Contribution from different domains for creativity management in the context of innovation

Patrícia Wielewicki¹, Rui Ferreira Roda²

¹ Universidade do Porto/ Portugal - patriciafw@gmail.com

² Politecnico di Milano/ Italy - rui.roda@me.com

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ABSTRACT

Creativity is an ever-increasing theme of interest in the context of management due to its importance for the innovation process. Current literature suggests that the interaction between the concepts of innovation and creativity is not clear, being that the absence of referential frameworks with basis on the systemic approach in the relation between creativity and innovation identified in current studies. Considering the difficulty to deeping by traditional research approaches, this study aims at contributing originally for clarifying the relation between creativity and innovation by analyzing it under the point of view of three domains: Design, *Haute Cuisine* and Art. The study articulates two investigation methods structured in two parts: (i) literature review and (ii) systematic literature review. Both methods are bound to the construction of a theoretical framework which points out contributes of the studied domains for the optimization of creative processes in the organizational context. The study suggests the existence of three integrated models of creativity management in the context of innovation, each one referring to a given domain analyzed. The framework presented is featured as a contribute for enterprises in the search for new creativity management models for innovation, as well as a starting point for the conception of a more robust theoretical body for the study of creative processes in different domains in the context of innovation.

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Haute Cuisine;
Arte.

RESUMO

Criatividade é um tema cada vez maior de interesse no contexto da gestão, devido à sua importância para o processo de inovação. A literatura atual sugere que a interação entre os conceitos de inovação e criatividade não é clara, sendo que há uma ausência de quadros teóricos referenciais com base na abordagem sistêmica na relação entre criatividade e inovação identificada nos estudos atuais. Considerando a dificuldade de se aprofundar nas abordagens tradicionais de pesquisa, este estudo visa contribuir originalmente para o esclarecimento da relação entre criatividade e inovação, analisando-a sob o ponto de vista de três domínios: Design, *Haute Cuisine* e Arte. O estudo articula dois métodos de investigação estruturados em duas partes: (i) revisão da literatura e (ii) revisão sistemática da literatura. Ambos os métodos estão vinculados à construção de um referencial teórico que aponta contribuições das áreas estudadas para a otimização de processos criativos no contexto organizacional. O estudo sugere a existência de três modelos integrados de gestão da criatividade no contexto da inovação, cada um referente a um dado domínio analisado. O quadro apresentado é um contributo para as empresas na busca de novos modelos de gestão da criatividade para a inovação, bem como um ponto de partida para a concepção de um corpo teórico mais robusto para o estudo de processos criativos em diferentes domínios no contexto da inovação.

1 Introduction

Creativity is assumed as a fundamental concept for the innovation process in the organizational context (Nonaka, 1991, 1994), besides being a recorred theme in literature (e.g. Anderson, Potočnik, & Zhou, 2014; Caniëls & Rietzschel, 2015; Oddane, 2015; Sarooghi, Libaers, & Burkemper, 2015). However, although the relation between creativity and innovation is acknowledged and the sequence of such a process seems logical – “creativity involves the generation of novel and useful ideas while innovation entails the implementation of these ideas into new products and processes” (Sarooghi et al., 2015, p. 714); in practice, organizations still find it difficult to manage creativity in the innovation processes. Thus, given the pressing need for organizations to turn creativity into innovation, more research into mechanisms for strengthening links between them is seems to be necessary (Litchfield, Ford, & Gentry, 2015).

Current literature suggests that the interaction between those two concepts is not clear (Anderson, Potočnik, et al., 2014; David H Cropley, James C Kaufman, & Arthur J Cropley, 2011), since both phenomena are cognitive and nebulous concepts and therefore are difficult to access by traditional and dominant research approaches (M. Stierand & V. Doerfler, 2012, p. 947). In that sense, it is found out that efficient creativity management models in the scope of innovation remain ‘enigmatic’ for researchers and managers (Caniëls & Rietzschel, 2015). Im, Montoya, and Workman (2013, p. 171) point out that “prior research on creativity has generally treated creativity as the ultimate outcome variable. This suggests a need for further study of creativity as a predictor of strategic innovation outcomes”.

In that sense, it is here stressed out that creativity as a research field was first studied by psychology (Guilford, 1967), although it is now a transversal study object it has been object of different domain transversal studies, besides being a recurrent theme in political and economic agendas worldwide. Hennessey and Amabile (2010, p. 571) point out: “since the 1990s, we have seen a virtual explosion of topics, perspectives, and methodologies in the creativity literature”. In such a context, it is understood that “the staggering array of disciplinary approaches to understanding creativity can prove to be an advantage, but only if

researchers and theorists work together and understand the discoveries that are being made across creative domains and analytical levels. Otherwise, the mysteries may deepen” (Hennessey & Amabile, 2010, p. 590).

Thus, assuming the need for clarification on the role of creativity as a fundamental factor for innovation management (David H Cropley et al., 2011), this study had the following main question as guide: “how can the articulation of theories deriving from different creative domains contribute for the construction of referential frameworks bound to the optimization of activities related to creativity and innovation in the organizational context?” Starting from such point of view, this study aims at contributing for the theorization on the relation between creativity and innovation by analyzing it under the perspective of three different domains: Design, *Haute Cuisine* and Art.

That research strategy is based on the need for a systemic view of creativity according to Hennessey and Amabile (2010, p. 590): “only by using multiple lenses simultaneously, looking across levels, and thinking about creativity systematically, we will be able to unlock and use its secrets”. In addition, the increasing interest in the field of creativity for the study of processes in different domains is stressed (Furnham, Batey, Booth, Patel, & Lozinskaya, 2011; Glaveanu et al., 2013; Mumford, 2003) as well as the belief that “more progress will be made when more researchers recognize that creativity arises through a system of interrelated forces operating at multiple levels, often requiring interdisciplinary investigation” (Hennessey & Amabile, 2010, p. 571).

In this sense, the creative sector becomes strategic and has been seen as a priority for development and growth, and for the exit from the economic crisis (Lazzeretti, Innocenti, & Capone, 2015). Thus, as Lazzeretti et al. (2015) highlight, the motivations behind our choice of focusing on domains connected to creative industries are, first of all, that they have raised a strong interest in management literature, because they are increasingly seen as the right sectors for driving our economies out of the present crisis.

Thus, Design, *Haute Cuisine* and Art are the domains selected for the study for the following reasons:

(i) The protagonism of creativity and the acknowledged relevance of these domains for the

study of innovation in the current scientific context (e.g. Capdevila, Cohendet, & Simon, 2015; Garel, 2015; Glaveanu et al., 2013; Lane & Lup, 2015; Nissley, 2010; Petruzzelli & Savino, 2014; Petruzzelli & Svejenova, 2015; van den Broeck, Cools, & Maenhout, 2015; van der Meer, 2016).

(i) Work in a triangulation system where three relevant domains to the study of creativity management and with distinct characteristics should be chosen - the same analysis frame was applied for all domains with the aim of uncovering possible patterns of similarity and differences between them.

(ii) In a previous research in the ISI Web of Science database, Design domain - within the group of Creative Industries - was the field that presented the largest volume of studies related to innovation and creativity;

(iii) With an equally significant number of studies, the Art domain was selected due to its diversified and comprehensive character and to be one of the first areas to be studied in the field of creativity (Baumol & Bowen, 1965; Craft, 1979; Harris, 1999; Wijnberg & Gemser, 2000);

(iv) The *Haute Cuisine* domain, although not considered a Creative Industry - which is strongly contested in works like Pedersen (2012) and Caves (2002) was chosen instead of other areas – such as Advertising, Architecture, Computer programming activities, Photographic activities, Publishing, Sound and music recording – due to the recognition in the organizational literature in the last decade as an emerging domain of reference for the management of creativity (see Ottenbacher & Harrington, 2007; Pedersen, 2012; Surlemont & Johnson, 2005).

The operationalization of investigation unfolded from the main question of the study from which derived the sections: Part 1, which presents the main approaches on the relation between creativity and innovation identified in current literature, and Part 2, which presents how the three domains selected approach the themes identified in Part 1.

One of the aims for selecting three creative domains and using the same analysis frame for all the groups was to uncover possible similarity or difference patterns between them.

This study suggests the existence of three integrated models of creativity management in the context of innovation, each one referring to a given domain analyzed; as well as the possibility for

articulating them. These models place different emphases for the non-consensual themes in the organizational literature favoring creativity and innovation.

Besides the theoretical deepening on two relevant topics in the organizational context – creativity and innovation - results signal interdisciplinary investigation as a possible and necessary path due to contemporary challenges faced by enterprises. That can be translated not only by the articulation between the academy and enterprises, but also by the need to develop transdisciplinary investigation bound to innovation in the organizational context.

2 Method

Whit basis on theoretical exploration leading to new propositions this study articulates two investigation methods as follows: (Part 1) literature review and (Part 2) systematic literature review.

2.1 Part 1 – Literature review

The first part of the study aims to understand how creativity and innovation are studied and related in the literature as an attempt to identify the themes used as basis for the analysis framework of the domains approached.

The papers analyzed were searched in the online data base *ISI Web of Knowledge*, according to the criteria showed in figure 1 (using the term “innovat*” rather than “innovation” to amplify the investigation scope).

This database was defined as the main source of research given its meticulous process of selection of scientific works. Moreover, according to Zimmermann, Ferreira, and Moreira (2016) it has been a common strategy used in other literature reviews in the scope of innovation.

The following question served as guide for the selection of the papers: “what are the main approaches in scientific literature on the relation between creativity and innovation?”

Six main approaches were identified based on the qualitative analysis of a sample of 32 studies considered relevant to the theme, published between 1998 and 2015 (Table 1): (1) individual creativity; (2) creative groups; (3) leadership; (4) environment; (5) incentive or compensation policies; (6) basic skills and learning.

