



## Research paper

## An innovative approach to the intellectual property in haute cuisine

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## ARTICLE INFO

## Article history:

Received 30 November 2016

Received in revised form 19 April 2017

Accepted 12 June 2017

Available online 29 June 2017

## Keywords:

Creativity protection

Idea generation

Idea transformation

Michelin starred chefs

Professional skills

Systematic approach

## ABSTRACT

The paper investigates the relationship between the culinary innovation process (divided in two stages: *idea generation* and *idea transformation*) and the role of creativity protection. The aim is to understand how chefs protect their creativity and their innovation outcomes. The analysis is based on a sample of 132 Italian Michelin-starred chefs. The study sheds light on creativity and innovation domains in the hospitality environment where organizations have to continuously innovate in order to maintain a defensible competitive position. It identifies five “barriers against imitation” by competitors: “*listening to clients’ needs*”; “*chefs own creativity*”, “*systematic approach to creativity*”; “*knowledge based feasibility*”; “*accumulated professional skills*”. The paper represents an initial effort to examine creativity protection concepts in the gastronomy sector, which are still unexplored. It contributes to a better understanding of how to protect the intellectual property in a sector where the applicability of law-based intellectual property systems is very low.

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## 1. Introduction

This study focuses on creativity and innovation in haute cuisine restaurants. Due to growing competitiveness in the sector, chefs are increasingly pushed to generate new dishes and menus able to capture customers looking for extraordinary gastronomic experiences. This means that exploring the factors that influence the restaurants’ success is difficult (Allen, 2016). In fact, “chefs must be able to adapt and evolve if they want to be successful in the short- and long-term” (Ottenbacher and Harrington, 2007, p. 3). This situation seems particularly likely for the chefs of fine-dining restaurants, recognized as the leaders of innovation in culinary services (Stierand and Lynch, 2008).

While other restaurants use pre-made products, apply centralized R&D techniques and have standardized menus, fine-dining restaurants must systematically develop innovations to prosper in their highly competitive environment (Ottenbacher and Harrington, 2007; Bouty and Gomez, 2013). Haute cuisine restaurants are expected to be creative and innovative (Svejenova et al., 2007; Svejenova et al., 2010). The adjective “haute” signals trend-setting and the highest quality standards and thus has a major influence on the image of the whole restaurant industry (Surlemont and Johnson, 2005). Haute cuisine has been defined as a “crafts

industry composed by professional organizations in which chefs typically undergo long and tough practical training that involves the development of their five senses for the purpose of professional cooking” (Gomez et al., 2003, p. 107). In 2010, the United Nations Educational, Scientific, and Cultural Organization (Unesco, 2010) formally acknowledged haute cuisine as a creative and cultural industry by adding the French gastronomic meal to its “Representative List of the Intangible Cultural Heritage of Humanity”.

In haute cuisine the question of linking creativity and competitive advantage is particularly salient (Ottenbacher and Harrington, 2007) as success is strongly based on the chef’s creativity and capacity to realize and bring novelty to the market (Capdevila et al., 2015). Leschziner (2015) underlines that the creation of a distinctive and original culinary style allows the chef to stand out in the market. It follows that new dishes appear as an occasion for chefs to demonstrate excellence and to defend their competitive position (Bouty and Gomez, 2013). But if menu items, original dishes (including their presentation/décor), and recipes have become a competitive strength in the struggle for the public approval, it seems indispensable for chefs in haute cuisine to invoke intellectual property concepts to prevent misappropriation by their competitors (Vargas-Sanchez and Lopez-Guzman, 2015) and their former staff members, protecting their creative ideas and their consequent successful innovations.

Chefs normally struggle, however, to assert property rights over creative dishes, which are often keys to the restaurant’s goodwill and success. Creativity protection in haute cuisine has received

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marginal attention (see i.e.: [Ottenbacher and Harrington, 2007](#); [Di Stefano et al., 2015](#)), even if research focused on the concepts of creativity and innovation in the area of haute cuisine has flourished and several related topics have been analysed (i.e.: [Stierand et al., 2009](#); [Svejenova et al., 2015](#); [Harrington and Ottenbacher, 2013](#); [Albors-Garrigos et al., 2013](#); [Bouty and Gomez, 2013](#)).

