism and Strategic Change in Academia: The Dynamics of Sensemaking and Influence. *Organization Science*, vol. 5, (3): 363–383.

Grant, D., Oswick, C. 1996. *Metaphor and organizations*. London: Sage.

Hargadon, A.B., Douglas, Y. 2001. When innovations meet institutions: Edison and the design of the electric light. *Administrative Science Quarterly*, 46: 476–501.

Hargadon A, Sutton R. I. 1997. Technology brokering and innovation in a product development firm. *Administrative Science Quarterly*, 42(4): 716–749.

Heracleous, L, Jacobs, C. 2008. Understanding organizations through embodied metaphors. *Organization Studies*, 29(1): 45–77.

Lakoff, G., Johnson, M. 1980. *Metaphors we live by*. Chicago: University of Chicago Press.

Kövecses, Z. 2015. *Where metaphors come from: reconsidering context in metaphor*. New York, NY: Oxford University Press.

Martins, L., Rindova, V., Greenbaum, B. 2015. Unlocking the Hidden Value of Concepts: A Cognitive Approach to Business Model Innovation. *Strategic Entrepreneurship Journal*, 9(1): 99–117.

Morgan, G. 1986. *Images of organization*. 1st ed. Beverly Hills: Sage Publications.

Nonaka, I. 2006. Organizational Knowledge Creation Theory: Evolutionary Paths and Future Advances. *Organization Studies*, 27(8): 1179–1208.

Oswick, C., Fleming, P., Hanlon, G. 2011. From Borrowing to Blending: Rethinking The Processes of Organizational Theory Building. *Academy of Management Review*, 36(2): 318–337.

Oswick, C., Keenoy, T., Grant, D. 2002, Metaphor and analogical reasoning in organizational theory: beyond orthodoxy. *Academy of Management Review*, vol. 27, (2): 294–303

Peteraf, M., Di Stefano, G., Verona, G. 2013. The elephant in the room of dynamic capabilities: Bringing two diverging conversations together. *Strategic Management Journal*, 34(12): 1389–1410.

Pragglejaz Group. 2007. MIP: A method for identifying metaphorically used words in discourse. *Metaphor and Symbol*, (22):1–39.

Seidel, V. 2007. Concept Shifting and the Radical Product Development Process. *Journal of Product Innovation Management*, 24(6): 522–533.

Seidel, V., O'Mahony, S. 2014. Managing the Repertoire: Stories, Metaphors, Prototypes, and Concept Coherence in Product Innovation. *Organization Science*, 25(3): 691–712.

Thagard, P. 2012. Creative combination of representations: Scientific discovery and technological invention. In R. Proctor & E. J. Capaldi (Eds.), *Psychology of science: Implicit and explicit processes*: 389–405. Oxford: Oxford University Press.

Thagard, P., Verbeurgt, K. 1998. Coherence as Constraint Satisfaction. *Cognitive Science*, 22(1): 1–24.

Tsoukas, H. 1991. The Missing Link: A Transformational View of Metaphors in Organizational Science. *The Academy of Management Review*, 16(3): 566–585.

Tsoukas, H. 1993. Analogical Reasoning and Knowledge Generation in Organization Theory. *Organization Studies*, 14(3): 323–346.

Tsoukas, H. 2009. A Dialogical Approach to the Creation of New Knowledge in Organizations. *Organization Science*, 20(6): 941–957.

Ward, T. 2004. Cognition, creativity, and entrepreneurship. *Journal of Business Venturing*, 19(2): 173–188.

Ward, T., Smith, S. and Vaid, J. 1997. *Creative thought*. Washington, DC: American Psychological Association.

Wisniewski EJ. 1997a. When concepts combine. Psychonomic Bulletin & Review **4**(2): 167–183.

Wisniewski EJ. 1997b. Conceptual combination: possibilities and esthetics. In *Creative Thought: An Investigation of Conceptual Structures and Processes*, Gentner D, Brem S, Ferguson R, Wolff P (eds). American Psycho- logical Association: Washington, D.C.; 51–81.

Zeldin, T. 2014. *The Hidden Pleasures of Life: A New Way of Remembering the Past and Imagining the Future*. London: MacLehose Press.

2. THE POWER OF METAPHORS IN MANAGEMENT STUDIES

Elena Bruni

Department of Management, Ca′ Foscari University, Venice

ABSTRACT

Despite in the last three decades, management literature has been investigating metaphor from different theoretical perspectives and methodological lenses, a critical analysis of this debate is still absent. While research on metaphors might be seen as a very specialised discussion among a few experts, leading management scholars have shown that metaphors are central to organizational life and they play a crucial role in understanding organizational problems like interpretation and framing or how individuals deal with complexity. This research shows that studies on metaphors have increasingly occupied a central stage in the literature of management. Drawing on bibliometric technique and qualitative inquiry, I provide a comprehensive analysis of the contribution of studies on metaphors to management literature, identifying relations among different streams of research and showing what are the key ideas. With this study, I contribute to theoretically understanding of the debate around metaphor and providing novel research questions to investigate.

Keywords: metaphor, bibliometric analysis, organization theory, cognitive literature

INTRODUCTION

Metaphors are recognized to act as framing devices to make sense of what we see and experience in our everyday lives (Lakoff and Johnson, 1980) since they work by way of powerful scheme that give significance to the unknown. In explaining one kind of thing in terms of another (Ortony, 1975; Lakoff and Johnson, 1980), metaphors are essential units of human thought, which is principally *metaphorbased* (Ortony, 1993) as well as key components of language, that is "the sine qua non of human expressivity" (Ocasio and Joseph, 2005: 164). The effects of metaphoric reasoning can be quite dramatic on the way we do things and we act on the world and they can impact on individual and collective effort to cope with novelty, to understand it and as well as to create it.

Thus, metaphors, as a nexus between mind and language (Tendahl and Gibbs, 2008:1823), foster interpretation of organizational problems (Weick, 1989), and help in dealing with complexity (Hargadon and Sutton, 1997) and in cultural differences (Riad and Vaara, 2011).

In the last three decades, management literature has been investigating metaphor from different theoretical perspectives and by applying diverse methodological lenses. While the debate on metaphors might be seen as a very specialised discussion among a few scholars, I claim that since the seminal works by Schön (1979, 1993), and Morgan (1980; 1986), studies on metaphors have increasingly occupied a central stage in the literature of management. Indeed, organizational scholars have shown that metaphor is a *sensemaking* device for organizational change; that it is a persuasive tool, and that is used in generating new concepts for theory development.

This debate has borrowed from several disciplines, such as cognitive science (Gentner, 1983), cognitive linguistics (Lakoff and Johnson, 1980, 1999), psychology (Ortony, 1975), cognitive psychology (Gentner and Markman, 1997), philosophy of science (Black, 1954, 1962, 1979; Hesse, 1963), and sociology (Berger and Luckmann, 1966; Goffman, 1959). The inter-disciplinarity nature has entailed a variety of theoretical perspectives, such as organizational change, strategic management, organization theory, innovation, marketing, entrepreneurship, organizational behaviour with a large spectrum of themes analysed.

Finally, but not less important, the special issue on metaphor released by *Human Relations* (2016) in occasion of the thirty years from the first edition of Gareth Morgan's seminal book, *Images of Organization* (1986) confirms that metaphor is still a relevant debate for organizational scholars, however even in this issue the focus is a very specific one.

Notwithstanding this rich research production, almost no effort has been spent so far to systematise this vast and partially fragmented body of research, with the noteworthy exception of the work by Cornelissen *et al.* (2008). I argue that this debate is still lacking of a theoretical systematization that would map the scope of such debate, and its main theoretical and empirical contributions.

Therefore, I suggest it is timely to map this literature in order to provide a comprehensive analysis of the contribution of studies on metaphors to management literature, to identify relations among streams of research that have developed along separate paths, and to identify which are the key ideas of this research and the opportunity for future theoretical and empirical advancements. Then, the research question is as follows: *how the debate has been developing in the last three decades?*

I would address it by displaying the key articles and main scholars of such debate, its key ideas and the main findings, focusing also on the main methodological approaches used to study metaphors. My aim is to advance to the understanding of how the debate on metaphor has evolved during thirty years and thereby to highlight the main contribution of this topic to management literature and to suggest potential novel research questions for further theoretical development and investigation. Furthermore, this map intends to clearly distinguish those studies that used metaphors as a theoretical lens to investigate organizations from that studies that looked at metaphors as a phenomenon–that is, how metaphors are used in organizations.

The paper is structure into four main sections. I begin by presenting a brief historical account of dominating perspectives on metaphor in management studies. Second, I discuss the research design, methods of data collection, and how I analysed data. Third, I present and analyse the key findings. Finally, I discuss the theoretical implications of this reviews and I suggest future lines of research.

THEORETICAL BACKGROUND

What is a metaphor?

Metaphor is a figure of speech in which a word or a phrase is applied to an object or action to which it is not literally applicable. In linguistics, a metaphor is usually defined as an implicit comparison between two or more apparently unrelated subjects where a first subject (called *source*

or *tenor*) is equal to a second subject (called *target* or *vehicle*). Thus, the first subject can be understood by both the implicit and explicit attributes of the second (Encyclopedia Britannica).

The word *metaphor* comes from ancient Greek *metapherein* which means "to transfer". Thereby, metaphor involves the transfer of knowledge from a familiar domain (the *source* domain) to a new and unfamiliar domain (the *target* domain) (Lakoff and Johnson, 1980; Ortony, 1975) where similarities between the *source* and the *target* domains facilitate the understanding of abstract and unknown concepts. For instance, the metaphor *life is a journey* (Lakoff and Johnson, 1980; Kövecses, 2010) utilizes the image of journey with its meaning of unknown and explorative state to explain the uncertainty and pleasure of life. *Life* is the *target* domain that we try to explain and understand, whereas the *journey* is the *source* domain that provides us a set of images that help us to clarify our *target*. Then, metaphor is a cognitive mechanism that involves the combined use of language and mind (or imagination) and runs through semantic leaps.

As the Stanford Encyclopedia of Philosophy puts it, metaphor is an "ambitious use of words, a figurative as opposed to literal use. It has attracted more philosophical interest and provoked more philosophical controversy than any of the other traditionally recognized figures of speech" (Hills, 2016). Undoubtedly, metaphor has always been at the centre of vigorous debates from centuries, giving rise to numerous theories.

For instance, linguistics and cognitive disciplines look at metaphor from different angles. The linguistics perspective has leaned on considering metaphor mainly as a phenomenon that it involves the use of words in a different manner, namely as a result of a conscious activity, to embellish discourses and to achieve artistic and rhetorical effects (see Kövecses, 2010 for a more detailed description). This view has been questioned by cognitive linguistic literature and in particular by Lakoff and Johnson (1980), who argued that metaphor is a pervasive and daily phenomenon that encompasses our processes of human thought and reasoning. Metaphor is interpreted as a cognitive phenomenon where "both metaphorical language and thought arise from the basic bodily (sensorimotor) experience of human beings" (Kövecses, 2010: xii).

Hence, metaphor has in role in generating novelty (Ward *et al.*, 1997; Fauconnier and Turner, 1994) by two cognitive processes: analogical thinking (Dahl and Moreau, 1997; Siedel and O' Mahony, 2014) and conceptual combination (Tsoukas, 2009). It is also a helpful device in making sense of puzzling situations and in communicating them to others (Cornelissen, Holt, Zundel, 2011; Cornelissen and Kafouros 2008; Weick, 1989; Gioia *et al.*, 1994; Patriotta and Brown, 2011; Balogun *et al.*, 2014).

Metaphor in management

The influential works of Gareth Morgan (1980, 1986), suggested that organizations and organization theories can be addressed by metaphors, such as machine, organism, brain, culture, psychic prison, or political system, whose list changes over time. For instance, new organizational metaphors, such as global brain and organization as media, are novel metaphors that describe contemporary organizations better than previous metaphors (Oswick and Grant, 2015).

Weick (1989) argued that metaphors are more than rhetorical devices being fundamental conceptual building blocks in management theorizing and daily practical tools that help individuals to diagnose organizational issues. Indeed, metaphors are used in organizations, for instance by managers to legitimize changes (Cornelissen, Holt, Zundel, 2011; Sonenshein, 2010) or to give changes a meaning that help to better face them due to metaphors explanatory power (Cornelissen and Kafouros, 2008a; Weick, 1989). Other studies focused on how discourses are populated by metaphors and conversations to facilitate individual and organizational communication (Hill and Levenhagen, 1995), enabling the understanding of changes in institutional environment (Gioia, Thomas, Clark, Chittipeddi, 1994; Gioia and Chittipeddi, 1991).

A vast body of literature has focused the attention on the use of metaphors in management theory (Tsoukas, 1991, 1993; Cornelissen, 2004, 2005, 2006a, 2006b; Cornelissen *et al.*, 2005, 2008; Cornelissen and Kafouros, 2008; Oswick *et al.*, 2002; Boxembaum and Rouleau, 2011) and

on how they, in the theorizing process, act as a heuristic device that can disclose "new and multiple ways of seeing, conceptualizing, and understanding organizational phenomena" (Cornelissen, 2005: 753). Studies analysed how metaphors work as lenses that scientists use to explore and describe a phenomenon, thus shedding lights on elements and relations that are hitherto hidden and acting as mechanisms to combine knowledge from different theoretical domains (Boxenbaum and Rouleau, 2011; Thagard and Findlay, 2012).

Metaphor has also been investigated looking at the way they are used as heuristic devices. Research, willing to explain how metaphors emerge, identified some specific models of meaning construction: e.g. the similarity model (Schön, 1965), the comparison model (Katz, 1992), and the interaction model (Black, 1962, 1979). Drawing on cognitive science (Gentner, 1983), Tsoukas (1991) suggested a transformational view model of metaphor where metaphorical and literal languages are not opposing poles but complementary.

DATA AND METHOD

A mixed method approach was used to map the studies on metaphors in management literature. This approach integrates both quantitative and qualitative methods to reliably investigate the evolution of the debate and detect key ideas, the principal methodological approaches, and theoretical developments (Zupic and Čater, 2015; Giupponi and Biscaro 2015; Peteraf, Di Stefano, Verona, 2013).

Data collection

I collected data from the lists of core contributions that emerged from ISI Web of Science database (WoS) that is the most common source of bibliometric data (Zupic and Čater, 2015) and provides access to information on text, references and citations from approximately 8,500 of the

most prestigious, influential research journals in the world published after 1985[1]. The debate was initiated earlier, in the beginning of 1980's by the publication of Morgan's article in *Administrative Science Quarterly* that lead to much attention on the topic (see Morgan, 1980; Morgan, 1983; Bourgeois and Pinder, 1983; Pinder and Bourgeois, 1982). This was the beginning of the debate – but this initial formative phase is not captured in the data. However, the point at which metaphor-based interest really took off is captured insofar as Morgan's book in 1986 reached a far wider academic audience and amplified the interest in metaphor to the point that it became a mainstream debate rather than simply a marginal one.

The database was accessed on 8 October 2015 searching for the publications with one of the following words (metaphor* OR tropol* OR analog*) in the abstract, keywords, or in the title. These keywords were chosen because these three root words– that indicate *metaphor*, *tropological*, and *analogies*– cover the entire topic under analysis. Studies of metaphor are often conducted with that of analogies and analogical thinking, whereas *tropological* gather these kind of analysis.

A subset of publications that are part of the Business and Economics disciplinary area was selected, with the aim of collecting articles that left a trace in the collective effort of developing scientific knowledge. Therefore, I selected articles with at least one citation among those published before 2010 (1,927 results) and all of those published after 2010 (1,355 results). Overall the dataset contains 3,282 publications. The Table 1 confirms that there has been an increasing interest in the topic of metaphor in the last thirty years.

[Insert Table 1 about here]

---

[1] I could not access older publications because WoS provides the references only for works published after 1985, and in this work I use references to detect the research streams.

I then selected a smaller dataset to clearly determine the most relevant articles. To do so, I selected the articles published by the first 150 journals appearing in Scimago list in management and business area, restricting the number to 446 articles.

[Insert Table 2 about here]

Within the previous dataset of 446 articles, I identified a second dataset containing only the most relevant articles (according to the number of citation) for a qualitative and more in depth analysis of the evolution of the literature. This selection is based on two different criteria: I selected the 50 publications that received the highest number of citations by the other publications in the dataset (LCS) – a criterion of internal impact[2] –, and the 50 ones with the highest number of references contained in the dataset (LCR) – a criterion of internal 'centrality'. The criteria have opposite temporal biases, therefore they counterbalance each other by covering more or less the whole spectrum of the literature: the former advantages articles that have a longer history and the latter privileges recent articles.

The final dataset comprises 80 publications because some articles overlap between LCS and LCR datasets (Biscaro and Giupponi, 2015). I fixed the limit of the papers to 100 (comprising LCS and LCR dataset) because the aim was to let theoretical codes emerging from qualitative analysis that required a deep reading of each article.

Data analysis

I performed a bibliometric analysis of the first and larger dataset to produce a "systematic, transparent and reproducible review process and thus improv[ing] the quality of reviews" (Zupic

---

[2] I follow the general opinion in academia that citations are a reliable index of how knowledge is transmitted and a sign of prestige (Garfield, 2004; Peteraf, Di Stefano, Verona, 2013: Biscaro and Giupponi, 2015).

and Čater, 2015: 429), and to identify research streams and seminal works. I used HistCite to obtain the list of seminal works and to generate a map of the co-citation network of publications (Peteraf, Di Stefano, Verona, 2013; Giupponi and Biscaro, 2015). The map is a historiographic reconstruction of the citation relationship of the articles (Garfield, 2004; Peteraf *et al.*, 2013) that allowed me to visually identify research streams, their knowledge sources, the evolution of knowledge, and the authors who lead the debate.

I then qualitatively analysed the dataset of 80 publications. In order to map the central debate about metaphor over the last thirty years, a systematic coding analysis was conducted on the entire group of 80 articles (some articles present in LCS dataset are also present in LCR dataset). By reading the articles, I assessed that the debate revolved around main seven themes (Strauss and Corbin, 1990). Then, I decided to analyse the debate according to these themes, to clearly picture the state of art of metaphor debate:

(1) main theoretical perspective adopted, (2) the heuristic model: comparison or interaction, (3) whether the metaphor is investigated either as a dependent or as an independent variable, (4) the type of metaphor analysed by a study, (5) the unit of analysis adopted to investigate metaphors, individual or organizational, (6) disciplinary orientation, (7) epistemology.

[insert Figure 1 about here]

FINDINGS

Bibliometric results

The quantitative analysis firstly assessed that ISI database collects 3,282 records on the topic of metaphor, with 5,770 authors and published by 679 journals. The interest on metaphor has been growing over the last three decades, with a high prolific momentum at the beginning of 2000.

The analysis of the articles published by the first 150 journals appearing in Scimago list,

showed that 446 articles have been published by top journals in management and business area.

Organization Studies has been the arena of such fertile debate with 67 articles published from 1999 to 2012, followed by *Organization Science* 33 articles from 1992 to 2007, *Human Relations* 45 from 1989 to 2005, and *Journal of Organization Change Management* 43 from 1999 to 2013. *Academy of Management Review*, with 29 articles, has hosted the fruitful dialogue about the role played by metaphor and its heuristic value in theory development from 1991 to 2013 (Tsoukas, 1991; Oswick, Keenoy, Grant, 2002; Cornelissen, 2005; Oswick and Jones, 2006; Boxembaum and Rouleau, 2011). This rich and valuable debate has laid the foundations for a better comprehension of metaphor as a carrier of novelty in scientific discourse.

A specific area of research has been developing from the marketing and advertising perspective has extensively contributed to the advancement of the study of metaphor as a rhetoric and *sensemaking* device. Articles published by *Journal of Consumer Research* (34) *Journal of Advertising* (25) and *Journal of Marketing Research* (12) helped to look at metaphor from a different angle. On the one hand, exploring how consumers respond to advertising based on visual metaphors (McQuarrie and Phillips, 2005; Zaltman and Coulter, 1995); on the other hand, providing conceptual understanding of metaphor as a rhetorical device in advertising language showing that metaphor is a powerful tool to convince a mass audience (MacQuarrie and Mick, 1996). Organizational development stream of literature has investigated the role played by metaphor in organizational changes theorizing (Palmer and Dunford, 1996) and how they are both practical instruments to describe managerial action and methodological devices for organizational scholars (Kupers, 2013); how metaphors can be powerful instruments in understanding how employees assess uncertainty (Oswick and Montgomery, 1999). Entrepreneurship literature has stressed how metaphorical language used by entrepreneurs is culturally determined (Dodd, 2002) and how the metaphor of growth has influenced entrepreneurial mind setting over time (Clarke, Holt, and Blundel, 2014).

The evolution of the debate

The historiograph co-citation network representation captures the evolution of the debate showing the relations over time among the 50 most cited papers (Figure 2).

[insert Figure 2 about here]

The graph representation follows a chronological order: the most recent papers are at the bottom, while the older articles are located at the top. The circles represent each articles. The size of the circle is relative to that paper's LCS score, while the number inside is the node number. An arrow pointing from one node to the next, usually to an older paper, indicates the citational relationship between papers (Garfield, 2004).

Tsoukas' article published in 1991 is one of the oldest paper and the cornerstone of the debate, with 104 times citations and quoted by the majority of other articles. By arguing that metaphor can be a valuable alternative to literal language, even in scientific field, Tsoukas (1991) draw the organizational scholars' attention to this topic.

The two articles by Oswick *et al.* (2002) and by Cornelissen (2005) are also decisive contributions. First, they sensibly advanced the understanding of meaning making construction of metaphor. More importantly, they resonate Weick (1979) and Morgan (1986) insights about the pervasiveness of metaphors even in theorizing. The two articles published at the beginning of 2000s show that metaphor is a cognitive trigger with high creative potential during the process of elaborating and explicating already existing knowledge (Oswick *et al.*, 2002: 294). Cornelissen's contribution is a turning point within the theoretical debate of metaphor in organization theory. By introducing the interactionist model (Black, 1963; 1993), Cornelissen showed that metaphor rests on both similarities and dissimilarities recognition between *target* and *source* domains, where an entirely different and richer image comes out. The co-citation graph reveals that most of the relevant contributions come from organization theory stream of literature. Moreover, most of the

articles are conceptual papers, with a few empirical studies (Srivastva and Barrett, 1988; Gioia *et al.*, 1994; Gavetti *et al.*, 2005). These articles use metaphors as data to understand organizational phenomena (strategic change, group development, strategy making) and not only as means for theorizing about organizations.

The group of papers in the right portion gathers marketing literature. They are disconnected from the rest of the articles but they sensibly advanced our knowledge of metaphor. Marketing scholars, by empirical studies, analysed metaphor from an entirely different angle, drawing on psychological and semiotic literature.

Coding results

Coding analysis of the 80 articles reveals several noteworthy results. Many articles were comprised in more than one category: for instance, if a metaphor was used as a *sensemaking* device, it has been often analysed as a *sensegiving* tool as well. Then, in that case, it was coded as belonging to both categories: *sensemaking* and *sensegiving*.

The qualitative analysis firstly revealed that the topic of metaphor spans numerous fields, and specifically: organization theory (31 articles), organizational change (12), strategic management (6), marketing (19), entrepreneurship (6). All the other articles are divided among organizational behaviour, cross culture literature, organizational learning, operation management, human resource management, international management, and leadership management, and innovation management.

Second, the analysis showed that the literature tends to investigate metaphor mainly through two heuristic models: the *correspondence or comparison model* and *domain-interaction model*, where the first is the prevalent one in term on number of articles (45) drawing on this approach. According to this model, the emphasis is on similarities at the basis of the metaphor. As argued by Oswick and Jones (2006: 484) "metaphor is simply a *vehicle* for articulating what is already

known" and then, it works by alignment of two similar domains, rather than dissimilar components. Tsoukas (1991, 1993) and the first articles by Oswick (2002) are inclined to evaluate the aptness of a metaphor according to this model that has been criticized by Cornelissen (2005: 754) who sees metaphor as well as a comparison but made by a residual dissimilarity. Drawing on Black (1962) Cornelissen (2004, 2005, 2006) argues that metaphors generate meaning that goes beyond similarity and introduced the *domain-interaction model* where both the analogies and the differences between the two domains are equivalent in constructing the meaning of the metaphor. Along with this model, a metaphor cannot be translated in literary terms, unless loosing crucial meanings (Montuschi, 2000).

Third, findings showed that scholars engage with metaphors in multiple ways. Above all, metaphor is studied as a device of novelty generation in theories building (35 articles). Second, metaphor, as both a cognitive and linguistic device, is studied as a *sensemaking* tool that fosters communication and help individuals to understand situations and organizations (32 papers). *Sensemaking* and metaphor then involves meaning construction and reconstruction inside organizations (Gioia and Chittipeddi, 1991). On the other hand, metaphor has been also used as a *sensegiving* device, a tool that influences the *sensemaking* and meaning construction of others outside organization (Gioia and Chittipeddi, 1991) by less articles (12). Only 19 studies consider metaphors as an outcome of cognitive processes within organizational settings (Dodd, 2002; Srivastva and Barrett, 1988; Oswick and Montgomery, 1999). For instance, Dodd (2002) studied how entrepreneurs, by means of metaphors, give meaning to entrepreneurship in their life-and-business narratives. Another lens by which metaphors are analysed regards their persuasive and rhetorical function (16 articles). Metaphor is studied as a device by which an actor attempts to persuade and orient an audience about a particular theme or topic (Ricoeur, 1993). Literature on metaphorical communication is mainly focused on the receiver reaction and effects, while the study of speaker's conceptualization is less considered.

Fourth, regarding the unit of analysis, the majority of the articles (39) concentrate the analysis on the organizational level, while others (34) focused their analysis at the level of the metaphor itself. A group of articles (25) explores metaphor when a single actor or a pair of individuals are involved, while metaphor emerging from a group of people and at inter-organizational levels is investigated by few scholars (only 5 articles).

The fifth relevant insight emerging from qualitative analysis concerned the disciplinary positioning of each article, of which I detected two main orientations: psychological and sociological, where the first is the most dominant one (52 articles). According to the psychological perspective, metaphor is studied mainly as a cognitive and psychological outcome. More imporantly, who comprehends the metaphor coincides with the theorist (Oswick and Jones, 2006). The focus is on a single metaphor rather than a multiplicity and the approach is more positivistic. The second and less used approach (35 articles) considers metaphor as the outcome of social dynamics, where the metaphor is socially constructed (Berger and Luckmann, 1966) and emerges from the dialogue among individuals. Thereby, metaphor has then a strong social value (Morgan, 1986). Interestingly, few articles (7) have embraced both perspectives e.g., Jacobs and Heracleous (2013), Kupers (2013), Marshak (1993). These studies analyse the impact of metaphors within organizations but they also focus the attention on how specific metaphors influence the theorizing of organizations.

Sixth, two epistemological approaches informed the study of metaphor: inductive and deductive. The former, refers to the study of metaphor while it is being used or "whether such metaphors naturally surface within the talk and *sensemaking* of individuals and can, as such, be identified or elicited by organizational researchers" (Cornelissen et al. 2008: 9). On the other hand, the deductive approach – used by 61 articles – is a retrospective analysis of metaphor. Metaphor is usually pre-given in order to describe or illuminate a particular phenomenon. Among articles analysed, the majority study an already existing and imposed metaphor within a specific

organizational phenomenon and see whether such metaphors naturally 'surface' within the talk and *sensemaking* of individuals (Cornelissen *et al.*, 2008: 9).

Finally, coding of most cited articles disclosed that scholars cope with a large set of metaphor types: more than ten types of metaphors were identified by scholars: *i.e.*, live and dead (Tsoukas, 1991); primary and secondary (Alvesson, 1993; Cornelissen and Kafouros, 2008), surface and root (Alvesson, 1993; Cornelissen and Kafouros, 2008), visual (Gkiouzepas and Hogg, 2011; van Mulken, van Hooft, and Nederstigt, 2014), deductive (Cornelissen, Oswick *et al.*, 2008). The most used type of metaphor by scholar is that of conceptual metaphors. In 52 articles this type of metaphor is employed to both look at metaphor as a theoretical device and of being part of a broader phenomenon. This result is not surprisingly since most of the articles have a cognitive stance and consider metaphor as reflecting a way of thinking and acting of individuals.

More importantly, the multiplicity of types can be understood considering the different focus and theoretical perspectives adopted to analyse metaphors in use. For instance, the distinction between primary and complex metaphors (Cornelissen and Kafouros, 2008) puts emphasis on the metaphor cognitive dimension, focusing the analysis on the two-way process by which one domain is projected onto another to generate new meanings and novel theoretical constructs (Cornelissen, 2005; Oswick, et al., 2002). Primary metaphors are grounded in the source domain, which is embedded in our experiences (Cornelissen and Kafouros, 2008) and they generate complex metaphors by further elaboration processes.

Another distinction is the polarity between *live* and *dead* metaphors *Dead* metaphors are familiar constructs that are used as part of the literary language (Tsoukas, 1991); while *live* metaphors are purposefully created by a person in order to make sense of novelty, and due to the novelty of a no predetermined relation between two concepts compared (Cornelissen and Kafouros, 2008: 956), they are powerful tools in conceptual development (Tsoukas, 1991).

In summary, findings confirm the breath of the theoretical debate on metaphors, different types of metaphor are conceptualised under specific theoretical frameworks and discovered in

different settings. The wide range of metaphor types also highlights a limit of extant research, that is the use of multiple types to identify similar kind of metaphor with the risk to generate confusion. A good starting point could be to provide a systematic review in order to grasp how types are coupled with the setting under analysis, and which are the theoretical and methodological approaches behind each type.

Figure 3 summarizes the existing connections between these codes. Each node represents a category and the dimension of the circle is given by the number of article counted in each category. More importantly, the lines represent how each category is connected to one another. It is clear that organizational scholars mostly employed conceptual metaphors to analyse both organizations metaphors emerging as a phenomenon. Moreover, the comparison model is still the dominant one but it does not fully let emerge the capacity of expanding knowledge of metaphorical expressions. There is still a dominant perspective of looking at metaphors by retrospective analysis, instead of studying metaphors as emerging phenomena. Similarly, metaphors are studied mainly as novelty generation in theory building. This is also confirmed by the fact that the two main unit of analysis connected with metaphor as a theoretical lens are the metaphor itself and the organization. The graph confirms that metaphors should be analysed by different streams of literature and with different methods and approaches in order to explore novel connections.

[Insert Figure 3 about here]

Multiplicity of types

A first attempt to let novel research questions to emerge is a systematization of the multiplicity of types. Literature has used them according to the unit of analysis, confining them into specific stream of literature. Then, this systematization would benefit in order to understand whether it would be possible to expand them to other fields or research questions.

The debate about types of metaphor is not new to management scholars, even thought is not a prevalent theme of discussion. Grant and Oswick (1996: 6) classified the vast array of typologies according to two groups: hierarchical vs non-hierarchical. In this review, I will suggest a different approach, in order to overcome some limitations of the hierarchical vs non-hierarchical classification as stated by Oswick and Grant (1996: 6). I will describe each type separately, in order to provide a better understanding of each typology and to clarify its use within the literature. I will start with conceptual metaphor, that has been used most by organizational scholars. This description of types intends to provide a better understanding of how metaphor has been studied and analysed by organizational scholars.

Conceptual metaphors

A *conceptual* metaphor is the result of an association between conceptual domains, where one of them is used to understand or explain the others (Lakoff and Johnson, 1980; Lakoff, 1993). Argument is war or love is a journey are typical examples of conceptual metaphors, whereby the *source* concepts of war and journey are respectively used to explain the *target* concepts of love and journey. Usually the target is more abstract and/or less familiar than the source (Kövecses, 2010: 7). Conceptual metaphor theory must be credited because it highlights that one of the way we reason is by associating concepts: human mind is trained to elaborate and process metaphors (Lakoff, 2008).

Live and dead

Live metaphor is a powerful device that "enrich[es] our vocabulary by adding to polisemy" (Cornelissen and Kafouros, 2008: 3) and it is particularly apt to further conceptual development (Tsoukas, 1991). The ontological connotation of being *alive* or *lively* (Ricoeur, 1984, 2004) implies that metaphors have a life cycle and follows a certain *career* (Bowdle and Gentner, 2005; Cornelissen and Kafouros, 2008). Metaphors are alive when they bring a novel meaning to a

concept by associating it to another one that is perceived as different. In time, they may lose their "pregnant metaphorical use" (Black, 1993: 25) and become habitual to the point in which we do not even notice that they are metaphors: in this case they are considered *dead* or *worn-out*. However, interestingly, albeit *dead*, they do not cease to produce an effect on our cognition, because the unconscious association of domains deeply structures our interpretations (Müller, 2008).

Between *live* and *dead* metaphors, there are also the so-called *dormant* or *waking* metaphors. Those tropes are semi-literal terms and can be easily transformed into *live* or *dead* metaphors (Tsoukas, 1991; Grant and Oswick, 1996). Organization behaviour or organizational structure (Grant and Oswick, 1996: 10) are examples of this type: both of the two metaphors are easily recognized as metaphors and they trigger certain ideas about organization and organizing and at the same they are not fully standardized to be considered dead. For this reason, they are a good fuel to organization science because they can still influence meaning construction (Müller, 2008; Grant and Oswick, 1996; Tsoukas, 1991).

Primary and secondary

The distinction between *primary* and *secondary* depends on how the target and the source domains are mapped. In case of *primary* metaphor, there is a direct mapping between the two domains (Gibbs, 2006), or better, a single point of correspondence (Cornelissen, Kafouros, 2008). Examples of primary metaphors are "good is up" and "seeing is knowing" (Cornelissen and Kafouros, 2008: 962). There is a direct and experiential basis whose source domain is usually grounded in our embodied experience (Gibbs, 2006; 117). Indeed, *primary* metaphors "arise spontaneously and automatically without our being aware of them" (Lakoff and Johnson, 2003: 51; Grady, 1997), as for instance good is up, seeing is knowing. On the other hand, *secondary* or *complex* metaphors assemble *primary* metaphors into a novel metaphoric construction, such as 'population ecology' whereby words are borrowed from the biological sciences (Cornelissen and

Kafouros, 2008a, 2008b). *Primary* and *secondary* metaphors are mainly used to provide theoretical explanations of how metaphorical thinking is embedded in organization studies and to investigate how the scientific thought has developed over time. According to Cornelissen and Kafouros (2008: 964), the distinction between primary and secondary is more suitable to unpacking how metaphors play a key role in theorizing organizations.

Root and Surface

The notion of *root*, sometimes called *deep*, metaphor is attributed to Pepper (1942) and Black (1962) who considered it the underlying worldview that shapes how individuals perceive and comprehend the external world. For instance, a well-known root metaphor is that organization is a machine (Morgan, 1986).

Root metaphors are contrasted by *surface* or *superficial* metaphors that are characterized by a minimal overlap between source and target and used to embellish the discourse or to simplify complex constructs (Grant and Oswick, 1996: 216). Because of their soft role, *superficial* metaphors do not foster new insights and conceptual development, but they are nonetheless used in everyday life (Zaltman, 1997, 2008). For their imprecise mapping, it is controversial whether the scientific discourse should adopt metaphors in the texts (Pinder and Bourgeois, 1982). By contrast, *root* metaphors provide a deep structure to the interpretation of the domain that they aim to explain. For this reason, *root* metaphors are deemed to be heuristically powerful (Schön 1993; Zaltman 1997, 2008).

Generative

Generative metaphors are those that produce a new perspective of the world, provide new perceptions, explanations, trigger new ways of doing things, and have the capacity to overcome

familiarity (Schön, 1993: 142). They are usually compared to metaphors that are mainly explicatory one: generative metaphors tend to generate a pragmatic effect.

Management literature has identified this metaphor in a larger spectrum of settings: for instance, they are used to create a shared culture (Srivastva and Barrett, 1988), in policy making (Schön, 1993), to trigger new problem setup in environments of product design and development (Schön, 1993, Hargadon and Sutton, 1997); and even in framing educational setting where Audebrand (2010) recognized that the metaphor of war was employed in strategic management education over the last decades.

Embodied

Embodied metaphors are used to make sense of abstract concepts by means of bodily experiences. When we refer to sets of concepts we deem distinct, it is common to recall the body *on the other and on the other hand*. This is a clear example of embodied metaphor. Embodied experiences are at the basis of our thinking and conceptualization of the external world (Lakoff and Johnson, 2003) and we perceive reality through the accumulated experience mediated by our body (Lakoff and Johnson, 1980, 1999).

In management, embodied metaphors recently appeared thanks to the contributions of Heracleous and Jacobs (2008a, 2008). They employ this type of metaphor to analyse organizations from multiple angles, both at theoretical and practical levels. Embodied metaphors shed lights on how individuals, inside an organization, conceptualize their own tasks and divisional identities, but they also provide a different theoretical approach to understand organization (Heracleous and Jacobs, 2008).

Visual metaphors

A metaphor is not necessarily verbal in nature (Forceville, 1996; Lakoff and Johnson, 1980). They can be *visual* or *pictorial* metaphors, when they use visual representations to express a concept that belongs to a different domain. A classic example is the equestrian statue with the hero's arm stretched and the finger pointing ahead representing the hero leading the population towards the future to represent the challenge of magnitude of the leader. They are mainly investigated in advertising and marketing research to study the effect of metaphorical and non-metaphorical images in the persuasion of customers (McQuarrie and Mick, 1999; McQuarrie and Phillips, 2005).