Table 1. Works analysed in Part 1: literature review

Author / year	Title	Journal / Source
Caniels and Rietzschel (2015)	Organizing Creativity: Creativity and Innovation under Constraints	Creativity and Innovation Management
Litchfield et al. (2015)	Linking Individual Creativity to Organizational Innovation	The Journal of Creative Behavior
Sarooghi et al. (2015)	Examining the relationship between creativity and innovation: A meta-analysis of organizational, cultural, and environmental factors	Journal of Business Venturing
Sok and O'Cass (2015a)	Examining the new product innovation – performance relationship: Optimizing the role of individual-level creativity and attention-to-detail	Industrial Marketing Management
Oddane (2015)	The collective creativity of academics and practitioners in innovation Projects	International Journal of Managing Projects in Business
Ghosh (2015a)	Developing organizational creativity and innovation	Management Research Review
Ahlin, Drnovsek, and Hisrich (2014)	Entrepreneurs' creativity and firm innovation: the moderating role of entrepreneurial self-efficacy	Small Business Economics
Anderson, Potocnik, and Zhou (2014)	Innovation and Creativity in Organizations: A State-of-the-Science Review, Prospective Commentary, and Guiding Framework	Journal of Management
Elerud-Tryde and Hooge (2014)	Beyond the Generation of Ideas: Virtual Idea Campaigns to Spur Creativity and Innovation	Creativity and Innovation Management
Squalli and Wilson (2014)	Intelligence, creativity, and innovation	Intelligence
Sleuwaegen and Boiardi (2014)	Creativity and regional innovation: Evidence from EU regions	Research Policy
Dul and Ceylan (2014)	The Impact of a Creativity-supporting Work Environment on a Firm's Product Innovation Performance	Journal of Product Innovation Management
Stierand, Doerfler, and MacBryde (2014)	Creativity and Innovation in Haute Cuisine: Towards a Systemic Model	Creativity and Innovation Management
Im et al. (2013)	Antecedents and Consequences of Creativity in Product Innovation Teams	Journal of Product Innovation Management
Cerne, Jaklic, and Skerlavaj (2013)	Authentic leadership, creativity, and innovation: A multilevel perspective	Leadership
Somech and Drach-Zahavy (2013b)	Translating Team Creativity to Innovation Implementation: The Role of Team Composition and Climate for Innovation	Journal of Management
M. B. Stierand and V.	Reflecting on a phenomenological study of creativity and innovation	International Journal of

Author / year	Title	Journal / Source
Doerfler (2012)	in haute cuisine	Contemporary Hospitality Management
David H. Cropley, James C. Kaufman, and Arthur J. Cropley (2011)	Measuring Creativity for Innovation Management	Journal of Technology Management & Innovation
Lee, Florida, and Gates (2010)	Innovation, Human Capital, and creativity	International Review of Public Administration
Sohn and Jung (2010)	Effect of Creativity on Innovation: Do Creativity Initiatives Have Significant Impact on Innovative Performance in Korean Firms?	Creativity Research Journal
Gehani (2011a)	Individual Creativity and the Influence of Mindful Leaders on Enterprise Innovation	Journal of Technology Management & Innovation
Oakley (2009)	The disappearing arts: creativity and innovation after the creative industries	International Journal of Cultural Policy
Perez-Luno Robledo, Cabrera, and Wiklund (2009)	De la creatividad al lanzamiento de productos: el papel del conocimiento en los procesos de innovación e imitación	Cuadernos de Economía y Dirección de la Empresa
Gumusluoglu and Ilsev (2009)	Transformational leadership, creativity, and organizational innovation	Journal of Business Research
Ohly and Binnewies (2009b)	The Ambiguity of Creativity and Innovation	Industrial and Organizational Psychology
Paulus and Dzindolet (2008)	Social influence, creativity and innovation	Social influence
Joy (2008)	Personality and Creativity in Art and Writing: Innovation Motivation, Psychoticism, and (Mal)Adjustment	Creativity Research Journal
Li, Wang, Li, and Zhao (2007)	Design creativity in product innovation	International Journal of Advanced Manufacturing Technology
Brennan and Dooley (2005)	Networked creativity: a structured management framework for stimulating innovation	Technovation
Nijhof, Krabbendam, and Looise (2002)	Innovation through exemptions: building upon the existing creativity of employees	Technovation
Bharadwaj and Menon (2000)	Making innovation happen in organizations: individual creativity mechanisms, organizational creativity mechanisms or both?	Journal of Product Innovation Management
Heunks (1998)	Innovation, Creativity, and Success	Small Business Economics

Source: Survey data.

It is important to stress that no time cut was used, being therefore the selection of texts restricted to the relevance and convergence of the problem approached.

Figure 1. Research criteria for the selection of the papers analyzed – Part 1

	Title Terms	Topic terms	Areas	Type of documents	Languages	Total obtained	Total analyzed
Part 1							
RELATIONSHIP INNOVATION AND CREATIVITY	Innovat* AND Creat*	-----	All	Articles Reviews	English	1.114 18/02/16	32

Source: Survey data.

2.2 Part 2 – Systematic literature review

The results of part 1 provided the guidelines for the research carried out in the second part, with the support of the systematic literature review method which consists on the identification, selection, analysis and synthesis of a research on a particular topic and its presentation in a clear manner in order to meet what is known and not known about the topic (Denyer & Tranfield, 2009).

This part follows the five steps proposed by Denyer and Tranfield (2009): (1) definition of the research question; (2) location of studies; (3) selection and evaluation of studies; (4) analysis and synthesis; (5) presentation of results. The method tries to ensure that the review is transparent, auditable and replicable, and is oriented by the following question: how creativity is conceived in the innovation processes in the three domains studied: Design, *Haute Cuisine* and Art?

With the six main approaches identified on literature review and the methodological sequence as guide; the second part of this study attempts to identify the relations established between creativity and innovation in the referred domains aiming the construction of a framework offering contributes of such areas for the optimization of innovation processes in the organizational context.

Thus, this section presents how the three domains selected approach the main issues presented in this study. For the sake of evaluation, issues were considered: (i) the number of studies in each domain (e.g. creativity in groups is often studied in the domain of Design, in opposition to *Haute Cuisine*, which gives priority to individual creativity); (ii) which approach predominates within each domain (e.g. in Arts, the environment is a protagonist for innovation activities, in opposition to leadership, in the *Haute Cuisine*

domain); (iii) how the different approaches are related in what concerns innovation (e.g. in the context of *Haute Cuisine*, individual creativity is more often approached, what can be clearly inferred due to the chef strong influence in the innovation process. As a result, all creative activity becomes inevitably centered in the figure of the leader; being therefore, the articulating approach in that domain.

Figure 2. Methodological sequence of Part 2

Source: Elaborated by authors (2017).

2.2.1 Location, selection and evaluation of the studies

As in the part 1, the starting point of part 2 was a search in the online data base *ISI Web of Knowledge* using the term “innovat*” associated to the specific terms (the investigation criteria varied according to each domain studied). It is pointed out that the term “creat*” was not used as a key-word in order to not limit the investigation because creativity is here understood as a domain intrinsic feature. Similarly, in Part 2 no time cut was used, prevailing therefore the relevance and convergence of issues for the sake of selection of studies.

All the articles identified (total obtained) were entered into an electronic spreadsheet and the abstracts and keywords were read, since this analysis has the following as focus: do the articles help answer the research questions? Then, the articles were read thoroughly with the same criteria in mind.

Figure 3 shows the criteria used to search the studies, the total number of papers available and the number of papers selected after the analysis. Tables 2, 3 and 4 shows the works analysed in Part 2: Systematic literature review – Design, *Haute Cuisine* and Art.

Figure 3. Research criteria for the selection of the papers analyzed – Part 2

	Title Terms	Topic terms	Areas	Type of documents	Languages	Total obtained	Total analyzed
Part 2							
DESIGN	Innovat* AND Design	-----	Engineering, business economics, architecture, art, psychology, arts humanities other topics, operations research management science, social science other topics	Articles Reviews	English	897 21/12/16	85
HAUTE CUISINE	Innovat* AND	Gastron* OR Haute Cuisine OR culinar* OR chef* OR cook*	All	Articles Reviews	English	162 29/12/16	46
ART	Innovat* AND	Art	Business economics, art, psychology, behavioral sciences, education educational research, arts humanities other topics, social sciences other topics, theater	Articles Reviews	English	434 07/01/17	27

Source: Survey data.