To fill this gap, we investigate the possible relationship between the culinary innovation process (split into two stages: *idea generation* and *idea transformation*) and the role of creativity protection. The objective is to advance the knowledge of creativity and innovation in haute cuisine. In particular, the paper sheds light on dimensions capable of overcoming the limits of law-based intellectual property systems that appear most of the time not to apply to this specific industry. We propose that haute cuisine chefs should be able to exclude (limit) other competitors from appropriating their inventions by using informal “barriers against imitation”. The study focuses on chefs’ creativity and innovation in the haute cuisine context for two main reasons. Firstly, haute cuisine plays a critical role in influencing trends and standards for the industry when it comes to culinary innovations ([Surlemont and Johnson, 2005](#); [Messeni Petruzzelli and Svejenova, 2015](#)). Even though haute cuisine restaurants and their chefs are a tiny proportion in the overall gastronomy sector (roughly 0.5%), their economic and cultural importance is manifested by their value-creation through aesthetic and symbolic work ([Svejenova et al., 2007](#)) that makes haute cuisine greatly reliant on the reputation, craftsmanship and personal creativity of their chefs ([Balazs, 2002](#)). Despite that, it has attracted little systematic research ([Lane, 2010](#)). Secondly, haute cuisine chefs can be defined as being “extraordinary chefs” ([Stierand and Dörfler, 2012](#)) because they develop new ideas and/or combinations of existing ingredients, apply new processes/technique, exploit talent and continuously experiment ([Fauchart and von Hippel, 2008](#); [Braun and Ihl, 2013](#)). This means that most of the success of haute cuisine restaurants depends on the creativity of their chefs and their capacity to develop “barriers against imitation” in order to protect their creativity and innovations. From this perspective, this paper contributes to a better understanding of creativity protection in the context of haute cuisine, providing managerial and organizational dimensions to this industry and, consequently, can be extended to other creative industries.

The empirical analysis is based on primary data obtained from a survey conducted on a sample of 132 Italian Michelin-starred chefs. In this context, Michelin status serves as a proxy for a chef’s successful generation and implementation of creative ideas. Michelin’s criteria for awarding stars are originality or an individual signature of chefs, together with the consistently high quality of dishes. Thus, they refer to creativity as well as to the successful implementation of creative ideas ([Lane and Lup, 2014](#)).

The remainder of the article is structured as follows. The next section briefly reviews the relevant literature and formulates the hypotheses. Then section 3 illustrates the research methodology and describes how the data was collected and analysed. Sections 4 and 5 present and discuss the results of the empirical analysis. Finally, section 6 concludes by exploring the significance of findings to an understanding of the management of creativity and innovation in the context of haute cuisine, followed by a discussion of future research avenues.

## 2. Literature review and formulation of hypotheses

### 2.1. The innovation process in the culinary industry

Due to its intrinsic characteristics, haute cuisine can be easily understood as an example of the creative industries ([Svejenova et al., 2015](#); [Messeni Petruzzelli and Savino, 2015](#)). Creative indus-

tries are those industries that have “their origin in individual creativity, skills and talent, and which have the potential for wealth and job creation through the generation and exploitation of intellectual property” ([DCMS, 2001, p. 5](#)). Many restaurants recognize the importance of creativity and innovation in the gastronomy sector and, in general, in the hospitality sector. Effectively, innovation is at the heart of the success of hospitality organizations because it permits increases in the quality of products, improved efficiency, reduced costs, meeting the changing needs of customers better, increased sales and profits, a greater market share, and differentiation from competitors ([Chang et al., 2011](#)). Nonetheless, how to successfully create and design new dishes and menus is not always clear ([Ottenbacher and Harrington, 2007](#)). [Bockelmann and Braun \(2014\)](#) defined the culinary innovation process as “the development and commercialization of a dish or entire menu that is perceived by the chef as a novelty or as an improvement to an existing one”. Culinary innovation can be defined as an experimental process including two basic ([Albors-Garrigos et al., 2013](#)) heuristic ([Stierand et al., 2009](#)) stages. The first (called *idea generation*) is a creative process and comes up with a new idea (the “thinking of new things”) that aims at solving a problem, perhaps not well structured, and then creating new value through teamwork and dissemination ([West, 2002](#)). The implementation of creative ideas, *idea transformation*, is the second part of the process, the stage during which novel ideas are developed into products and services ([West, 2002](#)).

