THE MIXED BLESSINGS OF OPENNESS IN CREATIVE INDUSTRIES ? THE CASE OF EUROPEAN CHEFS DE CUISINE

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Abstract

Previous open innovation research has mostly focused on firm level investigations of inbound and outbound activities to generate and commercialize technological innovation in R&D inten-sive industries. With this study, we want to complement research on open innovation and idea-tion in creative industries, where output is largely determined by the ingenious creativity of individuals and success is ultimately determined by subjective evaluations of different audienc-es. Our empirical study is based on explorative interviews and a survey of 505 chefs de cuisine from 16 European countries. We draw on bricolage as well as institutional theories of market identity, legitimacy and reputation to hypothesize the impact of inbound and outbound openness on product renewal as well as market success among critics and customers. Consistent with bricolage logic, we find that inbound openness only fosters product renewal for restaurants with frequent menu updates. Furthermore, very high levels of inbound openness allows chefs to em-brace multiple, dissonant business objectives. However, inbound openness tends to generate negative market evaluations of both critics and customers because diverse borrowing of ideas seems to blur chefs? crafting authenticity. At the same time, outbound openness, i.e. advertising and commercializing through books, media appearances and courses, may help chefs to (re-) gain some legitimacy for recombinant craftsmanship and novel recipes.

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ABSTRACT

Previous open innovation research has mostly focused on firm level investigations of inbound and outbound activities to generate and commercialize technological innovation in R&D intensive industries. With this study, we want to complement research on open innovation and ideation in creative industries, where output is largely determined by the ingenious creativity of individuals and success is ultimately determined by subjective evaluations of different audiences. Our empirical study is based on explorative interviews and a survey of 505 chefs de cuisine from 16 European countries. We draw on bricolage as well as institutional theories of market identity, legitimacy and reputation to hypothesize the impact of inbound and outbound openness on product renewal as well as market success among critics and customers. Consistent with bricolage logic, we find that inbound openness only fosters product renewal for restaurants with frequent menu updates. Furthermore, very high levels of inbound openness allows chefs to embrace multiple, dissonant business objectives. However, inbound openness tends to generate negative market evaluations of both critics and customers because diverse borrowing of ideas seems to blur chefs' crafting authenticity. At the same time, outbound openness, i.e. advertising and commercializing through books, media appearances and courses, may help chefs to (re-) gain some legitimacy for recombinant craftsmanship and novel recipes.

Key words: open innovation; individual level openness; product innovation; audience evaluation; chefs de cuisine

INTRODUCTION

Ever since Chesbrough's (2003) seminal publication on open innovation there has been an increasing interest into how organizations arrange their innovation activities with relation to their environment (Christensen et al. 2005, Laursen and Salter 2006, von Hippel and von Krogh 2003, West 2003). Thereby, research zooms in on two questions: with whom and how should organizations interact to gain most of the open innovation approach? The first questions reflect the wide range of potential innovation partners in the environment among others, lead-users, user-innovators, customers, suppliers, venture capitalists or competitors (Chesbrough 2003, 2011). The second question draws attention on both the directions and degree of open innovation. Chesbrough and Crowther (2006) and subsequent studies differentiate the two directions in- and outbound activities. Inbound innovation covers all activities geared towards incorporating external sources into the own innovation process, whereas outbound innovation relates to the way in which internal sources are revealed or commercialized vis-à-vis external actors (cf. Dahlander and Gann 2010 for an overview). With regards to the degree of openness, Laursen and Salter (2006) documented the benefits and pitfalls of relying on external sources and identi-

fied that inbound activities are related to innovative performance in a curvilinear manner, based on a survey of UK manufacturing firms.

These, and many other studies have significantly advanced our understanding of both inbound and outbound open innovation activities, in particular the different forms these activities can take and the varying interaction partners (e.g. different forms of organizational cooperation). However, the degree to which engaging in open innovation is beneficial remains by and large a conundrum (Dahlander and Gann 2010, Laursen and Salter 2006). Previous research both from within and outside the field of open innovation suggests that a firm should be neither too open nor too closed, as information might leak to competitors (Laursen and Salter 2006), or too closed (as this might limit innovativeness; cf. Dahlander and Gann 2010). This has been highlighted by most of the studies that have been conducted in line with Chesbrough's (2003) concept of open innovation.