Table 2. Works analysed in Part 2: Systematic literature review – Design

Author / year	Title	Journal / Source	Country of origin
D. W. Karger, R. G. Murgdock (1966)	Product Design, Marketing, and Manufacturing Innovation	California Management Review	United States
Guy Bonsiepe (1995)	The Chain of Innovation Science · Technology · Design	Design Issues	Germany
Robin Roy, Johann C.k.h. Riedel (1997)	Design and innovation in successful product competition	Technovation	United Kingdom
Raimonda Riccini (2001)	Innovation as a Field of Historical Knowledge for Industrial Design	Design Issues	Italy
Harri Haapasalo and Pekka Kess (2002)	Managing Creativity: is it possible to control the birth of innovation in product design?	International Journal of Technology Management	Finland
P. Bertola, J.C. Teixeira (2003)	Design as a knowledge agent: How design as a knowledge process is embedded into organizations to foster innovation	Design Studies	Italy and United States
Shih-Wen Hsiao, Jyh-Rong Chou (2004)	A creativity-based design process for innovative product design	International Journal of Industrial Ergonomics	Republic of China
Christian Marxt, Fredrik Hacklin (2005)	Design, product development, innovation: all the same in the end? A short discussion on terminology	Journal of Engineering Design	Switzerland
S.C. Hallenga-Brink, J.C. Brezet (2005)	The sustainable innovation design diamond for micro-sized enterprises in tourism	Journal of Cleaner Production	Netherlands
Roberto Verganti (2006)	Innovation through design	Harvard Business Review	Italy
Yan Li, Jian Wang, Xianglong Li, Wu Zhao (2007)	Design creativity in product innovation	Intern. Journal of Advanced Manufacturing Technology	Republic of China and United Kingdom
Sara L. Beckman, Michael Barry	Innovation as a Learning Process: embedding Design Thinking	California Management Review	United States

Author / year	Title	Journal / Source	Country of origin
(2007)			
Barry Wylant (2008)	Design Thinking and the Experience of Innovation	Design Issues	Canada
Roberto Verganti (2008)	Design, Meanings, and Radical Innovation: A Metamodel and a Research Agenda	Journal of Product Innovation Management	Italy
Marina Candi, Rognvaldur J. Saemundsson (2008)	How different? Comparing the use of design in service innovation in Nordic and American new technology-based firms	Design Studies	Iceland
Claudio Dell'Era, Roberto Verganti (2009)	Design-driven laboratories: organization and strategy of laboratories specialized in the development of radical design-driven innovations	R&D Management	Italy
Yen Hsu (2009)	Exploring design innovation and performance: the roles of issue related to design strategy	Journal of Engineering Design	Republic of China
Katrin Talke, Soren Salomo, Jaap E. Wieringa, Antje Lutz (2009)	Exploring design innovation and performance: the roles of issue related to design strategy	Journal of Product Innovation Management	Netherlands
Claudio Dell'Era, Roberto Verganti (2010)	Collaborative Strategies in Design-intensive Industries: Knowledge Diversity and Innovation	Long Range Planning	Italy
Katharina Kalogerakis, Christian Luthje, Cornelius Herstatt (2010)	Developing Innovations Based on Analogies: Experience from Design and Engineering Consultants	Journal of Product Innovation Management	Germany
Marc H. Meyer, Tucker J. Marion (2010)	Innovation for effectiveness: lessons from design firms	Research Technology Management	United States
Jeremy Legardeur, Jean Francois, Boujut Henri Tiger (2010)	Lessons learned from an empirical study of the early design phases of an unfulfilled innovation	Research in Engineering Design	France
Constantine Andriopoulos, Marianne W. Lewis (2010)	Managing Innovation Paradoxes: Ambidexterity Lessons from Leading Product Design Companies	Long Range Planning	United Kingdom
Claudio Dell'Era, Alessio Marchesi, Roberto Verganti (2010)	Mastering technologies in Design-driven innovations	Research Technology Management	Italy
Leon Cruickshank (2010)	The Innovation Dimension: Designing in a Broader Context	Design Issues	United Kingdom
Mike Hobday, Anne Boddington, Andrew Grantham (2011)	An Innovation Perspective on Design: Part 1	Design Issues	United Kingdom
Maria Santolaria, Jordi Oliver-Solà, Carles M. Gasol, Tito Morales-Pinzón, Joan	Eco-design in innovation driven companies: perception, predictions and the main drivers of integration. The Spanish example	Journal of Cleaner Production	Spain Colombia

Author / year	Title	Journal / Source	Country of origin
Rieradevall (2011)			
Silvia Cantarello, Anna Nosella, Giorgio Petroni, Karen Venturini (2011)	External technology sourcing: evidence from design-driven innovation	Management Decision	Italy San Marino
Dean Bruton (2011)	Learning creativity and design for innovation	International Journal of Technology and Design Education	Australia
Abbie Griffin (2011)	Legitimizing Academic Research in Design: Lessons from Research on New Product Development and Innovation	Journal of Product Innovation Management	United States
Scott K. Radford, Peter H. Bloch (2011)	Linking Innovation to Design: Consumer Responses to Visual Product Newness	Journal of Product Innovation Management	Canada
Per-Anders Hillgren, Anna Seravalli, Anders Emilson (2011)	Prototyping and infrastructuring in design for social innovation	CoDesign	Sweden
Hartmut Esslinger (2011)	Sustainable Design: Beyond the Innovation-Driven Business Model	Journal of Product Innovation Management	Austria
Lucia Rampino (2011)	The Innovation Pyramid: A Categorization of the Innovation Phenomenon in the Product-design Field	International Journal of Design	Italy
Cinzia Battistella, Gianluca Biotto, Alberto F. De Toni (2012)	From design driven innovation to meaning strategy	Management Decision	Italy
André Liema, Eric Brangier (2012)	Innovation and design approaches within prospective ergonomics	Work 41	Norway France
Gaia Rubera, David A. Griffith, Goksel Yalcinkaya (2012)	Technological and Design Innovation Effects in Regional New Product Rollouts: A European Illustration	Journal of Product Innovation Management	United States
Joseph Lampel, Pushkar P. Jha, Ajay Bhalla (2012)	Test-Driving the Future: How Design Competitions Are Changing Innovation	Academy of Management Perspectives	United Kingdom
Martin Schreier, Christoph Fuchs, Darren W. Dahl (2012)	The Innovation Effect of User Design: Exploring Consumers' Innovation Perceptions of Firms Selling Products Designed by Users	Journal of Marketing	Austria Netherlands United States
Pietro Micheli, Joe Jaina, Keith Goffin, Fred Lemke, Roberto Verganti (2012)	Perceptions of Industrial Design: The "Means" and the "Ends"	Journal of Product Innovation Management	United Kingdom

Author / year	Title	Journal / Source	Country of origin
Rebecca Currano and Martin Steinert (2012)	A Framework for Reflective Practice in Innovative Design	International Journal of Engineering Education	United States
Elizabeth Gerber, Jeanne Marie Olson, Rebecca L. D. Komarek (2012)	Extracurricular Design-Based Learning: Preparing Students for Careers in Innovation	International Journal of Engineering Education	United States
Sarah K. Oman, Irem Y. Tumer, Kris Wood, Carolyn Seepersad (2013)	A comparison of creativity and innovation metrics and sample validation through in-class design projects	Research in Engineering Design	United States
Julien Nelson, Stéphanie Buisine, Améziane Aoussat (2013)	Anticipating the use of future things: Towards a framework for prospective use analysis in innovation design projects	Applied Ergonomics	France
Bulent Menguc, Seigyoung Auh, Peter Yannopoulos (2013)	Customer and Supplier Involvement in Design: The Moderating Role of Incremental and Radical Innovation Capability	Journal of Product Innovation Management	United States
Anabel Fernández-Mesa, Joaquín Alegre-Vidal, Ricardo Chiva-Gómez, Antonio Gutiérrez-Gracia (2013)	Design management capability and product innovation in SMEs	Management Decision	Spain
Mercedes Paulini, Paul Murty, Mary Lou Maher (2013)	Design processes in collective innovation communities: a study of communication	CoDesign	Australia
Donald W. de Guerre, Daniel Séguin, Alicia Pace, Noel Burke (2013)	IDEA: A Collaborative Organizational Design Process Integrating Innovation, Design, Engagement, and Action	Systemic Practice and Action Research	Canada
Hakil Moon, Douglas R. Miller, Sung Hyun Kim (2013)	Product Design Innovation and Customer Value: Cross-Cultural Research in the United States and Korea	Journal of Product Innovation Management	United States Korea
Gaia Rubera, Cornelia Droge (2013)	Technology versus Design Innovation's Effects on Sales and Tobin's Q: The Moderating Role of Branding Strategy	Journal of Product Innovation Management	Italy
Wen Huei Chou, Chung-Wen Hung, Teng-wen Chang, Ya-Ling Kao, Chong-Sii Hwang (2013)	Teaching Design Interdisciplinarily	Procedia - Social and Behavioral Sciences	Taiwan
Cabirio Cautela, Alessandro Deserti, Francesca Rizzo, Francesco Zurlo (2014)	Design and Innovation: How Many Ways?	Design Issues	Italy

Author / year	Title	Journal / Source	Country of origin
Philips Kembaren, Togar M. Simatupang, Dwi Larso, Dudy Wiyancoko (2014)	Design Driven Innovation Practices in Design-led Creative Industry	Journal of Technology Management & Innovation	Indonesia
Pradip Khandwalla (2014)	Designing a creative and innovative India	The Intern. Journal of Human Resource Management	India
Donald A. Norman, Roberto Verganti (2014)	Incremental and Radical Innovation: Design Research vs. Technology and Meaning Change	Design Issues	United States Italy
Ezio Manzini (2014)	Making Things Happen: Social Innovation and Design	Design Issues	Italy
Tevfik Balcioglu, Bahar Emgin (2014)	Recent Turkish Design Innovations: A Quest for Identity	Design Issues	Turkey
Hakil Moon, Jeongdoo Park, Sangkyun Kim (2014)	The Importance of an Innovative Product Design on Customer Behavior: Development and Validation of a Scale	Journal of Product Innovation Management	United States
Paul Gardien, Tom Djajadiningrat, Caroline Hummels, Aarnout Brombacher (2014)	Changing your Hammer: The Implications of Paradigmatic Innovation for Design Practice	International Journal of Design Science	Netherlands
Lisa Carlgren, Maria Elmquist, Ingo Rauth (2014)	Design Thinking: Exploring Values and Effects from an Innovation Capability Perspective	The Design Journal	Sweden
Jamie Brassett, John O'Reilly (2015)	Styling the future. A philosophical approach to design and scenarios	Futures	United Kingdom
Cynthia Selin, Lucy Kimbell, Rafael Ramirez, Yasser Bhatti (2015)	Scenarios and design: Scoping the dialogue space	Futures	Denmark United States United Kingdom
A. Idil Gaziulusoy (2015)	A critical review of approaches available for design and innovation teams through the perspective of sustainability science and system innovation theories	Journal of Cleaner Production	Australia
Mosarrat Farhana, Eric Bimenyimana (2015)	Design Driven Innovation as a Differentiation Strategy - in the Context of Automotive Industry	Journal of Technology Management & Innovation	Sweden
A. Idil Gaziulusoy, Han Brezet (2015)	Design for system innovations and transitions: a conceptual framework integrating insights from sustainability science and theories of system innovations and transitions	Journal of Cleaner Production	Australia Netherlands
Yao-Tsung Ko, Ming-Shih Chen, Chih-Chieh Yang,	Modelling a contradiction-oriented design approach for innovative product	Journal of Engineering Manufacture	Republic of China