The *idea generation* stage begins with chefs, who are usually the main source of creativity, being pushed strongly by challenging pressures to deliver new dishes and the necessity to face market forces in order to run a profitable business ([Leschziner, 2015](#)). Chefs have been defined as re-inventors of gastronomy ([Vargas-Sanchez and Lopez-Guzman, 2015](#)) and they are increasingly considered artisans or even artists ([Stierand and Lynch, 2008](#)). This stage requires intuition, experience, embodied sense making, aesthetic sentience, alternative ways of thinking, and tacit knowledge related to skills and know-how that cannot be put into words ([Cook and Brown, 1999](#); [Blackman and Sadler-Smith, 2009](#)). However, [Amabile \(1983\)](#) underlines that creativity is influenced not only by internal factors but also by the surrounding environment. Creativity leads to a confluence of these components and, therefore, should be highest when an intrinsically motivated individual with high domain expertise and high skill in creative thinking works in an appropriate environment directed to stimulate creativity ([Amabile, 1996](#)). Additionally, in haute cuisine creativity must be highly non-linear, with circular and iterative components ([Stierand et al., 2009](#)). The development of new dishes/recipes and menus needs intuitiveness, technical knowledge, cooking techniques, a willingness to go beyond the rules and well-structured schemes/processes, along with an ability and readiness to spend a lot of time experimenting and searching for the best or better food product quality, to adjust on the basis of realized experiments, and to accept mistakes and failure. Successful products have to be continually adjusted and improved by considering the chef’s knowledge ([Ottenbacher and Harrington, 2007](#)), accumulated experiences, customers’ preferences, and complementary technical skills. Additionally, [Albors-Garrigos et al. \(2013, p. 2\)](#) affirm that “these chefs usually have their own space and time for creativity and rely in networking with an extensive social context”, underlining a stronger search for external sources/actors of information and inspiration for innovative activities. Among the wealth of sources, the most cited involve interacting with customers (listening their needs/preferences) as well as with restaurant staff and colleagues, and with suppliers of raw materials and ingredients ([Bockelmann and Braun, 2014](#); [Paris and Lang, 2015](#)). In this respect, [Lane \(2016\)](#) shows that chefs are often part of a complex network of different stakeholders such as employees, customers,

gastronomic critics, suppliers, etc. Additionally, interesting feedback can be derived by presentations at gastronomy and culinary conferences, exhibitions and trade fairs.

*Idea generation* leads to *idea transformation*, in which it is necessary to mix features such as talent, determination and flexibility, professional skills and competences, thereby activating trial-and-error learning mechanisms that are the main pillars of any innovation's success. This generally involves changes and errors from which lessons are learned. Cousins et al. (2010) and Myhrvold (2011) underline that for developing products and maintaining their success, chefs have to be able to continuously adapt themselves and their gastronomic proposals to challenging culinary tendencies. The development and the adoption of innovations by chefs are based on four key elements (Cousins et al., 2010): 1) practical training in the company of other highly-regarded cooks; 2) acquisition of an appropriate knowledge base of technology-based cooking tools; 3) the transmission of this activity to society through the various communications media; and 4) the experience and resultant learning that get incorporated in their day-to-day activity (i.e. in their work). Additionally, the creation of a new product is the mix of searching and recombination activities of those elements giving legitimacy, acceptance and distinctiveness at the same time (Messeni Petruzzelli and Savino, 2015).

Optimal distinctiveness is especially significant for creative industries where the 'creatives' need both inclusion to obtain resources and differentiation to attain recognition for their talents. It follows that it is essential to protect this driver of success. Furthermore, the search for compensation for the lack of legal protection requires other types of practices. In this sense, for example, Fauchart and von Hippel (2008) have proposed an alternative system based on social norms. We believe that chefs themselves must also generate long-term strategies to permit the construction of internal barriers for the protection of culinary creativity. The next section discusses this theme more in depth.

## 2.2. The culinary creativity protection

Ferguson and Zukin (1995, p. 193) contend that "competition among fine-dining restaurants has focused media interest on the culinary 'signature' dishes or techniques of individual chefs who are regularly featured in restaurant reviews and celebrated in magazine and newspaper articles". This means that a problematic aspect of haute cuisine is related to the possibility to retain the benefits generated by creative activities and so to achieve and maintain sustained performance in the long term (Harrington and Ottenbacher, 2013; Albors-Garrigos et al., 2013).

Ottenbacher and Harrington (2007) underline the importance to chefs of responding effectively to circumstances that can change extremely rapidly. This means chefs must define, develop and propose innovative dishes that are able to answer and satisfy customers' expectations. Thus, chefs are increasingly accustomed to transform new ideas into new products/services, to creatively experiment with novel and/or traditional food-components and their interactions (Messeni Petruzzelli and Savino, 2014), to intuitively access other sources of inspiration, and to harmoniously combine tangible and intangible elements that give rise to a complete and multi-sensorial gastronomic experience (Vargas-Sanchez and Lopez-Guzman, 2015).