The specific setting of the creative industries amplifies the challenges of open innovation, as these operate differently from 'conventional' for-profit settings, such as technology driven settings (Caves 2004, Moeran and Strandgaard Pedersen 2011). A central feature of particular interest for the purposes of this study is that in the creative industries the success of a firm's innovation depends highly on the individual artist (Hotho and Champion 2011, Preston et al. 2009). This is true for most creative industry branches, be it literature (e.g. fiction writer Ken Follett who has a team collecting documents and writing passages for his novels) or popular music (e.g. the band supporting a solo artist like Robbie Williams).

Only scarce attention has been paid to the question of how open innovation is organized by individuals in creative industry settings, and also in more general terms to the degree of both inbound and outbound openness pursued with regard to open innovation activities. Most studies analyse either only inbound (e.g. Christensen et al. 2005) or outbound (e.g. Henkel 2006, West 2003) open innovation activities. Given the importance of innovation in creative industry settings it seems relevant to explore the role of open innovation activities on the individual level in order to better understand this specific industry context. The guiding research question is therefore to explore *how should individuals in the creative industries arrange their in- and outbound open innovation activities to succeed in the market?*

To answer this question, the present study is set in the field of European haute cuisine. Drawing on an explorative pre-study which involved eight interviews, we have developed and tested a model linking inbound and outbound openness with product innovation through a survey of European chefs de cuisine. We have restricted our analysis to leading chefs de cuisine, drawing on a census of chefs listed in the Michelin guide, the leading external indicator for assessing the culinary excellence of chefs (Johnson et al. 2005). In doing so, we find that inbound openness only fosters product renewal for restaurants with frequent menu updates. Furthermore, very high levels of inbound openness allows chefs to embrace multiple, dissonant business objectives. However, inbound openness tends to generate negative market evaluations of both critics and customers because diverse borrowing of ideas seems to blur chefs' crafting authenticity. At the same time, outbound openness, i.e. advertising and commercializing through books, media appearances and courses, may help chefs to (re-) gain some legitimacy for recombinant craftsmanship and novel recipes.

The present study contributes to the literature in the following ways: First, we focus on open innovation at the individual level of analysis, as chefs de cuisine are in effect the key drivers of innovation and of the accompanying success or demise of the creative industry businesses they run. Second, we submit that organizations should either pursue open innovation decidedly or,

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alternatively, should refrain from pursuing open innovation as much as possible; the rationale being that they otherwise have no distinctive style. Third, we direct attention to the external evaluation of a product's innovation within the creative industry setting (Caves 2004), arguing that expert evaluations and customer demand ought to be taken into more prominent consideration in future research on product innovation in the light of open innovation management. Fourth, we suggest that product innovation is moderated by the degree of in- and outbound openness, which leads us to the managerial implication that product innovation can be legitimized by high degrees of openness.

In what follows, we first review the literature on open innovation management to derive our hypotheses, before introducing as our research setting the field of European haute cuisine. Then we present our two-phase research process, comprising an explorative phase and a subsequent survey-based phase at European chefs de cuisine. We then illustrate our findings and in the ensuing discussion we propose that chefs ought to pursue open innovation either properly or not at all given the way that external actors – that is, both the Michelin experts awarding stars and the customers – evaluate their menus. We conclude with a brief summary and critical reflection, highlighting implications for both future research and open innovation management practice at the individual level and in the creative industry setting.

THEORY AND HYPOTHESES

Chesbrough's original definition considers open innovation as a paradigm "that assumes that firms can and should use external ideas as well as internal ideas, and internal and external paths to market, as the firms look to advance their technology" (Chesbrough 2003: xx). Chesbrough further calls open innovation "the use of purposive inflows and outflows of knowledge to accelerate internal innovation, and expand the markets for external use of innovation, respectively" (Chesbrough 2006: 1). With this approach Chesbrough redefined the interaction between the firm and its environment, making the boundaries more porous and interactions with different external actors reciprocal.

Towards open innovation at the individual level of analysis

Previous open innovation research has significantly advanced our understanding of how organizations can engage with external sources. In particular large organizations (e.g. Intel, P&G, IBM or Cisco) in mature, predominantly technology-driven industries (such as electronics, telecommunications and pharmaceuticals) have been the preferred object of research with regard to the antecedents and consequences of strategy, organization, culture and processes (e.g. Chesbrough 2003, Chesbrough and Crowther 2006, Laperche et al. 2011, Leiponen and Helfat 2010, Spithoven et al. 2010).