Blend

Fauconnier and Turner introduces a new framework (1994; 2002) contributing to that stream of literature that considers metaphors as products of a more general process of human cognition. Conceptual Integration or Blending is a basic mental operation that works over mental spaces and it involves the integration, or "fusion," of two domains into one—a new and richer mental space (Kövecses, 2010: 323).

Inductive and deductive

The distinction between *inductive* and *deductive* is not about the metaphor per se, but about the origination point of a metaphor (Cornelissen, Oswick, Christensen, and Phillips 2008; Jacobs *et al.*, 2013). An *inductive* approach attempts to find those metaphors that shape our way of thinking and seeing the world and that are used 'in the field' (Palmer and Dunford, 1996; Grant and Oswick, 1996: 10), whereas the *deductive* approach imposes a metaphor to a certain phenomenon and analyses it through that particular metaphorical lens (Grant and Oswick, 1996).

Literary and theoretical

This distinction concerns the difference between the literal and figurative level of a metaphor. To a certain extent, it resembles the difference between *live* and *dead* metaphors. As for *dead* metaphor, the overuse of a metaphor renders a metaphor more *literal* than *theoretical* (Boyd, 1993: 487). Boyd's discussion is mainly focused on metaphors within scientific debate and therefore he considers that theory-constitutive metaphors are a valid device to foster scientific discussion because they are not too trite or frozen into a figure of speech as literal metaphors (Boyd, 1993: 488). *Literary* and *theoretical* metaphors occupy a marginal discussion in management, probably because of their overlapping with the *dead* and *live* distinction.

[Insert Table 3 about here]

Metaphor in theory and metaphor in action

A relevant result of coding and multidimensional analysis of the literature indicates that organizational scholars have engaged with metaphors following two lines: metaphors used as a theoretical lens to investigate organizations and metaphor as a phenomenon emerging from organizations. Within management studies, there are three major disciplinary areas that have deeply engaged with metaphor. They have advanced the definition of what a metaphor is and elaborated about its role within management theory and practice. Metaphor is a tool that helps theorists to categorize and produce novel theories (OT), that enhances communication and persuades consumers (marketing), and that provides sense to changes (organizational change). Beyond these three main streams of literature, there is a noteworthy body of miscellaneous publications that contributes to the advancement of knowledge about metaphor.

Metaphor as a theoretical lens

Organization theorists are the major users of metaphors in their research. Of 80 articles comprised in our data set, 31 are produced within OT.

One of the most important merits of this literature is of having converged large attention on metaphor. Organizational theory scholars argued that understanding metaphor is crucial since we always conceptualize organization as something else. Organizational scholars need to comprehend their research object for better thinking and theorizing (Alvesson, 1993), so this implies to understand the metaphorical language behind it. Despite Morgan (1980, 1983, 1986) and Weick (1989) already stressed the fact that metaphors were relevant for theorizing about the organization, it took almost a decade for scholars to undertake their call.

OT scholars has also recognized that metaphors have heuristic value that can be used for theory development. Scholars studied metaphor, *the master trope* (Lakoff and Johnson, 1980), because of its way to increase knowledge about organizations. Then, metaphor is mainly seen as a cognitive bridge that facilitates the generation of new concepts and novel theories. This body of research draws on the specific understanding of metaphors and it mainly refers to conceptual metaphors, blends (Fauconnier and Turner, 2002), and root metaphors (Lakoff and Johnson, 1980), where the latters "render each theory unique and coherent [providing] a slightly different understanding of organizations" (Boxenbaum and Rouleau, 2011: 276). Because *we live by metaphors* (Lakoff and Johnson, 1980), the process of decoupling *target* and *source* domains permits us, as researchers, to learn from that comparison (Cornelissen, 2004; Cornelissen and Durand, 2014). While the *target* is usually the organization, the *source* is the domain that illuminates the *target*. For instance, the comparison of organization with a theatre (Boje, 1995; Cornelissen, 2004), a jazz orchestra (Hatch, 1999; Cornelissen, 2006), or an organism (Morgan, 1986) brings and generates a specific set of ideas about organization. Metaphors, such as *organizational identity* (Cornelissen, 2002) or *disciplined imagination* (Cornelissen, 2006), are then scrutinised in their inner anatomy to unfold the cognitive process that generated the metaphor. As a

consequence of such kind of works, the main unit of analysis is the metaphor itself and the metaphor that explains organizations, by mainly adopting the comparison model. The applicability between the two models, comparison and interactionist, has generated a lively discussion among scholars (e.g., Cornelissen, 2005; Oswick and Jones, 2006; Oswick *et al.*, 2002; Oswick Fleming, and Hanlon, 2011) in a common attempt to legitimize metaphor as a valid theoretical tool. This debate helped to introduce more recent contributions from cognitive science into management, such as Fauconnier's and Turner's Conceptual Blending model (1998; 2002). On this account, Conceptual Blending framework has been used to study how novel theories disseminate OT and how the combination of distant domains of knowledge adds value (Oswick, Keenoy, and Grant, 2002; Oswick, Fleming, and Hanlon, 2011; Cornelissen and Durand, 2012; 2014). Perhaps more importantly, presenting conceptual blending and domain-interaction model, OT scholars have shown the relations between the domains (different types of networks that vary in terms of complexity) and how they are elaborated and composed. By describing the constitutive principles of a metaphor and by explicating its governing rules (Cornelissen, 2004; 2005), this debate has provided criteria for evaluating metaphor and how to use it in theory development and has finally legitimized metaphor, no longer just a poetic embellishment (Pinder and Bourgeois, 1982). By unfolding the metaphor behind a theory and explicating its rules, we may contest the "assumptions taken for granted in [certain] theory" (Mantere, Sillince, and Hämäläinen, 2007: 448)

As a consequence, OT scholars enlarged the scope of metaphor: we now consider the metaphor as a window to study the cognition of the speakers, and no longer solely as a trope to study creativity or knowledge emergence. As a matter of fact, metaphors can signal our unconscious way of thinking. Metaphors are cues to how we perceive and understand and process external reality (Tourish and Hargie, 2012). By studying them through the microscope of a scientific analysis, we are able to detect valuable information on how we conceptualize and theorize organizations (Heracleous and Jacobs, 2008; Sillince and Baker, 2012).

Recently, OT scholars have shifted their attention on how metaphors generate new categories and how they are fundamental elements of traditional scientific scripts. In regards to categories, metaphors foster theory development by correlating distant domains of expertise. When they do so, new categories or theoretical structures emerge, as in the case of *population ecology* for the former (Hannan and Freeman, 1977 cited by Cornelissen and Durand, 2014: 1001) or as *loosely coupled* and *structural holes* for the latter (cited in Boxenbaum and Rouleau, 2011). Scholars draw also the attention on conceptual and heuristic value of other managerial constructs, e.g. gender mainstreaming (Bendl and Schmidt, 2013), glass ceiling and firewalls (Bendl and Schmidt, 2010) or stepfamily metaphor (Bendl, Mayerhofer, and Schmidt, 2012) for explaining organizational phenomena and to provide practical indications, that were not previously considered. Through domain-interaction model (Cornelissen, 2004; 2005) and blending framework (Fauconnier and Turner, 2002), such metaphors are disentangled to show both how meaning construction hides how we construct our reality.

Metaphor as a theoretical lens has been also studied in organizational change literature. Marshak (1993) stressed how people usually interpret a change they are experiencing by the lenses of metaphor. It is then crucial to pay attention to the implicit information a metaphor can carry on. Palmer and Dunford (1996) showed that each metaphor entails a system of assumptions that researchers need to be aware of when approaching organization studies. This field of research has restricted the focus mainly on two aspects, often overlapping: metaphor studied to making sense of change, and to generate novel theories over a particular phenomenon. In these studies, metaphor is usually investigated within a specific context and it is a result of interaction between individuals. Metaphor, used as primary data, permits scholars to advance their knowledge about organizational dynamics and to build new theories.

Metaphor as a phenomenon: how metaphors are used in organizations

Marketing scholars have deeply engaged with metaphors, because advertising itself is a representation of something into a different object (Zaltman and MacCaba, 2007), and there is an overwhelming presence of metaphors in advertising (van Mulken *et al.*, 2014). The topic of metaphor in marketing literature has produced a large number of articles between the end of 1990s and the beginning of 2000s and has looked at metaphor from an entirely different angle respect to the other streams of literature we analyse herein.

Metaphor is a frame that helps to see ideas and product under different lights that may differently influence and persuade consumers (Zaltman and MacCaba, 2007). Figurative associations can stick to individuals' mind longer than verbal messages. American Airlines used the figure of an apple to promote flights from New York to Sidney (while New York is the big apple, the famous Sydney Opera House recalls a sliced apple). Messages can have stronger connotations through metaphoric association rather than by spelling out. For instance, specific set of characteristics and emotions are conveyed when a car is closely linked to animals like lions or tigers (van Mulken *et. al.*, 2014).

Metaphors are then studied as for being signals of the cognitive and emotional sides of an individual, and they are windows for viewing consumer thought (Zaltman and Coulter, 1995). Through metaphors, it is possible to obtain valuable information about consumer's needs. These studies remind us that metaphors are a pervasive and contemporary trope that has both a semiotic and rhetoric valence for communication. As consumers, we are daily targeted by advertising that massively rely on visual and verbal metaphors (McQuarrie, 2005). As a consequence, studying metaphor is also a matter of studying language as a system of both verbal and nonverbal signs and symbols, as theorized by early linguistics (Peirce, 1978; Saussure, 1915; Eco, 1979). Being a *semiotic figure*, metaphor is part of a complex web of signs and meanings (McQuarrie and Mick, 1999). Marketing literature stressed how the analysis of metaphor together with the investigation of communication codes and symbols fosters the comprehension of consumer behaviours, and so to

unfold tacit knowledge at the basis of socio-cultural dynamics (Mick, 1986). Such insights are useful to create ad hoc advertising campaigns.

Marketing scholars generally refer to metaphor and to other rhetorical figures (rhyme, pun, metonymy), as *artful deviations*, designed to enhance communication (McQuarrie and Mick, 1996; 1999; Mothersbaugh *et al.*, 2002). Rhetorical figures creatively and elegantly violate the customary grammar and styles. Seminal are the works of McQuarrie and Mick (1992; 1996; 1999), who explored which kind of results are produces by this *artful deviation* and how they are processed by consumers. First, consumers need to be sufficiently acculturated about both the rhetorical and semiotic system to detect the metaphor in and be sensitive to the advertisement. The receiver of a metaphoric message must be enough a culturally competent processor (McQuarrie and Mick, 1999: 51), since advertising mirrors an existing stock of sociocultural dynamics, that have to be understood. Second, advertisements, that include metaphors, appear to be more appreciated than those without them (van Mulken, 2014), because they help consumers to better understand the related message. However, the effect of the metaphoric message is linked to the complexity and novelty of the association. As the complexity and the novelty of the association increases, the appreciation of the message decreases as the metaphor loads our cognitive capacity for interpretation and creates more confusion than interest (McQuarrie and Mick, 1992; 1999; Zaltman and MacCaba, 2007; van Mulken, 2014). Then, a moderate complexity is the best way to enhance interest and spark cognitive curiosity without compromising the comprehension (van Mulken, 2014). Furthermore, McQuarrie and Phillips (2005) relied on relevance theory (Sperber and Wilson, 1986; 1995) to study the process of how consumers retain information and to investigate to what extent a communication is efficient. According to this theory, people pay attention to information that is considered most relevant to them. This stock of information, called *implicature* (Grice, 1981), refers to the act of implying one thing by saying something else and it varies in terms of strength, depending on to some extent the implication satisfies the principle of relevance, in which "the speaker tries to be as relevant as possible in the circumstances" (Wilson and Sperber, 1986:

381). In this view, metaphors do not require a specific and specialized language processing because they are an ordinary phenomenon of language, but they usually entail a vast array of weak *implicatures*. However, relevance theorists recognized that metaphorical expression could be more relevant than any other literal alternative, because "the cognitive effects the speaker intends his addressee to gain could not be achieved in any other way" (Tendahl and Gibbs, 2008: 1834). McQuarrie and Phillips (2005) noticed that metaphors in advertisements elicited both weak and strong inferences. With weak *implicatures*, they refer to those meanings attached to advertised brand, while with strong *implicatures* they mean the main message of the brand. Consumers are able to receive both messages and to understand both levels (weak and strong *implicatures*) of a message, making ads an "unusually potent persuaders [which] can be turned to deceptive purposes" (McQuarrie and Phillips, 2005: 18) and because of that, legally controlled. Then, studying metaphor is also a matter of exploring the interrelations of language and cognitive faculties, such as memory retrieval and neurological transmission (Zaltman and MacCaba, 2007; Gibbs, 2006), by bridging linguistic literature with more recent cognitive studies.

Interestingly, the marketing literature explores new methods to study metaphor. Consistent with their field of affiliation, they mainly apply a psychological line of inquiry and quantitative tools: e.g., Survey, experiments (McQuarrie and Phillips, 2005), structural equation modelling (Kim, Baek, Choi, 2012), and interviews analysed with statistical methods (van Mulken, van Hooft, and Nederstigt, 2014). Zaltman (1995; 1997.) and his colleagues patented a method, Zaltman Metaphor Elicitation Technique, that intends to elicits both conscious and unconscious thoughts by exploring people's metaphoric and figurative expressions. This technique is mainly applied to comprehend consumer behaviour in advertising and marketing research, but also in product development processes, branding and positioning. At the core of this method there is the idea that humans, regardless their gender, culture, age, draw on seven deep metaphors to frame new experiences: balance, transformation, journey, container, connection, resource, control. They are powerful, socially shared, and they can orient human thought structures (Zaltman, 1997: 428). Deep

metaphors play a fundamental role because they are basic frames, a kind of archetypical metaphors (Zaltman and MacCaba, 2007: 152), used both unconsciously and automatically (Zaltman, 2007; Zaltman and MacCaba, 2007).

The other stream of literature that has devoted large attention on metaphor as a phenomenon is organizational change. Metaphor is a fundamental device in understanding organizational changes, because change itself is something obscure and unknown. Since metaphors are frequently utilised in daily life to understand our experiences, we use them even more when changes are taking place (Lakoff and Johnson, 1980). As well as in ordinary life, in organizational settings, where rapid change is probably the most critical challenge (Burnes, 2003; Morgan, 1986), metaphors are employed to understand unstable situations and atypical events. Change is a disruptive moment which requires a re-assessment of taken-for-granted categories in new ones (Jacobs *et al.*, 2013) and metaphors are powerful cognitive and linguistic vehicles to reconstruct such disruption by creating new meanings. In Gioia *et al.* (1994) ethnographic investigation of strategic change at a public university, metaphor eases the communication of those new meanings created by change and it helps in influencing actions. Since strategic change is also a change of cognitive representations exemplified by a new strategy, metaphor is a leveraging tool that facilitates this new framing process. By an interpretivist approach of organizational change, metaphor is a medium for *sensemaking*, and for action.

Oswick and Montgomery (1999) studied, at individual level, how employees of manufacturing sites of a UK subsidiary framed organizations and their activities. Metaphors is looked as a vehicle for researching about specific phenomena within organizations. Metaphor-based analysis of employees' answers about what they would compare organization to an animal or to a car, confirms that metaphor is far from being a neutral device. Besides positive or negative opinions about the organization, metaphor also projects a specific stock of knowledge that can be used by researchers to collect more valuable information about perceptions, feelings, thoughts of individuals working in that organization.

If the view that metaphor facilitates the understanding of organizational change is now largely accepted, the conditions and to what extent this comprehension is achieved are recently investigated more in depth. Scholars as Cornelissen, Holt and Zundel (2011) studied how different degree of change, namely a disruptive break from the past or a more contiguous and linear change, relies on different cognitive schema. Analogies are discovered to be more effective when change is perceived as continuous from the past, while metaphors are more helpful when the change is a discontinuous event from the past. However, both metaphors and analogies are recognised of being at the core of framing processes and they can be exploited to gain social justification from external actors to decisions or actions.

The nature of organizational beliefs is explored by another recent contribution of Jacobs and colleagues (2013). Metaphor is defined as an instrument that diagnoses ideas and perceptions which are not usually verbally shared by members of an organization. Drawing on Forceville's (2006) distinction between mono and multimodality metaphors, they investigate how complex metaphors are embodied in different modalities whose analysis would reveal how a collective identity is build. Forceville (2006) distinguished between mono-modal and multimodal metaphors referring to the nature of source and target. Modes may include written language, spoken language, visuals, music, and sound (Forceville, 2007). Mono-modal metaphors are then that metaphors "whose target and source are exclusively or predominantly rendered in one mode" (Forceville, 2006: 383), such as verbal metaphors. By exploiting this distinction, scantly considered by organizational scholars and largely used in marketing, Jacobs et. al (2013) took workshops and meetings as a setting in which metaphor can be studied "from a Weickian angle, […] reading a metaphor while writing it" (Jacobs et al. 2013: 500). In their case, the target domain is the organization's perceived identity and the source domain emerges from the interaction of organizational members with material artefacts, such as lego bricks. The analysis revealed that metaphors are commonly constituted by three modes: bodily, linguistic, and spatial. All the three modes equally contribute to elicit organizational identity beliefs, providing critical clues on organizational aspects that are derived directly from internal

actors. As suggested by the authors, this approach that they called embodied metaphorical mapping method, would provide richer insights and more understanding about "agents' first-order perceptions about their organizations" (Jacobs *et al.*, 2013: 502).

Organizational behaviour research on metaphor, that have been published mostly in the last few years, embraces interesting approaches to study metaphor, contributing to management literature for several reasons. First, these papers put more emphasis on how a metaphor arises in a specific point in time and space and show that the metaphorical meaning construction is highly context dependent. Metaphor is seen as a phenomenon that varies across cultures and within culture. Recent cognitive linguistics studies (Kövecses, 2005; 2010; Semino, 2008) draw the attention on how metaphors are shaped by socio-cultural contexts, they are intimately correlated with both local and global factors (Kövecses, 2015). Indeed, they reflect the overarching socio-political context (Lakoff, 2004), and the emergence process of a metaphor is a result of the interaction of conventional meanings as symbols and contextual factors (Kövecses, 2015: xi).

For instance, Riad and Vaara (2011) explore national metonymy in combination with metaphor emerging during international merger and acquisitions, revealing that tropes are key elements in both constructing national identities and in reproducing national cultural differences. Understanding metaphors used in intercultural variations is also crucial to determine how members perceive their own teamwork (Gibson and Zellmer-Bruhn, 2001). This study based on very diverse socio-cultural settings, such as Puerto Rico, Philippines, France, and US shows that metaphors are influenced by national and organizational culture, but more importantly, that metaphors work as cognitive reference points in revealing quite different expectations perceived by the members regarding team practices, their own role inside the company or objectives perceived by other team members. Another very context specific study is the exploration of banking crisis in UK in 2009 and about how bankers used metaphors to tried to explain the banking failures (Tourish and Hargie, 2012). This study testifies that bankers relied on metaphors to mitigate their responsibility during the crisis. Metaphors are both explanatory and framing device because they "provide rich

summaries of the world and reveal dominant and powerful ways of seeing" (Tourish and Hargie, 2012: 1050).

Finally, metaphor as a phenomenon has been studied also during creative tasks and innovation processes. This stream of literature pointed out that designers rely on analogical reasoning to set up a range of alternatives to generate innovative solutions. Metaphors and analogies then work as cognitive bridge between a problem and its solution, because they facilitate in making a connection between old and new problems (Hargadon and Sutton, 1997). Analogies are crucial also in influencing originality during new product development processes. At the stage of idea generation, a large use of analogies fosters creativity more easily and effectively by the transfer of old and familiar categories to new and fresh ideas (Dahl and Moreau, 2002).

[Insert Table 4 about here]

DISCUSSION AND CONCLUSION

This literature reviews wanted to elaborate on how the research on metaphor has advanced management research in general. The analysis reveals that metaphor is an important cornerstone of organizational research, that should not be neglected by researchers. This work aims at providing a depth and systematic reflection on metaphors both in management theory (how they have been studied by business scholars) and in management life (how they are used by individuals in organization when novelty has to be generated or explained).

The qualitative examination suggests that a rich debate has been growing in the last decades, both in terms of themes investigated and of inter-disciplinarity, where two streams can be identified. On the one hand, seminal authors in management literature pioneered in exploring organizations by approaching the analysis of metaphor in organization life and theory (Schön, 1983; Morgan, 1986; Weick, 1979, 1989, 1995). On the other hand, different disciplines have entered into

the debate on metaphor, such as cognitive science (Gentner, 1983), cognitive linguistics (Lakoff and Johnson, 1980, 1999), psychology (Ortony, 1975), cognitive psychology (Gentner and Markman, 1997), philosophy of science (Black, 1954, 1962, 1979; Hesse, 1966), sociology (Berger and Luckmann, 1966; Goffman, 1959). These disciplines fuelled organizational research by providing new ways of investigating and interpreting the metaphors, and advancing the discourse on metaphors.

Second, the streams of literature that have most contributed to the advancement of knowledge of metaphor are organization theory, marketing, organizational change, and organizational behaviour, nevertheless the topic of metaphor spans other numerous other fields, such as innovation, entrepreneurship, and gender studies. However, findings suggest that a closer dialogue is needed between these traditions in order to provide more insightful results. As shown in co-citation representation, management scholars tend to be confined within their fields. For instance, by quantitative methods marketing scholars attempted to describe metaphor from a more psychological perspective. However, this literature has always been neglected by organizational scholars and other streams of literature. Notwithstanding, I contend that marketing research would benefit to other streams of literature for several reasons. First, since it employs a different literature, such as semiotic and rhetorical studies, looking at marketing articles would provide good fuel to investigate metaphors not only as a cognitive mechanism, but also as a linguistic phenomenon that pertains our every day life, regulated by linguistic convention that influences metaphor's choice and patterning (Deignan, 2008). Second, it has explored metaphor with entirely different methods, mostly quantitative that should be taken into consideration by other streams. As contended by Cornelissen *et al.* (2008) there is a need to find accurate method to elicit metaphors from discourses and looking at how marketing scholars have tackled this issue, it might address this need.

Third, this reviews also shows that three salient metaphors' dimensions emerge as central in metaphors investigation and could inspire future lines of research. A first dimension concerns metaphors in action: metaphors are related with the cognitive but also the practice world, and

unexpectedly interact with artefacts and actions. A second dimension regards the cognitive mechanisms by which metaphors emerge and work as a means of generating novelty at individual level, and at theoretical level. A third dimension, highlighted by more recent studies, is the plurality of metaphors and their dynamics. Research should move from the focus to one key metaphor to the analysis of different metaphors: metaphors are numerous and might play a different role in our recognition and production of novelty. A constraint in the advancement of management research on metaphors has been the difficulty of carrying out a field work in the organizational context. Most of the studies have being mostly conducted relying on a corpus of documents, thus leveraging on secondary source. Still a few studies and only recently are looking at metaphors in practice, such as metaphors used in strategizing, in scientific laboratories or in innovative organizational processes.

Limits and future lines of research

This research aimed to cover the debate about metaphor in organization studies. Bibliometric technique and qualitative coding permitted me to map which are the relevant contributions and the evolution of the debate. However, the limit of 100 papers has might left out some articles, with less cited areas of research and peripheral conversations that might be covered in the future.

This mapping of the debate on metaphor has explicit aimed at proposing novel research questions to investigate. First, future studies could shift the attention on a more dynamic exploration of the relation between research practices and metaphors, in particular empirical studies could explore how metaphors emerge by generating novelty in organizational practices. Metaphor as a *sensegiving* device is mainly studied in entrepreneurship literature (Hill and Levenhagen, 1995; Nicholson and Anderson, 2005), and in institutional setting (Gioia *et al.*, 1994; Sillince and Barker, 2012) but it is still neglected by other streams of literature. For instance, strategy-as-practice or organizational identity scholars would gain interesting results on studying how metaphor can bring

a set of perceptions, ideas, and images about companies and individuals. Likewise, metaphor as a powerful coordinating organizational tool is still neglected by the literature. There is room for studies that explore the pragmatic effects of metaphor as both a *sensemaking* device in individual process, i.e. during creative tasks; and as a *sensegiving* tool in collective phenomena, i.e. as a coordinating mechanism. Apart from few articles (Gioia *et al.*, 1994) empirical investigations are still missing and it is not clear yet how metaphor enhances coordination among people. Language is a coordinating mechanism and tropes enact relevant processes. Thereby, it would be fruitful to explore relational aspects of metaphor as a boundary objects or in design thinking process and to understand its impact on performance and coordination.

Second, the study of the complex process of metaphor emergence could contribute to the stream of research that studies metaphors and innovation. In particular, what is lacking in the extant literature is a deep understanding of how metaphors are used while generating both radical and incremental innovation (product, business model, i.e). A deep investigation of *source* and *target* domains would shed more lights on comprehend when and why metaphors are used. Do metaphors for instance have a reparative role in breakdown situations, such as during innovation processes? Innovation itself a disruptive and critic event and the analysis of metaphors could enable researchers to understand how this criticality is handled by innovators.

Third, research could move from the standard analysis of a single key metaphor to understand the multiplicity of metaphors and their density and variance. Indeed, studying why metaphors are more frequent when referring to specific events (i.e. during disputes with peers or difficulties to handle a specific task) would provide insightful information about individual mechanism to cope with multifaceted environments.

Forth, there is a need to study metaphor as a result of social interaction, setting aside the fact that who comprehends the metaphor is the theorist (Oswick and Jones, 2006). Metaphor, as a linguistic artefact, emerges from social and cultural exchanges and more inductive studies would permit to highlight how metaphors reflect our reality. Ss recent studies confirmed (Deignan, 2008;

Kövecses, 2015), metaphor is culturally determined and ideological (Lakoff, 1987; Koller, 2003). Then, studying metaphor would also shed more lights on particular events and dynamics of power that researchers are already aware of, but that metaphor would provide support of such analysis. Metaphor is culturally determined and ideological (Lakoff, 1987; Koller, 2003; Kövecses, 2015). The analysis of tropes and cultural and inter-cultural dynamics in organizational settings might thus be intertwined. More research is thus needed at the intersection of institutional literature and research on trope.

Finally concerning the multiplicity of metaphor, organizational scholars should consider to study types in more different settings. For instance, the analysis of *live* and *dead* metaphors could be also included in innovation studies and not only in organization theory. The comprehension of this distinction might suggest which are the metaphors that enhance creativity during innovation processes and it might highlight yet obscure cognitive dynamics. Visual metaphors are still confined into marketing research whereas they should be analysed into innovation settings in order to understand the role played by images to implement new solutions. A deeper study of embodied metaphors could also accelerate our understanding of both individuals and teams' behaviour. Patterns and habits of people within organizations, that are not usually consciously expressed by words but they are reflected in our actions, might emerge by the analysis of our embodied metaphors.

From a methodological perspective, my analysis suggests that future studies on metaphor should employ more scientific protocol to intercept metaphors. For instance, the technique developed by Zaltman (1995), called ZMET, by which it is possible to elicit both conscious and unconscious thoughts by exploring people' s metaphoric expressions, would also been applied in other settings and not only in marketing. Since the attempt of the method is to detect the relevant structures that guide people at the basis of their thinking and behaving in specific circumstances, it would probably lead to practical insights if applied in organizational contexts, such as strategic change, conflict among individuals or team-works. As recently suggestion by Cornelissen *et al.*

(2008) to produce more empirical studies following Metaphor Identification Procedure (MIP) developed by Pragglejaz Group to extract metaphorbased (2007) to extract metaphor form texts, would contribute to the understanding cognitive mechanism during innovation processes.

REFERENCES

Alvesson, M. 1993. The play of metaphors. In J. Hassard, M. Parker (Eds.), *Postmodernism and Organizations*: 114–131. London: Sage Publications.

Audebrand, L. 2010. Sustainability in Strategic Management Education: The Quest for New Root Metaphors. *Academy of Management Learning & Education*, 9(3): 413–428.

Balogun, J., Jacobs, C., Jarzabkowski, P., Mantere, S., & Vaara, E. 2014. Placing Strategy Discourse in Context: Sociomateriality, Sensemaking, and Power. *Journal of Management Studies*, 51(2): 175–201.

Bendl, R., Schmidt, A. 2010. From 'Glass Ceilings' to 'Firewalls'- Different Metaphors for Describing Discrimination. *Gender, Work & Organization*, 17(5): 612–634.

Bendl, R., Mayerhofer, H. and Schmidt, A. 2012. The stepfamily metaphor: further insights and alternatives for understanding the M&A discourse. *European J. International Management*, Vol. 6, No. 4: 395–420.

Bendl, R., Schmidt, A. 2012. Gender Mainstreaming: An Assessment of Its Conceptual Value for Gender Equality. *Gender, Work & Organization*, 20(4): 364–381.

Berger, P., Luckmann, T. 1966. *The social construction of reality*. Garden City, N.Y.: Doubleday.

Black, M. 1962. *Models and metaphors*. Ithaca, N.Y.: Cornell University Press.

Black, M. 1993. (First published in 1979.) More about metaphor. In A. Ortony (Ed.), *Metaphor and thought*: 19–43. Cambridge: Cambridge University Press.

Boje, D. 1995. STORIES OF THE STORYTELLING ORGANIZATION: A POSTMODERN ANALYSIS OF DISNEY AS "TAMARA-LAND". *Academy of Management Journal,* 38(4): 997–1035.

Boyd, R. 1993. Metaphor and theory change: What is "metaphor" a metaphor for? In A. Ortony. *Metaphor and thought*. Cambridge [England]: Cambridge University Press: 481-532.

Boxenbaum, E., Rouleau, L. 2011. New knowledge products as bricolage: metaphors and scripts in organizational theory. *Academy of Management Review*, 36(2): 272–296.

Bowdle, B., Gentner, D. 2005. The career of metaphor. *Psychological Review*, (112): 193–216.

Burnes, B. 2003. Managing change and changing managers from ABC to XYZ. *Journal of Management Development*, vol. 22, no. 7: 627–642.

Clarke, J., Holt, R., Blundel, R. 2014. Re-imagining the growth process: (co)-evolving metaphorical representations of entrepreneurial growth. *Entrepreneurship & Regional Development*, 26(3-4): 234–256.

Cornelissen, J.P. 2002. On the Organizational Identity Metaphor. *British Journal of Management*, vol. 13, no. 3: 259–268.

Cornelissen, J.P. 2004. What Are We Playing at? Theatre, Organization, and the Use of Metaphor. *Organization Studies*, vol. 25, (5): 705–726.

Cornelissen, J.P. 2005. Beyond Compare: Metaphor in Organization Theory. *The Academy of Management Review*, vol. 30, no. 4: 751–764.

Cornelissen, J.P. 2006. Making Sense of Theory Construction: Metaphor and Disciplined Imagination. *Organization Studies*, vol. 27, (11): 1579–1597.

Cornelissen, JP. & Clarke, J. 2010. Imagining and rationalizing opportunities: inductive reasoning and the creation and justification of new ventures. *Academy of Management Review*, 35(4): 539–557.

Cornelissen, J., Durand, R. 2012. More Than Just Novelty: Conceptual Blending and Causality. *Academy of Management Review*, 37(1): 152–154.

Cornelissen, J., Durand, R. 2014. Moving Forward: Developing Theoretical Contributions in Management Studies. *Journal of Management Studies*, 51(6): 995–1022.

Cornelissen, J.P., Holt, R., Zundel, M. 2011. The role of analogy and metaphor in the framing and legitimization of strategic change. *Organization Studies*, vol. 32, (no 12): 1701–1716.

Cornelissen, JP., Kafouros, M., Lock, AR. 2005. Metaphorical images of organization: How organizational researchers develop and select organizational metaphors. *Human Relations*, 58 (12), 1545–1578

Cornelissen, J., Kafouros, M. 2008. The Emergent Organization: Primary and Complex Metaphors in Theorizing about Organizations. *Organization Studies*, 29(7): 957–978.

Cornelissen J.P., Oswick C, Christensen LT, Phillips N. 2008. Metaphor in organizational research: Context, modalities and implications for research introduction. *Organization Studies*, 29 (1): 7–22.

Dahl, D., Moreau, P. 2002. The Influence and Value of Analogical Thinking During New Product Ideation. *Journal of Marketing Research*, 39(1): 47-60.

Deignan, A. 2008. Corpus Linguistics and Metaphor. In J.R. Gibbs (Eds.), *The Cambridge Handbook of Metaphor and Thought*: 280-294. Cambridge: Cambridge University Press.

Dodd, S. 2002. Metaphors and meaning: A grounded cultural model of US entrepreneurship. *Journal of Business Venturing*, 17: 519–535.

Eco, U. 1979. *The role of the reader*. Bloomington: Indiana University Press.

Encyclopedia Britannica. 1998. *Metaphor*. Retrieved from https://www.britannica.com/art/metaphor.

Fauconnier, G., Turner, M. 1998. Conceptual integration networks. *Cognitive Science*, 22: 133–187.

Fauconnier, G., Turner, M. 2002. *The way we think. Conceptual Blending and The Mind's Hidden Complexities*. New York: Basic Books.

Fisch, Max H. 1978. Peirce's General Theory of Signs. In T. A. Sebeok (Eds.), *Sight, Sound, and Sense*. Bloomington, IN: Indiana University Press.

Forceville, C. 1996. *Pictorial metaphor in advertising*. London: Routledge.

Forceville, C. 2006. Non-verbal and multimodal metaphor in a cognitivist framework: Agendas for research. *Applications of cognitive linguistics*, 1: 379–402.

Forceville, C., 2007. Multimodal metaphor in ten Dutch TV commercials. *Public J. Semiot*. 1 (1): 15–34.

Garfield, E. 2004. Historiographic mapping of knowledge domains literature. *Journal of Information Science*, 30 (2): 119–145.

Gavetti, G., Levinthal, D., Rivkin, J. 2005. Strategy making in novel and complex worlds: the power of analogy. *Strategic Management Journal*, 26(8): 691–712.

Gentner, D., Markman, A. B. 1997. Structure mapping in analogy and similarity. *American Psychologist*, 52: 45–56.

Gentner, D. 1983. Structure mapping: A theoretical framework for analogy. *Cognitive Science*, 7: 155–170.

Gentner, D., Clement, C. 1988. Evidence for relational selectivity in interpreting analogy and metaphor. In G. H. Bower (Ed.), *The psychology of learning and motivation*: 307–358. New York: Academic Press.

Gibbs, J. R. 2006. *Embodiment and cognitive science*. Cambridge: Cambridge University Press.

Gibbs, J. R. 2008. *The Cambridge Handbook of Metaphor and Thought*. Cambridge: Cambridge University Press.

Gibson, C. Zellmer-Bruhn, M. 2001. Metaphors and Meaning: An Intercultural Analysis of the Concept of Teamwork. *Administrative Science Quarterly*, 46(2): 274–303.

Gioia, D., Chittipeddi, K. 1991. Sensemaking and sensegiving in strategic change initiation. *Strategic Management Journal*, 12(6): 433–448.

Gioia, D.A., Thomas, J.B., Clark, S.M., Chittipeddi, K. 1994. Symbolism and Strategic Change in Academia: The Dynamics of Sensemaking and Influence. *Organization Science*, vol. 5, (3): 363–383.

Giupponi, C., Biscaro, C. 2015. Vulnerabilities-bibliometric analysis and literature review of evolving concepts. *Environmental research letters*, vol. 10, no. 12.

Gkiouzepas, L., Hogg, M. 2011. Articulating a New Framework for Visual Metaphors in Advertising. *Journal of Advertising*, 40(1): 103–120

Goffman, E. 1959. *The presentation of self in everyday life*. New York: Doubleday.

Grant, D., Oswick, C. 1996. *Metaphor and organizations*. London: Sage Publications.

Grice, P. 1981. Presupposition and Conversational Implicature. In P. Cole (Eds.), *Radical Pragmatics*: 183–98, New York: Academic Press.

Hargadon, A., Sutton, R. 1997. Technology Brokering and Innovation in a Product Development Firm. *Administrative Science Quarterly*, 42(4): 716–749.

Hatch, M.J. 1999. Exploring the Empty Spaces of Organizing: How Improvisational Jazz Helps Redescribe Organizational Structure. *Organization Studies*, vol. 20, (1): 75–100.

Heracleous, L., Jacobs, C. 2008a. Crafting Strategy: The Role of Embodied Metaphors. *Long Range Planning*, 41(3): 309–325.

Heracleous, L., Jacobs, C. 2008b. Understanding Organizations through Embodied Metaphors. *Organization Studies*, 29(1): 45–78.

Hesse, M. 1963. *Models and Analogies in Science*. London: Sheed and Ward.

Hill, R.C., Levenhagen, M. 1995. Metaphors and mental models: Sensemaking and sensegiving in innovative and entrepreneurial activities. *Journal of Management*, vol. 21 (6): 1057–1074.