Top chefs think their recipes are a very valuable form of intellectual property (Fauchart and von Hippel, 2006). They consider that professional reputations and customer patronage at restaurants are strictly related to successful recipes (Fauchart and von Hippel, 2008). It follows that invoking intellectual property rights to protect their intellectual property, i.e. their creations of the mind (the recipes), could be viewed as an obvious logical consequence. Unfortunately, to copyright recipes is generally impractical. Recipes

are considered as instructions for creating an edible product rather than a creative expression of the sort that copyright law is designed to protect. Consequently, food has been described as one of copyright's negative areas (Ciani, 2015) and innovations in the gastronomy and hospitality industries can (generally) be quickly copied or imitated (Harrington, 2004; Ottenbacher and Harrington, 2007).

To overcome the unenforceability of the intellectual property rights to a chef's creativity, Fauchart and von Hippel (2006, p. 3) have argued that 'norms-based' intellectual property systems "exist to complement or replace law-based intellectual property systems. Norms-based IP systems operate on social norms that are nonetheless widely known and viewed as valid by members of a community". These norms specify the nature and extent of rights that a group member can assert to intellectual property. They also comprise procedures for the claiming of intellectual property rights, and community-accepted types of sanctions for violators. In the case of norms-based systems, possible IP violations are assessed by informal community consensus, and community members directly apply sanctions for confirmed violations. Sanctions may include discrediting, loss of status within the community, and reduced future access to valuable community resources such as information (Fauchart and von Hippel, 2008).

Vargas-Sanchez and Lopez-Guzman (2015) have introduced a further possibility for defending culinary creativity. They claim that not everything can be imitated. In particular, "what is imitable is the recipe (what is known in the scientific literature on management as 'explicit knowledge'); what is inimitable is skill in the use of techniques, the personal touch (what is known as 'tacit knowledge')" (p. 36). As stated by Barrère and Chossat (2004, p. 107), "Chefs have a specific know-how that may be considered a kind of trade secret. This skill, acquired by experience (sometimes by a trial-and-error process), varies with each individual and allows chefs to customize their preparations in a certain way".

Originality and differentiation are characteristics that make imitation very difficult. The periodic re-invention of the offering, adjusting it frequently, is the best way of combating risks of imitation. Accentuating the emotional component and the relationships with the customers, even making the effort to educate them in gastronomic matters, also reduces the risk of imitation (Vargas-Sanchez and Lopez-Guzman, 2015).

## 2.3. The relationship between the innovation process and the protection of creativity

Even though the crucial novel information in a new recipe – the list and combinations of ingredients, the proportions and processing methods used – cannot be copyrighted (Fauchart and von Hippel, 2008), different approaches can be used to protect chef's creativity at the *idea generation* stage.

"Listening to clients' needs" is one strategy. This refers to the internal use of externally absorbed knowledge (Bockelmann and Braun, 2014). In this sense, customer behaviour has to be understood as a driver with high influence on culinary innovations (Harrington, 2004). This was confirmed by Hu (2010), who found evidence that the ability to integrate domestic and foreign cooking cultures, among other capabilities, influences innovation in haute cuisine. It follows that to understand what their customers want (their preferences and changes in preferences) is a must for chefs (Vargas-Sanchez and Lopez-Guzman, 2015).

Chefs can promote *their own creativity* and profit from it from reputation-related gains by freely revealing their proprietary recipe information on, for example, a television program or through original writings and images related with the presentation of a recipe in a cookbook. This gives to the chef the right to be acknowledged as the author of a recipe (Fauchart and von Hippel, 2006).

Ottenbacher and Harrington (2007) advocate a *systematic approach to creativity*. They affirm the existence of a prescribed innovation development process that is a formal blueprint, roadmap or thought process for driving an idea to a new project. Consequently, new dishes are the result of novel and atypical combinations, where old ingredients and innovative or familiar techniques are mixed to create new linkages and unusual recipes, trying constantly and working very long and anti-social hours (Capdevila et al., 2015). These efforts lead to substituting/combining/modifying different ingredients in a dish and typically to preparing it several times, making use of personal experience, appropriate techniques, competences and capabilities to realize the idea in the mind and crystallize the tacit knowledge into brilliant dishes (Svejenova et al., 2010) that satisfy customers' expectations (Albors-Garrigos et al., 2013). In this way, they harmoniously combine tangible and intangible elements that give rise to a complete and multi-sensorial gastronomic experience (Vargas-Sanchez and Lopez-Guzman, 2015).