Although the preference for studying multinational enterprises with high R&D intensity has often been criticized (e.g. Lee et al. 2010, Parida et al. 2012), small and medium-sized enterprises have seldom been analysed (e.g. Classen et al. 2012, Lee et al. 2010). This is problematic insofar as open innovation models in traditional, predominantly technological and R&D driven domains differ from other non-technology and non-R&D intensive industries such as the creative industries. Haute cuisine as a creative industry (Caves 2004) operates differently insofar as the value of a 'product' in haute cuisine is subject to multiple, often conflicting interpretations, and thus the value of a menu is difficult to assess (Stark 2009, Wijnberg and Gemser 2000).

Moreover, our knowledge of the effects of individual level and organizational level openness is at best modest. An exception is Henkel (2009) who shows that individual programmers who are engaged in developing open source software and who reveal information to the community act in their firm's best interest. Nonetheless these studies refer to large organizations. We thus presume that the direct contribution of an individual to a company's innovation performance is per se limited. Hence it remains to be explored what parallels and differences other settings exhibit. We suggest that in haute cuisine the individual level is of key relevance as a restaurant would lose its value if the respective chef leaves (Fauchart and von Hippel 2008). Analysing the individual level, we echo West et al. (2006) who argue that understanding the individual level represents as yet unchartered territory that needs to or ought to be explored in order to better comprehend the mechanisms of open innovation in other settings. In the following we derive our hypotheses based on a generic classification of the innovation process, which has been divided into generating and evaluating innovations.

Openness as a means to product innovation and renewal

The key objective of open innovation is to open up the corporate innovation process to maintain innovative and competitive (e.g. Drechsler and Natter 2012, Enkel et al. 2009, Wallin and von Krogh 2010). Thereby Chesbrough builds on a classification of closed and open innovation that represents antipodes on a continuum (Barge-Gill 2010, Dahlander and Gann 2010). To avoid a potentially misleading dichotomy, researchers increasingly use the term permeable as measure to quantify and qualify the openness of corporate boundaries (e.g. Baldwin and von Hippel 2011, Bianchi et al. 2011, Cooke 2005, Grönlund et al 2010, Lind et al. 2012).

Previous research has advanced our understanding of the very openness as central research questions for open innovation with regards to directions and degrees of openness (e.g. Dahlander and Gann 2010). Toward this end, Chesbrough and Crowther (2006) define two directions of openness: inbound innovation and outbound innovation. In the case of inbound innovation, firms internally explore external knowledge. As for outbound innovation, firms externally exploit internal knowledge. As a consequence, the locus of exploration and exploitation differ. Both innovation forms include multiple activities, among others, in- and out-licensing and managing interactions with suppliers, competitors or communities. Research on inbound innovation shows that it is the dominant mode in business practice (Chesbrough and Crowther 2006).

Openness – and especially its degree – is highly contextual dependent and hence subject of a well-balanced strategy (Cassiman and Valentini 2009, Christensen et al. 2005, Drechsel and Natter 2012). The degree of openness depends on the various external sources used (Belussi et al. 2010) and the different stages of the innovation process involved (Love et al. 2011). For instance, firms in rural areas show a higher degree of openness than those in urbanized ones (Teirlinck and Spithoven 2008). Barge-Gill (2010) further highlights that firms with a high degree of openness are smaller and less R&D intensive than those who are semi-open.

Moreover, the managements' perception of the benefits of openness directs the degree of openness (Asakawa and Nakamura 2010). Further exploring the perception of benefiting from open innovation activities, Henkel (2009) reports that managers often tend to overestimate the risk and underestimate the benefits.

On the one hand, this can be explained by the presumption that low degrees of openness may result in the loss of opportunities and in turn jeopardize the future innovativeness of a firm. Studies supporting this idea indicate that openness is beneficial as it enables more diverse inno-

vations (Love et al. 2011), more radical innovations (Chiang and Hung 2010) and improves the overall innovation performance (Faems et al. 2005). On the other hand, being too open may lead to the loss of core competencies (Enkel et al. 2009), increasing searching and coordination costs (Almirall and Ramon 2010), as well as an overflow by unsolicited ideas of low quality (Alexy et al. 2012). Knudsen and Mortensen (2011) connect openness with time and cost to market, reporting that the duration and financial efforts of product development projects increase with the degree of openness. Lee, Park, and Song (2009) find a positive relation between the closedness and financial performance for Korean SMEs.