Author / year	Title	Journal / Source	Country of origin
Meng-Cong Zheng (2015)	design		
Heidingsfelder Marie, Kimpel Kora, Best Kathinka, Schraudner Martina (2015)	Shaping Future — Adapting design know-how to reorient innovation towards public preferences	Technological Forecasting & Social Change	Germany
Gilles Garel (2015)	Lessons in Creativity from the Innovative Design of the Swatch	Technology Innovation Management Review	France
Pennie Frow, Suvi Nenonen, Adrian Payne, Kaj Storbacka (2015)	Managing Co-creation Design: A Strategic Approach to Innovation	British Journal of Management	Australia
Paolo Landoni, Claudio Dell'Era, Gregorio Ferraloro, Mattia Peradotto, Helena Karlsson, Roberto Verganti (2016)	Design Contribution to the Competitive Performance of SMEs: The Role of Design Innovation Capabilities	Creativity and Innovation Management	Italy Australia Brazil Sweden Denmark United States
Martin Cloutier, Laurent Renard, Sebastien Arcand, Michael Laviolette (2016)	Rejuvenating the Cider Route in Quebec: An Action Design Research Approach to Stakeholder Collaboration and Innovation	Technology Innovation Management Review	Canada France
Krause, W Schutte, CSL (2016)	DEVELOPING DESIGN PROPOSITIONS FOR AN OPEN INNOVATION APPROACH FOR SMEs	South African Journal of Industrial Engineering	South Africa
Fabrizio Ceschin Idil Gaziulusoy (2016)	Evolution of design for sustainability: From product design to design for system innovations and transitions	Design Studies	United Kingdom Australia Finland
Yinze Hu, EL-Sayed Aziz, Constantin Chassapis (2016)	Creativity-based design innovation environment in support of robust product development	International Journal on Interactive Design and Manufacturing (IJIDeM)	United States Egypt
John Davis, Catherine Ann Docherty & Kate Dowling (2016)	Design Thinking and Innovation: Synthesising Concepts of Knowledge Co-creation in Spaces of Professional Development	The Design Journal	United Kingdom
Søren Ingomar Petersen, Ji Eun Kim & Brigitte Borja de Mozota (2016)	Comprehensive Capability Model for Managing Business Driven Innovation through the use of Design Quality Scorecards	The Design Journal	United States South Korea France
Paul Gardien, Maarten Rincker and Eva Deckers (2016)	Designing for the Knowledge Economy: Accelerating Breakthrough Innovation Through Co-creation	The Design Journal	Netherlands
Chen, Ji-Wena; Yang, Hong-Juanc; Cui, Jia-Jia;	Concept semantics driven computer aided product innovation design	Journal of Computational Methods in Sciences	China

Author / year	Title	Journal / Source	Country of origin
Zhang, Jin-Sheng (2016)		and Engineering	
Pedro Nevado; José Monteiro Barata; Rita Almendra (2016)	Boosting innovation and growth through the use of design	Journal of Business Economics and Management	Portugal
Siheem Ben Mahmoud-Jouini, Christophe Midler, Philippe Silberzahn (2016)	Contributions of Design Thinking to Project Management in an Innovation Context	Project Management Journal	France
Chen-Fu Yang and Tung-Jung Sung (2016)	Service Design for Social Innovation through Participatory Action Research	International Journal of Design	Taiwan
Sylvain Lenfle, Pascal Le Masson, Benoit Weil (2016)	When Project Management Meets Design Theory: Revisiting the Manhattan and Polaris Projects to Characterize 'Radical Innovation' and its Managerial Implications	Creativity and Innovation Management	France
Alexander Brem; Petra A. Nylund; Gerd Schuster (2016)	Innovation and de facto standardization: The influence of dominant design on innovative performance, radical innovation, and process innovation	Technovation	Denmark Spain Germany
Stephen Ropera, Pietro Micheli, James H. Lovea, Priit Vahterka (2016)	The roles and effectiveness of design in new product development: A study of Irish manufacturers	Research Policy	United Kingdom Estonia

Source: Survey data.

Table 3. Works analysed in Part 2: Systematic literature review – *Haute Cuisine*

Author / year	Title	Journal / Source	Country of origin
Katharina Balazs (2001)	Some Like It Haute: Leadership Lessons from France's Great Chefs	Organizational Dynamics	France
Katharina Balazs (2002)	Take One Entrepreneur: The Recipe for Success of France's Great Chefs	European Management Journal	France
Robert J. Harrington (2004)	Part I: The Culinary Innovation Process – A Barrier to Imitation	Journal of Foodservice Business Research	Canada
Michael Ottenbacher & Robert J. Harrington (2007)	The Culinary Innovation Process	Journal of Culinary Science & Technology	Germany and United States
Silviya Svejnova, Carmelo Mazza and Marcel Planellas (2007)	Cooking up change in haute cuisine: Ferran Adrià as an institutional entrepreneur	Journal of Organizational Behavior	Spain and France

Author / year	Title	Journal / Source	Country of origin
Michael Ottenbacher & Robert J. Harrington (2007)	The innovation development process of Michelin-starred chefs	International Journal of Contemporary Hospitality Management	United States and Canada
César Vegaa, and Job Ubbink (2008)	Molecular gastronomy: a food fad or science supporting innovative cuisine?	Trends in Food Science & Technology	United States Switzerland
Michael Ottenbacher & Robert J. Harrington (2008)	U.S. and German Culinary Innovation Processes: Differences in Involvement and Other Factors	Journal of Foodservice Business Research	Germany United States
Juan-Carlos Arbolea, Idoia Olabarrieta, Andoni Luis-Aduriz, Daniel Lasa, Javier Vergara, Esther Sanmartín, Leire Iturriaga, Antonio Duch & Iñigo de Marañón (2008)	From the Chef's Mind to the Dish: How Scientific Approaches Facilitate the Creative Process	Food Biophysics	Spain
Jeou-Shyan Horng, Meng-Lei Hu (2008)	The Mystery in the Kitchen: Culinary Creativity	Creativity Research Journal	Taiwan
Marc Stierand and Paul Lynch (2008)	The art of creating culinary innovations	Tourism and Hospitality Research	United Kingdom
Shoshanah M. Inwood, Jeff S. Sharp, Richard H. Moore, Deborah H. Stinner (2009)	Restaurants, chefs and local foods: insights drawn from application of a diffusion of innovation framework	Agriculture and Human Values	United States
Michael Ottenbacher & Robert J. Harrington (2009)	Institutional, cultural and contextual factors: Potential drivers of the culinary innovation Process	Tourism and Hospitality Research	Germany United States
Jeou-Shyan Horng and Meng-Lei H (2009)	The Creative Culinary Process: Constructing and Extending a Four-Component Model	Creativity Research Journal	Taiwan
Jeou-Shyan Horng and Yi-Chun Lee (2009)	What environmental factors influence creative culinary studies?	International Journal of Contemporary Hospitality Management	Taiwan
Meng-Lei Hu (2010)	Discovering culinary competency: An innovative approach	The Journal of Hospitality Leisure Sport and Tourism	Taiwan

Author / year	Title	Journal / Source	Country of origin
John Cousins, Kevin O’Gorman and Marc Stierand (2010)	Molecular gastronomy: cuisine innovation or modern day alchemy?	International Journal of Contemporary Hospitality Management	United Kingdom Ireland
Silviya Svejenova, Marcel Planellas and Luis Vives (2010)	An Individual Business Model in the Making: a Chef’s Quest for Creative Freedom	Long Range Planning	Spain
Line Holler Mielby, Michael Bom Frøst (2010)	Expectations and surprise in a molecular gastronomic meal	Food Quality and Preference	Denmark
Anastasios Zopiatis (2010)	Is it art or science? Chef’s competencies for success	International Journal of Hospitality Management	Cyprus
Meng-Lei Monica Hu (2010)	Developing a core competency model of innovative culinary development	International Journal of Hospitality Management	Taiwan
Richard N.S. Robinson and Lisa G. Beesley (2010)	Linkages between creativity and intention to quit: An occupational study of chefs	Tourism Management	Australia and United Kingdom
Marie-Léandre Gomez and Isabelle Bouty (2011)	The Emergence of an Influential Practice: Food for Thought	Organization Studies	France
Hanne Larsen and Susanne Österlund-Pötzsch (2012)	“Ubuntu in Your Heart”	Food, Culture & Society	United States and Finland
Anneke Geyzena, a Peter Scholliers and Frederic Leroy (2012)	Innovative traditions in swiftly transforming foodscapes: An exploratory essay	Trends in Food Science & Technology	Belgium
Marc B. Stierand and Viktor Dörfler (2012)	Reflecting on a phenomenological study of creativity and innovation in haute cuisine	International Journal of Contemporary Hospitality Management	Netherlands United Kingdom
Benedict Beauge (2012)	On the idea of novelty in cuisine A brief historical insight	International Journal of Gastronomy and Food Science	France
Pilar Opazo (2012)	Discourse as driver of innovation in contemporary haute cuisine: The case of elBulli restaurant	International Journal of Gastronomy and Food Science	United States
J. Alborns-Garrigos , V. Barreto , P. García-Segovia , J. Martínez-Monzó and J.	Creativity and Innovation Patterns of Haute Cuisine Chefs	Journal of Culinary Science & Technology	Spain