In sum, as part of the *idea generation* stage, the following dimensions appear to be the most relevant: *listening to clients' needs*; *a chef's own creativity*; and *adopting a systematic approach to creativity*.

**H1a.** listening to client's needs as a relevant part of the idea generation stage can make the chef less concerned about creativity protection.

**H1b.** using the chef's own creativity as a relevant part of the idea generation stage can make the chef less concerned about creativity protection.

**H1c.** adopting a systematic approach as a relevant part of the idea generation stage can make the chef less concerned about creativity protection.

As Fauchart and von Hippel 2008 have stressed, recipes are rarely patentable. Legal protection is potentially available via trade secrecy laws, but it is very rare for chefs to use them. In relation to the transformation stage, however, two other forms of protection are important: *knowledge based feasibility* (or planning) and *accumulated professional skills*.

Products are the result of the combination of technical functionalities with aesthetic, symbolic, sensory and experiential content (Peltoniemi, 2015). They require time and effort for screening, testing and validating activities that take place with the intention of improving knowledge content and adding value to the final results. The screening activity requires the selection of different criteria, such as product quality, seasonality, fit with personal style of cooking, cost efficiencies, price strategy, economic viability of new products, the balance of the dish in itself and as part of a menu, maintenance of standards, customer acceptance, etc. Finally, testing, experimentation and validation activities take place with the aim of improving the knowledge content and evaluating added value in relation to its final exploitation. All of those previous activities refer to innovative competences. A chef's innovative competences are therefore at the core of emerging research on the culinary profession (Hu, 2010; Gomez and Bouty, 2009). Furthermore, through experimentation, observation, study and testing, top chefs are able to accumulate great amounts of professional skill. This guarantees them the chance that a significant fraction of the recipes they develop would be difficult for others to reproduce without their help so that "chefs do have recipe-related IP that can be kept secret for some periods unless they choose to reveal it" (Fauchart and von Hippel, 2008, p. 194).

Thus:

**H2a.** adopting knowledge based feasibility as a relevant part of the idea transformation stage can make the chef less concerned about creativity protection.

**H2b.** adopting a systematic approach as a relevant part of the idea transformation stage, can make the chef less concerned about creativity protection.

In conclusion both the idea generation stage's dimensions and the idea transformation stage's dimensions can influence creativity protection as suggested in the model shown in Fig. 1.

### 3. Methodology

#### 3.1. Research setting

The research setting is Italian haute cuisine, as defined by the Michelin Red Guide. The success of fine-dining restaurants is institutionally defined according to the restaurants' ratings by major gastronomic guidebooks (Rao et al., 2003). Acknowledged internationally as the most serious (Ottenbacher and Harrington, 2010), Guide Michelin is recognized as one of the most important culinary guidebooks (Bouty and Gomez, 2013). It is a series of annual publications addressed to tourism and gastronomy, and represents the largest global benchmark for assessing the quality of restaurants and hotels at national and international levels. Michelin stars are the criterion most valued by all field agents (Durand et al., 2007), be they restaurants, clients or critics. The number of stars awarded assesses the chef's quality of craftsmanship (Svejenova et al., 2010). For this reason, the Michelin rating (expressed on a scale of zero to three stars) can positively or adversely affect the reputation and economic well-being of a restaurant (Woodward and Stierand, 2014).

Stars are given to the restaurant and not to the chef. However, the success of the restaurant depends largely on the chef's work. Hence, when a chef leaves a restaurant, the stars are "suspended" until the next examination by the Michelin experts. A major criterion for awarding stars to a restaurant is "renewal" – the ability to offer creative and new recipes on a regular basis. By focusing on the chefs who have actually created these recipes, we are focusing on chefs who presumably regard innovation as important to their professional and economic success (Fauchart and von Hippel, 2006). This premise has led us to focus our research directly on the chef, no matter whether he/she was the owner of the restaurant or an employee.

#### 3.2. Sample and data collection

To test the hypotheses, an online survey targeting Michelin starred chefs was conducted. The sample for this study was selected using the official list of Italian starred chefs of the Guide Michelin. A self-administrated questionnaire has been developed to examine innovation processes, creativity protection, and barriers to imitation in haute cuisine. It is based on and inspired by the study by Vargas-Sanchez and Lopez-Guzman (2015). To enhance external validity, the questionnaire was pretested by one Italian 3 stars Michelin Chef (in two separated informal meetings ranging from 20 to 40 min) and three academic experts in the field of hospitality. The survey was addressed to the chef of each Michelin starred restaurant, with a cover letter explaining the purpose of the study.