Laursen and Salter (2006) show in their seminal empirical research a curvilinear relation between openness and innovation performance. An increasing openness positively affects corporate innovativeness. Too much openness however leads to decreasing innovation performance. Based on these findings Chen, Chen, and Vanhaverbeke (2011) confirm a curvilinear relation and argue that the Chinese firms in their sample have not reached the optimal degree of openness yet. In consistency with these previous studies on the organizational level we therefore state for the individual level the following hypothesis:

H1: Inbound Openness has a positive, albeit diminishing effect on product renewal.

Another frequent question in open innovation research is how openness stimulates the quality and quantity of the innovation output. Apart from common measures such as time-to-market, cost-to-market and other mainly financial variables (Chesbrough 2003), research shows that open innovation leads to more diverse (Love et al. 2011), more radical (Chiang and Hung 2010) and more varied innovations (Hsieh and Tidd 2012). Huizingh (2011) points out that predominantly focusing on financial benefits is a shortcoming in measuring the efficiency of openness. Instead, he suggests other measures including innovativeness and number of innovations (Huizingh 2011).

Following this argumentation, we refer to the concept of entrepreneurial bricolage (Desa 2011, Duymedjian and Rüling 2010, Fisher 2012), originally introduced by Levi-Strauss (1966) and defined as „making do by applying combinations of resources at hand to new problems and opportunities" (Baker and Nelson 2005: 33). More recently, innovation research adopted this concept, indicating that importance of bricolage for science-based R&D and experience-based learning (Hendry and Harborne 2011). Halme et al. (2012) further show how bricolage helps innovators in large companies to overcome organizational barriers and to activate resources inside and outside the company. Banerjee and Campbell (2009) find a positive relationship between collaboration activities and inventor bricolage. Fuglsang and Sørensen (2011: 581) redefine innovation as „small step bricolage". In the context of French haute cuisine, Rao et al. (2005) describe bricolage as key for the transformation from classical to nouvelle cuisine.

Bearing these observations in mind, we understand bricolage as being a form of improvisation and a means to overcome resource limitations, including time constraints, in the innovation process. In the context of creative industries, inbound openness may represent a possibility to increase the frequency of the innovation output. Hence, individuals aiming to have a high number of innovations and a constant rate of renewal benefit from increasing inbound activities in a way that more external ideas fuel the improvisation process. The opposite is true for individuals aiming to have a low-level innovation frequency. In their case inbound openness may even harm the approach of continuity with a decided personal style. Therefore we state:

H2: The positive effect of inbound openness is stronger under high innovation frequency/ short time-to-renewal.

Openness as a means to pursuing multiple goals

Open innovation research shows that openness and its effectiveness are contextually dependent (e.g. Harison and Koski 2010). Thereby, external, industry-related factors seem to be less important than internal, firm-related factors for two reasons: First, the general trend towards openness is observable across different industries (Poot et al. 2009). Second the rate of adopting open innovation is minor between industries (Chesbrough and Crowther 2006). Consequently research should focus on explaining open innovation based on internal context factors with business strategy as the single most influential factor.

In this context, Lazzarotti and Manzini (2009) suggest a fit between a firm's strategy and its degree of openness. Research however indicates that firms do not necessarily follow one, but rather multiple and sometimes interlinked or conflicting goals with diverse strategies to be pursued (Cronshaw et al. 1994). Referring to open innovation, Leiponen and Helfat (2010) conclude that utilizing multiple external sources and pursuing multiple innovation objectives positively influences innovativeness. They further argue that multiple goals and multiple sources show positive interaction effects for increasing innovation performance. Furthermore, Stark (2009) proposes that creative entrepreneurs have to embrace dissonant goals because the inherent conflict is also a valuable source of entrepreneurial opportunity. He suggests that searching the environment is a fruitful way of accomplishing this strategy. Following this logic, the likelihood to finding relevant knowledge and ideas increases with the amount of sources utilized and goals pursued. In line with this argumentation, we state the following hypothesis:

H3: Inbound openness has a positive effect on the pursuit of multiple strategic goals.