Author / year	Title	Journal / Source	Country of origin
L. Hervás-Oliver (2013)			
R. J. Harrington and M. C. Ottenbacher (2013)	Managing the Culinary Innovation Process: The Case of New Product Development	Journal of Culinary Science & Technology	United States Germany
J. Alborns-Garrigos, V. Barreto, P. García-Segovia , J. Martínez-Monzó and J. L. Hervás-Oliver (2013)	Creativity and Innovation Patterns of Haute Cuisine Chefs	Journal of Culinary Science & Technology	Spain
Isabelle Bouty and Marie-Léandre Gomez (2013)	Creativity in Haute Cuisine: Strategic Knowledge and Practice in Gourmet Kitchens	Journal of Culinary Science & Technology	France
Kang-Lin Peng, Ming-Chu Lin and Tom Baum (2013)	The constructing model of culinary creativity: an approach of mixed methods	Quality & Quantity Journal	Taiwan and United Kingdom
Haldor Byrkjeflot, Jesper Strandgaard Pedersen and Silviya Svejenova (2013)	From Label to Practice: The Process of Creating New Nordic Cuisine	Journal of Culinary Science & Technology	Norway Denmark
Antonio Messeni Petruzzelli and Tommaso Savino (2013)	Search, Recombination, and Innovation: Lessons from Haute Cuisine	Long Range Planning	Italy
Henry Chesbrough, Sohyeong Kim and Alice Agogino (2014)	Chez Panisse: Building an Open Innovation Ecosystem	California Management Review	United States
Florian Aubke (2014)	Creative Hot Spots: A Network Analysis of German Michelin-Starred Chefs	Creativity and Innovation Management	Austria
Marc Stierand, Viktor Dörfler and Jillian MacBryde (2014)	Creativity and Innovation in Haute Cuisine: Towards a Systemic Model	Creativity and Innovation Management	Switzerland and United Kingdom
Christel Lane and Daniela Lup (2015)	Cooking under Fire: Managing Multilevel Tensions between Creativity and Innovation in Haute Cuisine	Industry and Innovation	United Kingdom
Antonio Messeni Petruzzelli and Tommaso Savino (2015)	Reinterpreting Tradition to Innovate: The Case of Italian Haute Cuisine	Industry and Innovation	Italy
Ignasi Capdevila, Patrick Cohendet, and Laurent Simon	Establishing New Codes for Creativity through Haute Cuisine: The Case of Ferran Adrià and elBulli	Technology Innovation Management Review	France and Canada

Author / year	Title	Journal / Source	Country of origin
(2015)			
Vanina Leschziner (2015)	At the chef's table: Culinary Creativity in Elite Restaurants	Stanford University Press - *Book	Canada
Pilar Opazo (2016)	Appetite for innovation: creativity and change at elBulli	Columbia University Press - *Book	United States
Nicola Caporaso Diego Formisano (2016)	Developments, applications, and trends of molecular gastronomy among food scientists and innovative chefs	Food Reviews International	Italy
Andreas Braun Laura Bockelmann (2016)	An individual perspective on open innovation capabilities in the context of haute cuisine	International Journal of Innovation Management	Germany
Celine Abecassis-Moedas, Francesco Sguera, John E. Ettlie (2016)	Observe, innovate, succeed: A learning perspective on innovation and the performance of entrepreneurial chefs	Journal of Business Research	Portugal and United States

Source: Survey data.

Table 4. Works analysed in Part 2: Systematic literature review – Art

Author / year	Title	Journal / Source	Country of origin
Don Foresta Georges-Albert Kisfaludi Jonathan Barton (1999)	The Souillac II Conference on Art, Industry and Innovation: Final Report	Leonardo	France and United States
Craig Harris (1999)	Art and innovation: The Xerox PARC artist-in-residence program	MIT Press - *Book	United States
Nachem M. Wijnberg Gerda Gemser (2000)	Adding Value to Innovation: Impressionism and the Transformation of the Selection System in Visual Art	Organization Science	Netherlands
Mary-Anne Mace Tony Ward (2002)	Modeling the Creative Process: A Grounded Theory Analysis of Creativity in the Domain of Art Making	Creativity Research Journal	New Zealand Australia
Rob Austin Lee Devin (2003)	Artful Making: What Managers Need to Know About How Artists Work	FT Prentice Hall - *Book	United States
Lotte Darso (2004)	Artful Creation: Learning-Tales of Arts-in-Business	Samsfundlitteratur - *Book	Denmark
Ted Buswick Alastair Creamer Mary Pinard (2004)	(Re)Educating for Leadership: How the Arts Can Improve Business	**Electronic document	United Kingdom United States
Mary-Ellen Boyle Edward Ottensmeyer (2005)	Solving business problems through the creative power of the arts: catalyzing change at Unilever	Journal of Business Strategy	United States
Lotte Darso (2005)	International opportunities for artful learning	Journal of Business	Denmark

Author / year	Title	Journal / Source	Country of origin
Strategy			
Jean-Paul Fourmentrau (2007)	Governing Artistic Innovation: An Interface among Art, Science and Industry	Leonardo	France
Jason Potts (2007)	Art and innovation: An evolutionary view of the creative industries	The e-Journal: Multi-disciplinary Journal in the Arts	Australia
Luke Jaaniste (2009)	Placing the creative sector within innovation: The full gamut	Innovation: management, policy & practice	Australia
John Reaves David Green (2010)	What good are artists?	Journal of Business Strategy	United States
Nick Nissley (2010)	Arts-based learning at work: economic downturns, innovation upturns, and the eminent practicality of arts in business	Journal of Business Strategy	Canada
Graeme Thomson (2010)	The art and science of experiential leadership: culture at the core of process change success	Journal of Business Strategy	United States
Suzanne Merritt (2010)	What does beauty have to do with business?	Journal of Business Strategy	United States
Robert Austin Lee Devin (2010)	Not just a pretty face: economic drivers behind the arts-in-business movement	Journal of Business Strategy	United States
Marion Botella Franck Zenasni Todd Lubart (2011)	A dynamic and ecological approach to the artistic creative process of arts students: an empirical contribution	Empirical Studies of The Arts	France
Adrian Furnham, Mark Batey, Tom W. Booth, Vikita Patel, Dariya Lozinskaya (2011)	Individual difference predictors of creativity in Art and Science students	Thinking Skills and Creativity	United Kingdom
Guillaume Fürst Paolo Ghisletta Todd Lubart (2012)	The Creative Process in Visual Art: A Longitudinal Multivariate Study	Creativity Research Journal	Switzerland France
Vlad Glaveanu, Todd Lubart, Nathalie Bonnardel, Marion Botella, Pierre-Marc de Biassi, Myriam Desainte-Catherine, Asta Georgsdottir, Katell Guillou, Gyorgy Kurtag, Christophe Mouchiroud, Martin Storme, Alicja Wojtczuk and Franck Zenasni	Creativity as action: findings from five creative domains	Frontiers in Psychology	Denmark France

Author / year	Title	Journal / Source	Country of origin
(2013)			
Marion Botella, Vlad Glaveanu, Franck Zenasni, Martin Storme, Nils Myszkowski, Marion Wolff, Todd Lubart	How artists create: Creative process and multivariate factors	Learning and Individual Differences	Denmark France
(2013)			
Jonathan Sapsed, Feichin Ted Tschang	Art is long, innovation is short: Lessons from the Renaissance and the digital age	Technological Forecasting & Social Change	United Kingdom Singapore
(2014)			
Herman van den Broeck, Eva Cools, Tine Maenhout	A Case Study of Arteconomy – Building a bridge between art and enterprise: Belgian businesses stimulate creativity and innovation through art	Journal of Management & Organization	Belgium
(2015)			
Piers Ibbotson, Lotte Darsø	Directing creativity: The art and craft of creative leadership	Journal of Management & Organization	United Kingdom Denmark
(2016)			
Gerardo Patriotta, Paul Hirsch	Mainstreaming Innovation in Art Worlds: Cooperative links, conventions and amphibious artists	Organization Studies	United States United Kingdom
(2016)			
Han van der Meer	Entrepreneurs, Art and Innovation	International Journal of Innovation and Technology Management	Netherlands

Source: Survey data.

It is highlighted that, in addition to the studies identified in the *ISI Web of Science* database, other reference sources have been included in the set of studies analyzed (e.g. books, reports, articles), both presented in Tables 2, 3 and 4 (tagged as “*”). Those were identified in the bibliographical references of the studies selected in Part 2 - Systematic literature review. Thus, having title and abstract as basis, studies converging to the problem and issues here approached were considered for the sake of analysis, even though not included in the Systematic literature review. According to Denyer and Tranfield (2009) this procedure aims to enrich the results of the systematic literature review.

Following the suggestion of other studies, and as a way to increase the reliability of the selection, the articles were evaluated simultaneously by the three researchers and doubts and disagreements were discussed until consensus was reached. The articles were only included if all reviewers agreed.

2.2.2 Analysis and synthesis

After selecting the most relevant studies in each domain, the articles were analyzed and synthesized in order to examine and dissect individual studies as well as to identify relationships between the components (Denyer and Tranfield, 2009). Due to such a challenge the domains were firstly presented and contextualized (context); then it was observed how each domain approaches innovation (relationship), to furtherly mention studies which specifically contribute to answer the investigation question (specific question).