Hills, D. 2012. Metaphor, The Stanford Encyclopedia of Philosophy (Winter 2012 Edition), Edward N. Zalta (ed.), URL <http://plato.stanford.edu/archives/win2012/entries/metaphor/>.

Jacobs, C., Oliver, D., Heracleous, L. 2013. Diagnosing Organizational Identity Beliefs by Eliciting Complex, Multimodal Metaphors. *The Journal of Applied Behavioral Science*, 49(4): 485–507.

Katz, Albert N. 1992. Psychological studies in metaphor processing: Extensions to the placement of terms in semantic space. *Poetics Today*, 13: 607–632.

Kim, J., Baek, Y., Choi, Y.H. 2012. The structural effects of metaphor-elicited cognitive and affective elaboration levels on attitude toward the ad. *Journal of Advertising*, vol. 41, (no. 2): 77–96.

Koller, V. 2003. A shotgun wedding: Co- occurrence of war and marriage metaphors in mergers and acquisitions discourse. *Metaphor and Symbol*, 17: 179–203.

Kövecses, Z. 2005. *Metaphor in culture*. Cambridge, UK: Cambridge University Press.

Kövecses, Z., Benczes, R. 2010. *Metaphor: a practical introduction* (2nd Eds). Oxford: Oxford University Press.

Kövecses, Z. 2015. *Where metaphors come from: reconsidering context in metaphor*. New York, NY: Oxford University Press.

Lakoff, G. 1987. *Women, fire, and dangerous things: What categories reveal about the mind*. Chicago: Chicago University Press.

Lakoff, G. 2004. *Don't think of an elephant!*. White River Junction, Vt.: Chelsea Green Pub.

Co.

Lakoff, G. 2008. The neural theory of metaphor. In R.J. Gibbs, *The Cambridge handbook of metaphor and thought*: 17–38. New York: Cambridge University Press.

Lakoff, G., Johnson, M. 1980. *Metaphors we live by*. Chicago: University of Chicago Press.

Lakoff, G., Johnson, M. 2003. *Metaphors we live by*. Chicago: University of Chicago Press.

Lakoff, G., Johnson, M. 1999. *Philosophy in the flesh: The embodied mind and its challenge to western thought*. New York: Basic Books.

Mantere, S., Sillince, J.A.A., Hämäläinen, V. 2007. Music as a metaphor for organizational change. *Journal of Organizational Change Management*, vol. 20, no. 3: 447–459.

Marshak, R. 1993. Managing the metaphors of change. *Organizational Dynamics*, 22(1): 44–56.

McQuarrie, E., Mick, D. 1992. On Resonance: A Critical Pluralistic Inquiry Into Advertising Rhetoric. *Journal Consumer Research*, 19(2): 180–197.

McQuarrie, E., Mick, D. 1996. Figures of Rhetoric in Advertising Language. *Journal Consumer Research,* 22(4): 424–438.

McQuarrie, E., Mick, D. 1999. Visual Rhetoric in Advertising: Text-Interpretive, Experimental, and Reader-Response Analyses. *Journal Consumer Research*, 26(1): 37–54.

McQuarrie, E., Phillips, B. 2005. INDIRECT PERSUASION IN ADVERTISING: How consumers process metaphors presented in pictures and words. *Journal of Advertising*, 34(2): 7–20.

Mick, D. 1986. Consumer Research and Semiotics: Exploring the Morphology of Signs, Symbols, and Significance. *Journal Consumer Research*, 13(2): 196–213.

Morgan, G. 1980. *An analysis of metaphor in organization theory*. University of Lancaster

Morgan, G. 1980. Paradigms, metaphors and puzzle solving in organizational theory. *Administrative Science Quarterly*, 25: 605–622.

Morgan, G. 1983. More on metaphor: Why we cannot control tropes in administrative science. *Administrative Science Quarterly*, 28: 601–607.

Morgan, G. 1986. *Images of organization*. Beverly Hills, CA: Sage.

Montuschi, E. 2000. Metaphor in science. In: N.S. William (Eds.) *A Companion to the Philosophy of Science. Blackwell companions to philosophy*: 277–282, Oxford: Blackwell Publishing.

Mothersbaugh, D., Huhmann, B., & Franke, G. 2002. Combinatory and Separative Effects of Rhetorical Figures on Consumers' Effort and Focus in Ad Processing. *Journal of Consumer Research*, 28(4): 589–602.

Müller, C. 2008. *Metaphors dead and alive, sleeping and waking*. Chicago: University of Chicago Press.

Nicholson, L., Anderson, A.R. 2005. News and Nuances of the Entrepreneurial Myth and Metaphor: Linguistic Games in Entrepreneurial Sense-Making and Sense-Giving. *Entrepreneurship Theory and Practice*, vol. 29 (no. 2): 153–172.

Ocasio, W., Joseph, J. 2005. Cultural adaptation and institutional change: The evolution of vocabularies of corporate governance, 1972–2003. *Poetics*, vol. 33, no. 3: 163–178.

Ortony, A. 1975. Why Metaphors Are Necessary and Not Just Nice. *Educational Theory*, Vol. 25, (1): 45–53.

Ortony, A. 1993. *Metaphor and thought*. Cambridge [England]: Cambridge University Press.

Oswick, C., Fleming, P., Hanlon, G. 2011. FROM BORROWING TO BLENDING: RETHINKING THE PROCESSES OF ORGANIZATIONAL THEORY BUILDING. *Academy of Management Review*, 36(2): 318–337.

Oswick, C., Grant, D. 2015. Re-Imagining Images of Organization: A Conversation With Gareth Morgan. *Journal of Management Inquiry*, 25(3): 338–343.

Oswick, C. & Montgomery, J. 1999. Images of an organisation: the use of metaphor in a

multinational company. *Journal of Organizational Change Management*, 12(6): 501–523.

Oswick, C., Keenoy, T., Grant, D. 2002. Metaphor and Analogical Reasoning in Organization Theory: beyond Orthodoxy. *The Academy of Management Review*, 27(2): 294–303.

Oswick, C., Jones, P. 2006. Beyond Correspondence? Metaphor in Organization Theory. *Academy of Management Review*, 31(2): 483–485.

Palmer, I., Dunford, R. 1996. Conflicting Uses of Metaphors: Reconceptualizing Their Use in the Field of Organizational Change. *The Academy of Management Review*, vol. 21, (3): 691–717.

Patriotta, G., Brown, A. 2011. Sensemaking, metaphors and performance evaluation. *Scandinavian Journal of Management*, 27(1): 34–43.

Pepper, S. 1942. *World hypotheses*. Berkeley and Los Angeles: University of California Press.

Peteraf, M., Di Stefano, G., Verona, G. 2013. The elephant in the room of dynamic capabilities: Bringing two diverging conversations together: The Elephant in the Room of Dynamic Capabilities. *Strategic Management Journal*, vol. 34, (no. 12): 1389–1410.

Pinder, C., Bourgeois, V. 1982. Controlling Tropes in Administrative Science. *Administrative Science Quarterly*, 27(4): 641–652.

Pragglejaz Group. 2007. MIP: A method for identifying metaphorically used words in discourse. *Metaphor and Symbol*, (22):1–39.

Riad, S., Vaara, E. 2011. Varieties of National Metonymy in Media Accounts of International Mergers and Acquisitions. *Journal of Management Studies*, 48(4): 737–771.

Ricœur, P. 2003. *The rule of metaphor*. London: Routledge.

Saussure, F. 1915/1966. *Cour de Linguistic Generale* (Course in General Linguistics), trans. Wade Baskin, New York: McGraw-Hill.

Schön, D. 1965. *Technology and Change: The New Heraclitus*. London: Pergamon.

Schön, D. 1993. Generative metaphor: a perspective on problem-setting in social policy. In A. Ortony (Eds.), *Metaphor and Thought*: 137–163. Cambridge: Cambridge University Press.

Seidel, V., O'Mahony, S. 2014. Managing the Repertoire: Stories, Metaphors, Prototypes, and Concept Coherence in Product Innovation. *Organization Science*, 25(3): 691–712.

Semino, E. 2008. *Metaphor in discourse*. Cambridge, UK: Cambridge University Press.

Sillince, J.A.A., Barker, J.R. 2012. A Tropological Theory of Institutionalization. *Organization Studies*, vol. 33 (no. 1): 7–38.

Sonenshein S. 2010. We're changing or are we? Untangling the role of progressive, regressive and stability narratives during strategic change implementation. *Academy of Management Journal*, 53: 477–512.

Sperber, D., Wilson, D. 1986. *Relevance: Communication and Cognition*. Oxford: Basil Blackwell.

Sperber, D. and Wilson, D. 1995. *Relevance: Communication and Cognition*, 2nd ed., Cambridge, MA: Harvard University Press.

Srivastva, S., Barrett, F. J. 1988. The Transforming Nature of Metaphors in Group Development: A Study in Group Theory. *Human Relations*, 41(1): 31–63.

Strauss, A., Corbin, J. 1998. *Basics of qualitative research*. Thousand Oaks: Sage Publications.

Strauss, A., Corbin, J. 1990. *Basics of qualitative research*. Newbury Park, Calif.: Sage Publications.

Tendahl M., Gibbs Jr., R.W. 2008. Complementary perspectives on metaphor: Cognitive linguistics and relevance theory. *Journal of Pragmatics*, 40: 1823–1864.

Thagard, P., Findlay, S. 2012, *The cognitive science of science: explanation, discovery, and conceptual change*. Cambridge, Mass: MIT Press.

Tinker, T. 1986. Metaphor or reification: are radical humanists really libertarian anarchists?

Journal of Management Studies, vol. 23, (4): 363–384.

Tourish, D., Hargie, O. 2012. Metaphors of Failure and the Failures of Metaphor: A Critical Study of Root Metaphors used by Bankers in Explaining the Banking Crisis. *Organization Studies*, 33(8): 1045–1069.

Toncar, M., Munch, J. 2001. Consumer Responses to Tropes in Print Advertising. *Journal of Advertising*, 30(1): 55–65.

Tsoukas, H. 1991. The Missing Link: A Transformational View of Metaphors in Organizational Science. *The Academy of Management Review*, 16(3): 566–585.

Tsoukas, H. 1993. Analogical Reasoning and Knowledge Generation in Organization Theory. *Organization Studies*, vol. 14, (3): 323–346.

Tsoukas, H. 2009. A Dialogical Approach to the Creation of New Knowledge in Organizations. *Organization Science*, 20(6): 941–957.

van Mulken, M., van Hooft, A., Nederstigt, U. 2014. Finding the Tipping Point: Visual Metaphor and Conceptual Complexity in Advertising. *Journal of Advertising*, vol. 43, (4): 333–343.

Ward, T., Smith, S., Vaid, J. 1997. *Creative thought*. Washington, DC: American Psychological Association.

Weick, K. 1979. *The social psychology of organizing*. Reading, Mass.: Addison-Wesley Pub. Co.

Weick, K. E. 1989. Theory construction as disciplined imagination. *Academy of Management Review*, 14: 516–531.

Weick, K. 1995. What Theory is Not, Theorizing Is. *Administrative Science Quarterly*, 40(3): 385–390.

Wilson, D., Sperber, D. 1986. On defining relevance. In: Grandy, Richard E., Warner, Richard (Eds.), *Philosophical Grounds of Rationality: Intentions, Categories, Ends*: 243–258.Oxford: Clarendon Press.

Zaltman, G. 1997. Rethinking Market Research: Putting People Back In. *Journal of Marketing Research*, 34(4): 424–437

Zaltman, G., Coulter, R.H. 1995. Seeing the voice of the customer: metaphor-based advertising research. *Journal of Advertising Research*, vol. 35, (no. 4): 35–51.

Zaltman, G., MacCaba, D. 2007. Metaphor in advertising. In G. J. Tellis & T. Ambler, *The SAGE handbook of advertising*: 135–154. London: SAGE Publications Ltd.

Zaltman, G., Zaltman, L. 2008. *Marketing metaphoria*. Boston, Mass.: Harvard Business School Press.

Zupic, I., Čater, T. 2015. Bibliometric Methods in Management and Organization. *Organizational Research Methods*, vol. 18, (no. 3): 429–447.

TABLES AND FIGURES

Table 1
Number of publication per year
(total of 3,282 articles)
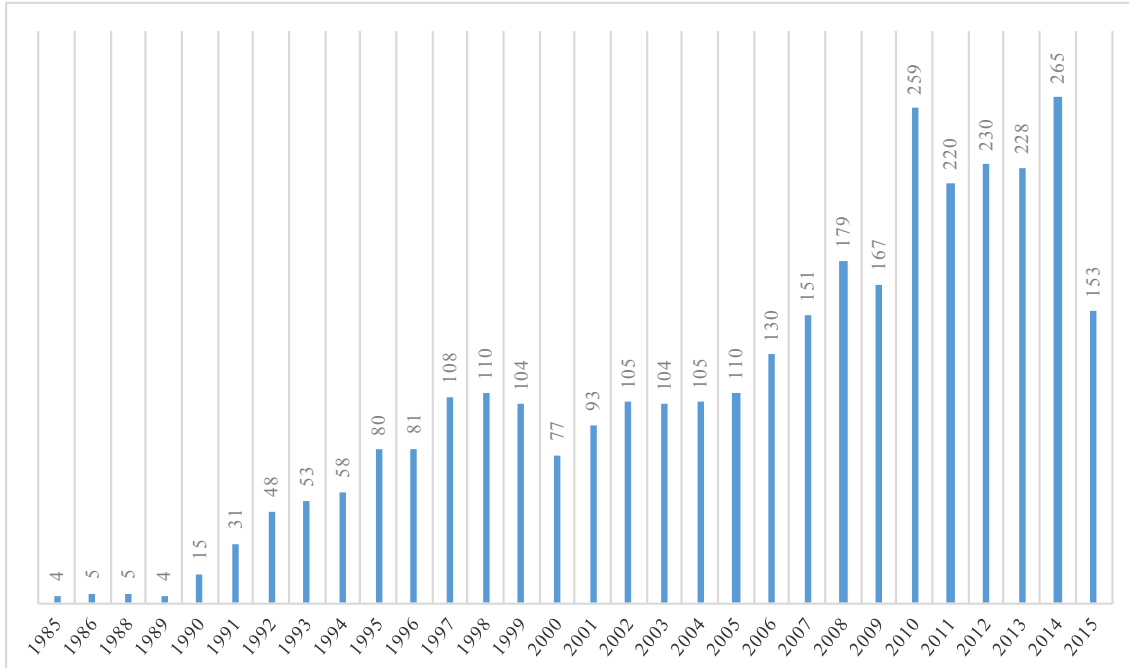
Table 2
Number of articles (446) published by top journals (Scimago List)

*Forced entry, *Administrative Science Quarterly* appears only in Arts and Humanities and Social Sciences Scimago categories.
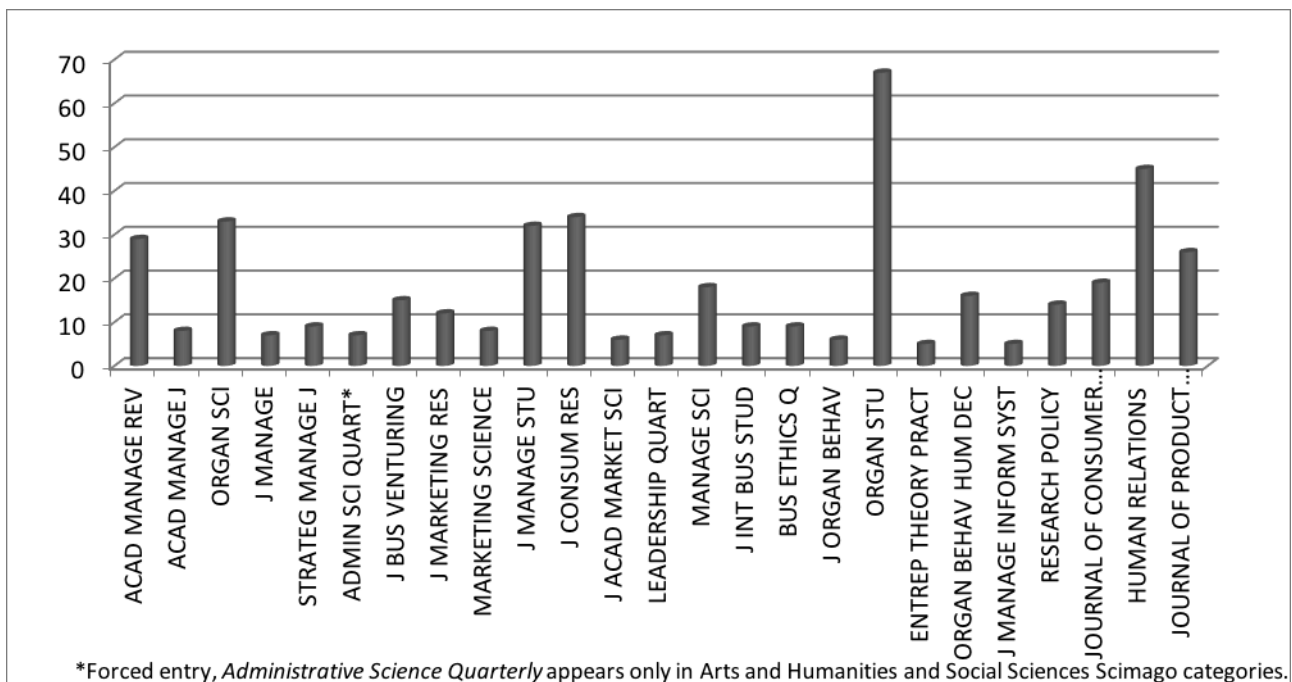
Figure 1
Steps of analysis

```
┌─────────────────────────────────────┐
│      KEYWORDS IDENTIFICATION         │
└─────────────────────────────────────┘
                  │
                  ▼
┌─────────────────────────────────────┐
│   Metaphor* OR tropol* OR analog     │
│   in the abstract, keywords, and title│
└─────────────────────────────────────┘
                  │
                  ▼
┌─────────────────────────────────────────────┐
│ Business and economics disciplinary area from 1985 to 2015 │
└─────────────────────────────────────────────┘
                  │
                  ▼
┌─────────────────────────────────────┐
│ DOWLOAD OF DATA SET = 3.282 articles │
└─────────────────────────────────────┘
                  │
                  ▼
┌─────────────────────────────────────┐
│   Extractions of articles until 2015 │
└─────────────────────────────────────┘
       │          │          │
       ▼          ▼          ▼
┌──────────────┐      ┌──────────────────┐
│ Exclusion of │      │ Exclusion of articles whose │
│ articles     │      │ topic was not pertinent │
│ with no      │      └──────────────────┘
│ references   │
│ until 2010   │
└──────────────┘
                  │
                  ▼
┌─────────────────────────────────────┐
│           Scimago list for           │
│ Management, Business and Accounting area │
└─────────────────────────────────────┘
                  │
                  ▼
┌─────────────────────────────────────┐
│       First 50 articles included in  │
│ Local Citation Score and in Local Cited References │
└─────────────────────────────────────┘
                  │
                  ▼
┌─────────────────────────────────────┐
│         The analysis and use         │
│    of metaphor central to paper      │
└─────────────────────────────────────┘
                  │
                  ▼
┌─────────────────────────────────────┐
│      Final data set: 80 articles     │
└─────────────────────────────────────┘
                  │
                  ▼
┌──────────────┐
│    CODING     │
└──────────────┘
```

Figure 2
Co-citation network of the 50 most cited papers (LCS dataset)
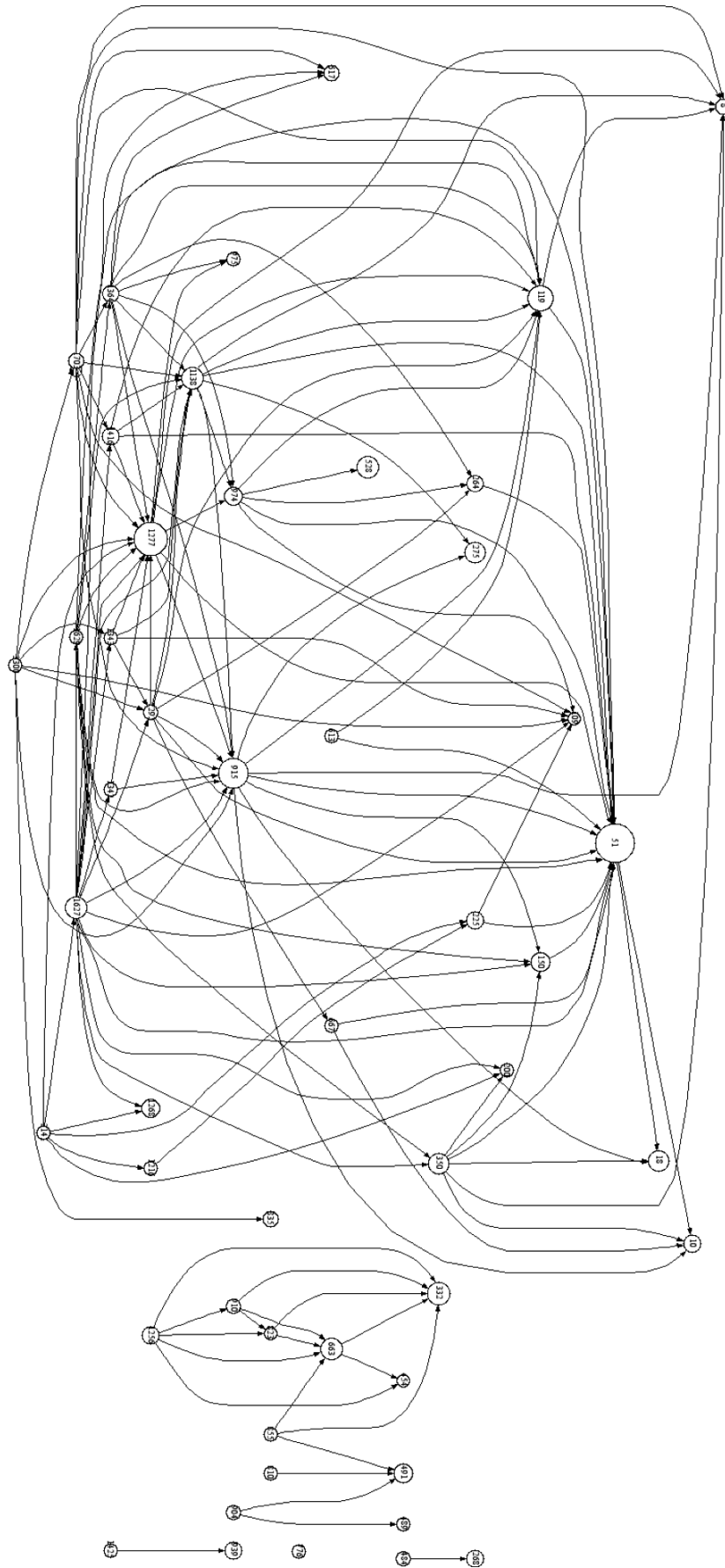
Legend of co-citation network

CODE	AUTHOR AND ARTICLE	CITATION SCORE (LCS)
8	Tinker T., 1986, J MANAGE STUD	18
10	Srivastva S, 1988, HUM RELAT	22
18	Sackmann S, 1989, HUM RELAT	30
51	Tsoukas H, 1991, ACAD MANAGE REV	104
109	Astley WG, 1992, ORGAN SCI	12
119	Tsoukas H, 1993, ORGAN STUD	46
150	Marshak RJ, 1993, ORGAN DYN	27
200	Gioia DA, 1994, ORGAN SCI	13
225	Hill RC, 1995, J MANAGE	22
264	Hunt SD, 1995, J BUS RES	20
268	Zaltman G, 1995, J ADVERTISING RES	21
275	Boje DM, 1995, ACAD MANAGE J	32
332	Mcquarrie EF, 1996, J CONSUM RES	37
350	Palmer I, 1996, ACAD MANAGE REV	30
454	Phillips BJ, 1997, J ADVERTISING	12
484	Zaltman G, 1997, J MARKETING RES	16
489	Hargadon A, 1997, ADMIN SCI QUART	15
491	Gregan Paxton J, 1997, J CONSUM RES	26
613	Oswick C, 1999, J ORGAN CHANGE MANAG	13
617	Hatch MJ, 1999, ORGAN STUD	17
663	Mcquarrie EF, 1999, J CONSUM RES	35
667	Crossan MM, 1999, ACAD MANAGE REV	14
810	Moreau CP, 2001, J MARKETING RES	14
823	Toncar M, 2001, J ADVERTISING	12
835	Gibson CB, 2001, ADMIN SCI QUART	17
904	Dahl DW, 2002, J MARKETING RES	16
910	Mothersbaugh DL, 2002, J CONSUM RES	16
915	Oswick C, 2002, ACAD MANAGE REV	63
974	Cornelissen JP, 2002, BRIT J MANAGE	24
975	Gioia DA, 2002, BRIT J MANAGE	14
1138	Cornelissen JP, 2004, ORGAN STUD	34
1256	Mcquarrie EF, 2005, J ADVERTISING	22
1268	Gavetti G, 2005, STRATEGIC MANAGE J	24
1277	Cornelissen JP, 2005, ACAD MANAGE REV	77
1292	Cornelissen JP, 2005, HUM RELAT	16
1342	Oswick C, 2006, ACAD MANAGE REV	13
1343	Cornelissen J, 2006, ACAD MANAGE REV	13
1364	Cornelissen JP, 2006, J MANAGE STUD	19
1416	Cornelissen JP, 2006, ORGAN STUD	22
1627	Cornelissen JP, 2008, ORGAN STUD	35
1629	Heracleous L, 2008, ORGAN STUD	14
1703	Cornelissen JP, 2008, ORGAN STUD	18
1749	Cornelissen JP, 2008, BRIT J MANAGE	10
2141	Cornelissen JP, 2010, ACAD MANAGE REV	14
2300	Boxenbaum E, 2011, ACAD MANAGE REV	13

Figure 3
Co-occurrences of categories
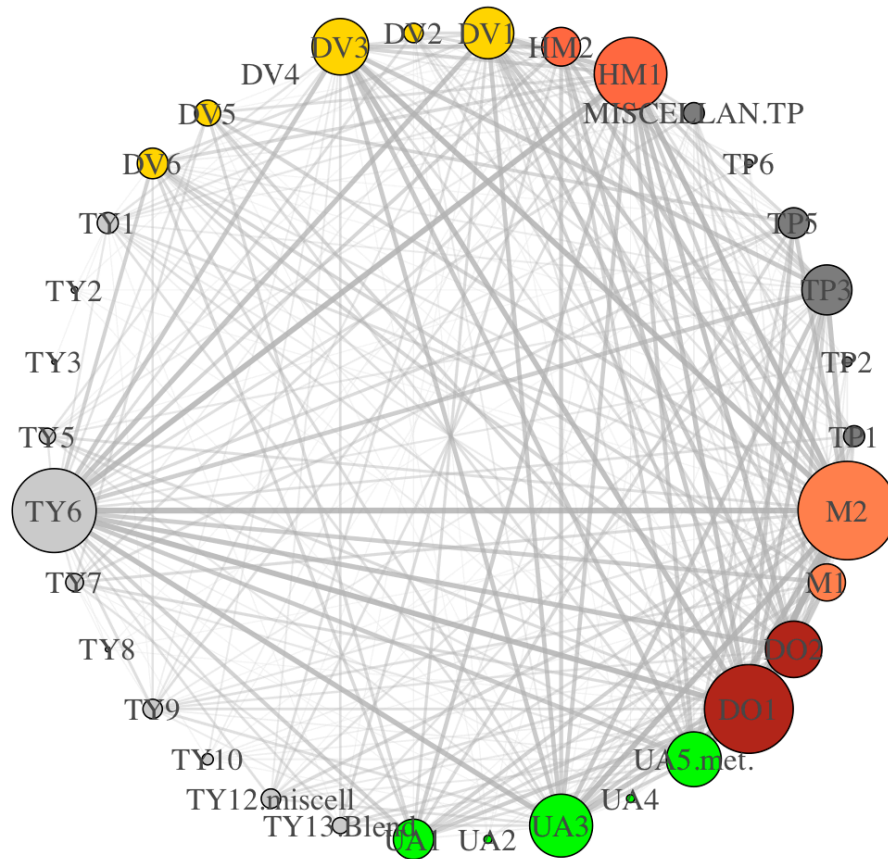
Legend:
- theoretical perspective
- heuristic model
- device purpose
- metaphor classification
- unit of analysis
- disciplinary orientation
- method

Legend:
TP: theoretical perspective
M: method
DO: disciplinary orientation
UA: unit of analysis
TY: type of metaphor
DV: device
HM: heuristic model

Legend of coding

1) **THEORETICAL PERSPECTIVE:**
    1. Organizational change
    2. Strategic management
    3. Organization theory
    4. Innovation management
    5. Marketing
    6. Entrepreneurship literature
    7. Miscellaneous: Organizational Behaviour, Cross culture literature, Organizational learning, Operation management, HRM, International management, Leadership management

2) **HEURISTIC MODEL:**
    1. Comparison or correspondence model
    2. Interaction model

3) **DEVICE PURPOSE:**
    1. Sensemaking
    2. Sensegiving
    3. Novelty generation and conceptual combination
    4. Coordination
    5. Persuasion
    6. Metaphor as an outcome of organizational or cognitive processes

4) **TYPE:**
    1. Root – surface
    2. Primary & secondary
    3. Complex
    4. Strong and weak
    5. Live/novel and dead / conventionalized and sleeping / dormant /waking
    6. Conceptual
    7. Visual / pictorial
    8. Verbal
    9. Embodied
    10. Generative
    11. Constitutive
    12. Other - causal, deductive, discursive, literary, theoretical, nominative, relational
    13. Blend

5) **UNIT OF ANALYSIS - INDIVIDUAL OR COLLECTIVE PHENOMENON:**
    1. Individual / dyadic (a single actor is involved or a pair of individuals)
    2. Team - collective (metaphor is used as a tool within a group of people)
    3. Organizational level
    4. Inter-organizational level

5. Metaphor

6) DISCIPLINARY ORIENTATION:
   1. Psychological
   2. Sociological

7) METHODOLOGY / EPISTEMOLOGY:
   1. Inductive
   2. Deductive

Table 3
Metaphor types in management literature

TYPE	PAPER[3]	METHOD	DEFINITION
Conceptual	Andriessen D, Gubbins C. 2009. *Organization Studies.*	Empirical / systematic metaphor analysis	"When it comes to abstract concepts such as 'time', 'knowledge' or 'relationships', conceptual metaphors play a role in conceptualizing, in providing structure and in assigning properties and characteristics" (p. 848)
Live and dead	Cornelissen JP. 2002. *British Journal of Management.*	Theoretical	"In the early phases of conceptual development, a 'live' metaphor acts as a precursor to theory: as a provisional way of organizing and seeing organizational reality that lays out the lines for subsequent theory and observation" (p.261)
Primary and secondary	Boxembaum, E., Rouleau, L. 2011. *Academy of Management Review*	Theoretical	"Alvesson (1993) suggests that secondary metaphors alter the meaning of the primary metaphor. For instance, the organization-as-machine metaphor, introduced along with scientific management in the early part of the twentieth century, took on a new meaning when it was combined in 1955 with the metaphors of systemic electrical engineering and computer science" (p.277)
Root and surface	Tourish D, Hargie O. 2012. *Organization Studies*	Empirical / case study and content analysis	"Root metaphors have been described as symbolic frames that create a base from which more specific, detailed and discrete attitudes can be discerned" (p. 1049)
Generative	Kupers WM. 2013. *Journal of Organiz. Change Management*	Theoretical	"Having a "generative quality" (Schön, 1993), while disturbing existing logical orders, the use of metaphors yield new meanings and interpretations, thus can be liberating" (p.501)
Embodied	Heracleous L, Jacobs CD. 2008. *Organization*	Empirical / case study	"Metaphors are both constitutive of the structure of bodily experience, as well as emerge from this experience" (p.50)

---

[3] The papers cited are not the earliest use of that specific type of metaphor within management literature. They represent examples of the phenomena rather than the original and primary source

	Studies		
Visual	Zaltman G. 1997. *Journal of Marketing Research*	Empirical Experiment / interviews	"The stories that accompany visual metaphors are highly revealing; they crystallize the essence of a picture as a representational medium for bundles of related thought" (p. 429)
Blend	Cornelissen JP. 2006. *Journal of Management Studies*	Empirical qualitative	"'Blending' composes elements from the tenor and vehicle concepts and, furthermore, lead us to complete and elaborate upon the composition made so that a new meaning emerges"
Inductive and deductive	Cornelissen JP, Oswick C, Christensen LT, Phillips N. 2008. *Organization Studies*	Theoretical	"A basic distinction here is whether metaphors are 'imposed' or 'projected' onto an organizational reality (as seen by scholars or experienced by individuals working within an organization) or whether such metaphors naturally 'surface' within the talk and sensemaking of individuals and can, as such, be identified or 'elicited' by organizational researchers. [...] The 'deductive' use of metaphors or their 'projection' onto organizational reality is also central to work on organizational theory and the theory-building process" (p.9)
Literary and theoretical	Hunt, S. D., Menon, A. 1995. *Journal of Business Research*	Theoretical	"Both literary and theoretical metaphors [...] play significant roles in any discipline. [...] A second distinction between literary and theoretical metaphors is that the former, but not the latter, has a relatively short "product life cycle." That is, if scores of writers extensively use a literary metaphor (like "myopia"), it loses its value, becoming trite or a cliché. Theoretical metaphors, on the other hand, are meant to be used by many researchers over an extended period of time. The "strategic alliances are marriages" metaphor implicitly urges researchers to systematically explore the similarities and dissimilarities between the primary concept (strategic alliances) and the secondary concept (marriages)" (p.82)

Table 4
The use of metaphor in different theoretical perspectives

	ORGANIZATION THEORY	MARKETING	ORGANIZATIONAL CHANGE	ORGANIZATIONAL BEHAVIOUR
FUNCTION	A cognitive bridge that facilitates new concepts and novel theories	Signals of the cognitive and emotional sides of an individual. Windows for viewing consumer thought	A fundamental device in understanding organizational changes	Explanatory and framing device of individual behaviors
SETTINGS AND PROCESSES	Conceptual combination in theory building processes	Pervasive and contemporary trope that has both a semiotic and rhetoric valence in advertising campaigns	Strategic change, new ventures: a change of cognitive representations and metaphor is a leveraging tool to facilitate new framing	The emergence process of a metaphor is a result of the interaction of conventional meanings and contextual factors
CONTRIBUTION	Criteria for evaluating metaphor and how to use it in theory development. Legitimization of metaphor	Tacit knowledge at the basis of socio-cultural dynamics: ad hoc advertising campaigns. New methods to trace metaphors as ZMET	Metaphor as primary data to advance knowledge about organizational dynamics and to build new theories. Empirical studies	Metaphor as a vehicle to study the cognition, perceptions, and beliefs of people by observations, interviews, content analysis

3. COPING WITH DIFFERENT TYPES OF INNOVATION: WHAT DO METAPHORS REVEAL ABOUT HOW ENTREPRENEURS COGNITIVELY REPRESENT INNOVATION?

Elena Bruni
Dept. of Management, Ca' Foscari University of Venice

Sara Bonesso
Associate Professor
Dept. of Management, Ca' Foscari University of Venice

Fabrizio Gerli
Associate Professor
Dept. of Management, Ca' Foscari University of Venice

ABSTRACT

While the connection between entrepreneurship and innovation is widely acknowledged in literature, limited effort has been devoted to the understanding of how entrepreneurs linguistically represent their endeavour in generating and implementing different types of innovation. This paper addresses this void by bringing metaphor analysis into the field of innovation and entrepreneurship. We argue that the sensemaking and sensegiving role of figurative language is important in describing the complexity and ambiguity that characterize the innovation process. Specifically, this paper provides insights about how episodes of innovation are linguistically elaborated and transmitted through ex post narration. Adopting semi-structured interviews, we found that entrepreneurs highly rely on metaphors to explain events of innovation. Moreover, each type of innovation (product, marketing, process, organizational, and strategic) is simplified differently through the use of metaphorical language in an attempt to differentiate innovations and to provide a rational structure to events. This research advances the literature providing a conceptualization of the different meanings entrepreneurs ascribe to innovation and discusses practical implications on how entrepreneurs' mental models can be analysed and interpreted for improving the innovation process.

INTRODUCTION

Entrepreneurs play a central role in generating and adopting innovations (Pérez-Luño *et al*., 2011), thus contributing in important ways to economic development (Nissan *et al*., 2011). The identification and implementation of novel and successful ideas are the "lifeblood of entrepreneurship" (Ward, 2004: 174), where entrepreneurship itself has been considered a more specific form of innovation (Shalley *et al*., 2015: 2). By definition the innovation process is often unpredictable and associated with high levels of uncertainty and complexity (Damanpour, 1996; Cardon *et al*., 2005; Garud *et al*., 2014, Seidel and O'Mahony, 2014). Unlike managers, who usually introduce novel ideas in their specific business areas concentrating their effort on some types of innovation, "the scope of entrepreneurial innovation is so wide-ranging as to cover any activity related to the creation and management of enterprises" (Manimala, 2008: 120). Indeed, entrepreneurs not only innovate the company strategy developing new business models, but they usually promote and handle different types of innovation at the same time, introducing changes at product, process, marketing, and organizational level as well (Schumpeter, 1934; OECD, 2005; Armbruster *et al*., 2008; Santandreu-Mascarell *et al*., 2013). A recognized challenge in both innovation and entrepreneurship literatures is the understanding of how entrepreneurs cope with this different degree of complexity and ambiguity, and therefore how they rationalize it ex post their decisions and actions related to different types of innovation.