Towards market evaluations of openness

To the best of our knowledge, to date open innovation research has not paid attention on how openness affects ultimate market success and subjective audience evaluations. This relationship is of particular importance in market settings where the quality of a product cannot be determined before purchase or even after experience. Asymmetric information theory labels these products as experience goods (Nelson 1970). Culinary innovations belong to this category (Rao et al. 2003). In the absence of reliable information, producers have to find ways to convince the audience, i.e. customers and gatekeepers, that they are capable and willing to offer a high quality product (Hsu 2006, Podolny 2001).

To draw more attention to this specific issue, we refer to the concept of market identities defined as compositions of "the social codes that specify the features and characteristics that a given entity can legitimately possess" (Jensen 2010: 40). In a broad sense, market identities represent interfaces between organizations and their (potential) external stakeholders. On the one hand, market identities limit the range of product features that are acceptable in a given context, but facilitate on the other hand the product evaluation and comparison for the audience (Baron 2004, Jensen 2010). For instance, Rao et al. (2003) show that classical and nouvelle cuisine in French gastronomy are based on distinguishing features such as the archetypical ingredients and the function of the chef.

Jensen (2010) distinguishes market identities along the two dimensions product and status categories. Each category consists of different sets of social codes allowing stakeholders to draw conclusions about the features of the product and the behaviour of the producer. Product categories refer to the expected attributes and status categories to the quality of the product. To illustrate the differences between product and status categories, Jensen (2010) uses the example of the automotive industry. A vehicle belonging to the product category minivans is associated with other product features than a SUV; and the producer of the minivan belonging to a certain status category is associated with a certain product quality.

Following Jensen's classification (2010) we raise the question how different directions and degrees of openness may influence the positioning along the dimensions product and status categories with respect to expected product attributes and product quality by the audience: Inbound openness may serve as a means to increase the variety of product attributes and outbound openness as a means for signalling high product quality. In this context, past research on market identity indicates that expectations of the market audience may differ with regards to their knowledge (Hannan 2007, Zuckerman 1999). For the evaluation of cultural products Wijnberg and Gemser (2000) identify three, sometimes conflicting selection systems, i.e. market, peer and expert selection. More recently, Kim and Jensen (2011) show that consumers and experts have different product preferences.

Referring to product categories the question remains whether if it is preferable to have a more distinct or a more diverse identity. Research indicates that organizations spanning multiple product categories have difficulties being assigned to a distinct category. As a result, they suffer from external evaluations (Hsu 2006, Hsu et al. 2009, Zuckerman 1999). On an individual level, Zuckerman et al. (2003) suggest based on the labour market for actors in the feature film industry that a generic identity is useful in gaining entry and sustained participation but will, over time, result in limitations. Especially in the context of French haute cuisine, Rao et al. (2005) show that bricolage, i.e. borrowing from distant and categories and sources, can erode market evaluations. Their conception of bricolage bears high similarity of inbound openness and ideation.

Building on these findings, we argue that a distinctive profile facilitates the development of a clear market identity that is in turn appreciated by audiences. However increasing inbound openness dilutes the uniqueness of the profile and leads to a more multifaceted profile that in turn may be appreciated by the audience too. Therefore, we state the following hypothesis:

> *H4: Inbound openness has a negative, albeit diminishing effect on market evaluations.*

Referring to the dimension of status categories past research indicates the positive effect of media coverage (Kennedy 2008, Pollock and Rindova 2003), storytelling (Lounsbury and Glynn 2001) or symbolic management (Dutton and Dukerich 1991, Zott and Huy 2007) to generate recognition in the form of legitimacy and reputation from external audiences. Both legitimacy and reputation represent valuation mechanisms in a social system, but differ in their underlying assumptions (Stark 2009, Thomas 2007). Whereas legitimacy refers to the acceptance of an organization by meeting social norms, reputation refers to the relative desirability of an organization by peer-group comparison (Deephouse and Carter 2005). We refer to outbound openness as a means to meet both, legitimacy and reputation, by targeting different levels of audiences, i.e. customers and experts and, therefore, developing different degrees of status categories (Bitektine 2011). Towards this end we formulate as follows:

H5: The negative effect of inbound openness on market evaluations is attenuated/ weakened by outbound openness.