With basis on the analysis of 85 works selected in the domain of Design (published between 1966 and 2016 – Table 2), 46 works concerning *Haute Cuisine* (published between 2001 and 2016 – Table 3), and 27 works concerning the Art domain (published between 1999 and 2016 – Table 4) the data obtained in parts 1 and 2 of the study were analyzed aiming the construction of a theoretical framework. Figure 4 presents the synthesis of the methodology used.

Figure 4. Methodological synthesis of the study

Source: Survey data.

3 Review of literature: relation between creativity and innovation

An expressive number of recent studies places creativity in the roots of innovation (e.g. Anderson, Potočník, et al., 2014; Brennan & Dooley, 2005; Caniëls & Rietzschel, 2015; Dul & Ceylan, 2014; Hennessey & Amabile, 2010; Sarooghi et al., 2015; Somech & Drach-Zahavy, 2013a).

For Brennan and Dooley (2005) the organization creative process is the seed for innovation. Under that perspective, while

creativity has been defined as the generation of new and useful ideas (Hennessey & Amabile, 2010; Sarooghi et al., 2015), innovation is usually understood as the production of creative ideas in a first stage, being those implemented in a second stage (Anderson, Potočnik, et al., 2014; Lane & Lup, 2015; Sarooghi et al., 2015)

Anderson, Potočnik, et al. (2014, p. 1298) illustrate that proposing an integrated definition of creativity and innovation: "Creativity and innovation at work are the process, outcomes, and products of attempts to develop and introduce new and improved ways of doing things. The creativity stage of this process refers to idea generation, and innovation refers to the subsequent stage of implementing ideas toward better procedures, practices, or products". Thus, it can be observed that investigation on creativity, typically explores the idea generation phase - or *fuzzy front end*; while studies on innovation, usually include the idea implementation phase (Anderson, Potočnik, et al., 2014; Brennan & Dooley, 2005).

In opposition to the theorization of creativity as an innovation antecedent, Sarooghi et al. (2015) argue that in a well succeeded innovation process, creativity is a determinant factor concerning the equalization between the idea generation and the implementation phases. They justify their reasoning by stressing the complexity, tensions, paradoxes, dilemmas and unpredictability which feature the process of converting creative ideas into innovative outcome.

Similarly, in what concerns the nonlinear relation between creativity and innovation, Oddane (2015) mentions one of the biggest difficulties in managing creativity in the innovation process by comparing it to a "relay race" - where the idea of an individual is passed from hand to hand in a group of people who put them in practice. Such a view, according to the author, fails in neglecting the complexity and diffuse character of the innovation management process in practice.

Thus, due to the need for further studies on creativity as a predictor of strategic innovation outcomes (Im et al., 2013), a research was carried out with basis on current literature about studies relating creativity and innovation. Among the 32 studies analyzed, six main approaches were identified:

1. **Individual creativity** (Ahlin, Drnovšek, & Hisrich, 2014; Anderson, Potočnik, et al., 2014; Bharadwaj & Menon, 2000; Černe, Jaklič, &

- Škerlavaj, 2013; Ghosh, 2015b; Litchfield et al., 2015; Oddane, 2015; Ohly & Binnewies, 2009a; Sarooghi et al., 2015; Somech & Drach-Zahavy, 2013a; Stierand, Dörfler, & MacBryde, 2014);
2. **Creative groups** (Anderson, Potočnik, et al., 2014; Brennan & Dooley, 2005; Černe et al., 2013; Nijhof et al., 2002; Oddane, 2015; Paulus & Dzindolet, 2008; Somech & Drach-Zahavy, 2013a);
3. **Leadership** (Ahlin, Drnovšek, et al., 2014; Anderson, Potočnik, et al., 2014; Černe et al., 2013; Gehani, 2011b; Ghosh, 2015b; Nijhof et al., 2002; Sok & O'Cass, 2015b; Somech & Drach-Zahavy, 2013a);
4. **Environment** (Anderson, Potočnik, et al., 2014; Caniels & Rietzschel, 2015; Černe et al., 2013; Dul & Ceylan, 2014; Ghosh, 2015b; Im et al., 2013; Lee et al., 2010; Litchfield et al., 2015; Nijhof et al., 2002; Paulus & Dzindolet, 2008; Sleuwaegen & Boiardi, 2014; Sohn & Jung, 2010; Somech & Drach-Zahavy, 2013a);
5. **Incentive or compensation policies** (Joy, 2008; Lee et al., 2010; Sohn & Jung, 2010);
6. **Basic skills and learning** (Lee et al., 2010; Perez-Luno Robledo et al., 2009; Sohn & Jung, 2010).

In what concerns individual creativity and creative group approaches in the context of innovation, Anderson, Potočnik, et al. (2014, p. 1298) point out the existence of levels of work: "creativity and innovation can occur at the level of the individual, work team, organization, or at more than one of these levels combined".

For Litchfield et al. (2015) innovation is usually seen as a process which depends on individual creativity where the creativity of each employee is critical to the innovativeness of the organization regardless of whether the job is usually described as highly creative (Nonaka, 1991, 1994). Im et al. (2013) find that influenced by their basis in psychological theory, most creativity studies focus on how individuals generate, develop, and react to creative ideas in certain social and contextual environments, which, according to Sohn and Jung (2010), depends directly on what the authors call the basic skills to innovation described as: the ability to adapt to circumstances; leadership; application skills; interpersonal relationships; communication skills; the ability to solve problems; analytical ability. In addition, Gehani (2011b, p. 84) points out some of the commonly considered indicators of a creative

individual are: (1) cognitive abilities including general intelligence, (2) mastery of a discipline, and (3) the subjectivity of their actual creative output such as performance on creativity tests involving puzzle-solving ability.

Litchfield et al. (2015) emphasize that the innovation research generally does not directly examine individual creativity despite its importance in a wide variety of jobs. Moreover, according to Gehani (2011b), unfortunately, developing the creative mindsets of different individuals has been often neglected by many enterprises.

A commonly noted requirement for converting creativity into innovation involves the integration of knowledge across multiple perspectives (Boland & Tenkasi, 1995), which, according to Litchfield et al. (2015), is still a challenge to enterprises, since those face many difficulties in uniting individual creative contributions from different functions and areas in coherent "wholes". In that sense, it can be observed that investigations of creative behavior and the creative process have, over time, shown a progression from attention to the individual to a focus on the creative performance of groups (Hennessey & Amabile, 2010, pp. 578-579).

Somech and Drach-Zahavy (2013a) indicate that creativity and innovation researchers have recently adopted an interactional approach, arguing that situational and personal factors jointly contribute to team innovation. This approach suggests that to fully understand how to promote innovation in teams, we should look simultaneously at team members' characteristics and at team context, that is, there is a strong relation between creative groups, environment and individual creativity approaches (in some cases represented by the leader).

Thus, considering that leaders influence and set the contextual environments under which their employees express creativity, Gehani (2011b), Somech and Drach-Zahavy (2013a) argue that members with high creative personalities may help team members to generate many alternative solutions to an open-ended problem. By introducing alternative interpretations and contrasting ways of thinking, they may encourage critical thinking that facilitates team creativity. In this sense, according to Anderson, Potočník, et al. (2014), the emergent phenomena require skillful

leadership in order to maximize the benefits of new and improved ways of working.

Considering what was presented, the study on the relation between creativity and innovation can be benefited by the use a systemic approach, since the interdependence between the main approaches identified is evident in literature. It is understood that can contribute to demystify contradictory situations such as those pointed out by Litchfield et al. (2015, p. 282): despite the strength of prior theory and research suggesting team creative environment can improve the transfer of creativity to innovation, some research suggests that highly creative team environments might inhibit the impact of creativity on innovation.

This second set of studies, according to the authors, is based lack of engagement and lack of change of perspectives on the part of the team members, such as failing to share, support, or even consider ideas in ways that do not directly benefit the team; all directly related with the themes: individual creativity, creative groups, leadership, environment, incentive or compensation policies and basic skills and learning.

Therefore, considering the organizational environment an important concept investigated by many scholars in the area of creativity with direct influence on the creative process (Amabile, Conti, Coon, Lazenby, & Herron, 1996; Dul & Ceylan, 2014), we understand that this example illustrates challenges in studying the relation between creativity and innovation, since the research on creativity at the team level remains limited (Im et al., 2013).

4 Systematic literature review: relation between creativity and innovation in different domains

4.1 Descriptive results: characterizing the literature

This section aims at showing the context of the literature regarding the relationship between innovation and creativity and the three domains. For this analysis, the *HistCite* software was used.

The literature on the domain of Design was the first to explored the relationship with innovation and creativity - the oldest article identified was published in 1966. However, 50% of the articles were published in the last five years, what shows the topicality of the topic. The domains of *Haute Cuisine* and Art also show an

improvement in the number of articles in the last decade (figure 5).

Figure 5. Number of articles per year of publication

Source: Survey data.

The articles feature a considerable geographic dispersion (authors from 34 countries were identified), demonstrating that the subject is of global interest (figure 6).

Figure 6. Countries with the largest number of publications

Source: Survey data.

Since 2010 publications relating Design and innovation have greatly increased in the United States and Europe - namely in Italy, a country with a strong tradition on that domain. In what concerns *Haute Cuisine*, the first studies identified were published in the beginning of this century in France, a country with a strong tradition in the field of gastronomy. From 2007 on, with the boom of elBuli phenomenon in Spain (which gave place to a change in paradigm in that domain), there has been an increase in the number of studies developed in countries with tradition in innovation approaching *Haute Cuisine* as a promising field in the study of creativity and innovation - e.g. United States, UK, as well as Spain and Taiwan. On the other hand, in the field of Arts, as well as in the

other domains, the United States stands out, for revealing constant investigative interest in what concerns the relation between Art, innovation and creativity.