The analysis was conducted over the period January to May 2016. In January an email was sent to all the chefs listed in the Italian section of the Michelin Red Guide. After one month, those that had not replied were contacted directly by phone. At the end of these activities, 132 Italian Michelin starred chefs composed the sample. As the 2016 Guide includes 334 starred chefs (<http://www.scattidigusto.it/2015/12/10/guida-michelin-2016-tutte->

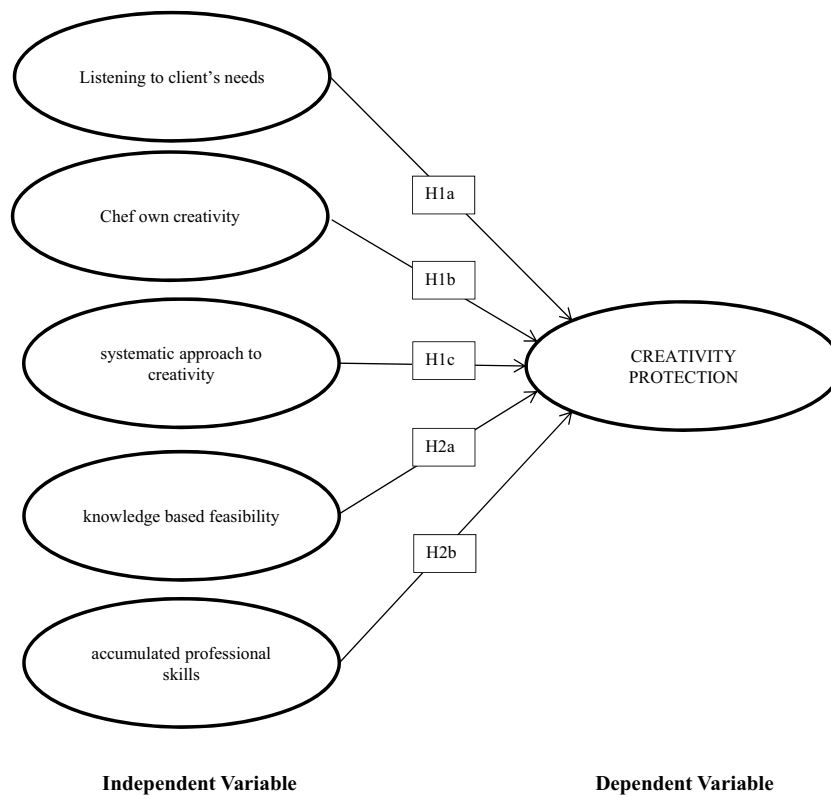


Fig.1. xxx.

[le-stelle-dei-migliori-ristoranti-italia/http://www.scattidigusto.it/2015/12/10/guida-michelin-2016-tutte-le-stelle-dei-migliori-ristoranti-italia/](http://www.scattidigusto.it/2015/12/10/guida-michelin-2016-tutte-le-stelle-dei-migliori-ristoranti-italia/)), our sample covers 39.52% of the entire population, of whom 88% are male. 40% of the respondents are between 40 and 49 years old. 33% are over 50 while chefs under 40 comprise the rest of the sample. The number of the stars is represented as follows: 83% one star; 11% two stars; 6% three stars.

### 3.3. Measures

Different statistical methods have been used to assess the possible relationships between the innovation process and creativity protection. The focal variables of the study, utilized to examine the culinary innovation process, have been defined as “*idea generation*,” “*idea transformation*,” and “*culinary creativity protection*”. Each of the items measuring the three constructs is the result of an analysis of the current literature and interviews with experts in the field (academics and chefs). Constructs are reviewed below:

#### 3.3.1. Idea generation

12-items have been identified to measure the main dimensions of the *idea generation* stage rated from 1 (strongly disagree) to 5 (strongly agree). An example item is “listening to my clients is important to understand their needs and therefore being able to better satisfy them”.

#### 3.3.2. Idea transformation

A 6-items scale has been developed to measure *idea transformation* rated from 1 (strongly disagree) to 5 (strongly agree). An example item is “the relationship with my supplier is a priority”.

#### 3.3.3. Culinary creativity protection

Four questions were included to examine *culinary creativity protection*. These questions focused on the personal views of the

respondents about possible factors capable of reducing the fear of imitation. One of those questions states “I am relatively unconcerned because not everything is imitable, for example the personal touch of a chef is a unique component”. Responses were rated from 1 (strongly disagree) to 5 (strongly agree).