EMPIRICAL CONTEXT AND METHODS

Sample

Our research examines the open innovation approaches by haute cuisine chefs in Europe. In particular, we focus on how the inbound and outbound activities of haute cuisine chefs influence the development of culinary innovations and their successful commercialization. Culinary innovations are the main source of the overall economic success and competitiveness of top restaurants and have gained increasing attention from researchers interested in what constitutes an innovative and successful individual in the creative industries (Fauchart and von Hippel 2008, Ottenbacher and Harrington 2008, Svejenova et al. 2007). In line with previous studies, we define culinary innovation as the development and commercialization of a menu that is perceived as a novelty or as an improvement to an existing one by the chef involved (Harrington 2004a, 2004b).

Our study proceeded in two stages. First we conducted an exploratory pre-study involving eight interviews with German chefs in order to better understand the culinary innovation process and identify possible inbound and outbound activities in the field of haute cuisine, as well as success factors for top restaurants that are awarded with Michelin stars. For the pre-study we concentrated on German restaurants ranked in the 2012 Michelin guide, i.e. 431 Bib-Gourmand, 208 one-star, 32 two-star and 9 three-star restaurants. We interviewed eight chefs using a semi-structured questionnaire in the areas of Berlin, Munich and Stuttgart. Seven of these eight interviews were face-to-face and one by phone. Seven of the interviewees had Michelin stars (one three-star, two two-star and four one star chefs) and one a Bib Gourmand status. Each of the interviews took 60 to 90 minutes and was recorded and subsequently transcribed. This first stage facilitated and significantly improved the development of a questionnaire for the second stage, which had to be very precise and compact to fit into the chefs' busy schedule.

In the second stage, this questionnaire was sent to an expanded sample of chefs listed in the 2012 Michelin guide. The Michelin guide is considered a benchmark for restaurants and a sign of the excellent culinary performance of the chefs (Fauchart and von Hippel 2008, Ottenbacher and Harrington 2008). The scale ranges from one to three stars. In addition, restaurants are awarded with a Bib Gourmand status. This nomination is also prestigious, but reflects less than one star. The Michelin guide is published once a year for various countries worldwide, including the major European countries, on which our study is concentrated.

16 European countries: Austria, Belgium, Denmark, Finland, France, Germany, Great Britain, Ireland, Italy, Liechtenstein, Luxembourg, the Netherlands, Norway, Spain, Sweden and Switzerland. For these countries the 2012 Michelin guide lists 1.481 one-star, 242 two-star and 58 three-star restaurants. In Austria, Denmark, Finland, Germany, Liechtenstein, Norway and Switzerland we also included the 556 Bib-Gourmand restaurants in our sample. In total we selected 2.337 restaurants.

We subsequently identified the haute cuisine chefs working in these restaurants via an internet search. Although the awards are given to restaurants and not to individuals, following previous studies we presume that the chefs are the drivers of culinary innovations and figureheads for

the awarded restaurants (Fauchart and von Hippel 2008, Svejenova et al. 2007). Since some chefs ran more than one awarded restaurant and some restaurants had gone out of business since the nomination, we identified 2.178 chefs in total. Between June and September 2012 these chefs were asked via e-mail in their first language to answer an online questionnaire. In addition faxes or letters were sent to chefs without an available e-mail address. Of the 2.178 questionnaires sent, 533 were returned, a response rate of 24.5%.

Measures and analysis

We have four different dependent variables: (1) Product renewal was measured with the following item "How strongly does the composition of the menu differ each time after a change?" on a five point scale ranging from very weakly to very strongly. We conceived this viable as ordered and analysed it using an ordered logit model. (2) In terms of goal pursuit, chefs were asked "How important do you consider the following goals for your business: a) Customer satisfaction, b) Revenue, c) Awards/ Mentioning in the Guide Michelin, d) Popularity/ Degree of recognition"? They should indicate their answers on a five-point scale ranging from not at all important to very important. To measure average goal pursuit we simply averaged the answer to these four items and analysed it b OLS regression. Maximum goal pursuit was measured by counting the number of goals that chefs considered important to the highest level. This ordered value ranging from 0 to 4 was analysed by ordered logit regressions. (3) The number of Michelin Stars ranging from 0 to 3 served as a proxy for critic evaluation was obtained from the Michelin guide and analysed using ordered logit regressions. (4) Reservation lead time as a proxy for customer evaluations was measured by the question: "What is the period of time customers have to reserve in advance for a table for two?" where respondents directly stated the number of days. We treat this as a count variable, which we analyse using a negative binomial model due to overdispersion.