As argued by Hill and Levenhagen (1995: 1057) "to cope with these uncertainties, the entrepreneur must develop a "vision" or mental model of how the environment works (*sensemaking*) and then be able to communicate to others and gain their support (*sensegiving*)". Metaphors are critical linguistic devices for entrepreneurs, as much as they facilitate communication at both *sensegiving* and *sensemaking* levels (Hill and Levenhagen, 1995), by explaining one thing in terms of another. As for *sensemaking*, metaphors function as mental models because they accelerate the comprehension of ambiguity emerging during entrepreneurial activities (Hill and Levenhagen, 1995; Nonaka and Yamanouchi, 1989). As *sensegiving* devices, metaphors

are often used by entrepreneurs to explain such ambiguity about organizational processes to external actors (Hill and Levenhagen, 1995: 1062).

Thus, the understanding of how entrepreneurs linguistically describe their effort toward innovation is salient since not only it provides insight on how entrepreneurs cognitively interpret events, but also offers guidance for their action. In this regards, metaphors are linguistic devices that help in framing something that is perceived as obscure (Lakoff and Johnson, 1980; Ortony, 1993). Language reflects the conceptual system of the speaker, and metaphorical language is its foundation because we think and we act *by metaphors* (Lakoff and Johnson, 1980). Metaphors indeed provide a large amount of information about cognitive, behavioural, and emotional dimensions (Sackmann, 1989: 482) and, due to their explicatory and generative impact, illuminate a particular phenomenon (Grant and Oswick, 1996; Weick, 1979; 1995).

Past research shows that metaphors contribute in the theorizing about entrepreneurship (Clarke, Holt, and Blundel, 2014; Anderson, 2005; Cardon *et al.*, 2005; Hyrsky, 1999). Entrepreneurship research is itself rich with metaphors. For instance, entrepreneurial identity has often been described through metaphorical images such as warrior, superman, explorer, battler (Down and Warren, 2008: 7), or as mythical figures and magicians (Nicholson and Anderson, 2005). Furthermore, entrepreneurs use analogies and metaphors during new venture construction due to their advantage in comparing the new experience with a context which is familiar and comforting (van Werven *et al.*, 2015; Cornelissen and Clarke, 2010). Metaphors accelerate the comprehension of any ambiguity emerging during entrepreneurial activities (Hill and Levenhagen, 1995; Nonaka and Yamanouchi, 1989) and they are often used by entrepreneurs to explain the uncertainty occurred during organizational processes (Hill and Levenhagen, 1995). However, these studies have mainly used metaphors to describe and construct entrepreneurial identities, paying less attention to how entrepreneurs rationalize their own world.

As highlighted in the literature, "metaphors are particularly useful in situations requiring novel concepts and approaches" (Hill and Levenhagen, 1995: 1057). However, only a few studies

have analysed metaphors as devices in the innovation process, for instance investigating their role when creating new products (Seidel and O'Mahony, 2014), when dealing with novelty at team level (Hargadon and Sutton, 1997), and in clarifying innovative ideas to others (Hargadon and Douglas, 2001). Notwithstanding the insights metaphors may provide to the understanding of the innovation process, to date these studies have not fully explored how different types of innovation are perceived and cognitively elaborated.

In order to fill these gaps, we have addressed the following research questions: i) *how do entrepreneurs use metaphors to explain the innovation process?* and ii) *in particular, what can metaphors highlight about different types of innovation?*

Our research is aimed at exploring how entrepreneurs rationalize their innovations ex post and how they cognitively elaborate different types of innovation. We have conducted our study on a sample of successful entrepreneurs, who have been able to resist during the economic crisis (2008-2012), thanks to the generation and the implementation of innovations. As shown by a recent study (Devece *et al*., 2016), entrepreneurship can have better results during recession than during boom periods thanks to their ability to innovate. Specifically, we have focused our attention on entrepreneurs' use of *metaphorical* language, because it provides more information – unconsciously expressed – than *literal* language, which is more controlled (Lakoff and Johnson, 1980). Data have been collected through semi-structured interviews using behavioural event interviewing (BEI) (Boyatzis, 1998; McClelland, 1998). Entrepreneurs were asked to relive and describe particular successful episodes in which they generated and introduced innovations in the past. The overarching goal of BEI is to elicit stories and narrations that illustrate the interviewee's specific behaviours, thoughts, and actions in particular events. The analysis of the interview data relied on a method – MIP, metaphor identification procedure (Pragglejaz Group, 2007) – for identifying metaphorically used words. By using entrepreneurs' narrations, we have identified the root metaphors that explain how entrepreneurs cognitively understood and processed different types of innovation.

This research contributes to both entrepreneurship and innovation literature because it enlarges our understanding of how innovations processes are elaborated by entrepreneurs. First, this paper explains how entrepreneurs use metaphors to give meaning to innovation, thus contributing to the literature that has so far analysed the role of metaphors in other dimensions of entrepreneurial life, such as new venture creation or entrepreneurial growth (Clark *et al*., 2014). Second, we offer insight into the understanding of cognitive processes that characterize each type of innovation. Despite it is widely acknowledged that each type of innovation carries a distinct set of knowledge, information, and practices (OECD, 2005; Vila *et al*., 2014; Dyer *et al*., 2008), the cognitive pattern behind it remains unclear. Our study provides a conceptualization of the specific root metaphors used by entrepreneurs to explain product, process, organizational, marketing and strategic innovations, highlighting how certain types of innovation show a higher recourse to figurative language. Finally, we provide a contribution from a methodological point of view, offering a detailed list of analytical steps that could be replicated to analyse metaphorical language accurately and in different organizational settings.

The rest of the paper is organised into four sections. First, past studies in entrepreneurship and metaphors are outlined. This is followed by presenting entrepreneurship and innovation literature on metaphor studies. The third part describes our research design and method. In the fourth section results are reported. We conclude presenting our main conclusions and discussing the potential role of metaphor analysis in future studies in entrepreneurship and innovation literature.

THEORETICAL BACKGROUND

Metaphors and entrepreneurship literature

According to the definition given by Merriam-Webster, a metaphor is a word or a phrase that is used to refer to another thing in order to show or suggest that they are similar. It is a trope that uses language to tie the unfamiliar and unknown to the concrete and abstract (Oswick, Putnam,

Keenoy, 2004: 106; Lakoff and Johnson, 1980). As such, a metaphor is generated by the projection of certain attributes from one concrete domain (called the *source*) on to another more abstract domain (called the *target*) to better explain something that is unclear (Lakoff and Johnson, 1980; Ortony, 1993). Organizational scholars have been increasingly drawing attention on metaphors over the last thirty years. On the one hand, management studies used metaphors as the *theoretical* lens to investigate organizations (Morgan, 1986; Tsoukas, 1991, 1993; Cornelissen, 2004, 2005; Cornelissen *et al.*, 2005, 2008; Oswick *et al.*, 2002); on the other, they looked at metaphors as *phenomenons* happening in organizations, marketplaces, and social interactions (Gioia *et al.*, 1994; Patriotta and Brown, 2011; Balogun *et al.*, 2014).

Linguistics and cognitive disciplines consider metaphors from two different perspectives. Linguists look at metaphors as a result of a different use of words, as a conscious and controlled outcome of language, mainly to embellish discourse and have artistic and rhetorical effects (Kövecses, 2010). Contrarily, Lakoff and Johnson (1980) argued that the metaphor is an unconscious phenomenon that encompasses how we think and reason. According to cognitive scholars, a metaphor is a way of talking and a way of thinking. Metaphors, and root metaphors in particular, are frames that help us understand how we interpret realities. They function as symbolic frames and "provide an inferential base for understanding more discrete attitudes and behaviour" (Smit and Eisenber, 1987: 369). They create a "base from which more specific, detailed and discrete attitudes can be discerned" (Tourish and Hargie, 2012: 1049). Root metaphors are like images that reflect the world on which one is living (Alvesson, 1993: 116). They are so embedded within our culture and everyday language that often we do not perceive them as metaphors, still they reflect the underlying worldview that shapes how we perceive and comprehend the external world (Pepper, 1942; Black, 1962). For instance, in a study of how a banking crisis was framed by CEOs, root metaphors revealed that CEOs attempted to constantly undermine their own responsibility towards the failure (Tourish and Hargie, 2012). Audebrand (2010), in his study of how strategic management courses are taught within business schools, noticed that business-as-war

metaphors were still so pervasive, and therefore he called for different root metaphors, that be more related to sustainability to create a deep and lasting change (Audebrand, 2010: 413). Another study, by analysing the corpus of letters written by Jack Welch to stockholders of General Electric, identified five root metaphors that expressed how the concept of leadership was framed during the years: pedagogue, physician, architect, commander, and saint (Amernic, Craig, and Tourish, 2007). All these studies confirmed that capturing the dominant root metaphor helps to understand how individuals frame reality.

The analysis of metaphors used by entrepreneurs revealed that entrepreneurial process is indeed "a multi-faceted, even paradoxical, process [because] the passion and joy of entrepreneurship is contrasted with the pain and the struggle" (Dodd, 2002: 530). Thereby, studies on metaphors contributed to define the entrepreneurial role and entrepreneurship processes. For instance, these studies brought out that entrepreneurship is often described as a journey, a race, and a building, and these are all metaphors that reflect how American culture conceives the entrepreneurial endeavour (Dodd, 2002). Moreover, entrepreneurial attitude was frequently expressed by using the metaphor of parenthood (Dodd, 2002). Entrepreneurs themselves are inclined to describe past events by means of metaphors (Pitt, 1998: 387). As recently stressed by Garud *et al*. (2014: 1185) both practitioners and researchers are fascinated by entrepreneurial narratives because of "the various analogical and metaphorical links that they establish with the surface level details" whose analysis unfolds the complexity of certain dynamic contexts (Clarke and Cornelissen, 2011). Cardon and colleagues (2005) studied how the experience of creating a new venture is often compared by entrepreneurs as that of giving birth to and nurturing a child. In a cross cultural study, Hysrsky (1999) examined how the concept of entrepreneurship varies sensibly according to culture. Analysing root metaphors concerning entrepreneurship (e.g. as machines and physical objects, warfare and adventure, sports and games, creativity and activity), Hysrsky (1999) found that entrepreneurs from Northern Europe are associated with very positive and idealistic images, that reflect the positive social and economic environment. Nicholson and Anderson (2005)

as well, exploring how newspapers portray the figure of entrepreneurs, found that their identity is forged by socio-cultural constructions and mythical representations: entrepreneurs are represented as wolfish charmers, supernatural gurus, successful skyrockets or community saviours and corrupters (Nicholson and Anderson, 2005: 153).

Table 1 collects the main contributions provided by the literature about entrepreneurial metaphors. This table confirms that different and diverse root metaphors have been detected at the basis of entrepreneur/entrepreneurship. Even though these studies shed light on the entrepreneurial role and process, entrepreneurs seem to be confined into a detached and often mythical sphere. Moreover, previous studies were often conducted through the analysis of media, newspapers or surveys. These methods do not fully allow to explore the underlying cognitive mechanisms and furthermore they do not help to understand the innovation process, which is one of the main activities of entrepreneurs.

[Table 1 about here]

Metaphors and innovation

Metaphors have been adopted in the innovation literature as explanatory devices to understand the behaviour of actors dealing with complex projects (Gibson and Zellmer-Bruhn, 2001; Tourish and Hargie, 2012) and to explore how they trigger for new solutions in product design and development teams (Schön, 1993; Hargadon and Sutton, 1997). At the stage of idea generation, when there is only a perception or just a vague idea, an extensive use of analogies fosters creativity (Dahl and Moreau, 2002), while metaphors and stories help in coordinating design tasks (Seidel and O' Mahony, 2014). Despite prior studies underlined the use of analogies and metaphors to nurture and manage the creative process and shed light on the functions they serve to the process itself, to the best of our knowledge literature has not addressed the analysis of how innovation is metaphorically represented through root metaphors. This is particularly relevant if we

consider that innovation is a complex phenomenon (Armbruster *et al*., 2008) that highly affects economic performance (Nissan *et al*., 2011; Cefis and Marsili, 2006) and encompasses product innovation and also process, organizational, marketing and strategic innovation.

From a cognitive perspective, we understand complexity by the use of familiar physical objects, actions or situations such as containers, spaces, and trajectories (Lakoff and Johnson, 1980; 1999). Furthermore, our knowledge largely derives from our body experience which, by means of conceptual metaphors, analogical thinking and prototyping, is projected into our knowledge. In other words, we perceive and interpret external reality through embodied experience that shapes how we interpret more abstract elements (Lakoff and Johnson, 1980, 1999; Gibbs, 2003; Heracleous and Jacobs, 2008). Similarly to any other daily activity, the innovation process itself is subjected to the same cognitive elaboration. The capacity to clarify the complexity behind each innovative activity is central for any successful management (Boer and During, 2001). According to Boer and During (2001: 86), complexity is the "difficulty with which the work can be understood. Most innovation processes comprise a mixture of fairly simple to extremely difficult activities" and all of them need to be understood. Recently, literature has emphasized the role of the entrepreneur to understand different sources of knowledge and to apply different cognitive schemata (Gerli *et al*., 2016). Dyer and colleagues (2008) found that one of the most central competence of innovators is to connect ideas, problems, fields that seemed to be unrelated. This cognitive skill is called *associational thinkin*g (Dyer *et al*., 2008: 328), that occurs while "the brain attempts to understand, re-categorize, and store new knowledge". Metaphors, as well as analogies, follow the scheme of associational thinking because they link different concepts together to solve ambiguity by means of a vivid image. For instance, Dunbar and Blanchette (2001: 334), who studied scientists at work, found that *i.* they used different types of analogies according to their goal and *ii.* the complexity of scientific development followed the use of analogical and metaphorical thinking. Metaphors and analogies are then mental strategies for scientific discovery (Dunbar, 1997; Dunbar, 1997; Thagard

and Findlay, 2012). Moreover, the complexity of representing and understanding desired product attributes (Seidel and O'Mahony, 2014) is easily interpreted by means of stories and metaphors.

Literature recognizes that there are different types of innovation: organizational, process, product, and marketing. Indeed, each type of innovation is characterized by different goals and requires different resources and processes to be developed (OECD, 2005; Tavassoli and Karlsson, 2015). For instance, prior research has pointed out that each type of innovation calls for different skills, comprising emotional, social and cognitive competencies, in order to put novel ideas into practice, and enable organizations to keep competitive advantage (Bonesso *et al*., 2015; Vila *et al*., 2014; OECD, 2011). Despite literature acknowledges that each type of innovation is characterized by distinctive elements, research has primarily concentrated the attention on the analysis of product innovations. Only recently, scholars have called for a more in-depth investigation of the other types of innovation in order to better define them, understand their antecedents and their impact on firm performance (Armbruster *et al*., 2008; Hervas-Oliver *et al*., 2016; Tavassoli and Karlsson, 2015). As a contribution to this debate, we assume that metaphors are used to understand and linguistically represent the complexity of the innovation process, and that the degree of such complexity varies according to the type of innovation. Specifically, we expect that different types of innovation are rooted in different cognitive schemata, that are reflected in different sources of metaphors. In fact, individuals are "prompted to use particular metaphors (precisely, metaphorical *source* domains) in real communicative situations relative to their interests and concerns about the world" (Kövecses, 2015: 186).

Entrepreneurs are usually involved in all the different types of innovation. They generate ideas for new products, they introduce new methods of production, they change the way of organizing the business, they open new markets, and they implement new business models. For this reason it is particularly interesting to understand how entrepreneurs cognitively elaborate all these innovations ex post, how they make sense of all the different processes (*sensemaking*), and how they express them (*sensegiving*) (Hill and Levenhagen, 1995).

Finally, the question of how entrepreneurs think has become central in the entrepreneurship literature (see for an extensive overview Mitchell *et al*., 2007), because it facilitates an understanding of why some people are more inclined to embark on new and risky situations than others. It also allows us to comprehend why some people are able to navigate through difficulties and to turn novel ideas into opportunities and successful innovations while others are not. As rightly observed by Mitchell and colleagues (2007; 2002), "entrepreneurship concerns itself with distinctive ways of thinking and behaving". They find that there is a strict connection between how entrepreneurs think and how they act, which represents a key field of inquiry (Mitchell *et al*., 2002; 2007). Indeed, they point out that entrepreneurship studies should draw on the cognitive literature, since it represents an "effective tool in probing and explaining […] unexplained phenomena within the entrepreneurship research domain" (Mitchell *et al*., 2002: 95).

With this study we pursue this line of inquiry by adopting metaphors as an analytical lens to uncover the cognition of entrepreneurs, especially when they rationalize ex post different types of innovation processes.

METHOD

Sample

This study was conducted on a sample of 39 companies operating in the Veneto region in northern Italy. These companies belong to a vast array of sectors, including manufacturing, communication, wholesale, and retail. We selected this empirical context because these companies have shown a strong capacity to resist the economic crisis by adopting and implementing innovative solutions. In fact, they achieved good financial results in terms of their return on assets (ROA) during the economic crisis period (2008–2012), especially in comparison with corresponding companies in the same sectors. These companies are located in the Veneto region in the north-east of Italy, a region with a high presence of family-run businesses with a strong entrepreneurial

tradition. The Veneto is an "example of what was called the Italian economic miracle in the 1960s, and the industrial sector is internationally recognized because of its high degree of specialization. It is also known for the presence of its industrial district, such as mechanics, the agro-food industry, textiles, the food industry, and glass production" (from the European Commission website). Moreover, as reported by the *Global Entrepreneurship Monitor* (2014), the Veneto has a long tradition of diffused entrepreneurship and ranks among the foremost Italian regions for the number of new businesses created.

Recent research shows that the entrepreneurs who achieve high performance levels during recessions are those who demonstrate a greater innovation capacity (Devece *et al.*, 2016). Therefore, our sample of high-performing entrepreneurs is suitable for collecting narratives on wide-ranging episodes of innovation.

In terms of size, these companies have 114 employees on average. Specifically, 16 companies have fewer than 50 employees, 15 firms have between 50 and 149; 6 firms have from 150 to 249; and 2 companies have more than 250. We interviewed 41 entrepreneurs, and in 2 cases 2 co-partners of the company were examined. To conclude, these companies have a long tradition, which allowed us better to reconstruct episodes, events, and innovations.

Data collection: The behavioural events interview technique

Semi-structured interviews were conducted between July 2014 and March 2015 about the concrete behaviours that entrepreneurs activated when they promoted and introduced innovations. The interviews were conducted by trained interviewers who used a semi-structured framework based on the behavioural events interview technique (Boyatzis, 1998; McClelland, 1998), which is a particular interview technique that is useful for collecting data on the past behaviour of the interviewee (Pizzi *et al.*, 2015: 168). This technique is a development of the critical incident interview technique (Flanagan, 1954), which focuses on gathering information on specific events and is widely used to obtain rich and detailed information on the context, behaviours, and strategies

adopted by interviewees and to structure qualitative data (Campion *et al.*, 2011; Chell, 2004). Moreover, it is not affected by the possible biases and unreliable responses associated with self-assessment (Dunning, Heath, and Suls, 2004).

In our research the interviews were based on the collection of a series of concrete events of entrepreneurial innovation to identify the entrepreneurs' behaviours adopted in situations of innovation and then how they framed their personal experience. Each respondent was asked to recall five critical situations, describing the context, the people involved, what he/she thought, felt, said, and actually did, the problems encountered, the solutions, and the outcomes (Dainty *et al.*, 2005). The interview on behavioural episodes, deepening the thoughts, reactions, decisions, and actions of the respondent, made it possible to disclose the behaviours, perceptions, skills, and general cognitive dimension expressed by the interviewee when promoting and introducing an innovation. A limit that can be ascribed to this technique is related to the retrospective nature that characterizes interviews in general. The post hoc rationalizations of prior events by entrepreneurs might have a distorting effect. As discussed by Edvardsson and Roos (2001: 260), "An assumption in the literature is that judgement and memory processes take place at about the same time". To mitigate bias in the retrieval by the respondents, we paid particular attention to the interview guide, focusing on the detailed description of the actions and dialogues that occurred during the event.

To conclude, the structure of the interviews comprised a brief and preliminary case history in the form of narration of the company provided by the entrepreneurs. Then they were asked to recall five episodes of innovation. The respondents also talked about the broader story of the company and how it was founded or recalled stories from the past that were not strictly connected with innovation episodes. Moreover, all the interviews were closed with a question regarding the entrepreneurs' future ambitions that moderated the retrospective nature of BEI. In fact, this question was meant to counterbalance the narration of past events with the understanding of what entrepreneurs aim to achieve in the immediate future.

Thereby, we decided to distinguish the metaphors tightly related to innovation episodes from the metaphors used during the narration. Both of the two groups are highly significant for our analysis, because they provide relevant information on how entrepreneurs interpret innovation ex post and in which environment these innovations occur.

We adopted the BEI technique instead of traditional direct interviews or observation because in this way entrepreneurs were encouraged to talk instead of answering direct questions. We could better track the evolution of language, its tone, its pauses, and the use of metaphors. The BEI technique is based on the assumption that past experiences are the best predictors of future performances and behaviours. Thus, we could outline a cognitive pattern behind the decisions, behaviours, and choices that had led to a change or innovation. More importantly, the BEI technique is designed to let specific situations, experiences, actions, and outcomes emerge. The interviews provided us with a vivid and personal reconstruction of the process of the change and of the innovation events. To conclude, this technique overcomes some of the issues emerging from other studies on metaphors, which mainly relied on secondary data (Cardon *et al*., 2005; Dodd, 2002) or on questionnaires (Hyrsky, 1999). Contrarily, BEI permitted us to elicit metaphors at the level of people's language use (Cornelissen *et al*., 2008). Moreover, the BEI format, with its non-obstructive questions, allows respondents' thoughts to emerge more fluidly.

The interviews were all recorded and transcribed verbatim, reaching a total of 631 single-spaced pages. To complement the primary data and to gain an in-depth picture of the story of the companies, we collected secondary data, such as press articles, the web pages of each company, and internal data.

To differentiate types of innovation, we relied on the *Oslo Manual* (OECD, 2005), a document that collects data on innovation activities in industry and that distinguishes between product, organizational, process, and marketing innovation. The guidelines provided by the *Oslo Manual* are widely used in the literature, since they represent commonly agreed definitions of the different types of innovation and provide "methodological standardization and harmonization when

officially surveying and comparing enterprises at European or international level" (Armbruster *et al.*, 2008: 645). A product innovation is the introduction of a good or service that is new or significantly improved with respect to its characteristics or intended uses. This includes significant improvements in technical specifications, components and materials, incorporated software, user friendliness, or other functional characteristics (OECD, 2005: 149). For instance, internet services, such as banking or bill payment systems, are a product innovation because they significantly improve the meeting of customers' needs. A process innovation is the implementation of a new or significantly improved production or delivery method. This includes significant changes in techniques, equipment, and/or software (OECD, 2005: 151). For instance, new software tools designed to improve supply flows can be considered a process innovation. The third type of innovation, namely an organizational innovation, can refer to any organizational method in a firm's business practices, workplace organization, or external relations as long as it is used for the first time by the firm (OECD, 2005: 153). For instance, a first-time research collaboration with universities or other research organizations introduces an innovation at the organizational level, but so does the introduction of teamwork in production, supply chain management, or quality management systems. Fourth, a marketing innovation refers to any marketing method (product design/packaging, placement, pricing, promotion) as long as it is used for the first time by the firm (OECD, 2005: 152), for instance the implementation of a significant change in the design of a furniture line to give it a new look and widen its appeal. We added strategic innovation, which refers to all those practices that permit entrepreneurs to reposition the company within a new competitive environment (Berghman, 2012: 2).

We finally counted a total of 197 episodes of innovation, and the episodes narrated concern primarily product (36.46%) and organizational (30.94%) innovations, followed by strategic (20.99%), marketing (6.08%), and process innovations (5.52%).

Our analytical approach was sustained by the view that organizations are language systems (Pettigrew, 1979), and we focused our analysis on metaphorical language (Cornelissen *et al.*, 2011; Heracleous and Jacobs, 2008; Lakoff and Johnson, 1980; Morgan, 1986; Oswick, Keenoy, and Grant, 2002) and on root metaphors (Cornelissen, Kafouros, and Lock, 2005; Dodd, 2002) to collect information about the cognitive mechanisms by which entrepreneurs make sense of reality and experiences (Weick, 1979; 1995).

Our analysis followed three steps: metaphor identification, categorization, and identification (Cornelissen *et al.*, 2008). The first phase was based on a critical reading of interviews. The texts were read word by word by the authors separately to detect metaphors. To extract metaphors from the texts, we relied on some of the principles of the Metaphor Identification Procedure (MIP) developed by the Pragglejaz Group (2007) and designed in five steps (as set out by Steen 2007: 12):

1. Read the whole text or transcript to understand what it is about.

2. Decide about the boundaries of words.

3. Establish the contextual meaning of the word.

4. Determine the basic meaning of the word.

5. Decide whether the basic meaning of the word is distinct from the contextual meaning.

At the end of the five steps, we were able to determine whether the contextual meaning contrasts with the basic meaning (Pragglejaz Group, 2007: 3), and in this case the word was marked as a metaphor. To conduct such an analysis rigorously, we regularly consulted renowned Italian vocabularies, the Treccani and Garzanti.

We compiled a list of metaphors that we detected during the first phase. We distinguished the *source* and the *target* domains for each metaphor (Lakoff and Johnson, 1980). The *target* is the conceptual domain that we are trying to comprehend, whereas the *source* is the conceptual domain from which we are drawing metaphorical expressions (Cornelissen, 2005; Kövecses, 2015; Lakoff and Johnson, 1980; Morgan, 1983; Tsoukas, 1991). For instance, the metaphor *we are a war*

machine is formed by the *source*, which is the war machine, and by the *target*, which is the company.

We collected the resulting *source* and *target* list in a table. To determine clearly the cognitive dimension of metaphors, we followed the Master Metaphor List (Lakoff *et al*., 1991), which classifies the metaphorical mappings with corresponding examples of language use: physical object, living being, physical location, container, path, physical obstacle, directionality, depth, motion, journey, vehicle machine/mechanism, story, and liquid (Shutova and Teufel, 2010: 3257). We tried to extract each *source* according to the semantic domain that it belongs to, that is, war, religion, sport, or theatre (Lakoff and Johnson, 1980). Finally, we reviewed each metaphor and extracted those that were used to explain a specific innovation. In this study we followed the *Oslo Manual* classification (OECD, 2005), which classifies innovation into the types product (for technology or design), process, organizational, and marketing innovations. We also agreed to include the strategic innovation type, which embraces all those practices that permit entrepreneurs to reposition their company within a new competitive environment (Berghman, 2012).

In a subsequent phase, the codes of *source* and *target* were grouped together to detect any patterns emerging from the empirical data (Miles and Huberman, 1984) and to comprehend the entrepreneurs' cognition and set of values and norms carried during the narration process (Lakoff and Johnson, 1980).

The three authors independently read each interview and discussed their individual interpretations on several occasions to produce a systematic coding of textual data (Krippendorff, 1980; Strauss and Corbin, 1998). Disagreements were resolved by discussions among the three coders to reach a common consensus.

To conclude, we adopted an inductive approach to studying those underlying metaphors that emerged from discursive interaction (Grant and Oswick, 1996) and naturally surfaced within the talk and *sensemaking* of actors (Cornelissen *et al*., 2008). Indeed, we departed from the assumption that 'organizational members already generate and use metaphors in view of their context and

experience' (Heracleous and Jacobs, 2011: 25), whereby metaphors can be derived and identified inductively by organizational researchers (Cornelissen *et al*., 2008: 9; Jacobs and Oliver, 2013).

We counted a total of 3,000 metaphors, including 1,461 used specifically to explain innovation processes. Thus, 48.7% of the metaphors are those used by entrepreneurs to explain different types of innovation, while the rest of the metaphors (1,539) emerged from entrepreneurs' stories.

FINDINGS

The analysis of the entrepreneurs' interviews highlights three main results. First of all, we observed that in these narratives metaphorical language is pervasive. We counted a total of 3,000 metaphors and an average of 76 metaphors in each interview. We counted 1,461 metaphors used specifically to explain episodes linked with innovation.

The second result of this study concerns the main sources used to create the metaphor. Referring to the entire set of metaphors, we detected the same root as previously recognized by the extant literature (such as exploration and journeys, war, family, religion, and nature). However, we found that each root metaphor is used to characterize and describe specific moments of the entrepreneurial process.

Finally, the third main result emerging from our analysis concerns the root metaphors used by entrepreneurs when they specifically refer to specific types of innovation. To determine clearly the cognitive pattern behind each innovation task, we also detected the root metaphors used to explain each different innovation. We found that each type of innovation is cognitively elaborated and linguistically represented with specific characteristics. The results will be discussed carefully in the next sections.

Root metaphors

Our analysis firstly confirms that entrepreneurs articulate *disciplined stories* (Boje, 1995) to explain critical moments and to reconstruct past and recent events. These stories follow a plot and comprise characters and dialogues in which figurative language is predominant. For instance, when they talk about key competitors or crucial internal and external collaborators whom they worked with, they refer to them using the word *character*, which implies a fictional representation. They frequently use the expression *behind the scenes* or *scenery* to describe how they managed to achieve results in a specific context, as if in a theatrical show. They describe their own issues and struggles by means of stories, adopting the same narrative and rhetorical constraints (Boje, 1991; Czarniawska, 1998). Entrepreneurs regularly report dialogues to describe past events vividly, and they stage a back-and-forth exchange of talk. By means of stories, entrepreneurs create order in previous events and familiarize themselves with something ambiguous, often by using metaphors and analogies (Lounsbury and Glynn, 2001; Martens *et al*., 2007).

As shown in Table 2, entrepreneurs use metaphors to describe specific events and their own experiences and role. We found a rich use of different root metaphors, and they clearly refer to the cultural environment in which they operate (e.g. the religion root metaphor).

[Table 2 about here]

The majority of the metaphors refer to the journey and exploration source: *when we* **departed** (entrepreneur 12); *we* **go everywhere** (entrepreneur 11); *I* **travel** *all* **around the world** (entrepreneur 12); *it was a beautiful* **adventure** (entrepreneur 25); *in the* **middle of the road** *you realize* (entrepreneur 28); **where we are going** (entrepreneur 28); *I raised my* **suitcases** (entrepreneur 20). Entrepreneurs are travellers who have embarked on a long and adventurous journey. The dimension of the journey emphasizes the idea of direction and progress towards a goal, in which even past events are thought of as a result of a journey (Lakoff and Johnson, 1980).

Long-term and purposeful activities are conceptualized as a motion within an unknown but attractive location. When entrepreneurs narrate the foundation of the company, they often use verbs such as *we departed* or *this long journey*. This group of metaphors implies that these entrepreneurs have a more exploratory attitude towards business and innovation and a less aggressive one.

Another set of metaphors refers to the logic of war, with its vocabulary and images of weapons, strategy, tactics, and death: ***in the art of war**, you can read that it's important to know your means, those of **your enemies**. But more importantly it is **the field battle*** (entrepreneur 32); *in my opinion this technology applied to pharmaceuticals is a **bomb*** (entrepreneur 39); *it was him **to conduct the battle*** (entrepreneur 2); *to us innovation is a **war horse*** (entrepreneur 16); *we have to **defend our position*** (entrepreneur 31).

The business-as-war metaphor is a widespread image among both scholars and managers. Strategic management education is imbued with military vocabulary and models (Audebrand, 2010), which are reflected and transposed into how managers structure their thinking and experience, both consciously and unconsciously (Lakoff and Johnson, 1980).

The third group of metaphors, which refers to sport and games, confirms that business activities and innovation processes are still perceived as being competitive. However, these entrepreneurs insist on positive features regarding sport, such as loyalty to a team group, the daily training needed to achieve a result, and the importance of reaching a goal with the efforts. The respect of the rules of the game in fact seems to be a central point: changing the cards on the table does not respect such rules and is judged as immoral and unethical. Then, whereas the war metaphor implies an aggressive endeavour with no explicit mention of ethics, sport and game metaphors often involve the moral sphere:

*The Dutch was the only one who had the **right cards** to do what we wanted* (entrepreneur 23); *tomorrow we risk having some difficulties or being **out of the game*** (entrepreneur 36).

The fourth group of metaphors, which refers to the family dimension, reflects the socio-cultural structure in which these firms are embedded. It is not a coincidence that the majority of the

firms that we interviewed are family businesses, in which the son continues the legacy of the father. The passage of tradition is often mentioned as something natural, albeit full of tensions and conflicts. The firm is viewed as a house where the manager establishes a father–son relationship with his employees. The same values and practices as belonging to the family sphere are transferred to the firm: relations are legitimized by marriage and there is unlimited support during difficulties despite latent and daily frictions. As noticed by Lakoff (2004), the word marriage contains and evokes many images that are rooted in our social and cultural models. Marriage is indeed central to our culture: it is an institution because it confers a social status and it has a political dimension. The idea of family that we have reflects our deep beliefs regarding how a society should be structured.

*I wish that the firm is a **shareable house**, always open to people, to that one who enters as if there is a buffet, where they can get something to eat and keep company* (entrepreneur 34); *I was able to bring **home** other competencies* (entrepreneur 37); *you **marry** an employee* (entrepreneur 31).* Nature and religion are the other two sources that emerged from the analysis. Nature is perceived as a pleasant and positive dimension. If treated respectfully by humans, nature gives back food and plants. The north-east of Italy has a strong agricultural tradition, and the entrepreneurs' vocabulary reflects the history trajectory.

*There are **seeds** of innovation that arise from innovation itself* (entrepreneur 32); *if you do not give something to drink to a **plant**, it dies* (entrepreneur 1); *people like that create **roots** and new **sprouts*** (entrepreneur 3); *you must **sow** for many years* (entrepreneur 5b).

The religious component also mirrors the Italian tradition. It is translated into a sacred–profane dichotomy (Durkheim, 1912: 1965). It is deprived of values closely related to religious morality and it is brought back to the mundane and ordinary experience: *the oil that has this **original sin*** (entrepreneur 14); *a **missionary** who has a strong and inner **mission*** (entrepreneur 21); *we do not go on a **pilgrimage** around banks* (entrepreneur 26); *I am the **father confessor*** (entrepreneur 27); *the **neophytes** of the group* (entrepreneur 32); *it is true that the **Church knows it very well and in fact they change the parish priest** every three years* (entrepreneur 37).

The most pervasive source of metaphors used by entrepreneurs refers to journeys and exploration. Contrarily, previous studies find that the parenthood metaphor is usually the predominant one (Cardon *et al.*, 2005; Dodd, 2002), together with metaphors that picture entrepreneurs as iconoclasts, echoing Schumpeter's theories of entrepreneurship endeavour as creative destruction (Dodd, 2002).

Our results instead show that entrepreneurs are versatile figures that primarily see themselves as explorers. Images of war are still present in their vocabulary, but they converge on specific activities, while metaphors of journeys are spread to many levels. Thus, the idea of a business as a war machine (Audebrand, 2010) is not so redundant of entrepreneurial vocabularies, revealing a more cooperative and mutual worldview.

Metaphors and innovation types

In general we detected that entrepreneurs mainly explain episodes concerning product innovation (36.4%), followed by organizational innovation (30.94%), strategic innovation (20.99%), marketing innovation (6.08%), and process innovation (5.52%). The analysis of metaphors used according to the type of innovation led to two main results.

First, the distribution of the analysis of metaphorical language revealed that metaphors are more likely to occur when entrepreneurs narrate organizational innovations (48%), followed by product innovations (18%), strategic innovations (15%), process innovations (11%), and marketing innovations (8%).

These different allocations of metaphorical language suggest that certain innovations incorporate a degree of complexity that involves a different cognitive effort that emerges at the level of metaphor meaning making.

The second main result emerging from our interviews is that entrepreneurs use the same root metaphors to explain innovation processes. In fact, they use references to journeys and exploration

(34%), followed by war (29%), games and sports (22%), family (9%), religion (3%), and nature (3%).

To gain a deeper understanding of how entrepreneurs conceptualize innovation processes, we proceeded with a fine-grained analysis to identify clearly how these different types of metaphors are elaborated.

Then, along with the examination of the root metaphor behind each type of innovation, we attempted to detect the source concept (e.g. living being, physical object) at the basis of the metaphorical mapping (Lakoff *et al.*, 1991; Shutova and Teufel, 2010) in an attempt to obtain greater generalizability.

Table 3 summarizes the main results of our interviews and reports how each type of innovation is framed within abstract sources.