## 4. Results

We have adopted a two-stage analysis. The first stage identifies different dimensions to both *idea generation* and *idea transformation* (culinary creativity process), while the second stage uses regression analysis to determine if *culinary creativity protection* is correlated with the different steps of the culinary creativity process.

Table 1 gives the results of the factor analysis performed on both stages of the culinary creativity process to generate scales for *idea generation* and *idea transformation*. This step is necessary to prepare the foundations to test the five hypotheses.

A linear regression showed that there was an association between the variables *idea generation* F3 (systematic approach to creativity) and *idea transformation* F5 (accumulated professional skills) and the dependent *culinary creativity protection* (Table 3). The model *adjusted R*<sup>2</sup> was 15.3%. This model was tested for linearity of relationships between the predictor variables and the outcome variable, outlier and influential values, heteroscedasticity and multicollinearity. All regression assumptions were met.

A number of alternative regression models have been run as an added check for assumption violation including a robust regression, non-parametric spline regression, ridge regression and linear regression with Huber's sandwich estimators. The linear regression results were supported in all these alternative models. Out of the five hypotheses only H1c (*adopting a systematic approach as a relevant part of the idea generation stage can make the chef less concerned about creativity protection*) and H2b (*adopting a systematic approach*

**Table 1**  
Exploratory Factor Analysis of *idea generation* and *idea transformation*: items and loadings.

Construct and scale items	Standardized loading
Idea Generation	
F1 "listening to Client's needs"	
Target Audience	.680
Client Preferences	.764
Listening to Clients	.659
Improving	.585
F2 "chef own creativity"	
Trial & Error	.605
Idea fusion	.666
Mimetic	.770
Alternative thinking	.624
F3 "systematic approach to creativity"	
Ourselves	.705
Experience	.702
Attend Professional Events	.517
Building ideas bank	.558
IdeaTransformation	
F4 "knowledge based feasibility"	
Economic feasibility of the Transformation	.729
Transform based on the accumulated knowledge about clients' needs	.857
Transform in response to the circumstances	.654
F5 "accumulated professional skills"	
Transformation based on the available techniques and methodologies	.679
The relationship with suppliers is a priority	.697
Transform as a trial & error process	.780
Creativity Protection	
The ability in performing particular techniques "Special touch"	.855
Be upfront to the costumers	.849
Taking care of the customers	.844
Maintaining a substantial gastronomical differences between my competitors	.837

as a relevant part of the *idea transformation* stage, can make the chef less concerned about creativity protection) were supported (Table 2).

## 5. Discussion

The study has explored the theoretical concept of creativity protection in the haute cuisine context. More specifically, it has empirically investigated the relationships between the culinary innovation process (divided in two different stages: *idea generation* and *idea transformation*) and the role of creativity protection, employing five different hypotheses.

The empirical results have underlined that within those two stages of culinary innovation processes there are five dimensions that may support haute cuisine chefs to offset the impossibility of copyrighting their creativity and their innovations. Those dimensions can be used as "barriers against imitation" and may ultimately counteract the weakness of law-based intellectual property sys-

tems and social norms in the industry (Fauchart and von Hippel, 2006). A main advantage of this approach relates to the direct control that chefs have to build their own barriers to protect their creations. In this case, chefs do not rely on overall industry support as in the case of social norms, but manage the implementation of their own barriers (such as building their own skills and using a systematic approach).

In this respect, the study has explored three dimensions that are related to the *idea generation* stage: "*listening to clients' needs*"; "*chef's own creativity*"; and "*systematic approach to creativity*". The capacity to create and maintain relationships with clients may facilitate the acquisition of full information about their needs and preferences, and in this way may enable chefs to develop, adjust and tailor their products, services and innovation efforts perfectly to the markets they serve by responding quickly to changing customer demand. Similarly, aspects of chef creativity – such as personality characteristics and possession of a cognitive style encouraging creative thinking, or an ability to take different perspectives on problems – and a continuous flow of novel and valuable ideas may become very effective barriers to imitation.

This result is also consistent with the contribution of Amabile (1983) that focused on the influences of creative processes represented by within-individual components (i.e. intrinsic and extrinsic motivation, personality, etc.) and the surrounding environment, as a component outside the individual (i.e., the social environment). Creativity needs a confluence of these components and, therefore, creativity should be highest when an intrinsically motivated individual with high domain expertise and high skills in creative thinking works in an appropriate environment directed to stimulate creativity (Baron and Tang, 2011).