Three independent variables are left to mention: (1) inbound openness was measured by the number of sources for new ideas that scored at least a 4 on a five point scale rating the importance of each source from not at all important to very important. The following sources were included: a) other top restaurants, b) exchange with manufactures and suppliers, c) conversations with guests in your restaurant, d) new technological trends (e.g. equipment), e) reading cookbooks, f) seasonal/ regional offered produce, g) exchange with kitchen staff, h) exchange with service staff, i) internet search. (2) Outbound openness was measured as the average to the following three items: "Do you use one or various methods to share your knowledge as a chef cook? a) cooking books, b) cooking courses, c) radio-/TV appearances. The answers, measured on five point sales ranging from not at all to very intensively, were averaged for the analysis. (3) Time-to-renewal was measured on a six point scale to the question: The scale point were: weekly; biweekly; monthly; bimonthly; quarter yearly; semi yearly. We transformed this to the corresponding number of weeks, which entered the analysis.

As control variables we include the number of employees, the number of seats, age, gender, the number of years of experience chefs worked in haute cuisine (tenure) and country specific dummies. Furthermore, we try to control for innovation capability which is the average of the following items: "I possess the following skills to create new menus: a) craft skills; b) training in the star gastronomy; c) combinatory skills." These three items show high internal consistency (alpha = 0.74). Knowledge retention is the average of the following two items measured on five point scales ranging from strongly disagree to strongly agree: "Ideas for new menus/dishes are

continuously documented." and "Do you have a self-created recipe collection?" These two items show high internal consistency (alpha = 0.86).

RESULTS

Qualitative findings

The interviews with the chefs in our pre-study phase sensitized us to the importance of the development and commercialization of new menus. Moreover, culinary innovations represent an important determinant for the success of the branch in general and top restaurants in particular. Only the Bib-Gourmand chef called innovations a *"less important aspect for the branch"* (I-2).

Culinary innovations

Our results suggest that it is possible to distinguish two levels of culinary innovation. First, culinary innovations describe major trends and influential cooking styles, such as nouvelle cuisine and molecular cooking, which were introduced by leading chefs (I-5). A more recent development called new regionalism describes the increased use of locally available products (I-6). The innovation cycles for this form of culinary innovation are comparably long and persistent. The majority of chefs interviewed perceive this form of culinary innovation as 'radical' (I-3). Second, culinary innovation refers to the development of new dishes and menus on a regular basis. The chefs interviewed consistently agreed with the definition of culinary innovation, which we derived from literature, as the development and commercialization of a menu that is perceived as a novelty or an improvement to an existing menu by the chef involved and offered to guests. This form of culinary innovation is described as the renewal and advancement of existent dishes and menus. One chef said: "*The culinary art is the main focus; the taste is what matters; and the innovation makes it outstanding*" (I-1).

The relevance of culinary innovation

According to the chefs, culinary innovations in the narrower sense have to meet two basic criteria: First, culinary innovations should reflect the chef's own artistic handwriting. The chefs interviewed consistently emphasized that culinary innovations are the expression of a distinctive and distinguishable style. Second, culinary innovations have to meet the guests' expectations. Guests want to be surprised, but not strained. Therefore chefs have to balance their personal ability to innovate with the guests' openness to innovation. On chef succinctly expressed the problem: "*If it is too innovative, it may scare the guests. I think you always have to adapt to the given factors*" (I-5). Moreover, some (but not all) of the chefs interviewed perceive innovation as an increasingly important assessment criterion for Michelin testers. However, this does not mean that other factors such as continuity, culinary art, as well as product and service quality, have become less important.

The innovation capabilities of chefs

The chefs interviewed perceive themselves as the main source and driver of culinary innovations. Hence their personal skills determine the degree of innovation. In this context, individual creativity is seen as the single most important capability by all chefs. The development of crea-

tivity implies four major interconnected factors: First professional skills with regards to different cooking methods and technical equipment; Second, a very good understanding of the attributes of the various ingredients in use; Third, the combinatory skills to join the different ingredients; and fourth, a mental taste register to recall various tastes and aromas. The latter factor is of enormous importance for the mental cooking that takes place during the innovation process. "*I am able to mentally combine each and every taste, each and every spice, each and every ingredients I know in my mind and get an idea how this affects the meal*" (I-1).