[Table 3 about here]

Entrepreneurs are inclined to integrate the same *source* domain when they explain a specific type of innovation process, suggesting a cognitive pattern behind each type of innovation (Lakoff and Johnson, 1980). These cognitive patterns are frames that help entrepreneurs to handle different innovations and to classify them. When entrepreneurs have to explain organizational changes, they mainly frame the firm as a physical object that occupies a precise location within a space, an environment that, despite its familiarity, involves risks and challenges that entrepreneurs have to face.

Figure 1 shows that root metaphors have different distributions according to the type of innovation.

[Figure 1 about here]

As a physical object, a firm has its own dimensions that can be reshaped according to the issue to solve. Moreover, with its specific spatial dimensions, an organization can be manipulated and rotated in such a way that the innovator can obtain a complete vision of both internal and external activities: *all-around view of the firm*, *provide a service of 360-degree views* (entrepreneur 3). As a consequence, organizational problems are framed as objects that need to be shaped. They remind us of the ability of handicrafts and creating something by hand: *we have to make a balance* (entrepreneur 32); *park has to round 180 degrees, we have to round it off* (entrepreneur 4). Processes of organizational change are then pieces and objects that need to be looked at from a certain distance, with a detached gaze. Psychological changes are then hidden by these metaphors, which see the entrepreneurs as detached solvers of logical problems. The sources related to journeys and exploration exceed those of war and sport and games. Thereby, the values connected to competition, conquest, and aggression play a minor role when entrepreneurs make a change at the organizational level.

Differently from organizational innovations, when entrepreneurs explain product innovation processes, they mainly use metaphors in which the *source* is characterized as a living being. In our cases a product is framed by entrepreneurs as something that has its own life and that follows a natural cycle from birth to death: *this first innovation has brought alive some nerves that are not usually visible* (entrepreneur 21); *with my idea we could do something that stands out* (entrepreneur 14); *evolution of species towards champagne* (entrepreneur 26); *production of that machine gave us breath* (entrepreneur 2); *the spirit of a product* (entrepreneur 4).

Accordingly, entrepreneurs describe themselves as fathers/mothers of the products that they produce, establishing a parenthood relation: *the fatherhood of the product* (entrepreneur 5b); *the product is a son* (entrepreneur 7). As living entities, religious values are attached to the product, implying greater attachment: *our product is holy* (entrepreneur 12); *and the product has to be always more sacred* (entrepreneur 1).

Third, strategic innovation is frequently described by entrepreneurs with recognizable and everyday images. The concepts related to journeys and exploration are interestingly more numerous than those belonging to the war sphere, as usually thought in the current literature (Audebrand, 2010): *a company that **was on a train*** (entrepreneur 8); *a company along **two railroad platforms*** (entrepreneur 8); *my father was travelling on two **platforms*** (entrepreneur 37); *we need to **set foot outside*** (entrepreneur 34); ***a new frontier** was opened* (entrepreneur 14); *embark the firm on **dangerous adventures*** (entrepreneur 1); *we need **to map** everything again* (entrepreneur 1); *I did not find a **shortcut*** (entrepreneur 16).

Hence, strategic innovation is framed by entrepreneurs as a challenging and adventurous task in which nature appears: *over there it is generated the **seed** of success* (entrepreneur 11); *mechanisms of collaboration are **grafted*** (entrepreneur 11); *begin a **new branch** of the company* (entrepreneur 25).

As for the other innovations, a company possesses its own physical location with respect to an external and risky environment. However, entrepreneurs actively operate to control and defend their position: *we have decided to **position ourselves up*** (entrepreneur 3); *a person must only **position oneself and stay there*** (entrepreneur 23).

Not surprisingly, the use of spatial metaphors emphasizes that the struggle of entrepreneurs is viewed within a physical location and against an enemy.

Fourth, the process innovation type is framed as a multidimensional object that can be handled and controlled: ***we broke** each phase of work* (entrepreneur 20); ***we shortened** the chain* (entrepreneur 17); ***I will cut** the number of resources* (entrepreneur 21); *we let the warehouse **turn*** (entrepreneur 12).

Moreover, this type of innovation is frequently described by entrepreneurs as a path to follow: *innovations **go towards that direction*** (entrepreneur 7); the *product was **flowing in that direction*** (entrepreneur 23). Pursuing a direction implies that there is a destination, a physical point to reach. It involves the concept of moving in a direction, a spatial change from point A to point B,

and in this way process innovation is viewed as a distance that has to be covered. Thereby, the continuous and relentless movement indicates that being still is perceived by the entrepreneur as something negative.

Among the five types of innovation, marketing innovation accounts for fewer metaphors and is narrated by a more literal language. This is probably due to the lower level of uncertainty perceived by the entrepreneurs. It also suggests that the development of marketing innovation is delegated to other figures, while they prefer to follow and manage the generation of all other innovations.

Marketing innovation is normally compared to a mechanism or a vehicle that moves towards something: *it has been an **accelerator*** (entrepreneur 6); *Disney has been a **vehicle*** (entrepreneur 25*); it has been a **vehicle** to enter the market* (entrepreneur 25). Frequently, it is associated with an object that has to be pushed: ***push** your own brand* (entrepreneur 5b); *I tried to **push** sales managers* (entrepreneur 6)*. The scenario of sport, games, and gambling is recurrent when entrepreneurs talk about specific processes of marketing: *three or four bottles **even the game*** (entrepreneur 12); *three bottles **lose the game*** (entrepreneur 12); ***in this game** the phone selling has been helpful* (entrepreneur 17); *we now are able **to change the rules of the game*** (entrepreneur 20).

Thus, marketing innovation is seen as a process, a machine, or an instrument that permits entrepreneurs to win or to lose. Differently from the other innovation types, there are no allusions to any aspects related to nature or family: everything is relegated to a game of which the rules have to be known to survive.

DISCUSSION

This paper attempted to fill a gap in the innovation and entrepreneurship literature about how entrepreneurs cognitively elaborate their innovations and in particular different types of innovation.

First, we enriched the previous research that describes the phenomenon of entrepreneurship through metaphors (Cardon *et al.*, 2005; Dodd, 2002) by describing more precisely how the innovation process is elaborated and framed ex post by entrepreneurs. The literature outlines entrepreneurs' activation of different sources of metaphors to make sense of the numerous activities that they undertake and manage daily. We observed that entrepreneurs also rely on metaphors when they need to rationalize ex post key events of innovation, as they try to recreate a picture and a frame of those episodes that guide them in comprehending them. Thereby, entrepreneurs rely on abstract semantic domains to make sense of crucial and usually difficult events rather than on literal language. Our findings showed that entrepreneurs use similar root metaphors to represent cognitively and communicate their daily activity and their innovation endeavour, confirming that entrepreneurs are deeply involved in the innovation process that plays a crucial role in their business success. In terms of the root metaphors employed by entrepreneurs, the dimension of innovation as a journey emerged as the most frequent metaphor to give meaning to the innovation process, as already pointed out in a previous study (Dodd, 2002). At a more symbolic level, a journey means overcoming risks and obstacles and the testing and verification of different experiences. A journey is also proof of knowledge in the broadest sense of the term. It is the natural stimulus of the search for something new, the instinctive attraction to or repulsion of what is different, and it highlights the distance from ourselves to an unknown reality. It is a challenge, because it requires us to confront new people and a new reality with the ability to adapt ourselves to unexpected situations. Like the mythical figure of Ulysses, the entrepreneur has to show tenacity in handling natural calamities (storms), cunning in circumventing unexpected risks (Polyphemus), the temerity to cross the limits of what is known (journey to the Underworld), rhetorical skills in narrating the various stages of the journey (the tale to Alcinous), and a taste for risk and adventure. However, differently from the extant research on entrepreneurial identity and process (Cardon *et al.*, 2005; Dodd, 2002), the dimension of innovation as a journey is enriched by the dimension of exploration. Innovation and entrepreneurial activities are framed as part of a daily exploration.

94

Through innovation, entrepreneurs constantly explore the world intellectually and experientially, observing and paying attention to everyday experiences to find and test new ideas 'with a hypothesis-testing mindset: visiting new places, trying new things, seeking new information, and experimenting to learn new things, holding convictions at bay, testing hypotheses along the way' (Dyer *et al*., 2008: 322).

Regarding the war root metaphor, we surprisingly found that it is not the most pervasive one when entrepreneurs narrate strategic innovation, as pointed out by previous studies (Dodd, 2002). The competitive strategy research and the industrial organization stream of the literature always refer to strategy with the logic of military tactics (Hunt and Menon, 1995). New venture formations and international strategies are described with the traditional logic of first-mover advantage, highlighting the dimensions of rivalry, competition, and invasion coming from game theorists (Rindova *et al*., 2004). Instead, we found that strategic innovation is described as a journey and an exploration. Thereby, strategic innovation is not a result of assaulting other companies outside the business, as is usually considered by the literature (Dodd, 2002: 528), but instead a combination of more sympathetic and flexible approaches.

Differently from the semantic domains typically used to analyse and describe entrepreneurship and organizations, we found the presence of root metaphors such as sport and games representing the innovation process. Sport, with its values of group and loyalty to a team, challenges the overarching notion of individualism that permeates much mainstream theory and research in entrepreneurship (Jennings and Brush, 2013). Specifically, the root metaphor of sport and games is pervasive in organizational innovation. Organizational innovation requires a large amount of commitment, because it involves and has impacts on both business processes and organizational structures (Armbruster, 2008). What emerged from our interviews is that entrepreneurs perceive this innovation as a result of substantial involvement of different partners, both internally and externally to the company. The interaction between different players is thus fundamental, and the values of cooperation and membership within a group are central. This result

confirms that collaborative innovation is perceived as a driver of innovation, a factor of success, and a value for a company.

Religion and family are both descriptive metaphors of how entrepreneurs conceive their firms. Companies are houses in which the relations are those of a father and a son. Generally, a family consists of people who have a moral obligation towards the other components (Kövecses, 2010: 182), and these entrepreneurs believe that they have a moral responsibility towards their employees and collaborators. As already observed with female entrepreneurs (Jennings and Brush, 2013), our sample entrepreneurs do not consider their businesses "as separate economic entities but rather as endeavours entwined with other aspects of their lives" (Jennings and Brush, 2013: 687). The reference to religious values confirms that the environment in which entrepreneurs live is also anchored to traditions, old values, and conventions. Marriage, as the public expression of lifelong commitment (Lakoff, 2004), is also the bounded relation between the entrepreneur and the employee. If the relationship ends, it is because something bad occurred: death, betrayal, or abuse (Lakoff, 2004).

Thereby, this study shows that entrepreneurs are driven by different and often competing logics: if on one hand they are persuaded to leave and to explore, on the other hand they are also anchored to solid traditions, as represented by family and religion. Prior studies have not fully captured this dichotomy, which has been investigated at the surface level (Cardon *et al.*, 2005; Dodd, 2002). However, the view of an entrepreneur as a multifaceted and often contradictory character is relevant both to the entrepreneurship and to the innovation literature to understand better the nature of conflicting entrepreneurial actions and motivations.

Second, we contributed to the innovation literature that already explores the use of metaphors in innovation processes (Hargadon and Sutton, 1997; Seidel and O'Mahony, 2014). This literature mainly focuses its attention on new product development projects, neglecting other innovations. By enlarging the scope of our analysis to other types of innovation (product, process, marketing, strategic, and organizational), we empirically showed that innovation is a multifaceted

and complex activity, which is elaborated differently at the cognitive level. What is interesting from our data is that, when the level of complexity is high, the vocabulary becomes more metaphorical and, more importantly, the complexity of different types of innovations is elaborated differently.

The prior literature, which focuses more attention on how metaphors can help in directing the attention in facilitating or confining individual and team action (Ocasio, 1997; Seidel and O'Mahony, 2014; Sillince *et al.*, 2012), underestimates how metaphors can reveal the degree of such complexity. For instance, organizational innovation is perceived as a very complex and multifaceted activity that involves numerous skills and capabilities, often at the same time. To overcome such barriers, entrepreneurs objectify their companies and their tasks. Contrarily, products are living entities that can be created but that can also be destroyed if not properly managed.

Strategic and process innovations are contrarily associated with images linked with movement and a path to follow. They are framed as less static innovations, because they require more action than the other types. As underlined by recent studies (Gerli *et al.*, 2016), when entrepreneurs understand what is the best strategic choice, they actively try to achieve that goal. Thus, strategic and process innovations are mainly framed as a challenge of exploring outside, a path to take, and a constant exchange with the outside.

Another interesting insight that emerged from the analysis is how metaphors function as an auto-legitimization process. Most of the metaphors employed by entrepreneurs are *dead* metaphors, namely metaphors that "have become so familiar and so habitual that we have ceased to be aware of their metaphorical nature and use them as literal terms" (Tsoukas, 1991: 568). By referring to images that are familiar and well known, entrepreneurs recognize themselves as being part of a specific environment. This suggests willingness to communicate that their firms belong to a legitimated environment, by leveraging a common and shared vocabulary.

The extant literature already emphasizes that stories and metaphors have a fundamental role in an innovation context (Bartel and Garud, 2009; Dahl and Moreau, 2002; Schön, 1993; Seidel and

O'Mahony, 2014), because they help innovators to represent something unclear and translate it into something definite. However, we showed that if stories reveal information about the identity of entrepreneurs and about the environment they are embedded in, metaphors follow a cognitive pattern that, properly detected, provides relevant information. The extant literature leaves the analysis at the surface level, while we followed a strict protocol to understand what root metaphors and sources metaphors can tell us about entrepreneurship and the rationalization of innovation processes.

CONCLUSION

There are several noteworthy contributions stemming from our study. First, we attempted to conduct our study with the aim of letting the generative power of metaphors emerge (Morgan, 2016; Schön, 1993). Moreover, the paper enriches the extant literature that analyses the use of metaphors in understanding the entrepreneurial phenomenon. This literature shows that entrepreneurs consciously use metaphorical representations, for instance in describing their role, in gaining legitimacy for new ventures, in acquiring resources, and in representing firm growth (Cardon, 2005; Clark et al., 2014; Dodd, 2002). In so doing they "generate new meanings that are derived from previously accepted similarities" (Clark 2014: 237). Our findings show the relevance of metaphors as a linguistic device that allows entrepreneurs to develop an understanding of the innovation process, making sense of this experience and representing it through root metaphors primarily in the semantic domains of journey and exploration, war, and sport and games.

Second, we contribute to the understanding of the cognitive processes that characterize each type of innovation. Few studies highlight the factors that distinguish the different types of innovation and the cognitive pattern behind them. As we stated, innovation itself is a complex phenomenon, and each type of innovation entails a different degree of complexity. It is therefore fundamental that the entrepreneur fully comprehends such complexity to overcome puzzling

situations (Boer and During, 2001). By providing empirical evidence that entrepreneurs cognitively elaborate each type of innovation differently, we show that each type of innovation carries a distinct set of knowledge, information, and practices (OECD, 2005), and metaphors permit us to understand how these sets of knowledge are elaborated, rationalized, and transmitted.

Third, this study provides a contribution from a methodological perspective. As suggested by Cornelissen *et al*. (2008), there is room in organization studies, including in the entrepreneurship and innovation literature, for more empirical studies that use metaphors as a valuable and rich lens of analysis. These authors call for stronger methodological approaches to elicit metaphors, because there is still a "lack of precision about what counts as metaphor [because] it diminishes the internal validity of a particular empirical analysis, as too many or too few metaphors may be identified" (Cornelissen *et al*., 2008: 15). A more reliable protocol would permit us to understand how metaphors are influenced and comprehend otherwise covert relations (Lakoff and Johnson, 1980; Morgan, 2016) that should be investigated better in the future. Our research provides a detailed list of analytical steps that could be replicated to analyse metaphorical language in a more accurate way and in different organizational settings. The BEI protocol is a useful technique to detect metaphors in ex post narrations, and it is structured in such a way that it would be adapted easily to other studies, such as studies in cross-cultural environments and at the group level.

In addition to filling an interesting gap in both the entrepreneurship and the innovation literature, focusing on metaphor analysis, there are noteworthy managerial contributions that will be discussed. First, among the five innovations that we detected (organizational, product, strategic, process, and marketing), organizational innovation registered the highest number of metaphors. This result reveals that entrepreneurs find this type of innovation to be more complex than the others, and it requires an intense use of metaphors. Organizational innovation comprises a vast array of activities and constant adaptations, such as to the design of the internal structure of the firm as well as the external network collaborations. Entrepreneurs constantly adjust their organization to internal and external needs (Armbruster *et al*., 2008). Thereby, this type of innovation has impacts

on entrepreneurs' responsibility and procedures and the division of both internal labour and that with external partners. Even though there is no clear consensus on what organizational innovation is and on its boundaries (Lam, 2005), several studies suggest that organizational innovation is central to business performance at many levels: from implementing new managerial practices to the implementation of teamwork, supply chain management, or quality management systems (Armbruster *et al*., 2008; Damanpour and Evan, 1984). The highest number of metaphors confirms that organizational innovation is still perceived by entrepreneurs as being at the core of their innovation activity. Entrepreneurs concentrate on their personal role in organizing and coordinating the large spectrum of activities requiring by organizational innovation with a more detached endeavour. To achieve this goal, they objectify the company and its activity, following a rational logic studied in cognitive studies in which we understand non-human entities, or things, in terms of human beings by the projection of human characteristics (Kövecses and Benczes, 2010: 775). Thereby, the entrepreneur plays a fundamental role in developing an organizational innovation that should not be underestimated. These data confirm first that it is arduous to set the boundaries of organizational innovation (Lam, 2005) and second that this limit is in turn reflected in entrepreneurs' difficulties in understanding what organizational innovation is. From a managerial perspective, it implies that there is a need to train managers and entrepreneurs in this type of innovation. Moreover, much more theoretical and empirical exploration is needed to clarify this type of innovation, which seems to be central for organizations.

Limits and future lines of research

Our analysis has limitations that should be taken into consideration and addressed in future studies. As we showed in our analysis, our sample is restricted to firms that are embedded in a specific environment, namely a northern region of Italy. People attach different meanings to specific words and therefore to metaphors, since they are 'complex bundles of meaning that have

multiple implications and need to be carefully examined for the meaning they convey in a given context' (Gibson and Zellmer-Bruhn, 2001: 297–298). Additionally, metaphors may vary considerably across languages and cultures (Kövecses, 2015). For instance, *spending your time* in English is expressed in Hungarian as *filling your time* (example taken from Kövecses, 2015: 3), implying that the metaphor and the context are closely linked to one another. Besides, recent studies point out that generic metaphors exist, namely ones that are common to different languages (Kövecses, 2015). Thereby, it would be interesting to analyse whether metaphors and their sources at the basis are common to different languages and the extent to which they are shaped by culture. Nowadays companies are becoming more and more global and multicultural realities, in which different experiences occur. Thus, such a kind of analysis would facilitate our understanding of the extent to which innovation is culturally driven and how multicultural groups of teams understand each other.

Furthermore, our sample of entrepreneurs is composed of higher performers to facilitate the collection of rich narratives of innovation episodes. A future line of research should investigate the difference between successful and poorly performing entrepreneurs in their use of metaphorical language to perceive, comprehend, and communicate their innovation endeavour.

Moreover, an ethnographic analysis would surely benefit this type of study, because it would capture metaphors *in vivo* instead of ex post, providing richer insights. The metaphors that entrepreneurs use while they are innovating will certainly be different from those that they use ex post, because the latter are the result of reflection on a situation that has already occurred, together with the need to make themselves understood by the interviewer. An ethnographic investigation would first set the boundaries between a metaphor used *in vivo* and a metaphor used ex post. Second, as shown by Dunbar (1997; 2000) in his ethnographic study within a scientific laboratory, there are metaphors that enhance discovery while others do not. It would be fruitful to test whether there are metaphors that are more successful in generating innovation and to assess which metaphors are, on the contrary, used to coordinate people during the innovation process. Moreover,

can metaphors foster decision making on innovation and stimulate similarities to be used in identifying solutions to problems of innovation?

Ethnographic observations might address these issues that have relevance both in terms of theoretical advancements and in terms of managerial implications. In fact, it might be possible that the metaphors used during innovation processes are different from those used to describe innovation. The premise of this study is that the post-event methodology employed reveals an ex post rationalization. Thereby, further future ethnographic studies should examine the real-time use of metaphors during the actual innovation process to disentangle those used during innovation and ex post.

Future studies should also include other tropes in our analysis, such as metonymies, irony, synecdoche, and hyperbole. For instance, it has been shown that "symbols function linguistically through metonymy, which serves to articulate cultural knowledge as well as cultural differences" (Dobrovol'skij and Piirainen, 1998 cited in Riad and Vaara, 2011). Then, a deeper analysis of metonymies would provide more interesting information about both cultural symbols and cultural differences among cross-cultural groups of people. Second, this study mentioned how people use figurative language to express complexity and critical events. A further exploration of critical events, for example discussions among collaborators and rough meetings, would shed more light on how language can function as a screen of disruptive moments to determine how much emotions have an impact on individual performance within a company. A limit of this study concerns the difficulty in unravelling the extent to which the metaphors deployed are used consciously and/or unconsciously by entrepreneurs (for instance, the entrepreneurs are subliminally using *dead* metaphors or actively using *live* metaphors). This analysis might permit us to understand how metaphors work in the innovation process in terms of the extent to which they drive new ways of thinking or communicate a pre-existing understanding.

REFERENCES

Alvesson, M. 1993. The play of metaphors. In J. Hassard & M. Parker (Eds.), *Postmodernism and organizations*: 114–131. London: Sage.

Anderson, A. R. 2005. Enacted metaphor: The theatricality of the entrepreneurial process. *International Small Business Journal*, 23 (6): 587–603.

Armbruster, H., Bikfalvi, A., Kinkel, S. and Lay, G. 2008. Organizational innovation: The challenge of measuring non-technical innovation in large-scale surveys. *Technovation*, 28(10): 644–657.

Amernic J., Craig, R., and Tourish, D. 2007. The transformational leader as *pedagogue*, *physician*, *architect*, *commander*, and *saint*: Five root metaphors in Jack Welch's letters to stockholders of General Electric. *Human Relations* 60(12): 1839–1872.

Audebrand, L. 2010. Sustainability in Strategic Management Education: The Quest for New Root Metaphors. *Academy of Management Learning & Education*, 9(3): 413–428.

Balogun, J., Jacobs, C., Jarzabkowski, P., Mantere, S., and Vaara, E. 2014. Placing Strategy Discourse in Context: Sociomateriality, Sensemaking, and Power. *Journal of Management Studies*, 51(2): 175–201.

Berghman, L.A. 2012. Strategic innovation in established companies: An empirical study of appropriate ambidexterity strategies. *International Journal of Innovation Management*, 16 (1): 1250007-1-1250007-30.

Boer, H. and During, W. 2001. Innovation, what innovation? A comparison between product, process and organisational innovation. *International Journal of Technology Management*, 22(1/2/3): 83–107.

Boje, D. M. 1991. The storytelling organization – a study of story performance in an office-supply firm. *Administrative Science Quarterly*, 31: 106–26.

Boje, D. 1995. Stories of the storytelling organization: a postmodern analysis of Disney as "tamara-land". *Academy of Management Journal,* 38(4): 997–1035.

Bonesso, S., Gerli, F., Pizzi, C.; Tintorri, S. 2015. *Diversify your ability to innovate by leveraging on your emotional social and cognitive competencies: the case of Italian luxury footwear industry*, R&D Management Conference proceedings, RADMA and Scuola Superiore San'Anna Pisa, Conference: R&D Management Conference 2015, 23–26 June.

Boyatzis, R.E. 1998. *Transforming Qualitative Information. Thematic Analysis and Code Development*. Thousand Oaks, CA: Sage.

Campion, M.A., Fink, A.A., Ruggeberg, B.J., Carr, L., Phillips, G.M., Odman, R.B. 2011. Doing competencies well: Best practices in competency modeling. *Personnel Psychology*, 64: 225–262.

Cardon, M. S., Zietsma, C., Saparito, P., Matherne, B., Davis, C. 2005. A tale of passion: New insights into entrepreneurship from a parenthood metaphor. *Journal of Business Venturing*, 20 (1): 23–45.

Cefis, E. and Marsili, O. 2006. Survivor: The role of innovation in firms' survival. *Research Policy* 35(5): 626–641.

Chell, E., 2004. Critical Incident Technique. In Cassell, C., Symon, G., (Eds), *Essential Guide to Qualitative Methods in Organizational Research*. London: Sage.

Clarke, J. and Cornelissen, J. 2011. Language, Communication, and Socially Situated Cognition in Entrepreneurship. *Academy of Management Review* 36(4): 776–778.

Cornelissen, J.P. 2004. What Are We Playing at? Theatre, Organization, and the Use of Metaphor. *Organization Studies*, vol. 25 (5): 705–726.

Cornelissen, J.P. 2005. Beyond Compare: Metaphor in Organization Theory. *The Academy of Management Review*, vol. 30, no. 4: 751–764.

Cornelissen, J. P, Clarke, JS. 2010. Imagining and rationalizing opportunities: inductive

reasoning and the creation and justification of new ventures. *Academy of Management Review*, 35 (4), 539–557.

Cornelissen, J.P., Holt R., Zundel M. 2011. The Role of Analogy in the framing and legitimization of strategic change, *Organization Studies*, 32 (12): 1701–1716.

Cornelissen, J., and Kafouros, M. 2008a. The Emergent Organization: Primary and Complex Metaphors in Theorizing about Organizations. *Organization Studies*, 29 (7): 957–978.

Cornelissen, J., and Kafouros, M. 2008b. Metaphors and Theory Building in Organization Theory: What Determines the Impact of a Metaphor on Theory? *British Journal of Management*, 19 (4): 365–379.

Cornelissen, JP., Kafouros, M., Lock, AR. 2005. Metaphorical images of organization: How organizational researchers develop and select organizational metaphors. *Human Relations*, 58 (12), 1545–1578.

Cornelissen JP, Oswick C, Christensen LT, Phillips N. 2008. Metaphor in organizational research: Context, modalities and implications for research introduction. *Organization Studies*, 29 (1): 7–22.

Clarke, J., Holt, R., Blundel, R. 2014. Re-imagining the growth process:(co)-evolving metaphorical representations of entrepreneurial growth. *Entrepreneurship & Regional Development*, 26 (3-4), 234–256.

Czarniawska, B. 1998. Metaphor and organizations. *Management Learning*, 23: 389–91.

Dahl, D. and Moreau, P. 2002. The Influence and Value of Analogical Thinking During New Product Ideation. *Journal of Marketing Research*, 39(1): 47–60.

Dainty, A., Cheng, M., And Moore, D. 2005. A comparison of the behavioural competencies of client-focused and production-focused project managers in the construction sector. *Project Management Journal*, 36 (1): 39–48.

Damanpour, F. 1996. Organizational Complexity and Innovation: Developing and Testing Multiple Contingency Models. *Management Science*, 42(5): 693–716.

Damanpour, F., Evan, W.M. 1984. Organizational innovation and performance: the problem of ''Organizational Lag''. *Administrative Science Quarterly*, 29: 392–409.

Devece, C., Peris-Ortiz, M., Carlos Rueda-Armengot, C. 2016. Entrepreneurship during economic crisis: Success factors and paths to failure. *Journal of Business Research*, 69: 5366–5370.

Dodd, S. 2002. Metaphors and meaning: A grounded cultural model of US entrepreneurship. *Journal of Business Venturing*, 17: 519–535.

Dyer, J.H., Gregersen, H.B., Christensen, C. 2008. Entrepreneur behaviours, opportunity recognition, and the origins of innovative ventures. *Strategic Entrepreneurship Journal*, 2: 317–338.

Dunbar, K. 1997. How scientist think: on-line creativity and conceptual change in science. In T. Ward, S. Smith, and J. Vaid, *Creative thought* (1st Edit.): 461–493. Washington, DC: American Psychological Association.

Dunbar, K. 2000. How Scientists Think in the Real World. *Journal of Applied Developmental Psychology*, 21(1): 49–58.

Dunning, D., Heath, C., Suls, J. 2004. Flawed self-assessment: Implications for health, education, and the workplace. *Psychological Science in the Public Interest*, 5: 69–106.

Edvardsson, B., Roos, I., 2001. Critical incident techniques. Towards a framework for analyzing the criticality of critical incidents. *International Journal of Service Industry Management*, 12(3): 251–268.

European commission, Veneto region. (2016). <<https://ec.europa.eu/growth/tools-databases/regional-innovation-monitor/base-profile/veneto>>. Accessed on November 29, 2016

Durkheim, E. 1965. *The elementary forms of the religious life*. New York: Free Press.

Flanagan, J. C. 1954. The critical incident technique. *Psychological Bulletin*, 51 (4): 327–359.

Garud, R., Gehman, J., and Giuliani, A. 2014. Contextualizing entrepreneurial innovation: A narrative perspective. *Research Policy*, 43(7): 1177–1188.

Gerli, F., Bonesso, S., Cortellazzo, L. 2016. *Nurturing entrepreneurs' innovative capability: The role of competency portfolio and social capital*. Academy of Management Annual Meeting: Conference Proceedings, Academy of Management, August 5–9, 2016 Anaheim (USA).

Gibbs, R. W. 2003. Embodied experience and linguistic meaning. *Brain and Language*, 84: 1–15.

Gibson, C. and Zellmer-Bruhn, M. 2001. Metaphors and Meaning: An Intercultural Analysis of the Concept of Teamwork. *Administrative Science Quarterly*, 46(2): 274–303.

Gioia, D.A., Thomas, J.B., Clark, S.M. and Chittipeddi, K. 1994. Symbolism and Strategic Change in Academia: The Dynamics of Sensemaking and Influence. *Organization Science*, vol. 5, (3): 363–383.

Global Entrepreneurship Monitor Italia 2014, (2014). <<http://gemconsortium.org/country-profile/74>>. Accessed on July 10, 2015.

Grant, D., Keenoy, T., and Oswick, C. 1998. *Discourse and organization*. London: Sage Publications.

Grant, D. and Oswick, C. 1996. *Metaphor and organizations*. London: Sage Publications.

Hargadon, A. and Sutton, R. 1997. Technology Brokering and Innovation in a Product Development Firm. *Administrative Science Quarterly*, 42(4): 716–749.

Hargadon, A.B., and Douglas, Y. 2001. When innovations meet institutions: Edison and the design of the electric light. *Administrative Science Quarterly*, 46: 476–501.

Heracleous, L. and Jacobs, C. 2008. Understanding organizations through embodied metaphors. *Organization Studies*, Vol. 29: 45–78.

Heracleous, L. and Jacobs, C. 2011. *Crafting Strategy – Embodied Metaphors in Practice*. Cambridge: Cambridge University Press.

Hervas-Oliver, J.L, Boronat-Moll, C., Sempere-Ripoll, F., 2016. On process innovation capabilities in SMEs: A taxonomy of process-oriented innovative SMEs. *Journal of Small Business Management*, 54(S1): 113–134.

Hill, R. and Levenhagen, M. 1995. Metaphors and mental models: Sensemaking and sensegiving in innovative and entrepreneurial activities. *Journal of Management*, 21: 1057–1074.

Hyrsky, K. 1999. Entrepreneurial Metaphors and Concepts: An Exploratory Study. *International Small Business Journal*, 18(1):13–34.

Hunt, S. and Menon, A. 1995. Metaphors and competitive advantage: Evaluating the use of metaphors in theories of competitive strategy. *Journal of Business Research*, 33(2): 81–90.

Jacobs, C., Oliver, D., and Heracleous, L. 2013. Diagnosing Organizational Identity Beliefs by Eliciting Complex, Multimodal Metaphors. *The Journal of Applied Behavioural Science*, 49(4): 485–507.

Jennings, J. and Brush, C. 2013. Research on Women Entrepreneurs: Challenges to (and from) the Broader Entrepreneurship Literature? *The Academy of Management Annals*, 7(1): 663–715.

Koiranen, M. 1995. *Frontiers of Entrepreneurship Research*. Waltham, MA: P&R Publications.

Kövecses, Z. 2015. *Where metaphors come from: reconsidering context in metaphor*. New York, NY: Oxford University Press.

Kövecses, Z., and Benczes, R. 2010. *Metaphor*. Oxford: Oxford University Press.

Krippendorff, K. 1980. *Content analysis*. Beverly Hills: Sage Publications.

Lam, A. 2005. Organizational innovation. In: Fagerberg, J., Mowery, D.C., Nelson, R.R. (Eds.), *The Oxford Handbook of Innovation*. Oxford University Press, Oxford, pp. 115–147.

Lakoff, G. 2004. *Don't think of an elephant!*. White River Junction, Vt.: Chelsea Green Pub.

Co.

Lakoff, G., and Johnson, M. 1980. *Metaphors we live by*. Chicago: University of Chicago Press.

Lakoff, G., and Johnson, M. 1999. *Philosophy in the Flesh*. New York: Basic Books.

Lakoff, G., Espenson, J., and Schwartz, A. 1991. *The master metaphor list*. Technical report, University of California at Berkeley.

Lounsbury, M., and Glynn, M. 2001. Cultural entrepreneurship: stories, legitimacy, and the acquisition of resources. *Strategic Management Journal*, 22(6-7): 545–564.

Martens, M., Jennings, J., and Jennings, P. 2007. Do the stories they tell get them the money they need? The role of entrepreneurial narratives in resource acquisition. *Academy of Management Journal*, 50(5): 1107–1132.

Metaphor. *Merriam-Webster.com*. Merriam-Webster. Web. 12 Dec. 2016.

Mcclelland, D.C. 1998. Identifying competencies with behavioural-event interviews. *Psychological Science*, 9 (5): 331–339.

Miles, M.B., and Huberman, A.M. 1984. *Qualitative data analysis*. Beverly Hills, CA: Sage.

Mitchell, R., Busenitz, L., Lant, T., McDougall, P., Morse, E. and Smith, J. 2002. Toward a Theory of Entrepreneurial Cognition: Rethinking the People Side of Entrepreneurship Research. *Entrepreneurship Theory and Practice*, 27(2): 93–104.

Mitchell, R., Busenitz, L., Bird, B., Marie Gaglio, C., McMullen, J., Morse, E. and Smith, J. 2007. The Central Question in Entrepreneurial Cognition Research 2007. *Entrepreneurship Theory and Practice*, 31(1): 1–27.

Morgan, G. 1983. More on Metaphor: Why we Cannot Control Tropes in Administrative Science. *Administrative Science Quarterly*, 28(4): 601–607.

Morgan, G. 1986. *Images of organization*. Beverly Hills: Sage Publications.

Morgan, G. 2016. Commentary: Beyond Morgan's eight metaphors. *Human Relations*, Vol. 69(4): 1029–1042

Nicholson, L. and Anderson, A. 2005. News and nuances of the entrepreneurial myth and metaphor: Linguistic games in entrepreneurial sense-making and sense-giving. *Entrepreneurship Theory and Practice*, 29: 153–72.

Nissan, E., Martìn, M.A.G. Picazo, M.T.M. 2011. Relationship between organizations, institutions, entrepreneurship and economic growth process. *International Entrepreneurship and Management Journal*, 7 (3): 311–324.

Nonaka, I., and Yamanouchi, T. 1989. Managing innovation as a self-renewing process. *Journal of Business Venturing*, 4 (5): 299–315.

Ocasio, W. 1997. Towards an attention based view of the firm. *Strategic Management Journal*, 18(S1):187–206.

OECD. 2005. *Oslo Manual: Proposed Guidelines for Collecting and Interpreting Technological Innovation Data*. 3rd Edn. OECD: Paris.

OECD. 2011. *Skills for Innovation and Research*. OECD Publishing (downloaded on 25 July 2015 from http://www.oecd-ilibrary.org/science-and-technology/skills-for-innovation-and-research 9789264097490-en).

Ortony, A. 1993. *Metaphor and thought*. Cambridge [England]: Cambridge University Press.

Oswick, C., Keenoy, T., and Grant, D. 2002. Metaphor and Analogical Reasoning in Organization Theory: beyond Orthodoxy. *The Academy of Management Review*, 27(2): 294–303.

Patriotta, G. and Brown, A. 2011. Sensemaking, metaphors and performance evaluation. *Scandinavian Journal of Management*, 27(1): 34–43.

Pérez-Luño, A., Wiklund J., and Valle Cabrera R. 2011. The dual nature of innovative activity: How entrepreneurial orientation influences innovation generation and adoption. *Journal of Business Venturing*, 26: 555–571.

Pettigrew, A. 1979. On Studying Organizational Cultures. *Administrative Science Quarterly*, 24(4): 570–581.

Pitt, M. 1998. A Tale of Two Gladiators: 'Reading' Entrepreneurs as Texts. *Organization Studies*, 19(3): 387–414.

Pizzi, C., Bonesso, S., Gerli, F. 2015. How to measure the frequency and the variety of a competency portfolio using behavioural event interview. *Rivista italiana di economia, demografia e statistica*, vol. LXIX: 167–177.

Pragglejaz Group. 2007. MIP: A method for identifying metaphorically used words in discourse. *Metaphor and Symbol*, 22:1–39.

Riad, S. and Vaara, E. 2011. Varieties of National Metonymy in Media Accounts of International Mergers and Acquisitions. *Journal of Management Studies*, 48(4): 737–771.

Rindova, V., Becerra, M. and Contardo, I. 2004. Enacting Competitive Wars: Competitive Activity, Language Games, and Market Consequences. *The Academy of Management Review*, 29(4): 670.