In the domain of Design the articles have been published in 42 different journals, what shows the relevance of the topic and its embracing character. The Journals with the largest number of articles are *Journal of Product Innovation Management* and *Design Issues*. It is a clear indication that the topic is not only relevant in that domain (design research) but also in the field of management and innovation research.

In the *Haute Cuisine* domain, there is a predominance of studies in journals related to the areas of culinary, gastronomy and hospitality, although recently some management and innovation journals have published papers on this relationship. However, we point out the multidisciplinary approach of the journals which have published an expressive number of works on the merger of management, innovation and creativity.

Finally, in the Art domain, like in *Haute Cuisine*, an improvement of the interest of fields related to business management and economics on the study of the creative process to innovation management becomes clear. It can be observed since the journal with the largest number of articles – *Journal of Business Strategy* – demonstrates the relevance of that area contribution.

Figure 7. Main sources of publication

Journal	Design	Journal	Haute Cuisine	Journal	Art
Journal of Product Innovation Management	12	Journal of Culinary Science & Technology	6	Journal of Business Strategy	7
Design Issues	12	International Journal of Contemporary Hospitality Management	6	Leonardo	2
Journal of Cleaner Production	4	Journal of Foodservice Business Research	2	Creativity Research Journal	2
The Design Journal	4	Trends in Food Science & Technology	2	Journal of Management and Organization	2
Management Decision	3	Creativity Research Journal	2		
International Journal of Design	3	Tourism and Hospitality Research	2		
California Management Review	2	Long Range Planning	2		
CoDesign	2	International Journal of Gastronomy and Food Science	2		
Design Studies	2	Creativity and Innovation Management	2		
Futures	2	Industry and Innovation	2		
Journal of Engineering Design	2				
Journal of Technology Management & Innovation	2				
Long Range Planning	2				
Research in Engineering Design	2				
Research Technology Management	2				
Technovation	2				
Creativity and Innovation Management	2				
International Journal of Engineering Education	2				

Source: Survey data.

4.2 The context of the domains

Featured as a plural and diffuse domain, according to Bonsiepe (2013, pp. 67-68) Design experiences the proliferation and coexistence of current approaches within its domains (e.g. Social Design, Eco-Design, Life-style Design, Author

Design, Design-Art, Handcraft Design, Strategic Design, Design Research and Experimental Design). Therefore, literature reveals that systematic-natured design emergent approaches (e.g. Design Thinking; Human Centered Design; Co-design) coexist with subjective approaches – like that presented Brassett and O'Reilly (2015), based on style design; or presented by Selin, Kimbell, Ramirez, and Bhatti (2015) based on de design of sceneries; since both can provide different and important contributes for the innovation process.

On the other hand, in the context of the food industry, *Haute Cuisine* has experienced a notable revival particularly in recent years. Radical innovators, such as the Spanish chef Ferran Adrià, have brought novel ideas into fruition in an open collaboration and sharing with other local and international chefs, and in a dialogue with rather distant fields, such as Art, Design, industry and science; they have paved the way to a new language for *Haute Cuisine*, transforming the nature of the culinary profession and initiating change in the culinary field (Petruzzielli & Svejnova, 2015, p. 650).

In the introduction to the special issue of the Industry and Innovation Journal called Innovation and Entrepreneurship in the Food Industry, Petruzzielli and Svejnova (2015) point out some of the studies based on *Haute Cuisine* that favor the creation of opportunities for creativity and value creation through: (i) search, recombination and reproduction, (ii) entrepreneurial capabilities and novel business models, (iii) as well as through apprenticeships with well-known masters whereby they learn to manage competing demands for novelty and familiarity.

The field of Art, understood as the oldest covered in this study, has experienced some explosive expressive possibilities that surpasses the traditional practices of painting, sculpture, drawing and photography in the last decades.

For the sake of delimitation this study has its focus on what is understood by 'visual arts', assuming the limitations of studying the vast and plural domain currently marked by practices of difficult disciplinary framing such as: mixed media, street art, temporary art, abstraction, appropriation, covers, remakes, sampling, performance art, conceptual art.

In order to contextualize the artistic domain, as in previous ones, the work "Archive Fever: Uses

of the Document in Contemporary Art" of Okwui Enwezor (director of Haus der Kunst in Munich, 56th Venice Biennial) was used. In an analysis of the artistic domain based on the study of archives, Enwezor (2008) points out artistic practices in different fields that highlight two great creation currents in the context of contemporary art: (i) the "ethnographic condition" of art (art and information, art and identity, art and technology) and (ii) the "domestication of the archive" by the arts (with works characterized by recombination, manipulation and re-reading of facts in the creation of fictional narratives). Complementarily Darsø (2004) positions "ambiguity" as a relevant condition and a reflection of the current society - a key dimension in artistic processes and results.

In this sense, some general current themes in this domain include: the limits of what can be considered art; political and ethical subjects; sustainability; economic disparities; race and gender issues and rights; personal narrative works.

4.3 Relationship between the domains and innovation

A qualitative analysis of the studies investigated revealed the predominance of two approaches of Design in the context of innovation:

- a. Product innovation** - the role of Design in the innovation process is discussed in a instrumentalised way with focus on product performance and clients' satisfaction, as well as issues related to product looks and style and systematization of the idea generation process for product innovation (e.g. Chen, Yang, Cui, & Zhang, 2016; Moon, Miller, & Kim, 2013; Schreier, Fuchs, & Dahl, 2012).
- b. Process innovation** - with focus on Design based innovation strategies for application in the development of products, these studies approach themes like social innovation, process models, Design Thinking, collaborative practices (co-design, Human Centered Design), creation of sceneries and highlight for approaches in the scope of Design Driven Innovation (Ben Mahmoud-Jouini, Midler, & Silberzahn, 2016; Carlgren, Elmquist, & Rauth, 2014; Davis, Docherty, & Dowling, 2016; Norman & Verganti, 2014; Yang & Sung, 2016).

On the other hand, a qualitative analysis of the studies investigated revealed the predominance

of three approaches of *Haute Cuisine* in the context of innovation:

a. Science and technology - This approach has explored the comparatively new phenomenon of molecular gastronomy with an emphasis on the relation between food science and technology. Vega and Ubbink (2008) argue that science-based cooking is closely associated with significant technological developments, as the realization of novel dishes frequently requires the use of non-traditional ingredients or preparation techniques, which are often derived from those used in industrial food production. Other authors like Mielby and Frøst (2010), Cousins, O'Gorman, and Stierand (2010) and Caporaso and Formisano (2016) also discuss how chefs are dealing with the available systematic knowledge on food and cooking, and how molecular gastronomy can facilitate the creative process in the innovation context.

b. Social and sustainability actions - collaboration, network participation, as well as integration and articulation of different kinds of knowledge and domains are the basis of this approach, which are often related to initiatives such as Slow Food and Terra Madre. Examples of studies based on external collaboration are: Chesbrough, Kim, and Agogino (2014) and Byrkjeflot, Pedersen, and Svejenova (2013).

c. Recombination and tradition: This approach investigates the development of new products and process within cultural and creative industries resulting from the use of traditional or regional elements. In particular, it analyzes methods facilitating the recombination of traditional elements into new products, as highlight Petruzzelli and Savino (2014), Petruzzelli and Savino (2015) and Byrkjeflot et al. (2013).

In the context of art, a qualitative analysis of the studies investigated revealed the predominance of two approaches:

a. Innovation in the artistic creative process: This approach investigates variations in artistic creation processes (Botella, Zenasni, & Lubart, 2011; Mace & Ward, 2002). Studies such as "Individual difference predictors of creativity in Art and Science students" by Furnham et al. (2011) and "Creativity as action: findings from five creative domains" by Glaveanu et al. (2013) compare and (or) relate the creative processes of art to creative processes in other domains. Still

under this approach Sapsed and Tschang (2014) study the influence of context on innovation in art, and Fürst, Ghisletta, and Lubart (2012) explore art as a fertile field for studies for educational purposes and for deepening the theory of creativity in the context of Psychology and art research.

b. The artistic creative process for innovation: Many studies approach the contributions of the process and artistic production to economy and business in what concerns innovation and creativity. It seems important to remark some with focus on (i) promoting collaboration (Darsø, 2005; Foresta, Kisfaludi, & Barton, 1999; Fourmentraux, 2007; Harris, 1999; Ibbotson & Darsø, 2015; Nissley, 2010; Potts, 2007); (ii) incorporating creative practices for organizational change (Austin & Devin, 2003; Buswick, Creamer, & Pinard, 2004; Darsø, 2004; Reaves & Green, 2010; Thomson, 2010); and (iii) learning (Austin & Devin, 2010; Boyle & Ottensmeyer, 2005; Darsø, 2005; Ibbotson & Darsø, 2015; Merritt, 2010; Nissley, 2010; van der Meer, 2016).

The increasing amount of studies approaching process innovation by means of Design was mainly observed from 2010 on, what determines a shift in the instrumental participation of design for strategical action in the innovation process - from "artefact design" to "process design". In *Haute Cuisine* domain, a gradual shift in focus concerning innovation was observed - from "artefact", or dish, to complex sensorial experience (in which creativity assumes a vital role). As a result, a growing number of scientific studies on innovation and creativity apply to its domain as "case studies". On the other hand, the domain of Design is addressed in studies on innovation and creativity as a "process", or a means to facilitate and articulate creativity and complexity. From such a perspective Design domains contribute to innovation as mediation and integration agents (Bertola & Teixeira, 2003).