In addition, the study has explored two other dimensions related to *idea transformation*: "*knowledge based feasibility*" and "*accumulated professional skills*". More specifically, a starred chef is mainly committed to develop original ideas and to test an innovative cooking technique using his professional skills and experience and his knowledge (increased by a learning-by-doing process). This is in line with the contention of Gomez et al. (2003, p. 101) that "chef habitus is highly tacit and embedded in physical activities. It bridges theory and practice, subjective and objective knowledge, technical skills and rules enforcement, knowledge both in body and mind". Therefore, originality, authenticity and differentiation through a unique personal philosophy are the characteristics that can reduce imitation and its effects, becoming relevant factors to achieve long-term competitive advantage because they cannot be replicated. This process takes the form of a spiral in which ideas are widely spread. The spiral, which develops from the chef and the core business (new and appealing dishes), gets wider and wider, spreading out to include the entire innovation spectrum (of processes but also of the business model).

The empirical results have supported the hypotheses that a "*systematic approach to creativity*" and "*accumulated professional skills*" have a particular relevance in helping haute cuisine chefs to protect their creations from imitations. It is known that to develop original and inimitable dishes/recipes it is necessary to regard creativity in business not as a random event or one that occurs in an isolated environmental context and, therefore, that a systematic approach

**Table 2**  
Regression analysis results and hypothesis testing.

		Standardized estimate	T value	Sig. Levels	Hypothesis
H1a	"listening to Client's needs"	.023	3.469	.793	Not supported
H1b	"chef own creativity"	.118	.263	.197	Not supported
H1c	"systematic approach to creativity"	.306	1.269	.001	Supported
H2a	"knowledge based feasibility"	-.011	-.105	.917	Not supported
H2b	"accumulated professional skills"	.343	3.351	.001	Supported

is needed to generate and stimulate the conditions for cultivating creativity (Csikszentmihalyi, 1996). Obviously, this “systematic approach to creativity” has to be combined with the excellent professional skills needed to support successful businesses in their innovation efforts, including research and analysis competencies, an imaginative attitude to problem solving, and stakeholder management.

## 6. Conclusions and implications

The study contributes to the knowledge on culinary innovation within haute cuisine restaurants, with a specific focus on creativity protection.

As mentioned, culinary innovation can be defined as the development and commercialization of a dish or entire menus that are perceived by the chef as a novelty or as an improvement to an existing one (Harrington and Ottenbacher, 2013). Michelin-starred chefs work at developing their own recognizable and distinctive culinary style and identity over time (Senf et al., 2014). As a result, they believe that their recipes and dishes are a very valuable form of intellectual property that need to be protected.

Previous studies have discussed the limited applicability of law-based intellectual property systems in the culinary industry (Di Stefano et al., 2014), and the possible need to sustain the existence of ‘norms-based’ intellectual property systems (Fauchart and von Hippel, 2008). The research presented here is part of this debate and it proposes an alternative approach based on directly controlled strategies that top chefs should use to protect their creations from imitation. These strategies have to be focused on the ability to build “barriers against imitation”, even if these strategies are particularly valid in the short-term.

From this perspective, the most important barrier rests in the capacity of a chef to develop a systematic approach to creativity and to increase his level of professional skills. The research permits us to draw up a list of management skills needed in order to support successful businesses in their innovation efforts, including research and analysis competencies, attitude to problem solving and stakeholder management.

The study offers different contributions to the haute cuisine innovation literature in particular, and to the hospitality literature in general. Firstly, it represents an initial effort to examine creativity protection concepts in the gastronomy sector, which is still largely unexplored. Secondly, it has identified five different factors that chefs can use as “barriers against imitation” by competitors. Those barriers can be created and developed by chefs and/or managers not only in the haute cuisine context, but also in other sectors where creativity and innovation strongly need to be better protected.

The study is of value to practitioners in different ways. Firstly, it can help industrial practitioners (chefs and entrepreneurs) to better understand the different stages (*idea generation* and *idea transformation*) of the culinary innovation process and their related dimensions. Secondly, it highlights the importance to practitioners that informal barriers can have on creativity protection.

An important value of the paper is to combine a theory of the culinary innovation process with a theory about the role of intellectual property rights. Future research should continue to investigate the impacts of those barriers by repeating the analysis with a bigger sample or making a longitudinal analysis. Interesting findings could be found by comparing haute cuisine with other types of creative industries such as haute couture.

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