Sackmann, S. 1989. The Role of Metaphors in Organization Transformation. *Human Relations*, 42(6): 463–485.

Santandreu-Mascarell, C., Garzon, D., Knorr, H. 2013. Entrepreneurial and innovative competences, are they the same? *Management Decision*, 51(5): 1084–1095.

Schön, D. 1993. Generative metaphor: a perspective on problem-setting in social policy. In A. Ortony (Eds.), *Metaphor and Thought*: 137–163. Cambridge: Cambridge University Press.

Schumpeter, J. 1934. *The theory of economic development*. Cambridge, Mass.: Harvard University Press.

Seidel, V. and O'Mahony, S. 2014. Managing the Repertoire: Stories, Metaphors, Prototypes, and Concept Coherence in Product Innovation. *Organization Science*, 25(3): 691–712.

Shutova, E., and Teufel, S. 2010. Metaphor Corpus Annotated for Source - Target Domain Mappings. In *Proceedings of LREC*. 2010. Valetta, Malta.

Sillince, J., Jarzabkowski, P., Shaw, D. 2012. Shaping strategic action through the rhetorical construction and exploitation of ambiguity. *Organization Science*, 23(3):630–650.

Steen, J., (2007). Finding metaphor in discourse: Pragglejaz and beyond. Cultura, Lenguaje y Representacion / Culture, Language and Representation (CLR), *Revista de Estudios Culturales de la Universitat Jaume*, I (5): 9–26.

Strauss, A. and Corbin, J. 1998. *Basics of qualitative research*. Thousand Oaks: Sage Publications.

Tavassoli, S., Karlsson, C., 2015. Persistence of various types of innovation analyzed and explained. *Research Policy*, 44: 1887–1901.

Thagard, P., Findlay, S. 2012. *The cognitive science of science: explanation, discovery, and conceptual change*. Cambridge, Massachusetts: MIT Press.

Tourish, D. and Hargie, O. 2012. Metaphors of Failure and the Failures of Metaphor: A Critical Study of Root Metaphors used by Bankers in Explaining the Banking Crisis. *Organization Studies*, 33(8): 1045-1069.

Tsoukas, H. 1991. The Missing Link: A Transformational View of Metaphors in Organizational Science. *The Academy of Management Review*, 16(3): 566–585.

Tsoukas, H. 1993. Analogical Reasoning and Knowledge Generation in Organization Theory. *Organization Studies*, vol. 14, (3): 323–346.

Vila L. E., Pérez P. J., Coll-Serrano V. 2014. Innovation at the workplace: Do professional competencies matter? *Journal of Business Research*, 67: 752–757.

Van Werven, R., Bouwmeester, O. and Cornelissen, J. 2015. The power of arguments: How entrepreneurs convince stakeholders of the legitimate distinctiveness of their ventures. *Journal of Business Venturing*, 30(4): 616–631.

Ward, T., Smith, S., and Vaid, J. 1997. *Creative thought*. Washington, DC: American Psychological Association.

Ward, T.B. 2004. Cognition, creativity, and entrepreneurship. *Journal of Business Venturing*, 19: 173–188.

Weick, K. 1979. *The social psychology of organizing*. Reading, Mass.: Addison-Wesley Pub. Co.

Weick, K. 1995. *Sensemaking in organizations*. Thousand Oaks: Sage Publications.

TABLES AND FIGURE

Table 1
Metaphors in the entrepreneurship literature

| PAPER	TARGET: CONCEPT TO DEFINE	ROOT METAPHORS
Dodd, S. 2002	Entrepreneurship	Journey, race, parenting, building, war, lunacy/iconoclasm, passion
Koiranen, M. 1995	Entrepreneurship	Creativity/activeness, special characteristics and features, machine(ry) or physical objects, nature, sports and games, adventurer, and warrior or battler
Pitt, M. 1998	The role of entrepreneur	Commando, a poacher, a pioneer, and a prospector
Cardon *et al*. 2005	Entrepreneurship and entrepreneurial process	Parenthood
Clarke, J. *et al*. 2014	Epistemological perspective on entrepreneurial growth process	Biological change (life cycle and evolution)
Anderson, A. R. 2005	Entrepreneurial process	Theatricality
Nicholson, L. and A. L. Anderson. 2005	Entrepreneurs and entrepreneurship in the media	Creator, seducer, aggressor, charmer, or saviour
Hyrsky, K. 1999	Entrepreneur and entrepreneurship	Machinery and other physical objects, warfare and adventure, sports and games, creativity and activity, nature, disease, food items, special features

Table 2
Frequent root metaphor and target concepts used by innovators (3,000 metaphors)

ROOT METAPHOR	TARGET CONCEPTS	QUOTES
JOURNEY AND EXPLORATION (37%)	Foundation of the company and entrepreneurs' attitude towards guiding the company	*We **departed** with this company* (entrepreneur 26)
		*We **departed** 20 years ago* (entrepreneur 23)
		*We **departed** very slowly* (entrepreneur 33)
WAR (24%)	Strategy, crisis, internationalization	*I have a **war strategy*** (entrepreneur 20)
		There was **a war** for a penny (entrepreneur 13)
		*She is a **war machine*** (entrepreneur 20)
SPORT AND GAMES (19%)	Suppliers, competitors, collaborators	*We **gambled** on a **horse** [new ventures]* (entrepreneur 14)
		*Clients of **team A and team B*** (entrepreneur 8)
		*It is not always possible to be part of a **team with Messi*** (entrepreneur 21)
FAMILY AND HOUSE (9%)	The company and relationship between co-workers	*Your employee, for several reasons, **is not a wife, he is more than a wife*** (entrepreneur 23)
		*The moment in which we signed our first license has been a perfect **marriage*** (entrepreneur 25)
NATURE (8%)	Harmonious physical location of the company and success	*Such people generate **germs*** (entrepreneur 32)
		*The **bush** of the companies* (entrepreneur 5b)
		*Within the firm, we have a **seed*** (entrepreneur 3)
RELIGION (3%)	Values of the company and its products	*The **spirit** of the company* (entrepreneur 34)
		*We always have this **faith** [about a product production]* (entrepreneur 30)

*The product is **holy***
(entrepreneur 1)

Table 3
Types of innovation and sources characteristics of metaphors (1,460 metaphors)

TYPE OF INNOVATION	SOURCE DOMAIN CHARACTERISTICS	QUOTES
ORGANIZATIONAL (48%)	Physical object within both a familiar and a natural environment	*We **brought home results** after some years (entrepreneur 34)*
		*We **squeezed into the holes** that have been left by big companies (entrepreneur 5b)*
		*The **puzzle** of company itself (entrepreneur 7)*
PRODUCT (18%)	Living being that follows a natural cycle of living	*Among 274 projects, 3 were **saved** (entrepreneur 14)*
		*With this idea, we can create **something that stands up** (entrepreneur 14)*
		*By a specific procedure, the product becomes a **skeleton** (entrepreneur 36)*
STRATEGIC (15%)	Movement and constant motion	***A new frontier** was opened (entrepreneur 14)*
		***We attacked** China (entrepreneur 2)*
		*Market has **exploded** (entrepreneur 15)*
PROCESS (11%)	Both a path to follow and a multidimensional object	*Innovations **go towards that direction** (entrepreneur 7)*
		*We **shortened the chain** (entrepreneur 17)*
		*We always need to **intersect things** (entrepreneur 26)*
MARKETING (8%)	Physical object that has to be pushed Mechanism and a vehicle	*Let's **push the brand** (entrepreneur 5b)* *Dysney has been a **vehicle** (entrepreneur 25)* *We are now able to change the*

Figure 1
Distribution of root metaphors per type of innovation
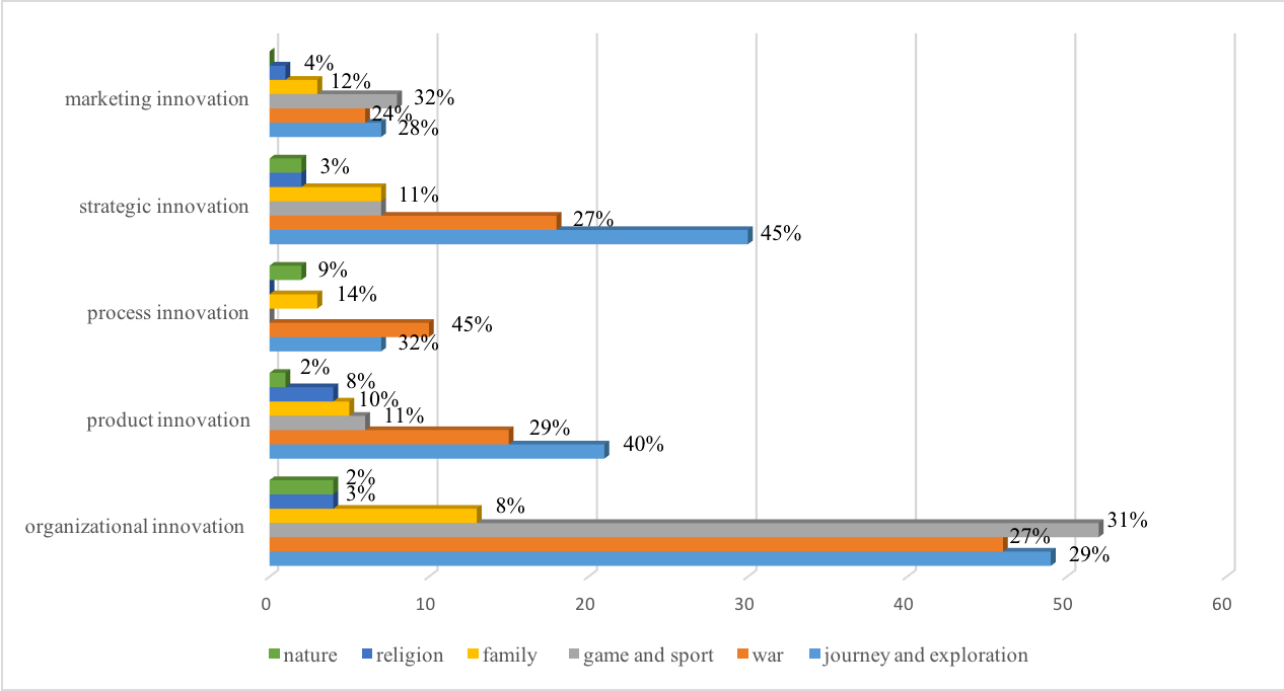
4. THE CONCEPTUAL INNOVATION OF A BUSINESS MODEL: THE CASE OF THE HUFFINGTON POST

Elena Bruni
Department of Management - Ca′ Foscari University, Venice

Anna Comacchio
Department of Management - Ca′ Foscari University, Venice

ABSTRACT

Taking a cognitive perspective, we look at conceptual combination as a key, still unknown, mechanism of business model innovation. We add to recent research on the mental operations by which managers and entrepreneurs generate a new business model concept. Bridging management literature and cognitive linguistic, we advance the comprehension of the conceptual combination dynamics by studying The Huffington Post's early formation process over the course of six years. We show how this entirely new business model was generated by the conceptual combination of two distinct inputs: newspaper and blog. We illustrate the conceptual components and relations that have been transferred from the two inputs into the new business model and the new emerging structure that integrates them. We also provide original evidence and theoretical discussion of the conceptual combination dynamics that generated the new business concept, identifying three fundamental mechanisms: similarity and dissimilarity detection, selective projection, and search for coherence. We finally suggest how these cognitive mechanisms are related to the phases of the business model innovation process recently illustrated by Amit and Zott. With our research, we theoretically and empirically contribute to developing a more in depth understanding of cognition in business model innovation.

Keywords: business model innovation, conceptual combination, cognitive perspective, case study

INTRODUCTION

Since the business model construct was introduced by Amit and Zott (2001) to understand value creation in e-business, the management literature has sought to understand more in depth how a new value creation model can emerge. More recently, scholars taking a cognitive perspective have shifted attention to the business model conceived as a cognitive structure (Doz and Kosonen, 2010), that is, as a "cognitive device [that represents] a business enterprise's value creation and value capture activities" (Aversa *et al*., 2015b: 152). This line of research investigates business model innovation, analyzing the features of the generative cognitive processes that are at the basis of a new business model design (Baden-Fuller and Morgan, 2010; Doz and Kosonen, 2010; Aversa, Furnari, and Haefliger, 2015a; Martins, Rindova, and Greenbaum, 2015; Mikhalkina and Cabantous, 2015). In this same vein, Martins *et al*. (2015), in their conceptual paper, suggested that the cognitive perspective on business model innovation allows us to understand how managers conceptualize a business model and how their cognitive elaboration affects the emergence and implementation of a new one (Aversa and Haefliger, 2016). This perspective identified two key cognitive mechanisms by which individuals generate a novel way to create value: analogical thinking and conceptual combination (Martins *et al.,* 2015). A significant body of studies have investigated how analogical reasoning, at the heart of novelty generation in product innovation (Dhal and Moreau, 2002; Gassmann and Zeschy, 2008; Enkel and Gassmann, 2010) and strategic decisions (Gavetti, Levinthal, and Rivkin, 2008; Gavetti and Rivkin, 2005), acts as a powerful cognitive mechanism through which managers, facing an unknown problem or scrutinizing a puzzling opportunity, use a well-known source to transfer knowledge to the unfamiliar target.

However, there is still scant research on conceptual combination with respect to strategy and, specifically, business model innovation. Among the few papers that look at this issue, Martins *et al.* (2015) have contributed to placing this process central stage, provided a theoretical argument for its relevance and suggesting how this cognitive process should operate. While these contributions on cognition in business model innovation, have advanced our knowledge of the two

mechanisms, suggesting that schemas, as conceptual representations of how value can be created, can be changed and created through mental operations, there are still gaps in the literature concerning conceptual combination.

According to the cognitive psychology literature, we know that in contrast to analogical reasoning, conceptual combination relies more on differences instead of similarities, which contributes to the emergence of a richer and more creative new concept. Moreover, the new concept is not a raw sum of concepts but, rather, a combination of selected conceptual material from two or more distinct input sources, selected through a structured process of selection and composition (Fauconnier and Turner, 2002). However, little is still known concerning the dynamics of conceptual combination and how the basic mechanisms governing conceptual innovation operates in the process of designing a business model (Zott and Amit 2015). Moreover, there have been scant empirical investigations of this issue.

We thus address the theoretical and empirical gap in the research on conceptual combination as a central generative process that leads to the creation of an entirely new business concept (Ward *et al.*, 1997; Ward, 2004) through the following research question: *how is a new business model generated through conceptual combination?*

We developed a longitudinal case study of *The Huffington Post* (THP), which was launched in 2005; at the time, it brought an entirely new business model to the newspaper sector. As pointed out in a recent interview: "HuffPo did [such] a fantastic job of disrupting the traditional news media that it created all sorts of influential patterns that changed the way everything that came after it [was done]" (Betsy Morgan, *Riptide*, 2013). We concentrate our analysis on the inception of THP, when it was ideated and then launched in 2005 and the following years until 2010, when the new business model was refined. We chose to look at these early stages of the business model innovation process, leaving aside the implementation stage (Zott and Amit, 2015), because the idea generation stage is the most crucial moment within the process of designing a new business model, when the

structuring of the conceptual components and relations at the basis of the new model plays a central role (Zott and Amit, 2015; Martins *et al*., 2015).

With this paper, we bridge the the gap with cognitive studies on new concept generation and specifically the conceptual blending model (Gentner, 1983, Fauconnier, 1997; Fauconnier and Turner, 2002; Thagard and Findlay, 2012) with the cognitive approach in business model innovation (Martins *et al*., 2015), to explore in depth the mechanisms that generate a new business model concept. We respond to the call for a more theoretical investigation of how a new business model is created as a cognitive process (Martins *et al*., 2015). We also fill a gap in the existing body of research, which is mainly based on conceptual contributions, providing new empirical evidence through the in-depth analysis of a case involving conceptual combination in the service sector, which has been scantly investigated both theoretically and empirically.

Moreover, our findings could add to the entrepreneurship literature, providing new insights to the debate concerning opportunity recognition in new venture formations. Indeed, the cognitive lens helps to explain how the cognitive processes of entrepreneurs unfold in the early phases and which role the business concept plays in the process of forming a new venture and a new business model (Comacchio, Bonesso, and Finotto, 2016).

The rest of the paper is structured as follows: the next section contains the literature review of concept combination and business model innovation; it is followed by a discussion of methods. Then, we present findings concerning the creation process behind *The Huffington Post's* novel concept of an online newspaper as a dynamic conceptual combination. Finally, the theoretical implications and further lines of research are discussed.

THEORETICAL FRAMEWORK

The generative cognition processes in business model innovation

Despite the increasing body of literature on business model innovation, little is still known about the process by which a new business model is generated (Zott *et al*., 2011; Zott and Amit, 2010; Amit and Zott, 2015). To address this gap, some scholars recently adopted a cognitive perspective to comprehend more in depth how a new business model is conceived and designed by managers or entrepreneurs (Baden-Fuller and Morgan, 2010; Doz and Kosonen, 2010; Aversa *et al.,* 2015a; Martins *et al*., 2015; Mikhalkina and Cabantous, 2015; Aversa and Haefliger, 2016). These studies agree on considering a business model as a cognitive structure (Doz and Kosonen, 2010); that is, as a cognitive device "that represents a business enterprise's value creation and value capture activities" (Aversa *et al*., 2015b: 152). Recently, it has been argued that business models, in turn, "can be innovated through processes for proactive schema change" (Demil *et al.,* 2015: 8).

A key contribution to this stream of research is the conceptual paper of Martins *et al*. (2015), which provides a comprehensive framework bridging cognitive psychology research and literature on business model innovation. The authors suggest that managers use schemas to organize knowledge and make sense of the unknown. Schemas encompass the broad range of representations through which individual knowledge is organized at different levels of abstraction, such as concepts or models or scripts. They argued that business models can be innovated by reorganizing schemas through mental operations or mechanisms, and identified two key mechanisms through which this can occur: analogical thinking and conceptual combination.

Indeed, in the last decade a significant body of research has shown the relevance of these cognitive mechanisms in technological and strategic innovation. However, while analogical thinking, which is at the heart of different novelty generation processes, has been extensively analyzed, conceptual combination is still under-investigated.

Empirical contributions have shown how the analogical process of transferring knowledge from a source that is better understood (Holyoak and Koh, 1987) to a target unfamiliar context (a problem or opportunity) can be successfully applied by engineers or designers searching for a new product idea (Dhal and Moreau, 2002; Gassmann and Zeschy, 2008; Enkel and Gassmann, 2010) and by managers in strategic decision making (Gavetti *et al*., 2008; Gavetti and Rivkin, 2005). In this vein, Martins *et al*. (2015) argue that non-obvious analogies help managers "to reconceptualize the familiar and transfer a new relational structure that can guide the reorganization of existing interdependencies in new ways" (Martins *et al*., 2015: 9). These studies contributed to shedding light on how basic representations of reality are the fundamental fabric of novelty generation processes in strategic and technological innovation.

However, as also recognized by Martins *et al*. (2015: 109), "the cognitive process of conceptual combination has not been incorporated in strategic analysis. Yet, the process is considered central to understanding the generative and creative aspects of human thinking", as argued by Ward *et al.,* 1997. Thus, while the authors helped to put center stage this cognitive mechanism, and indeed provided a first description of the conceptual combination process, we suggest that their analysis needs further development in order to better conceive conceptual combination as a distinctive and powerful mechanism in business model generation processes.

We suggest that we need to identify key conceptual combination features in order to more clearly differentiate it from analogical reasoning. To do this, we draw on cognitive linguistic, and specifically on recent contributions of blending theory and the *combinatorial conjecture* (Thagard 1988; 1997; Fauconnier and Turner, 2002), to identify the cognitive mechanisms in play during innovative processes involving conceptual combination. Indeed, in the last decade, management literature, drawing on cognitive linguistic, has contributed to identifying some features of conceptual combination, studying how it operates in the context of social changes and organization theory development (Cornelissen 2005; Tsoukas, 2009; Oswick *et al.*, 2011). We suggest that this

research can be well incorporated into the debate related to business model innovation, enriching our comprehension of this specific process.

Thus, we address the theoretical and empirical gaps in the cognitive literature on business model innovation, focusing on the role of conceptual combination in giving birth to a new way of conceiving a business and its value creation processes. Consequently, our research question is the following: *how is a new business model generated through conceptual combination?*

Conceptual combination as mechanism of concept generation

The cognitive perspective on innovation has highlighted the role of concepts as basic mental representations. Concepts are what constitute our thoughts and "they are crucial to such psychological processes as categorization, inference, memory, learning, and decision-making" (Margolis and Laurence, 2014). Concepts, as units of meaning, are primary cognitive tools for coping with the world, since they are the basic mental operations that organize our experiences (Gärdenfors, 2000). Accordingly, these representations of what we experience as a product or a process can be changed, by transforming concept elements and their relationships (Gentner, 1983).

Conceptual innovation means the generation of a new conceptual structure which corresponds to some distinct entity or class of entities through which we differently organize our experiences. By adding new conceptual components (attributes), or creating new predicates (relations) among them, a new concept can be generated (Gentner, 1983; Fauconnier, 1997; Thagard and Verbeurgt, 1998; Gärdenfors, 2000). Indeed, the concept generation process is a complex one, since the new concept is not a raw sum of the concepts' components, but rather is a richer and usually more innovative network of components and relations (Fauconnier and Turner, 2002). The power of a conceptual innovation is that of carrying new meanings, which open up a revolutionized way of doing things, delving on different conceptual inputs.

Studies on concept generation are not new in management literature; indeed, it is a topic that has been addressed in research on the cognitive processes involved in product innovation (Seidel,

2007) and in recent studies on the centrality of the semantic aspects of product innovation, where meanings play a fundamental role in generating innovative artifacts (Krippendorff, 2006; Verganti, 2008). Indeed, concepts can help to organize knowledge about ways of creating value in business, as happened in Gillete's 'razor and blade,' which combines two inputs: the traditional model of a durable good as a razor, with the market of disposable components. This concept has been then utilized to represent a way of creating value that rests on cheap and affordable 'hardware' that attracts a large number of customers (a digital printer) and profitable disposable components (the toner cartridge).

Management literature has recently put the process of conceptual combination in generating novelty center stage. Tsoukas (2009), drawing on creative cognition research (Dunbar, 1997), defines conceptual combination as the process by which a new concept or a new category is generated by combining two or more existing concepts (Tsoukas, 2009: 946). While Tsoukas' article helped to identify conceptual combinations as one of the three different mechanism of elaborating new concepts, its focus is on language as a collective means of social coordination, whereas the cognitive nature of novelty and the mechanisms underlying innovation are not discussed in his work.

Contributions focusing more on the cognitive mechanisms of concept combination have been developed by scholars investigating the theory building process in the field of organization studies (Oswick, Fleming, and Hanlon, 2011; Cornelissen and Durand, 2012). These studies have significantly advanced the debate on how theory progresses based on conceptual blending. However, the analysis of concept combination in this literature has aimed at understanding the development of theoretical models in the scientific world, and it has not been applied to the innovation process in organizations yet. Moreover, most of these contributions are still conceptual ones; thus, there is still a lack of field research on conceptual innovation.

The conceptual combination process

The cognitive literature in the last decades has advanced the analysis of the dynamics of ordinary mental operations in producing new conceptual integrations. It has looked at the mechanisms of changing elementary conceptual components and modifying the structural relations among them (Thagard and Verbeurgt, 1998; Gärdenfors, 2000; Fauconnier, 1997; Fauconnier and Turner, 1998; Turner, 2008; Coulson and Oakley, 2000). According to these studies, the recombination process is not just a simple assembly of concepts; rather, it involves integration into a more complex structure through a dynamic process that is structured in phases. Thus, literature agrees that a key distinctive feature of conceptual combination is that it involves integration of more than one concept into a novel and richer concept.

In cognitive literature, the *combinatorial conjecture* has been advanced by Thagard (1988; 1997; 2012), who has shown that scientific discoveries and technological inventions result from combinations of mental representations.

Martins *et al.* (2015: 11) suggested that a difference between analogical reasoning and conceptual combination is that, unlike analogical reasoning, conceptual combination "rests on differences, rather than similarities, between a source and a target concept" (Wisniewski, 1997a, 1997b). However we suggest, drawing on Fauconnier and Turner (1998) that the basic difference is that while analogical reasoning implies, generally, a direct and one-way transfer from a source to a target, while conceptual combination is in general "not direct, not one-way, and not exclusively positive" (Fauconnier and Turner, 1998: 25). This makes us consider conceptual combination as a distinctive process, and to focus attention on the relevance of the different inputs, on the dynamics through which components are transferred from multiple inputs, and particularly on how a new conceptual structure emerges, issues that has been neglected by the literature so far.

When two or more concepts are merged together, new properties emerge that were not previously present in one of the distinct input concepts, whose "effect is particularly strong for dissimilar or divergent concepts. Such novelty can be exploited to develop new product ideas or

market niches" (Ward, 2004: 197). Indeed, this feature has been highlighted by Martins *et al.* (2015), who have suggested that Cirque du Soleil, a completely new business model, rests on a conceptual combination process that integrates two distinct business model concepts—the contemporary circus and Broadway—incorporating the concepts and relations of both business model concepts into a new and entirely different conceptual structure. However, they underestimated the inner dynamics of conceptual combination.

We thus draw on cognitive linguistic literature to shed more light on the intrinsic dynamics of conceptual combination. Specifically, we delve on the conceptual blending framework that has identified three phases: *composition*, *completion*, and *elaboration* (Fauconnier, 1997; Fauconnier and Turner, 2002). During the *composition* phase, there is the identification of inputs from which a combination can be generated (Fauconnier and Turner, 2002). There is a partial recognition (*similarity detection*) of potential conceptual components, which can be superficially or structurally identified as similar and thus can be recruited as inputs for a conceptual innovation process (Gentner, 1983; Fauconnier and Turner, 2002;).

During the completion phase, some elements are recruited into the new concept by a selective process (*selective mapping*). It is an iterative process involving the recruitment and composition of components of previously detected inputs (Fauconnier, 1997; Fauconnier and Turner, 1998), together generating the new emergent concept. The selective mapping is not enough to ensure a new working concept (Comacchio and Warglien, 2010: 13), which instead implies a process of further selective deletions or additions of new components and a process of internal and external coherence finding. During the *elaboration* phase, the emergent concept is enriched: "The structure in the blend can then be elaborated. This is "running the blend." It consists in cognitive work performed within the blend, according to its own emergent logic" (Fauconnier, 1997: 151). In this phase the emergent new conceptual structure evolves into a stable concept (Thagard and Verbeurgt, 1998; Fauconnier and Turner, 2002). The blend must evolve into a stable concept that

maximizes its internal coherence and has to satisfy the constraints determined by the interaction with the usage environment (Thagard and Verbeurgt, 1998).

It is straightforward that blending is not a mere cut-and-paste process or a simple alignment; rather, it is a more structured process. The blend remains solidly linked to the inputs but it also has its own emergent and richer structure (Fauconnier and Turner, 2002).

Fauconnier and Turner (2002) hold that there are different forms of conceptual blending: simple, mirror, single-scope, and double-scope networks, and one of them implies the application of complex forms of blending based on dissonance. The form of conceptual blending, identified as double-scope network, is triggered by

different (and often clashing) organizing frames [...]. In such networks, both organizing frames make central contributions to the blend, and their sharp differences offer the possibility of rich clashes. Far from blocking the construction of the network, such clashes offer challenges to the imagination; indeed, the blends can be highly creative. (Fauconnier and Turner, 2002: 131)

As already shown in new theories conception, this type of blending produces more original and powerful insights (Oswick *et al*., 2011: 332) because it is focused on the dissimilarities, and the resulting blending can be highly disruptive and innovative. Oswick, Keenoy, and Grant (2002: 294) stressed how similarity recognition operates within a so-called cognitive comfort zone. In contrast, dissimilarity takes place within the 'cognitive discomfort zone' because the process of mapping is neither straightforward nor linear; rather, it is demanding and requires a certain elaboration of juxtapositions composed by opposites. Dissimilarity then opens a richer source of knowledge generation.

METHOD

Research Setting

A longitudinal case study was developed to illustrate conceptual innovation and business model innovation (Yin, 1981; Eisenhardt, 1989; Yin, 2003: 5). We relied on an inductive and case-oriented approach (Eisenhardt, 1989) in order to 'let the case speak and [because] research involving case data can usually get much closer to theoretical constructs' (Siggelkow, 2007: 22). THP was chosen as a unique and persuasive case since it is critically representative of our theoretical framework (Yin, 2003; Siggelkow, 2007). THP was a new business model within the media sector (*Riptide*, 2013). *The New York Times* (Somaiya, 2015) wrote that THP is "at the center of a phenomenon that some describe as the birth of a new media establishment". THP was founded in 2005 and longitudinal data could be used to reinforce internal validity by reconstructing key events of the phenomenon (Langley, 1999) and by establishing cause and effects (Leonard-Barton, 1990; Eisenhardt and Graebner, 2007).

This is also a case of a new business model innovation that successfully changed the rules of the game in the media sector. THP has continued to perform well since it was founded: it has reached a level where it has more than 200 million unique visitors a month, becoming the fifth most popular newspaper website by 2015 (*The New York Times*, June 2015). The American Internet analytics company ComScore registered that, as of November 2014, THP had 126 million multiplatform visitors per month only in the US and over 80,000 bloggers who write for the site. In addition to local editions (Chicago, New York, Denver Los Angeles, San Francisco, Detroit, Miami, and Hawaii) THP counts 15 international editions spread all around the world (UK, Canada, France, Spain, Italy, Japan, Maghreb, Germany, Brazil, South Korea, Greece, India, the Arabic Countries, and Australia). *The New York Times* (June 2015) reported that in 2011 THP generated $60 million in revenue, with $10 million in Ebitda, growing to $165 million in revenue and $58 million in

Ebitda by 2013. In the same vein, *The Washington Post* (Fung, 2015) announced that THP might be worth more than $1 billion by the end of 2015.

Data collection

Our analysis is focused on the early stages of the formation of the new venture, from its inception in 2005 to 2011, when THP merged with the company AOL. Thus, we collected an original and extensive data set of 24 video and audio interviews with Arianna Huffington from 2007 to 2015, in which she narrated in rich detail the birth and initial steps of her entrepreneurial endeavor. The full duration of the audio-video interviews is six hours, for a total of 68 transcribed single spaced pages. The rich dataset of interviews was triangulated (Yin, 2003) by collecting 68 newspaper articles on THP and 35 research reports about blogs and the newspaper sector. All the articles, audios, and videos were selected on the basis of specific constraints. They needed to be signed by a journalist or referring to a specific source and time period. We ruled out all the sources whose characteristics did not fit with our restrictions. The entire chronological spectrum of our analysis was covered, from when THP was launched in 2005 until 2011. However, its evolution was also traced until today to monitor its performances. In particular, newspaper articles and interviews cover the period from 2005 to the present day. We looked for reports that were also produced before 2005 in order to achieve a more complete understanding of THP with respect to its sector, and to detect the principal events that occurred before its launch. The objective behind using multiple sources was twofold. Firstly, we wanted to constantly triangulate (Strauss and Corbin, 1990) our coding of the Arianna Huffington interviews with the sector experts' points of view, as the external interpreting mirror of the organization.

Secondly, the combination of retrospective and real-time articles helped us to mitigate bias errors (Eisenhardt and Graebner, 2007). The videos and audios that were collected were mainly storytelling and oral documents about the creation process, while interviews with colleagues and

key actors assured us a multi-layered understanding. The research reports were produced by internationally recognized research centers that constantly monitor the evolution of media, journalism and new technology. Specifically, we based our analysis on the following documents: four articles by the Columbia Journalism Review (*The Huffington Post*, 2011; The AOL-HuffPost Show: *Who's Really in Control? Not the media*, 2011; *HuffPost Live Launches*, 2012; *Six degrees of aggregation. How The Huffington Post ate the Internet*, 2012); one focused report by the Carsey-Wolf Center's Media Industries Project about bloggers' role inside THP (*HuffPost Bloggers Raise Status and Pay Concerns: Responses to the AOL-Huffington Post Merger*, 2011); nine reports by the Nieman Foundation at Harvard, written between 2003 and 2009, which analyze in depth the impact of digitalization within journalism and newspapers; two reports by the Tow Center for Digital Journalism (*The Story so far: What We Know About the Business of Digital Journalism*, 2011; *Post-Industrial Journalism: Adapting to the Present*, 2012); twelve reports by the European Journalism Observatory, written between 2011 and 2012, which observe the changing phenomenon of journalism on the internet; a Columbia Journalism Review survey (*Magazines and Their Web Sites*, 2010); six articles by the Pew Research Centre, written between 2011 and 2014, about digital reporting; one IFRA Report from 2006.

The empirical part of this study draws on an extensive secondary data source (Van Maanen, 1991), and the lack of direct interviews with Arianna Huffington was overcome thanks to the richness of the other sources that were collected. We followed a rigorous sequence of steps (Van Maanen, 1991), where the method is drive by empirical data. Moreover, narratives and discourses have already been used as data, since language sheds light on human activity and reveal the inner and latent aspects of organizing and managing (Keenoy, Oswick, and Grant, 1997; Loewenstein, Ocasio, and Jones, 2012).

To conclude, we aimed to be 'as descriptive as possible until major themes emerged from the data' (Hargadon and Sutton, 1997: 719). In the following table, our sources were classified

according to their nature (written/oral interview, direct/indirect interview, general/focused oriented article), and their use with respect to our analysis is carefully explained.

[insert Table 1 about here]

Data Analysis

Through a mixed method approach using a qualitative longitudinal case study (Eisenhardt, 1989) and data mining, we investigated the founding process of THP at a conceptual level of analysis. Each phase of work was discussed in depth by the two authors who regularly met to compare their interpretations. In addition, the diachronic analysis allowed us to make a comparison with the synchronic investigation of narratives produced by the transcribed interviews and written documents.

In the first stage of our research, we identified that THP can be defined as a conceptual combination by analyzing 24 in-depth interviews with Arianna Huffington and her key collaborators and by detecting the terminology used by the innovator when she created THP. The analysis of the words used by Arianna Huffington and colleagues provided us with information about the creation process from a cognitive point of view (Lakoff and Johnson, 1980; Ward *et al*., 1997). The text analysis approach, a method that employs both qualitative and quantitative lines of investigation (Johnson, Onwuegbuzie, and Turner, 2007; Creswell, 2014) was used to interpret the embedded information that is usually hidden in a text (Tashakkori and Teddlie, 2003) and to guide us in trying to understand the process of conceptual combination.

The corpus under analysis was composed only of interviews with Arianna Huffington and her key collaborators. After a careful reading, we decided to maintain questions into the corpus because they contained relevant information that would be rather lost. Most of the interviews had a conversational format, and contained explanations and a continuous flow of thoughts.

We processed our corpus through a dedicated text data mining software called Iramuteq (Ratinaud, 2009; Ratinaud and Déjean, 2009) that relies on the statistic of R (R Development Core Team, 2014) and the software language *Phyton*. Iramuteq relies on Reinert's method, through which small portion of texts are classified into classes, known as 'lexical worlds,' which will constitute the vocabulary of the classified corpus, according to Topic Detection Logic (Reinert, 1983, 2001). Each portion of text, which is an elementary unit of contest (EUC), will generate a matrix based on occurrences and co-occurrences of non-empty words. The entire set of words extracts its properties from the corpus with no previous information (Reinert, 1993: 13) and it is classified into units in which the most significant words are detected by means of the χ^2 measure (Reinart, 1999). Our whole corpus of interviews was composed by a vocabulary of 4,104 different words (V) and includes 57,639 occurrences (N). In the bag of words perspective (Tuzzi, 2003), the unit of analysis is the word and the frequency of each keyword is counted over time-points (Tuzzi, 2003), constituting the vocabulary of a specific corpus. In other words, the vocabulary is representative of the corpus and reports the list of different words and their frequencies (Tuzzi, 2003; Sbalchiero and Tuzzi, 2015).

In content analysis approach, there are two measures that are used to assess whether a corpus is sufficiently large for statistical purposes: the Type-Token Ratio (V/N) has to be less than 20% and the percentage of words with only one occurrence (hapax legomena) has to be less than 50% (Bolasco, 2013). Regarding our corpus, both measures were consistent with the two assumptions: the Type-Token Ratio was 7.12% and we had 41.61% of hapax legomena, which is less than 50%. The correspondence analysis, based on the Reinart method, transformed the frequency and co-occurrences of words into three clusters determined by the degree of similarity in terms of the words contained in the same semantic cluster of words. The three clusters, which we will call themes, represent three distinct areas that explain the creation and evolution of THP. The classification can be considered robust since the three clusters together represent 83.82%. This number is explained by the fact that the interviews include plenty of utterances—such as '*thank*

you' and '*we are happy to have our guest*'—that, for obvious reasons, were discarded by a second process of analysis. We used the occurrences and co-occurrences of words to corroborate our qualitative coding and as a preliminary understanding of THP and its process of creation.

The three themes that emerged from our corpus of interviews are the following: THP as a conceptual combination; the business components of THP; the personal traits of Arianna Huffington, and the most important topics transferred into THP.