A significant increase in number of studies on the "artistic creative process for innovation" in contrast to "innovation in the artistic process" (similarly to shifts identified in the Design domain) has been observed recently. It is here understood that such an approach has expanded in the last years due not only to the already consolidated direct association between creativity and art by

enterprises themselves, but also to the positive repercussion of successful integration instances between art and business for the sake of innovation in renowned enterprises (e.g. Boyle & Ottensmeyer, 2005; Merritt, 2010). The reflexes of this new collaborative scenario are clear in instances like the non-profit organization Arteconomy (e.g. van den Broeck et al., 2015) as well as the scenario pointed out by Darsø (2005) highlighting variables: (i) art in enterprises (practical applications for enterprises); (ii) art and business in the academy (mainly management professors who see great value in arts); and (iii) artistic, business and academic collaboration (where these are grouped together for mutual exploration).

5 Theoretical framework

The starting point for the construction of the Theoretical Framework was the identification of the central axis of creativity management models in each domain studied. With basis on a qualitative analysis, the interaction dynamics of the issues in the different contexts was observed, as well as the volume of studies approaching, isolatedly or as a group, the six issues identified in Part 1 of this study.

Matching data with the findings of Part 1 of the study, Figures 8, 9 and 10 are presented as follows:

Figure 8. Amount of studies on Design identified x investigation main lines of Part 1 of the study

Source: Survey data.

Figure 9. Amount of studies on *Haute Cuisine* identified x investigation main lines of Part 1 of the study

Source: Survey data.

Figure 10. Amount of studies on art identified x investigation

main lines of Part 1 of the study

Source: Survey data.

The findings reveal the existence of a central axis corresponding to each creativity management model: in Design, the Creative groups; in *Haute Cuisine*, the leadership; and in Art, the environment. In practice, such data match the volume of studies which approach the issues pointed out as central axis within each domain studied. An exception was observed in *Haute Cuisine*, highlighting the predominance of studies on individual creativity, but having leadership as the central axis of the its creativity management model.

The domain of on *Haute Cuisine*, highlight individual creativity; an approach that in its turn, presents a strong connection with leadership in that domain. Since in *Haute Cuisine*, a field featured by vertical hierarchy, the role of the chef is determinant and crucial; the study revealed, a clear division of tasks in the creative processes where the authorship and "chef's signature" overlaps the team work; and very often, the restaurant itself. In that sense, most of the published studies on culinary innovation have concentrated on the *cuisine* of Michelin-starred chefs or innovation leaders such as Ferran Adrià. That leadership is what determines how other topics are approached (e.g. the environment is studied considering the leadership features; the leader's skills are studied and the creativity of the groups itself is based on the study of the external nets established by the leader).

The incentive or compensation policies in *Haute Cuisine* is not a highlighted in literature, in spite of being in practice, pointed as relevant by chefs. That can be mainly due to the difficulty of formation of the "creative hard core", or confidence restrict group of workers who assist the chef in the creation of dishes. For chefs, it is fundamental that those professionals, as well as the chef himself/herself, are constantly motivated, despite the absence of the theme in literature. It is important to point out that such theme can be the link between leadership, creative groups and the environment issues what reveals a gap in the

investigation concerning creativity and *Haute Cuisine*.

In contrast with data obtained in the domain of *Haute Cuisine*, the studies on Design reveals the predominance of creative groups approach in contrast with individual creativity. It is understood that, although there is difficulty in integrating knowledge through multiple perspectives in enterprises (Litchfield et al., 2015), it was observed the progressive increase of studies focusing on creativity in groups in that domain where the hierarchic horizontal model prevails in what concerns creative processes. That is a distinctive feature of Design in contrast with *Haute Cuisine* and Arts. Although different approaches coexist (Bonsiepe, 2013), as Design becomes closer to the business universe and more distant from the artistic universe, the designer operates more and more according to the logics of Strategic Design and Design Research; and consequently, less and less in the logics of Author Design, Design-Art and Handcraft Design. The result of such a shift is the prevalence of the collective work in collaborative nets in which the group creative dynamics overlap the leader's and individual members' and thus represent a group e not a single author. Under such a perspective, it was observed that the "basic skills and learning" topic is approached as a set with the study on the promotion of collective creative dynamics as well as on the ability of the leader in conducting such processes.

Leadership has been a relevant theme in the domain of Design, evidencing a gradual shift from instrumental to Strategical Design. That was observed in the first part of the qualitative analysis in which the designer can have the role of process articulator – inside or outside the domain of Design. As a result, designers' creative competencies began to integrate the innovation process in all stages, not only along development specific phases.

As observed in the *Haute Cuisine* domain, the "incentive or compensation policies" topic in Design is an issue not highlighted in literature, being approached with leadership and environments topics. The expressive number of studies stressing the positive influence of applying Design for creativity in the organizational environments was also observed, markedly the implementation of approaches like Design Thinking or collaborative practices in the organizational environments.

The analysis of studies on the field of art revealed group creativity as more recurrent in literature in contrast to individual creativity. However, it is important to highlight clear boundaries between such typologies within the scope of the approaches identified in the qualitative analysis: (i) 'innovation in the artistic creative process' emphasizes individual creativity whereas (ii) 'artistic creative process for innovation' emphasizes creative groups. That reveals different sets of interests in the works analyzed concerning the relation between innovation and creativity in the context of art, being the first observed in the context of the art, education and psychology (with focus in understanding and describing what artists do during the creation process), and the latter in the context of management and economy (aiming to identify possible contributions of the artistic process to innovation in enterprises). In this sense, the great volume of studies on contributions of art to the improvement of the environment in the context of innovation stand out, highlighting the direct relationship between learning, art and leadership to create an environment conducive to creativity in enterprises.

In contrast to *Haute Cuisine* in the field of art, leadership is directly associated with creative groups, as it discusses how leaders can build on artistic skills to manage collective creativity for innovation. Examples of artists characteristics useful to leaders: (i) Unpredictability and versatility - artists can engage in many creative stages at the same time (Botella et al., 2013; Botella, Zenasni, & Lubart, 2010); (ii) receptivity - openness to new experiences, fantasy, and imagination; lively, ambitious and nonconformist nature (Botella et al., 2013); (iii) interaction ability - need to interact, exchange ideas and be evaluated (Botella et al., 2013; Glaveanu et al., 2013).

Last, but not least, it is important to point out that in the domains of Art, "basic skills and learning" and "incentive or compensation policies" topics do not have clear boundaries in studies on innovation, in spite of being little expressive in literature. That may be due to the strong relation of such themes with the environment topic, since Art is seen as an agent able to interfere positively in the physical space and consequently in the emotional status of individuals, what consequently has an impact on creativity and innovation in the organizations.

Taking that into account, the role of the environment in the domains under investigation becomes evident and relevant:

(i) in Design - the inner motivating environment concerning creativity; (ii) *Haute Cuisine* - influence in the external environment, markedly the cultural and regional aspects; (iii) Art - a combination of inner motivating environment and influence in the external environment (highlighting the exploration of art as the motivation tool for creativity and innovation inside organizations).

Taking that into account, the following theoretical framework (figure 11), illustrates three creativity management typologies identified in the study to be applied in the context of innovation:

Figure 11. Theoretical framework

Source: Elaborated by authors (2017).

6 Implications and Further Research

It was observed as a field of study, creativity experiences a disciplinary overlapping barrier phase and undergoes changes as it creates new connections with different knowledge fields. As a result, it raises issues similar to those presented by Hennessey and Amabile (2010): What is it that contemporary creativity researchers claim to be investigating, and how do they operationalize this entity they call creativity? Thus, given the challenge of contributing to the clarification of the theory on the relationship between creativity and innovation, this study assumes the complexity of the theme and does not intend to exhaust the discussion on the "conceptual definition of creativity". In that sense, the main contributions of the study are highlighted.

The analysis of the findings reveals: (1) the comprehensive variety of fields of knowledge that investigates the relationship between creativity and innovation under different domains' lens (and the

growing interest of the management field); (2) the geographic dispersion of the studies; and (3) the progressive increase in the number of studies relating the studied domains to the investigation in creativity and innovation. We understand that these results reveal the topicality and relevance of the theme.

Creative groups are the central axis of the creativity management model identified in the field of Design, heavily influenced by leadership and the environment (highlighting the increase of acknowledgment of the Design role as a creative articulator in the organizational innovation process). In Haute Cuisine emphasis given to leadership can be observed in a model strongly marked by individual creativity. On the other hand, in the model identified in the field of Art, a great attention is given to environment, a topic which is influenced and influences leadership besides presenting a strong connection with creative groups as well.

That is understood here as a relevant contribution to the studies on the relationship between creativity and innovation, since findings suggest the possibility of articulating and adapting both creativity approaches as well as the type of leadership depending on the size, area of action and even the characteristics of each enterprise. In the domains studied, it was also observed that creativity provides supports for innovation throughout the whole process, in contrast with models and studies that place it as a start (the production of creative ideas in a first stage), what matches the integrated definition of creativity and innovation proposed by Anderson, Potočník, et al. (2014).

The nonlinear relationship between creativity and innovation (Oddane, 2015) contributes to process fluency and results optimization, and also reinforces the idea that alternative models of creativity management can be used in the innovation process inside organizations (e. g. sources of ideas, external influence, partnerships, relationship between domains). In addition, the analysis of the domains context reveals different approaches to innovation within the fields studied, which can be understood as a fertile soil for detailed studies of creativity in different domains, as well as a starting point for future studies in the area of creativity management.

Future research could expand these findings by means of direct observation of the domains

discussed. Although it can imply a limitation of this study the methodology used could be applied to other creative domains such as music, literature or cinema, as well. Thus, it is understood that the framework presented is featured as a contribute for enterprises in the search for new creativity management models for innovation, as well as a starting point for the conception of a more robust theoretical body for the study of different creative processes in different domains in the context of innovation.

Last, but not least, as a limitation of the study, it is stressed that although there is plenty of literature on creativity and innovation, literature on the domains under analysis in this study is relatively scarce and recent. In addition, relevance for carrying out empirical studies which evaluate the propositions and framework here presented is pointed out.

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