We interpreted the first theme revolving around THP as a new blended concept. This theme collects words such as *story*, *blog*, *editor*, *blogging*, *journalist*, *reporter*, *aggregation*, *community*, *traffic*, and *comment*, as summarized in Table 2. The table reports the relative frequency of a word, which indicates the number of text segments containing the word in the cluster; the total frequency of a word, which reports the number of text segments containing the cited word at least once; the percentage, which is the percentage of times a word occurs in the text segments of this cluster in relation to its occurrence in the corpus; chi2 is the association between the word and the cluster; and type, which is the grammatical cluster identifying the word in the dictionary (Camargo and Justo, 2015: 20). Clearly, these words describe what THP is and they represent the conceptual components of THP as a new concept.

A second theme that emerged from the content analysis concerns the economic characteristics of THP: *business*, *revenue*, *brand, advertise*, and *market*. Along with business related words, there is the presence of words linked to the technological sphere, such as *digital*, *internet*, *engineer*, and *google*. Of course, the business component is a strong part of the THP concept. The third theme that emerged from the interviews concerns the personal traits of and events related to Arianna Huffington, both as an entrepreneur and a blogger. Arianna Huffington's life and the political attitudes she exhibited in her blog played a major role in creating THP, putting blogging center stage, focusing on the engaging activities related to being a blogger, and politics and news being the central content of the conversations going on in her blogs. In addition, there are the major themes that THP engaged with over the years: *society*, *president*, *political*, *crisis*, and

campaign. These words reflect the recurrent debates covered by THP since its foundation in 2005 through comments and articles.

The occurrences and clustering analysis of the first theme helped us to validate our coding and to assess the conceptual characteristics of the two inputs used by Arianna Huffington to generate the new concept. Indeed, the coding analysis was fundamental to being able to distinguish the components belonging to each input and to reconstruct them within a network configuration.

To conclude, qualitative coding was necessary in order to refine the analysis of the inputs and to detect what the components of each input were and to distinguish them. Lastly, qualitative coding was needed to avoid misleading insights based only on content analysis.

[insert Table 2 about here]

The coding phase started at this stage in order to reduce the texts to categories (Krippendorff, 2007; Boyatzis, 1998; Saldaña, 2013). The second stage of our analysis was based on an identification of the two business models, also called by the cognitive literature input domains (Fauconnier and Turner, 1998; 2002), and the key elements that at the basis of the conceptual innovation. The transcribed interviews enabled us to isolate the initial two inputs that had triggered the innovation process: newspaper and blog. A fine-grained analysis of the conceptual inputs provided, firstly, an objective understanding of the conceptual features of the two inputs, which are the 'raw conceptual components' used by the innovator to generate a new blended concept. The qualitative analysis and coding (Boyatzis, 1998; Saldaña, 2013) conducted on the Arianna Huffington and founders' interviews allowed us to detect how THP emerged as a conceptual innovation based on the combination of different conceptual inputs; whereas the interviews together with the newspaper articles' coding (Miles and Huberman, 1994; Krippendorf, and Bock, 2008) provided us with insights to detect how the combination process of the inputs occurred. The set of

research reports on the features of the newspaper and blog sectors at the time of THP's birth helped to analyze the inputs in greater depth.

FINDINGS

The THP as a new business model in the newspaper sector

Arianna Huffington founded her news site at a moment when the media and publishing sectors were facing a remarkable technological change via the nascent social community phenomenon, which had profoundly modified how people read news and experience information. THP can be considered a new business model that was novel to the market (OECD/Eurostat 2005) in several ways: in delivering news only online without a paper outlet; in changing the way news is produced; in augmenting the interaction among journalists and readers; in publishing technology.

Based on the insights of Amit and Zott (2012: 47), THP can be said to have involved business model innovation. First, it took note of the fact that there was an increasing need for constantly updated news. Second, the contents are presented in a novel and innovative way: it aggregates news, which are commented on by bloggers and journalists (*content* innovation). Third, it establishes novel ways of producing information (*structure* innovation). An engaged community of bloggers and journalists collaborate to produce news involving both top-down to bottom-up processes. Fourth, new governance arrangements are created between a central board of editors, journalists, and bloggers (*governance* innovation). Fifth, new values emerge from an increasingly engaged community of readers, who are asked to participate in the production of news. Finally, by innovating the advertising model that had largely been adopted by newspapers and media companies at the time and by offering no salary to bloggers in order to sensibly cut costs, THP created a new revenue model adapted to its core values.

As a result, the innovation of THP was not just its technological transformation of a newspaper into a news web site, but also that it was based on a new concept that was very different

from traditional newspapers, online newspapers, or blogs, being a conceptual reconfiguration of the two inputs.

It was observed that, when asked to narrate the first steps of the company, Arianna Huffington and her colleagues made extensive use of words connected to the semantic sphere of combining. Thus, it was clear to the founder that THP was meant as a combination, and not just a juxtaposition or an expansion of two existing products in the market. Arianna Huffington explained that, when she met Kenneth Lerer in 2004, they started:

Talking about doing something online together that would combine where we thought the media was going and our own interests. That's why what we decided we wanted to combine was my interest in having a collective blog, a big collective blog with both well known voices and new voices (Arianna Huffington, *Riptide*, 2013).

Together with Jonah Peretti, they decided to venture into a new project that had to be: "a new Internet publishing venture that would combine a breaking news section with an innovative group blog" (extracted by Arianna Huffington in her personal blog in 2005). The content analysis confirmed that THP was thought of and conceptualized as a combination from its very beginning. In fact, we found out that term such as *combine* and its synonyms *hybrid, blend, merge, join, mixture* represented 10% of the entire set of interviews' corpus. Frequency, as stated by Krippendorff (2004: 59), indicates "the importance of, attention to, or emphasis on that symbol, idea, references".

The two business models as inputs: the newspaper and the blog

Our analysis revealed that the conceptual innovation at the basis of THP is grounded in the combination of components selected from two inputs, as stated by the entrepreneurs. One is the

blog: "We discussed [Lerer and Ms. Huffington] creating a platform that would be a combination of 24/7 news and a collective blog. That was the beginning of *The Huffington Post*" (Arianna Huffington cited by Smith, *Politico*, 2010); whereas the other is the newspaper: "We are aspiring to be a newspaper […] we want to covering all news, not just the political blogging the way we began" (Arianna Huffington cited by Kiss, *The Guardian*, 2008). In the following section, we will reconstruct what were the main features of the two inputs at the time of THP's emergence in 2004, when Huffington met Kenneth Lerer and Jonah Peretti to discuss the idea of THP, until 2008, when THP launched its first local editions. The retrospective reconstruction is based on research reports and documents from sector experts (Gillmor, 2006; Pratellesi, 2013), and it attempts to delineate the characteristics of both the newspaper and the blog at the time of THP's founding.

The input of blog

In the beginning, blogs were conceived as a means of sharing information and they were characterized by three fundamental features: they were organized chronologically, equipped with links to sites of interest on the web, and provided commentaries on the links.

Components of blog

Blogs were online content, were crafted in different forms—narrative, audio, video, and pictures—and were regularly updated. Their formal structure was quite similar to a private diary or personal journal. The content was the most relevant feature (Miller and Shepherd, 2004). Blogs were indeed personally oriented and discussed political affairs, social issues, cooking recipes, hobbies, and private events. The entire blog phenomenon can be described as a combination of the public and private spheres, in which a confessional nature and narrated stories with a storytelling approach are predominant (Weinberg, 2002). Blogging activity could be driven by two different actions: self-expression or community development (Miller and Shepherd, 2004). The motivation

for writing a blog ranges from a more intrinsic self-disclosure function to a more external and outward-directed goal (Miller and Shepherd, 2004). As a consequence, the language, style, and quality may vary significantly, depending on the motivation behind them. As summarized by Olafson (Nieman Report, 2003: 91): "In weblogging, there are no rules. You're not required to write about city council meetings, fatal car accidents, or the weather. Forget the inverted pyramid, forget space constraints, and forget the five W's'".

Readers had the opportunity to respond to any posts or to comments with other links to other blogs, creating a broad and large community, based on possibly infinite and open virtual online conversations. In fact, "blogging requires no credentials whatever—not even the judgment of an editor or personnel resources person—absolutely anybody with access to a computer can do it" (Alterman, Nieman Report, 2003: 85). The clustered network of interconnected blogs (Schmidt, 2007: 1409) and the bottom-up and self-publishing phenomenon of blogging (*Riptide*, 2013) were also caused by social pressure. In the last decades, readers have tended to rely on blogs more than before because they assure a simpler way of reading news (Alterman, Nieman Report, 2003). Among readers, 62% have the perception that, "news organizations try to cover up mistakes rather than admit to them" (Moos, 2011), while blogs seem to reflect the truthful voice of people (Nieman Report, 2005). Blogs are usually run by a single person or a community of people but, either way, they are self-organized by internal rules: selection, publication, and networking (Perlmutter, Nieman Report, 2005). However, bloggers are not guided by leaders (Perlmutter, Nieman Report, 2005), which has been integrated by a virtual organizing framework, called the *blogosphere*, composed of a cluster of communities concentrated around specific themes or a group of affiliation, or around a specific person that establishes the so-called ego-centered network (Schmidt, 2007), where the communication is horizontal and spreads within the digital communities (Alterman, Nieman Report, 2003).

At least in 2005, blogs had not proven to be financially profitable (Fuller *et al.*, 2011) However, as pointed out by the same report (Fuller *et al.*, 2011: 4), "The HuffPo payday shows that

blogging is financially valuable which in turn could change both public and marketplace perceptions of it". The entire model of the blog revolves around the content, where "all blogging activities revolve around information created and consumed by bloggers" (Huang *et al.,* 2007: 476).

[insert Figure 1about here]

The input of newspaper

Newspapers are released at regular intervals—usually every day—in a broadsheet format that is easy to fold into at least two parts. General interest newspapers cover news about national and international events whose nature is vast: from politics to business, finance, reports, weather forecasting, science, entertainment, including society, arts, food and cooking. Newspapers are meant to attain high quality standards of journalism; events and opinions must be independently reported, verified, and published regardless of internal or external pressures.

Components of newspaper

Newspapers need to accomplish four functions: to inform about local and international facts; to interpret the news with the support of editorials and analysis; to offer a service to readers by giving them useful information such as forecasts, shipping news, and theatre and cinema scheduling; and to entertain them with gossip, puzzles, or games. Newspapers provide a service to a very broad target audience with no specific differentiation. They are commonly inexpensive and they were designed with a masthead, printed in small type, with narrow columns. Long paragraphs are avoided as they discourage readers. A page or a section of it hosts columns of editorials through which each publication can expressed its personal views on issues (Keeble, 2006: 271); op-eds columns are signed by guest writers who provide in depth analysis and comments. Editorials and op-eds are meant to accomplish the function of guiding readers to interpret events and offer

different perspectives. Photographs and artworks—all illustrations, maps, charts, and cartoons— visually explain phenomenon, opinions, and events (Keeble, 2006: 267). Articles ending with a signature, either a by-line, would confirm that ethical standards had been respected. News events follow a hierarchical order that tends to be more horizontal and chronological than in the online version because of the regular updates during the day. The World Wide Web has been considered the second greatest revolution in the world of news and information, after Johannes Gutenberg invented his mechanical movable type of printing in 1455 (Pratellesi, 2013). The internet opened the road to the digitalization process of information and inaugurated the era of technology counter-power (Pratellesi, 2013: 20), but in 2005 when the THP was created, few newspapers were already online and their online version was a rather static display, updated just once a day when the printed version was released. *The Boston Globe* launched Boston.com on the Web in October 1995, while *The Washington Post* went online a year later and *The New York Times* launched its homepage on 19 January 1996. Media companies were profitable enterprises until the mid '90s, with a business model sustained by the price of purchase, paid subscriptions, and advertising printed over the pages (Pratellesi, 2013). The digitalization process accelerated the crisis that was already affecting the media and publishing sectors. Numerous newspapers and weekly magazines collapsed, or had to completely re-arrange themselves.

In terms of revenues, advertising provided about 80 percent in the year 2000 (IFRA Report, 2006). Interestingly, the IFRA Report (2006: 18) noted that even thought newspaper publishers did not believe in physical distribution any longer, believing instead in digital distribution, they still considered the printed newspaper to be their primary source of revenues at that time and even in the future. The report (2006: 26) pointed out the extent to which the newspaper publishing companies were still focusing on the traditional business, which centered on advertising and less focused on exploiting new technologies.

[insert Figure 2 about here]

The conceptual combination of THP: dis/similarity recognition mechanism

As preliminary detected by the content analysis and confirmed by the qualitative coding of the interviews, the THP process was triggered by the recognition of two similarities between blogs and newspapers: politics as a content of news and blogs and the use of internet by newspapers and blogs. As far as the politics is concerned, Arianna Huffington was already well known to the public as a commentator on national politics, since she had written columns in several newspapers, and from 1996 to 2005 she used to post political comments in a blog called *Ariannaonline*. THP "started primarily as a news and politics site" (Arianna Huffington, *The Wired*, 2007) and at the time of its launch in 2005, THP was concentrated around "one section, which was politics" (Arianna Huffington, *Riptide*, 2013), confirming that the *superficial* similarity between blogs and newspapers was the trigger to create THP.

Another reason that prompted the creation of THP was the use of the internet by both blogs and newspapers. In 2005, leading newspapers were already online. However, Arianna Huffington noticed that newspapers' homepages were static copies of their printed version, with no daily updates and almost no interactions with readers; in contrast, blogs were highly dynamic and interactive platforms that were constantly updated and monitored. She then recognized that there was a key difference between the two inputs: "newspapers did not recognize the importance of what was happening online early enough [and] they left a vacuum into which we stepped" (Huffington, 2013). Hence, the *superficial* similarity between the online blog and the online newspaper pointed to a *structural* dissimilarity: the different exploitation of the real-time news-updating power of the internet. Both the *superficial* similarity and the *structural* dissimilarity were the trigger for the combination process using concept representations of blogs and newspapers.

[insert Table 3 about here]

The conceptual combination of THP: the selective mapping mechanism

Projection from newspaper input

Once the recognition of similarities (politics and online) and dissimilarities (use of internet) prompted the combination process, elements from the two inputs were identified and projected onto the new conceptual structure of THP by an iterative process of composition and deletion. The political focus of newspapers was projected and composed into the THP, which reserved the central section for political affairs. However, THP covered different topics and not only politics, as printed newspapers do. Second, the big masthead at the top of the page resembled the newspaper format and in particular the well-known journal *The Washington Post*, one of the leading American newspapers with a strong political standpoint. Third, the 'vertical' structure, using columns and sections was mapped from the newspapers, by deleting the horizontal structure and chronological order of blogs. However, bloggers could be directly invited by the boardroom, where editors still play the role of deciding and supervising the format page of THP. Similarly, articles were checked and edited to assure the ethical standards of traditional journalism were being met, and the site also published original reporting pieces.

[insert Table 4 about here]

Projection from blog input

Concerning the projections from the blog, the political component was transferred onto THP in terms of both content and novel production processes. Particularly, three different production processes took place in order to convey news. The political focus was still present in the new structure of THP but it was also transformed by a different structure.

First, since the beginning both unknown and well known people participated with their blogs and their comments to the production process of news. Bloggers could be known and unknown

people—such as students, workers, and professionals—who narrated their personal stories or commented on political events. Consequently, news was not only produced and discussed by the recognized authority of a journalist, but it was also the result of an interactive community. Nonetheless, the individual facet of the blogger who 'curates' and edits his or her own blog page was rejected. In other words, during the selective mapping process, the status of the blogger as primarily a commentator was preserved, but the individual role was discarded in favor of a collective community that "converse, share, comment [regarding the news]" (Betsy Morgan, *Riptide*, 2013). The combination of millions of unknown and known voices (Arianna Huffington, *Riptide*, 2013) created a highly engaged community by producing real time content and encouraging "social engagement, user participation and user generated content" (Arianna Huffington, *Wired*, 2007). As a consequence of the interaction of the community, the contents were in depth stories, frequently fragmented into episodes and clearly characterized by a storytelling style. The verb *Post* in the masthead *The Huffington Post* recalled also the verb *posting a blog*, reflecting the narration driven structure of blogs that keep on debating a story well beyond the typical once-per-day approach of newspapers. Finally, the traffic-counting metric is a measurement to establish how many readers are loyal to THP.

[insert Table 5 about here]

Completion

There are selectively projected meanings from both inputs and they are composed in the emergent structure. During completion phase, additional structure is achieved and a few elements have been brought in (Turner, 2001: 74). The original reporting component, projected from newspapers, was preserved and has become a strong component of THP, which does "traditional journalism with investigative reporting, in multiple areas" with more than 60 reporters just across

the United States (Arianna Huffington, CNN, 2012). However, stories narrated by reporters were pulled together with stories narrated and commented on by the community of bloggers: "The line has definitely [been] crossed. We now have 1,500 stories, tens of thousands of bloggers" (Arianna Huffington, *Riptide*, 2013). These stories have maintained a traditional journalistic style, because they were constrained by rigorous fact checking and grammar editing, but at the same time they were enriched by comments What it makes really a story of *The Huffington Post* is "all the contributions that come from people who are reading and want to share their own experiences" (Arianna Huffington, CNN, 2012). If stories and comments generated and sustained engagement, they also permitted scalability. Clicks have been used as a measure of performance. In fact, THP has based part of its model on the assumption [that] should get as many clicks as possible from stories (Arianna Huffington, *Riptide*, 2013).

Another production process taking place at THP concerns the aggregation of sources, that is, collecting information from the media, television, links, or other newspapers. Filtering and gathering together news and updated information is not the only activity of THP, but it operates at two different levels: converging attention to the THP web page, and permitting endless real time news coverage. The aggregation dimension of THP was a projection from the blog input, because blogs usually tend to cite external sources to legitimize their posts and to attract and converge visitors. However, the aggregation endeavour at THP was made through a careful selection process and under editing supervision, two components that were absent from blogs. The filtration is central in the THP model: "the idea was [to] have editors take topics that we believed were of interests to our audience, and pull the best from a number of different sources" (Betsy Morgan, *Riptide*, 2013). Furthermore, aggregation has enhanced the richness of the content by "bringing what [THP] considered the best of the web to readers" by "bring[ing] the best of the web, and not producing everything that appear online' (Arianna Huffington, *Riptide*, 2013). Again, aggregation has also increased readers' engagement, who can comment on and debate the articles. Then, if speed and accuracy are a trade-off in traditional journalism, it is not to THP because both of them are achieved

by aggregation. Aggregation reinforces and assures real time news coverage. Outsourcing enriches the content, since multiple sources and different media are put together.

To conclude, new relations have been established by the composition of the structure: new relations among components and linkages between components were established to generate a novel business model (Martins *et al.,* 2015).

[insert Table 6 about here]

Search for coherence

The process of conceptual combination involves a progressive and continuous re-representation and mapping. The selective mapping process results in a search for coherence. Usually, it is a creative and long search to ensure a new working concept that must be integrated by the introduction of new elements, the modification of others, and the establishment of new structural relations (Thagard, 1997). In our case of THP, it is about a specific way of producing content and stories that represent a refinement of the conceptual components intercepted and re-arranged into new relations. Arianna Huffington and one of the first Chief Executive Officers, Betsy Morgan, named the model behind THP 'curating', which is synonymous with editing. Curating, a term borrowed from art, refers to that professional figure who is in charge of selecting, arranging, and presenting material for an art exhibition or museum.

Articles and stories of THP are still edited and checked to guarantee ethical standards are met; nevertheless, a top-down and bottom-up collective community consisting of bloggers and reporters produces the content. The content, as well, is pre-moderated and selected by editors. According to the founder and her first collaborators, *curation* means 'aggregation but with a certain attitude', with an emphasis on the aggregation side but only on 'the best of the web on any subject', nurtured by comments that in turn foster engagement (Arianna Huffington, *Riptide*, 2013). In the same way as art professionals who curate an exhibition, the selection processes and the composition

of the elements are the key mechanisms to the success of the entire model. *Curation* embraces different activities: orchestrating original reporting, aggregation, and community, and "to do all three in enough of a perfect blend" (Betsy Morgan, *Riptide*, 2013). The editors at THP, as well as art curators, are content specialists who interpret and select the content to display. Then, the horizontal dimension of blogging that permits having real time news at the expense of refined pieces is combined with the vertical dimension of the newspaper, in which articles are in-depth and polished. THP stays on stories, without breaking them apart as in traditional newspapers. It also covers positive stories, also in episode format, through the integration of multiple types of media (videos, pictures).

The second core component of THP as a new stable concept concerns the business model. Specifically, it is about "[building] an audience, '[building] a brand, and '[building] revenue'" (Betsy Morgan, *Riptide*, 2013). All three components are the corner stones that make the model sustainable. In order to build an audience, THP has always refused to have a subscription model, and so it then opted to be sustained by advertising (*Riptide*, 2013). In order to sell advertising, they needed to scale by expanding their editions internationally. The international editions of THP were then a way of scaling its global news capabilities and it was realized following the logic of replication (Winter and Szulanski, 2001) and adaptation. In fact, even thought the footprint of THP is visible in any international edition, they understood that they needed to adapt its formula for each new country, in terms of revising both the technology and the content components by looking at macroeconomic factors. For instance, they examined internet penetration and cultural and resource constraints: "with our German site we go a lot stronger on lifestyle and parenting coverage. It's a bigger vertical than politics there for us. In Italy, our editorial director is a well-known investigative journalist, so we're much better known for our politics coverage there" (Arianna Huffington, cited in Bilton, 2015). In order to respect the original model of THP they take "[their] technology platform and content and digital savvy and combine with partners' expertise and commercial capabilities" (Arianna Huffington, cited in Bilton, 2015). More importantly, THP innovated the

traditional advertising model: "we started selling advertising and doing a lot of innovations around advertising. Again, always keeping the Chinese Wall between content and advertising, but we had sponsor generated blogs clearly marked as sponsor generated blogs" (Arianna Huffington, *Riptide*, 2013). THP changed the traditional advertising model by changing the relations between content and advertising: they exploited the advertising as a producer of content and by adding content platforms for brands around their causes. Comments generated by bloggers and readers bring loyalty and engagement, which attracts an audience that the advertisers can come close to counting on.

[insert Table 7 about here]

[insert Figure 3 about here]

Finally, Figure 4 summarizes our findings in a theoretical model and, in particular, depicts the central role played by the new relations among the components in letting a new concept, the emergent concept, of a new business model emerge. As is clear now, conceptual combination rests on a recognition of both similarities and dissimilarities. Moreover, differently from analogical reasoning, conceptual combination leads to more radical solutions because it is more than a simple juxtaposing of components. The new relations that are established within the new concept borrow components from both inputs and, at the same time, discard certain elements. Conceptual components intercepted by the two inputs are re-elaborated into new relations and they create an innovative new concept.

[insert Figure 4 about here]

The cognitive mechanisms in the process of business model innovation: an integrated framework

Our findings could contribute to an understanding of the design process of a new business model. Zott and Amit (2015), in their study of the business model as a process, identified five stages: observe, synthesize, generate, refine, and implement. These stages—specifically observe, synthesize, generate, and refine—could be better understood in light of our findings.

The three mechanisms of conceptual combination: *di/similarity recognition*, *selective projection*, and *search of coherence* reflect the Zott and Amit (2015) stages. Thus, the cognitive elaboration of a new concept corresponds to the specific activities and tasks involved in designing and implementing a new concept, which is at the basis of an innovative business model.

Zott and Amit (2015) identified two early stages of business model design: *observe* and *synthesize*. Observation implies to intercept what customers need, while synthesize requires a precise understanding of all the information obtained during the observation phase, to clearly comprehend what the market needs and what the potential challenges are. In these stages, the cognitive materials collected through observation and experiencing could trigger a process of similarity detection among different representations, such as artefacts, concepts and models. The recognition of potential similarities and dissimilarities among concepts helps to identify possibilities of conceptual combination. As in the *The Huffington Post*, the experience of Arianna Huffington with respect to blogging and her knowledge about newspapers and readers of both blogs and newspapers helped her to synthesize a potential set of similarities and dissimilarities among the two inputs.

Zott and Amit (2015), identify a subsequent phase of *generation,* which involves "the creation of potential design solutions, at least on a conceptual level" (Zott and Amit, 2015: 403). We can parallel this phase with the process of *similarity projection*, by which the conceptual components of the inputs (blog and newspaper) can be identified and projected onto the new concept. By selective mapping, some irrelevant or redundant elements and relations of the inputs are discarded, while the more coherent components are grafted from the inputs onto the new

concept to generate a novel business model. New relations among the projected attributes, which did not exist in the inputs (Fauconnier and Turner, 1998), could be discovered in the emerging new business concept, such as the relation between bloggers' signatures and the stories that are central to the news of THP. As in the Zott and Amit (2015) *generation* stage, controlled brainstorming facilitates and guides managers in the decision to change an already existing business model or to create an entirely new structure.

Finally, the *refine* phase is meant to "narrow down the number of design possibilities to a few […] to achieve focus and clarity on the details of the emerging designs" (Zott and Amit, 2015: 402). Zott and Amit suggest that in this phase of choosing the best solution, prototyping and mock-ups could help to test the idea, often in an iterative manner. From a cognitive perspective, our findings showed that the search for a coherent concept is a long and iteratively process in which the elements and the relations of the newly created business concept are tested by iterative cycles. As we showed in our analysis, the concept of THP has been achieving its internal coherence by developing original reporting, increasing fair aggregation, and engaging a community. These core activities were tested and they emerged progressively. Similarly, innovation around advertising and the formation of the new venture with AOL allowed THP to establish a presence internationally and achieve scalability.

The following table shows that cognitive mechanisms and the process developing a new business mode are interrelated. Indeed, the cognitive mechanisms mirror the process of a new business model design and both of the two perspectives inform one another.

[insert Table 8 about here]

DISCUSSION AND CONCLUSION

By responding to a recent call for a more theoretical investigation of how a new business model is created as a cognitive process (2015), we provided exploratory evidence on salient features of a conceptual combination, showing, through the case study of the THP, that conceptual innovation is an inner and pivotal dimension of the generation process of an entire novel business model. It was shown that THP strongly innovated the newspaper sector by bringing something new, far beyond the simple fact of being the first newspaper to fully exploit the internet to spread its news. In fact, THP managed to convey an innovative concept of journalism to the newspaper sector: "Despite any lingering questions about the source of the original idea, it was Arianna Huffington who had the will and stamina and vision to turn *The Huffington Post* into a model for the brave new world of fast media and free content" (Cohan, 2016).

This study also demonstrated that THP has innovated its sector by integrating two inputs: the newspaper and the blog. Through the investigation of the inception of THP and its crucial events, and drawing on a cognitive perspective (Gentner, 1983; Fauconnier and Turner, 2002), we show that conceptual combination is the central mechanism for generating the new business model concept. By combining different concepts and their relations, a new meaning is generated at the intersections, with the combination process being more complex than the mere adding-removing procedure previously analyzed through the analogical thinking perspective (Dahl and Moreau, 2002; Gassmann and Zeschky, 2008) and by cognitive psychologists (Gentner, 1986; Finke, Ward, and Smith, 1992). Thereby, this study aims to contribute to research on business model innovation (Martins *et al.*, 2015) and conceptual combination (Tsoukas, 2009; Oswick *et al.*, 2011; Cornelissen and Durand, 2012), as will be discussed in the next section.

The new value of the THP business model rests on several core ideas: first, the power of "delivering a product that is faster and more personalized than that provided by the bigger, more established news organizations" (Christensen *et al.,* 2012, Nieman Report, 2012: 6). In this way, THP was able to compete with giants such as *The New York Times* and become a real competitor.

Second, original and personalized news are produced on its website, along with curation, which "isn't just about publishing stories by subject experts, but about building networked communities around [editorial] ideas" (Christensen *et al.,* 2012, Nieman Report, 2012: 14).

Third, the fluid and dynamic micro-communities built around themes and news (De Benedetti, 2011), blending with the news production process and the readers' participation. Readers can directly help in the making of news, but they are also active in spreading them by means of social networks, and to nurture the debate through comments. As a result, in 2009, the HuffPost Social News was created, in agreement with Facebook and based on Facebook Connect, helping to develop these fluid and dynamic micro-communities. Finally, Arianna Huffington has put a lot of effort into maintaining engagement with her readers, by keeping the blog at the heart of newspaper content.

Theoretical contributions

The exploration of the dynamics of conceptual combination, and on the basic mechanisms governing a conceptual innovation that operates in the process of designing a business model (Zott and Amit 2015), generated two central contributions. First, we contribute to the literature on business model innovation, and in particular to the recent interest in business models from a cognitive perspective (Aversa *et al.,* 2015a; Martins *et al.,* 2015; Aversa and Haefliger, 2016) and, second, we add to the stream of literature in organization theory that has investigated how novel theories emerge by conceptual combination (Tsoukas, 2009; Oswick *et al*., 2011; Cornelissen and Durand, 2012).

We advance knowledge about how a new business model is innovated through a process of conceptual combination. By providing empirical evidence on the mechanism, we highlighted the complexity of designing an innovative business model. More importantly, we discussed the role played by conceptual innovation as the pivotal trigger of business model innovation.

From a cognitive viewpoint, it was shown how conceptual combination occurs; the mechanisms of similarity-dissimilarity detection, selective projection and search for coherence, were identified. Business model innovation starts to emerge only during the similarity-dissimilarity detection phase, when there is a potential recognition of similarities. The search for internal coherence, serves as a fine-tuning process and aims to settle the other components of the business model. Our findings showed how two kinds of similarity mapping (Gentner, 1983) triggered the generation of new concepts: *surface* similarity and *structural* similarity. The main difference between *surface* and *structural* similarity depends on "whether or not a feature is causally relevant to goal attainment" (Holyoak and Koh, 1987: 334). In other words, when the differences of the mapping process are still preserving the structure, it can be said that the similarity is *superficial* because it captures only *surface* components that are similar, as for instance the same colors or the same objects (Gentner, 1983). Indeed, *superficial* similarity refers to the resemblance between only the properties of the objects (Keane, Ledgeway, and Duff, 1994) and it does not involve the change of any structural relation (Gentner, 1983). As observed by Comacchio and Warglien (2010: 10), this distinction is a key point in highly innovative results: "while *surface* similarities may be instrumental in triggering the recognition of a potential conceptual input, the detection of *structural* similarities is fundamental to innovative blends".

This paper contributes to the stream of literature in management that, drawing on conceptual blending theory, explains novelty generation in the theory building processes (Cornelissen, 2005; 2006a; Oswick *et al.*, 2011; Cornelissen and Durand, 2012). These studies have significantly advanced the debate on how theory progresses; however, they risk limiting the analysis of the concept blending process to the development of theoretical models in the scientific world. In contrast, we enlarge their contribution, showing the nature of conceptual innovation related to new business models.

As evident in the THP case, similarity and dissimilarity can operate simultaneously and there can be a contextual recognition of them, as both similar and dissimilar components play a role

in conceptual combination. Similarity operates as a bridge in the mapping process, while dissimilarity becomes a potential creative component that activates such combinations. As previously underlined, the online element is both a *superficial* similarity as well as a *structural* dissimilarity. THP activated a dynamic use of the online component through a constant updating of news and increasing the growth of engagement. The *superficial* similarity of the political section triggers a structural dissimilarity because news and stories are created in the same way, following both a top-down and a bottom-up strategy. Journalists, bloggers, and well known and unknown voices can comment and write articles, nurturing an engaged community. The production line is then shifted from a traditional newspaper's production to a collective editing of both content and comments.

Our analysis confirms that THP is a result of double-scope network, a dynamic previously investigated by Oswick and colleagues' (2011) in the domain of new knowledge production in management theory. They encouraged new empirical work in order to explore different dissonance based forms of conceptual blending and our analysis responds to this call and it empirically confirms that stretching the boundaries between similarity and dissimilarity leads to the generation of highly innovative business models.

Martins and colleagues (2015) have argued that, during conceptual combination, there is a *modifier* that defines the characteristics of the business model and the difference between the *head* and *modifier* helps in identifying the potential positioning. They contend that companies, through a systematic analysis, must choose a *modifier*, or multiple *modifiers*, to design the core of its business model because it is the modifier that confers the main attributes to the *source*. Contrarily, we have shown that conceptual combination is a more complex process of mapping between *head* and *modifier*, because both of them provide components and relations among components to generate an entirely new business model. What we show is that the *head* can play an important economic role, as in our case, in identifying both the target (the consumer) and the position of the new concept. The newspaper business model concept was used by Arianna Huffington as a sort of canvas, and

she chose this input, instead of the blog, as the competitive landscape in which to build a new business model. Not surprisingly, the legitimization of the new concept is derived from the *head*, and not from the *modifier*, as would expected by Martins *et al.*'s framework (2015). For the first time, a Pulitzer Prize for national reporting was assigned to an online news site, marking a turning point for journalism and newspapers (Bell, *The Guardian*, 2012). Thereby, our results contribute to the entrepreneurship literature by providing new insights to the debate concerning opportunity recognition in new venture formations. Moreover, the cognitive approach facilitates an understanding of the cognitive processes of entrepreneurs, in particular during the early phases and of the role of the business concept in the process of forming a new venture and building a new business model (Comacchio *et al.*, 2016).

Cognitive mechanisms and a process perspective of business model innovation

This study makes a noteworthy contribution to both cognitive literature and business model innovation studies. By bridging them, it takes a step forward to understand how new business model innovation is designed and elaborated, by enlarging our knowledge of how a new concept of business is re-elaborated.

First, it shows how cognitive processes and innovations are tightly linked. The cognitive approach allows us to represent a concept, with its components and relations. Thereby, the static notion of looking at innovation and business model innovation within rigid phases is narrow and limited because, by using only one lens, we risk missing the overall picture. Even though conceptual combination is a structured and sequential mechanism for generating a new blend, it also leaves open the possibility of recursion (Fauconnier and Turner, 2002). The overarching goal of a concept is to achieve stability through search for coherence. However, as suggested by cognitive literature, there is the possibility for multiple successive blends (Fauconnier and Turner, 2002: 385), where the mechanism can be activated anytime. Then, the mechanism of generating a new concept

is flexible and fluid, where the recognition of dis/similarities is a crucial step in triggering the creative process.

Second, the process perspective of business model innovation, as suggested by Zott and Amit (2015: 396), provides guidance to both researchers and practitioners in building innovative business models. As they rightly put it, the nature of a business model is being systemic and interconnected, and a "change in any of these elements (compared with existing models) may engender further changes at the system level" (Zott and Amit, 2015: 397). A deep comprehension of such changes, also provided by an understanding of cognitive mechanisms, clarifies what the potential inputs to use are in order to design or implement a new business model. Moreover, inputs are made by conceptual components and their relations can be rearranged an infinite amount of times, as suggested by the cognitive literature (Fauconnier and Turner, 2002).

Integrating these observations into our new model, it is possible to look more proactively at business model innovation as a new concept where cognitive mechanisms play an important role.

Managerial implications

There are several noteworthy managerial contributions stemming from our study. First of all, looking at business model innovation from a cognitive viewpoint allows managers to identify a category of innovation that implies a logic of innovation that goes beyond the binary perspective usually analyzed through the analogical thinking perspective (Dahl and Moreau, 2002). It indeed considers innovation as a more complex process, where concepts play a central role that intersects with the innovation of a business model, NPD, or a process, etc. Business model innovation is then a multilevel process of which managers should be aware (Zott and Amit, 2015).

Having integrated the cognitive perspective, managers can be more concerned that, through conceptual innovation, they have the chance to innovate business models at multiple levels. In a reality in which there is an assiduous market demand for innovations, conceptual innovation represents an effective answer to address this need.

Moreover, concepts represent the fabric of combination. Broad skills and multidisciplinary specialization involving teamwork can have a positive impact on generating novelty. Collaborations between different sectors could enhance conceptual innovation processes, because combination is triggered by input that belongs to different epistemic worlds. An innovator or a manager could investigate different inputs that do not necessarily coincide with a specific sector, whose boundaries are blurred and not clearly manifest. As observed by Zott and Amit (2015: 401), the use of interdisciplinary teams and techniques can help in designing an innovative business model, in particular during the observation phase. In cognitive terms, similarity detection is also an open phase of exploration, a free search for inputs and numerous components to re-elaborate in potentially infinite ways. Indeed, there are multiple possibilities to generate novelty since a new concept converges practices, processes, and artifacts that can be constantly recombined to generate rich and new concepts.

Previous studies have concentrated their analysis on the technological side of recombination, emphasizing the analogical alignment between a source and a target, grounded in similarities recognition and mapping. Conceptual combination is not only a matter of aligning similar features, it also involves differences, together generating a novel meaning that "create[s] new emergent structures, which result in new tools, new technologies, and new ways of thinking" (Fauconnier and Turner, 2002: 27). Combination is both a complex and structured mechanism and our study can help managers to disentangle the sub-processes at its basis.

Our empirical evidence support Martins *et al.*'s (2015) results that conceptual combination does not stem solely from exogenous shocks. We tried to enlarge their contribution by showing managers that conceptual innovation is an effort to recombine different inputs, determined by a strategic choice to develop a new business model (Martins *et al.*, 2015) but also by the search for a new concept that incorporates novel attributes.

This work has several limitations that offer an opportunity for reflection and new avenues for research. First, it is based on a unique single case study. THP is a representative and persuasive

case (Yin, 2003; Siggelkow, 2007), but a multiple case study with its replication logic (Yin, 1981) would provide more insights about the conceptual combination at the basis of different innovations. Second, the cognitive steps identified are based on secondary data. Primary data would provide richer insights about the process of conceptual combination, which is also characterized by risk and uncertainty. Furthermore, exploratory and ethnographic studies would shed more light on the recursive nature of conceptual combination. Since conceptual combination is also a fluid mechanism, further studies would be beneficial to understanding how it functions.

REFERENCES

Alterman E. 2003. Determining the value of blogs. In B. Giles, M. Ludtke, L. Fiore, E. Son, and D. Smiley. *Weblogs and Journalism* (Eds.), Nieman Reports. The Nieman Foundation for Journalism at Harvard University, Vol. 57 No. 3: 85.

Amit R, Zott C. 2001. Value creation in E-business. *Strategic Management Journal* **22**(6–7): 493–520.

Amit R, Zott C. 2012. Creating value through business model innovation. *Sloan Management Review* **53**(3), 41– 49.

Amit R, Zott C. 2015. Crafting business architecture: the antecedents of business model design. *Strategic Entrepreneurship Journal* **9**(4): 331–350.

Aversa P, Furnari S, Haefliger S. 2015a. Business model configurations and performance: a qualitative comparative analysis in formula one racing, 2005–2013. *Industrial and Corporate Change* **24**(3): 655–676.

Aversa P, Haefliger S. 2016. Business model portfolio diversification. Working paper. Proceedings EGOS conference 2016.

Aversa P, Haefliger S, Rossi A, Baden-Fuller C. 2015b. From business model to business modelling: modularity and manipulation. *Advances in Strategic Management* **33**: 151–185.

Baden-Fuller C, Morgan M. 2010. Business models as models. *Long Range Planning* **43**(2–3): 156–171.

Bell E. 2012. Huffington Post's Pulitzer prize win marks a turning point for journalism (April 22, 2012). *The Guardian*. Retrieved from https://www.theguardian.com.

Bilton, R. 2015. *The Huffington Post guide to international expansion* (February 16, 2015). Retrieved from http://digiday.com/.

Bolasco S. 2013. *L'analisi automatica dei testi. Fare ricerca con il Text Mining*. Roma: Carocci Editore.

Boyatzis R. 1998. *Transforming Qualitative Information*. Thousand Oaks, CA: Sage Publications.

Camargo B.V, Justo A. M. 2015. Iramuteq Tutorial. Retrieved from http://www.iramuteq.org/documentation/fichiers/IRaMuTeQ%20Tutorial%20translated%20to%20English_17.03.2016.pdf

Christensen, C.M., Skok, D., Allworth, J. 2012. Breaking News. Mastering the art of disruptive innovation in journalism. In A. M. Lipinski. *Be the disruptor* (Eds.), Nieman Reports. The Nieman Foundation for Journalism at Harvard University, VoL. 66 No. 3.

Cohan, W.D. 2016. How Arianna Huffington lost her newsroom (September 7, 2016). *Vanity Fair*. Retrieved from http://www.vanityfair.com/.

Comacchio A, Bonesso S, Finotto V. 2016. Tie formation through venture concept development in emerging innovative start-ups. In *Fast Growing Firms in a Slow Growth Economy: Institutional Conditions for Innovation*, Visintin F, Pittino D (eds). Cheltenham, Edward Elgar.

Comacchio A, Warglien M. 2010. *Conceptual Combination: A Semantic Framework for Innovation*. 26th EGOS Colloquium, Lisbon 2010.

Cornelissen JP. 2005. Beyond compare: metaphor in organization theory. *Academy of Management Review*, 30: 751–64.

Cornelissen JP. 2006a. Metaphor in Organization Theory: Progress and the Past. *The Academy of Management Review* **31**(2): 485–488.

Cornelissen JP. 2006b. Metaphor and the dynamics of knowledge in organization theory: a case study of the organizational identity metaphor. *Journal of Management Studies* **43**(4): 683–709.

Cornelissen JP, Durand R. 2012. Beyond novelty: conceptual blending and causality. *Academy of Management Review* **37**(1): 152–154.

Coulson S, Oakley T. 2000. Blending basics. *Cognitive Linguistics* **11**(3/4): 175–196.

Creswell JW. 2014. *Research Design: Qualitative, Quantitative, and Mixed Methods Approaches* (4th ed.). Los Angeles: Sage.

Dahl DW, Moreau P. 2002. The influence and value of analogical thinking during new product ideation. *Journal of Marketing Research* **39**: 47–60.

De Benedetti F. 2011. Huffpost: cronistoria di un successo. *European Journalism Observatory*. Retrieved from http://it.ejo.ch/.

Demil B, Lecocq X, Ricart J, Zott C. 2015. Introduction to the SEJ special issue on business models: business models within the domain of strategic entrepreneurship. *Strategic Entrepreneurship Journal* **9**(1): 1–11.

Doz YL, Kosonen M. 2010. Embedding strategic agility: a leadership agenda for accelerating business model renewal. *Long Range Planning* **43**(2): 370–382.

Dunbar, K. 1997. How scientist think: on-line creativity and conceptual change in science. In T. Ward, S. Smith, and J. Vaid, *Creative thought* (1st Edit.): 461–493. Washington, DC: American Psychological Association.

Eisenhardt K. 1989. Building theories from case study research. *The Academy of Management Review* **14**(4): 532.

Eisenhardt K, and Graebner M. 2007. Theory building from cases: opportunities and challenges. *Academy of Management Journal* **50**(1): 25–32.

Enkel, E. and Gassmann, O. 2010. Creative imitation: exploring the case of cross-industry innovation. *R&D Management*, **40**(3): 256-270.

Fauconnier G. 1997. *Mappings in Thought and Language*. Cambridge, U.K.: Cambridge University Press.

Fauconnier G, Turner M. 1998. Conceptual integration networks, *Cognitive Science* **22** (2): 133–187.

Fauconnier G, Turner M. 2002. *The Way We Think. Conceptual Blending and The Mind's Hidden Complexities*. New York: Basic Books.

Finke R, Ward T, Smith S. 1992. *Creative Cognition*. Cambridge, Mass.: MIT Press.

Fuller R, Tussey E, Curtin M, Green J. 2011. HuffPo Bloggers Raise Status and Pay Concerns: Responses to the AOL-Huffington Post Merger. *Carsey-Wolf Center Media Industries Project*. Retrieved from http://carseywolf.ucsb.edu/mip/huffpo.

Fung B. 12 May 2015. What the Verizon merger means for the Huffington Post and AOL's biggest blogs. *The Washington Post*. Retrieved from https://www.washingtonpost.com/

Gärdenfors P. 2000. *Conceptual Spaces: The Geometry of Thought*. Cambridge, MA: MIT Press.

Gassmann O, Zeschky M. 2008. Opening up the solution space: the role of analogical thinking for breakthrough product innovation. *Creativity and Innovation Management* **17**(2): 97–106.

Gavetti G, Levinthal DA, Rivkin JW. 2005. Strategy making in novel and complex worlds: the power of analogy. *Strategic Management Journal* **26**(8): 691–712.

Gavetti G, Rivkin JW. 2005. *How Strategists Really Think: Tapping the Power of Analogy*. *Harvard Business Review* **83**(4): 54–63.

Gentner D. 1983. Structure-mapping: a theoretical framework for analogy. *Cognitive Science* **7**(2): 155–170.

Gentner D. 1986. *Evidence for a Structure-Mapping Theory of Analogy and Metaphor*. Doctoral Thesis. Urbana, IL: Dept. of Computer Science, University of Illinois at Urbana-Champaign.

Gillmor D. 2006. *We the Media: Grassroots Journalism By the People, For the People*. Beijing Farnham: O'Reilly.

Hargadon A, Sutton R. 1997. Technology brokering and innovation in a product development form. *Administrative Science Quarterly* **42**(4): 716.

Holyoak KJ, Koh K. 1987. Surface and structural similarity in analogical transfer. *Memory & Cognition* **15**: 332–340.

Holyoak K, Thagard P. 1997. The analogical mind. *American Psychologist* **52**(1): 35–44.

Huang C, Shen Y, Lin H, Chang S. 2007. Bloggers' motivations and behaviors: a model. *Journal of Advertising Research*, 47(4): 472–484.

IFRA. 2006. *Business Models of Newspaper Publishing Companies*. Report no 1. Retrieved from www.ifra.com/wherenews.

Johnson RB, Onwuegbuzie AJ, Turner LA. 2007. Toward a definition of mixed methods research. *Journal of Mixed Methods Research* **1**(2): 112–133.

Keane M, Ledgeway T, Duff S. 1994. Constraints on analogical mapping: a comparison of three models. *Cognitive Science* **18**(3): 387–438.

Keenoy T, Oswick C, Grant D. 1997. Organizational discourses: text and context. *Organization* **4**(2): 147–157.

Kiss, J. 2008. Huffington Post starts local news push. *The Guardian* (June 19, 2008). Retrieved from https://www.theguardian.com.

Krippendorff K. 2004. *Content Analysis: An Introduction To Its Methodology* (2nd ed.). Beverly Hills, CA: Sage Publications.

Krippendorff K. 2006. *The Semantic Turn*. Boca Raton, FL: CRC/Taylor & Francis.

Krippendorff K. 2007. *Content Analysis*. Thousand Oaks, CA: Sage.

Krippendorf K., Bock M. 2008. *The Content Analysis Reader*. Thousand Oaks, CA: Sage.

Lakoff G, Johnson M. 1980. *Metaphors We Live By*. Chicago and London: The University of Chicago Press.

Langley A. 1999. Strategies for theorizing from process data. *Academy of Management Review* **24**(4): 691–710.

Leonard-Barton D. 1990. A dual methodology for case studies: synergistic use of a longitudinal single site with replicated multiple sites. *Organization Science* **1**(3): 248–266.

Loewenstein J, Ocasio W, Jones C. 2012. Vocabularies and vocabulary structure: a new approach linking categories, practices, and institutions. *The Academy of Management Annals* **6**(1): 41–86.

Margolis E, and Laurence S. 2014. Concepts, The Stanford Encyclopedia of Philosophy (Spring 2014Edition), Edward N. Zalta (ed.), URL=<https://plato.stanford.edu/archives/spr2014/entries/concepts/>. Accessed June 1, 2014

Martins L, Rindova V, Greenbaum B. 2015. Unlocking the hidden value of concepts: a cognitive approach to business model innovation. *Strategic Entrepreneurship Journal* **9**(1): 99–117.

Miles M, Huberman A. 1994. *Qualitative Data Analysis*. Thousand Oaks: Sage Publications.

Mikhalkina T, Cabantous L. 2015. Business model innovation: how iconic business models emerge*, In C. Baden-Fuller & V. Mangematin (Eds.), *Business Models and Modelling* (Vol.33). Advances in Strategic Management. Bingley, UK: Emerald Group Publishing Limited: 59–95.

Miller CK, Shepherd D. 2004. Blogging as social action: a genre analysis of the weblog. Into the blogosphere: rhetoric, community, and culture of weblogs. http://blog.lib.umn.edu/blogosphere/blogging_as_social_action_a_genre_analysis_of_the_w eblog.html.

Moos J. 2011. Pew: 75% of Americans say journalists can't get their facts straight. *Poynter. A global leader in Journalism*. Retrieved from http://www.poynter.org/2011/pew-75-of-americans-say-press-cant-get-their-facts-straight/147038/

OECD/Eurostat. 2005. *Oslo Manual: Guidelines for Collecting and Interpreting Innovation Data*. Paris: OECD.

Olafson S. 2003. A reporter is fired for writing a weblog. In B. Giles, M. Ludtke, L. Fiore, E. Son, and D. Smiley. *Weblogs and Journalism* (Eds.), Nieman Reports. The Nieman Foundation for Journalism at Harvard University, Vol. 57 No. 3: 91.

Oswick C, Fleming P, Hanlon G. 2011. From borrowing to blending: rethinking the processes of organizational theory building. *Academy of Management Review* **36**(2): 318–337.

Oswick C, Keenoy T, Grant D. 2002. Note: Metaphor and analogical reasoning in organization theory: Beyond orthodoxy. *Academy of Management Review* **27** (2): 294-303.

Perlmutter D. 2005. The Ascent of Blogging. Old media report on the new media, but they haven't figured out how to adapt. In B. Giles, M. Ludtke, L. Fiore, S. Hagedorn, and D. Novetsky. *Changing Newspapers, Changing News* (Eds.), Nieman Reports. The Nieman Foundation for Journalism at Harvard University, Vol. 59 No. 3: 60–65.

Pratellesi M. 2013. *New Journalism*. Milano: Bruno Mondadori.

Ratinaud P. 2009. IRaMuTeQ: Interface de R pour les Analyses Multidimensionnelles de Textes et de Questionnaires. www.iramuteq.org.

Ratinaud P, Déjean S. 2009. *IRaMuTeQ: implémentation de la méthode ALCESTE d'analyse detexte dans un logiciel libre*. Modélisation Appliqué aux Sciences Humaines et Sociales (MASHS2009). Toulouse: Le Mirail.

Reinert M. 1983. Une methode de classification descendante hierarchique: application a l'analyselexicale par contexte. *Les Cahiers de l'Analyse des Donnees* **8**(2): 187–198.

Reinert M. 1993. Les «mondes lexicaux» et leur «logique» à travers l'analyse statistiqued'un corpus de récits de cauchemars. *Langage & Société* **66**: 5–39.

Reinert M. 2001. Alceste, une méthode statistique et sémiotique d'analyse de discours. Application aux «Rêveries du promeneur solitaire». *La Revue Française de Psychiatrie et de Psychologie Médicale* **5**(49): 32–36.

Riptide. 2013. *Interview to Betsy Morgan*. http://www.digitalriptide.org/person/betsy-morgan/. Accessed June 1, 2014.

Riptide. 2013. *Interview to Arianna Huffington.* http://www.digitalriptide.org/person/arianna-huffington/. Accessed June 1, 2014.

Saldaña J. 2013. *The Coding Manual for Qualitative Researchers*. Los Angeles: Sage.

Sbalchiero, S. and Tuzzi, A. 2015. Scientists' spirituality in scientists' words. Assessing and enriching the results of a qualitative analysis of in-depth interviews by means of quantitative approaches. *Quality & Quantity* **50**(3): 1333–1348.

Schmidt J. 2007. Blogging practices: an analytical framework. *Journal of Computer-Mediated Communication* **12**(4): 1409–1427.

Seidel V. 2007. Concept shifting and the radical product development process. *Journal of Product Innovation Management* **24**(6): 522–533.

Siggelkow N. 2007. Persuasion with case studies. *Academy of Management Journal* **50**(1): 20–24.

Smith B. 15 November 2010. 2 Dems claim Arianna Huffington stole website idea. *Politico*. Retrieved from http://www.politico.com/

Somaiya R. June 2, 2015. Huffington Post in Limbo at Verizon. *The New York Times*. Retrieved from http://www.nytimes.com

Strauss A, Corbin L. 1990. *Basics of Grounded Theory Methods*. Beverly Hills, CA: Sage.

Tashakkori A, Teddlie C. 2003. *Handbook of Mixed Methods in Social and Behavioural Research*. Thousand Oaks, CA: Sage.

Thagard P. 1988. *Computational Philosophy of Science*. Cambridge, MA: MIT Press.

Thagard P. 1997. Collaborative knowledge. *Noûs* **31**(2): 242–261.

Thagard P, Verbeurgt K. 1998. Coherence as constraint satisfaction. *Cognitive Science* **22**(1): 1–24.

Thagard P, Findlay S. 2012. *The Cognitive Science of Science: Explanation, Discovery, and Conceptual Change*. Cambridge, MA: MIT Press.

Tsoukas H. 2009. A dialogical approach to the creation of new knowledge in organizations. *Organization Science* **20**(6): 941–957.

Turner M, 2008. Frame blending. In *Frames, Corpora, and Knowledge Representation*, Favretti R (ed). Bologna: Bologna University Press: 13–32.

Tuzzi A. 2003. *L'analisi del contenuto. Introduzione ai metodi e alle tecniche di ricerca*. Roma: Carocci Editore.

Van Maanen J. 1991. The smile factory: work at Disneyland. In *Reframing Organizational Culture*, Frost PJ, Moore LF, Louis MS, Lundberg CC Martin J (eds). Newbury Park, CA: Sage: 58–76.

Verganti R. 2008. Design, meanings, and radical innovation: a metamodel and a research agenda. *Journal of Product Innovation Management* **25**(5): 436–456.

Ward T. 2004. Cognition, creativity, and entrepreneurship. *Journal of Business Venturing* **19**(2): 173–188.

Ward T, Smith S, Vaid J. 1997. *Creative Thought*. Washington, DC: American Psychological Association.

Weinberger D. 2002. *Small Pieces Loosely Joined (A Unified Theory of the Web)*. Cambridge, MA: Perseus Publishing.

Winter S, Szulanski G. 2001. Replication as strategy. *Organization Science* **12**(6): 730–743.

Wisniewski EJ. 1997a. When concepts combine. Psychonomic Bulletin & Review **4**(2): 167–183.

Wisniewski EJ. 1997b. Conceptual combination: possibilities and esthetics. In *Creative Thought: An Investigation of Conceptual Structures and Processes*, Gentner D, Brem S, Ferguson R, Wolff P (eds). American Psycho- logical Association: Washington, D.C.; 51–81.

Yin RK. 1981. The case study crisis: some answers. *Administrative Science Quarterly* **26**(1): 58–65.

Yin RK. 2003. *Case Study Research: Design and Methods*. London: Sage.

Zott, C. and Amit, R. 2010. Business Model Design: An Activity System Perspective. Long Range Planning, **43**(2-3): 216-226.

Zott C, Amit R, Massa L. 2011. The business model: recent developments and future research. *Journal of Management* **37**(4): 1019–1042.

Zott C, Amit R. 2015. Business model innovation: toward a process perspective. In *The Oxford Handbook of Creativity, Innovation, and Entrepreneurship*, Shalley C, Hitt M, Zhou J (eds). Oxford: Oxford Library Psychology: 395–406.

TABLES AND FIGURES

Table 1
Data and their use in the analysis

Data Source	Type	Use in the Analysis
Interviews in audio and video format (24). Ad verbatim pages single spaced (68)	• 2007: A. Huffington, *Wired* 15 May • 2009: A. Huffington, BBC 27 October; A. Huffington at Lewis Howes; Kenneth Lerer at Columbia University • 2010: A. Huffington, *OpEndnews* • 2011: Tim Armstrong and A. Huffington, *CNN*; Tim Armstrong and A. Huffington, *PBS Newshour*; A. Huffington at IAB forum in Italy; Tim Armstrong and A. Huffington, *The Telegraph*; • 2012: A. Huffington DEF launch in Italy of THP; A. Huffington, CNN; A. Huffington, Columbia Journalism Review • 2013: A. Huffington, *Makers*; A. Huffington, *Riptide*; Betsy Morgan, *Riptide*; Jonah Peretti, *Riptide*; Tim Armstrong, *Riptide*; A. Huffington, Speech at Smith College • 2014: A. Huffington, Inc. Interview • 2015: A. Huffington, *AOL entertainment*; A. Huffington, at Content Chaos Summit in NYC; A. Huffington, CBS; A. Huffington at Hearst Corporation Summit; A. Huffington, NPR	Detection of the main features of the conceptual innovation and conceptual spaces
Newspaper articles (68)	*24 Media*: (1); *Adweek*: (1); *The Australian Financial Review* (1); *Baltimore Sun*: (1); *Boston Common* (1); *Business Insider* (2); *Business Wire* (1); *Canadian Business* (1); *Capital New York* (2); *Crain's New York Business* (1); *Daily Mail* (1); *Forbes* (3); *Fortune* (1); *France 24* (1); *Hollywood Reporter* (1); *Il Post* (1); *Il Sole 24 Ore* (2); *Jewish Business News* (1); *LA Weekly* (1); *Los Angeles Times* (1); *New York Business Journal* (1); *New York Observer* (1); *New York Times* (11); *Politico* (2) *Reuters* (2); *The Globe and Mail* (1); *The Guardian* (12); *The Huffington Post* (2); *The International Business Times* (1); *The Telegraph* (5); *The Wall Street Journal* (2); *The Washington Post* (2); *Wired* (1)	Retrace the evolution of the company Reconstruction of the conceptual innovation of HP
Reports (35)	Columbia Journalism Reviews (4) Carsey-Wolf Center's Media Industries Project (1) Tow Center for Digital Journalism (2) Columbia Journalism Review survey (1) Pew Research Center (6) Nieman Report (9) European Journalism Observatory (12) IFRA Report 2006 (1)	Triangulation with the newspaper articles, the interviews, and the analysis of THP as a conceptual innovation
Blogs (13)	Adbusters (1); Data Media Hub (5); Gawker (1); Gigaom (1); Mayhill Fawler (2) Media Shift (1); CNN Money (2)	Triangulation with the newspaper articles, the interviews, and the analysis of HP as a product of conceptual innovation

Table 2
Occurrences and co-occurrences of THP theme cluster

WORD	TYPE	FREQ.REL.	FREQ.TOT.	PERCENTAGE	CHI2
story	name	61	89	68.54	55.88
page	name	35	43	81.4	48.03
link	verb	24	25	96.0	46.52
original	adjective	28	33	84.85	41.95
source	name	20	21	95.24	38.03
share	verb	26	32	81.25	35.24
editor	name	30	40	75.0	33.65
aggregate	verb	16	16	100.0	33.42
traffic	name	20	24	83.33	28.57
report	name	24	32	75.0	26.76
Facebook	name	19	23	82.61	26.58
comment	name	17	20	85.0	25.32
front	name	23	31	74.19	24.92
blogs	name	15	17	88.24	24.21
journalism	name	38	63	60.32	23.04
site	name	36	61	59.02	20.23
social	adjective	30	48	62.5	20.19
engage	verb	11	12	91.67	19.19
community	name	13	16	81.25	17.41
produce	verb	10	11	90.91	17.13
user	name	8	8	100.0	16.61
platform	name	16	22	72.73	16.35
The Huffington Post	name	44	84	52.38	15.89
reader	name	24	39	61.54	15.26
aggregation	name	14	19	73.68	14.77

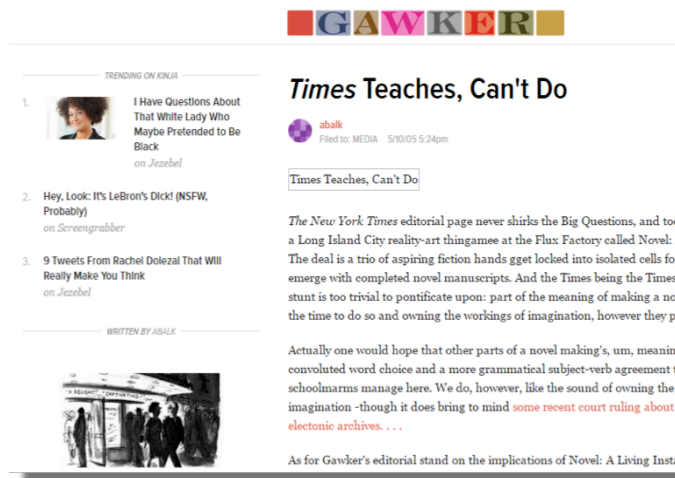**Figure 1**
A popular blog page dated 2005

Figure 2
First page of *The Washington Post* in 2005

Table 3
Dis/similarity recognition mechanism

REPRESENTATIVE QUOTES OF ARIANNA HUFFINGTON AND HER COLLEAGUES ABOUT THP	FIRST ORDER Action	SECOND ORDER
'Newspapers did not recognize the importance of what was happening online early enough. Because if they had, they would have left no room for *The Huffington Post* to exist. They left a vacuum into which we stepped' (Huffington, *Riptide*, 2013)	*DISSIMILARITY* of online: static screen on newspaper homepage / dynamic blog pages	**RECOGNITION OF SIMILARITY / DISSIMILARITY**
'I started writing a column, mostly on politics but also on our culture. And I was asked to give my opinions all the time. And blogging became a new form of expression' (Huffington, *Makers*, 2013)	*SIMILARITIES*: political section in newspaper / politics as the main content in Arianna Huffington's blog	

Table 4
Components of conceptual combination—the newspaper input

COMPONENTS	EXTRACTS FROM QUOTES ABOUT COMPONENT
Coverage	'We are aspiring to be a newspaper in that we want to covering all news' (Huffington, *The Guardian*, 19 June 2008) 'Now we have 66 sections and we cover everything, from books to arts.' (Huffington, CNN, 22 April 2012)
Sections	'We looked at the sections of a printed newspaper as a model' (Lerer, *The New York Times*, 31 March 2008)
Editors	'I believe in editors, I believe that the hybrid future that I am envisioning is going to include millions of voices, but it is not going to eliminate editors' (Huffington, BBC, 27 October 2009)
Ethical standards	'When it comes to *The Huffington Post* and other internet sources of news, basically we embrace journalistic values like accuracy, fact checking, and correct punctuation and grammar.' (Huffington, *The Wired,* 15 May 2007)
Original reporting	'*The Huffington Post* is doing more and more traditional journalism with investigative reporting, in multiple areas, and we just finished sending 26 reporters across America to write about the new poverty, the decline of the middle class' (Huffington, *Riptide*, 2013)

Table 5
Components of conceptual combination—the blog input

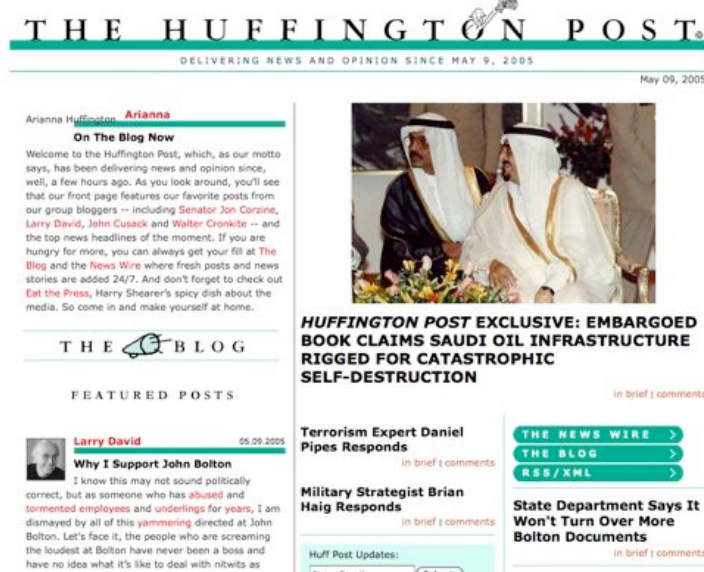| COMPONENTS	EXTRACTS FROM QUOTES ABOUT COMPONENT
Engagement	'People don't want just to consume news, they want to engage with news, and give their own opinion about what they are reading' (Huffington, BBC, October 2009) 'I think being only online meant both had to be constantly innovating, but also that we prioritized engagement. So our relationship with our readers was always at the center of what we were doing, it was not an afterthought' (Huffington *Riptide,* 2013) 'The site was created in the middle of a perfect storm. We had news. We leveraged social media and the power of community and began to attract a loyal readership' (Huffington, *The Wall Street Journal*, 25 May 2010)
Community	'*The Post* seeks to be a community, not merely a collection of links' (Lerer, *The New York Times* 31 March 2008)
Story and storytelling	'We need to go back to getting *stories*. But we need to tell stories in a new way—to bolster them with background information, smart framing, and, overall, context' (Huffington, *NiemanLab*, 13 April 2010) 'So, our interest is in providing everything that consumers need and doing it in a way that gives not just data, but stories' (Huffington, *PBS Newshour*, 7 February 2011) 'I cannot think of anyone in media today who better embodies HuffPost's hybrid approach to storytelling, our mission of informing, inspiring, entertaining, end empowering' (Huffington, in a memo. *CNN Money*, 29 September 2015) 'We also believe *The Huffington Post* is a unique product, offering people a singular combination of Pulitzer Prize winning journalism, storytelling' (Huffington, *Sidney Morning Herald*, 9 February 2015) 'A blog is somebody's thoughts in real time, in a conversational way' (Huffington, *Riptide*, 2013)
Comments	'Comment was content, too. Comment was like blogging, but at scale' (Peretti *Columbia Journalism Review,* April 2012)
Technology	'I decided early on that the Internet, that new technology, was going to provide a new way of connecting people' (Huffington, *The New York Times,* 7 February 2011)

Table 6
Selective mapping mechanism

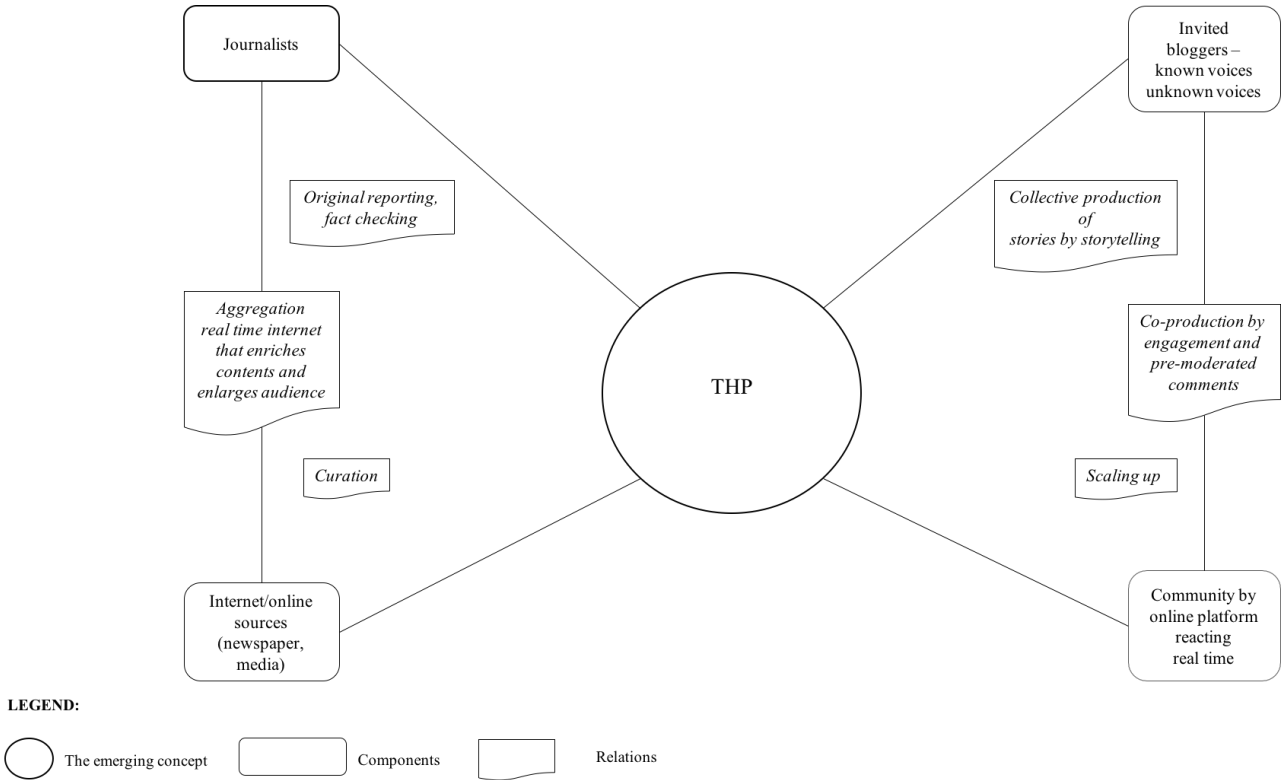| REPRESENTATIVE QUOTES OF ARIANNA HUFFINGTON AND HER COLLEAGUES ABOUT THP	FIRST ORDER Action	SECOND ORDER
'We looked at the sections of a printed newspaper as a model' (Lerer, *The New York Times*, 31 March 2008)	PROJECTION	SELECTIVE MAPPING
'When it comes to *The Huffington Post* […], basically we embrace journalistic values like accuracy, fact checking, and correct punctuation and grammar.' (Huffington, The Wired, 2007)	PROJECTION	
'We had a distinguished group of bloggers' (Huffington, *Riptide*, 2013)	DELETION	
'We are going to bring the best of the web, and we are *not* producing everything that appear online' (Huffington, *CNN*, 22 April 2012)	DELETION	
'I believe in editors, I believe that the hybrid future that I am envisioning is going to include millions of voices, but is not going to eliminate editors' (Huffington, *BBC*, 27 October 2009)	STRUCTURE COMPOSITION	
'Newspapers are no longer going to be the primary carriers of news simply because they cannot report news as immediately and as much in real time as we can do on the internet. David: it's yesterday's news delivered today Arianna: yes!' (Huffington, *The Wired*, 2007)	STRUCTURE COMPOSITION	
'The *Post* seeks to be a community, not merely a collection of links' (Lerer, *The New York Times*, 31 March 2008)	STRUCTURE COMPOSITION	

Table 7
Search of coherence mechanism

REPRESENTATIVE QUOTES OF ARIANNA HUFFINGTON AND HER COLLEAGUES ABOUT THP	FIRST ORDER Action	SECOND ORDER
'The site was always at the forefront of search optimization' (Carr and Peters, *The New York Times*, 7 February 2011) 'As soon as we had the scale, then we started selling advertising and doing a lot of innovations around advertising' (Huffington, *Riptide*, 2013) 'We stayed on stories. […] We stayed on it, we developed it, we found new ways. both new facts and new interesting views' (Huffington, *Riptide*, 2013)	ELABORATION OF THE STRUCTURE	**SEARCH OF COHERENCE**

Figure 3
First page of THP launch, May 9 2005

Figure 4
The THP concept

Journalists

Invited bloggers – known voices unknown voices

Original reporting, fact checking

Collective production of stories by storytelling

Aggregation real time internet that enriches contents and enlarges audience

Co-production by engagement and pre-moderated comments

THP

Curation

Scaling up

Internet/online sources (newspaper, media)

Community by online platform reacting real time

LEGEND:

○ The emerging concept   ▭ Components   ▭ Relations

Table 8
Cognitive mechanisms and stages toward a process of business model innovation

CONCEPTUAL COMBINATION MECHANISMS	STAGES OF BUSINESS MODEL INNOVATION
Dis/Similarity Recognition	*Observe and Synthesize*
Selective projection and structure composition	*Generation*
Search for coherence	*Refine*

165

Estratto per riassunto della tesi di dottorato

Studente / Student: Elena Bruni

Matricola: 963766

Dottorato / Course: Phd in Management

Ciclo/ Cycle: 29

Titolo / Title: Come si genera la novità. Processi cognitivi all'interno dell'organizzazione. How novelty is generated. Cognitive processes in organization

Abstract:
This thesis, based on three distinct yet interconnected papers, is a closer examination of how novelty emerges in organizational context, with a focus on cognitive mechanisms. Specifically, this work intends to provide theoretical contributions and empirical evidence on how a novel concept emerges, by explaining the cognitive mechanisms at the basis, and by determining the role of metaphors in these processes. It starts with a critical reviews and systematization of the extant literature on metaphor of the last thirty years that helps in identifying gaps and novel research questions that will be address by this elaborate. Thereby, the second empirical work of this thesis addresses the issue of how innovators elaborate different types of innovation. By analysing their metaphorical language, this research contributes to the literature of innovation and entrepreneurship, providing empirical evidence about how innovation processes is a multifaceted and complex process. The third article is a longitudinal study of how the web site *The Huffington Post* business model is a truly new concept, based on a process of conceptual combination. By a detailed analysis of cognitive processes, this work contributes theoretically to the cognitive perspective on business model innovation and adds to the management research on conceptual combination.

Questo elaborato si basa su tre distinti ma interconnessi articoli accademici. È una approfondita analisi di come la novità emerga in contesti organizzativi, con un focus sui meccanismi cognitivi di generazione. Nello specifico, questo lavoro intende portare contributi teorici ed evidenza empirica sul meccanismo di generazione di un nuovo concetto, spiegandone i meccanismi cognitivi alla base e determinando il ruolo delle metafore in questo processo di generazione. La tesi si apre con una revisione critica e sistematizzazione della letteratura esistente sulle metafore prodotta negli ultimi trenta anni, così da identificare i gap teorici e future domande di ricerca. Il secondo lavoro empirico di questa tesi affronta il problema di come gli innovatori elaborano diversi tipi di innovazione. Analizzando il loro linguaggio metaforico, questa ricerca contribuisce alla letteratura di innovazione, fornendo evidenza empirica di come il processo di innovazione sia un processo multiforme e complesso. Il terzo articolo, infine, è uno studio longitudinale di come il business model del *The Huffington Post* sia generato da un nuovo concetto, basato su un processo di combinazione concettuale. Attraverso un'analisi dettagliata dei processi cognitivi, questo lavoro dà un contributo teorico alla prospettiva cognitiva negli studi di business model e un contributo empirico alla ricerca di management su conceptual combination.