Quantitative results

Table 2 shows the first set of estimation results. Model 1 shows that on average inbound openness does not affect product renewal. Thus, Hypothesis 1 one cannot be supported. However, Model 2 introduces an interaction effect between inbound openness and time-to-renewal, which is found to be negatively significant in consistence with Hypothesis 2. In order to further qualify this interaction effect we plotted the predicted probability of achieving very high product newness when time-to-renewal is low (minus one standard deviation) and high (plus two standard deviations). The resulting Figure 1 shows that chefs, who frequently update their menu and thus have little time, significantly increase the probability of achieving a very high degree of newness by almost 20%. However, for chefs that have much more time for product updates the probability of very high product newness decreases by almost 40% if they open up ideation.

---------------- Insert Table 2 about here ---------------------

---------------- Insert Figure 1 about here ---------------------

Model 3 and 4 investigate the effect of inbound innovation on chefs' strategic goals pursuit. Model 3 assumes the average importance levels of all four goals as dependent variable. Here, we find that both inbound and outbound openness have significant direct effects. However, pursuing all four possibly dissonant goals simultaneously to the largest possible extent (Model 4) is associated with inbound openness in a curvilinear, u-shaped manner. Figure 2 shows that from the perspective of chefs pursuing all four conflicting goals requires either to remain closed and focus on one's own strength and capabilities or the highest level of openness to match diverse goals with diverse inputs. Thus, the simple linear relation predicted in Hypothesis 3 needs to be disregarded and qualified in regard to a curvilinear relation such that chefs who want to pursuit multiple goals need to decide whether to focus or open up.

---------------- Insert Figure 2 about here ---------------------

Model 5 finds a curvilinear, u-shaped relationship between openness and the number of Michelin Stars as a proxy for critic evaluations. Model 6 further qualifies this relationship by a significantly positive interaction effect with outbound openness as predicted in Hypothesis 4. Figure 3 shows the corresponding predictions for high, sample average and low levels of outbound openness; i.e. +/- two standard deviations from the mean. It becomes obvious that on the one hand chefs that opened up for ideation are able to (re-) gain some legitimacy in terms of an increase in the probability of receiving three Stars by approximately 5%. On the other hand, chefs that remain rather focused in their craftsmanship should refrain from outbound innovation in order to gain about 15% increase in the probability to receive three Stars. Thus, while H4 is supported, we have to conclude that inbound openness is not well regarded by critics and is hard to legitimate.

---------------- 		Insert Figure 3 about here 	 ---------------------

---------------- 		Insert Table 3 about here 	 ---------------------

Table 3 shows the second set of estimation results with customer evaluation, proxied by the reservation lead time, as dependent variable. Model 6 to 12 introduce separately and then in combination the non-linear effects of both inbound openness and product newness and the respective moderating effects of outbound openness. By this procedure of sequentially introducing variable and effects, we conclude that our preferred Model 12 and the effects therein do not stem from multicollinearity. In Model 12, the interaction effect between inbound and outbound openness is negative (in the linear term). It thus contradicts with our Hypothesis 5. Figure 4 shows that not only an open strategy of diverse craftsmanship, but also a focused strategy can be leveraged in terms of customer evaluation and demand by outbound openness. Thus, outbound openness is a useful means to raise legitimacy of both o focused, unique and a diverse and flexible profile.

---------------- 		Insert Figure 4 about here 	 ---------------------

The significantly positive interaction effects product newness and outbound openness is qualified in Figure 5. It shows that product newness can also directly be legitimated from the perspective of customers by the means of outbound innovation. The effect of continuous product renewal can be turned to positive if accompanied with high levels of outbound openness, almost reaching the same level that could be obtained by more stable menus.

---------------- 		Insert Figure 5 about here 	 ---------------------

DISCUSSION

The present study has explored open innovation in the field of haute cuisine. Our explorative pre-study and the subsequent survey highlight that the chefs' activities are of key importance to a restaurant's innovation. We deem our findings to be at least generalizable across creative industry settings. Thus they apply not only to haute cuisine, but are also partially applicable to other settings where individual entrepreneurs (e.g. Alvarez et al. 2005 for the film industry and Tran 2008 for the fashion industry) or key figures epitomize the respective firm or technology to be sold (e.g. Lampel 2001). The reason for this is that organizations in other creative industries are also likely to depend on the performance and innovativeness of an individual (Becker 1982, Chaston and Sadler-Smith 2012, White and White 1965). Given this assumption we submit that we contribute to the literature on open innovation in general and on creative industry settings in particular in three primary ways.

First, we refine previous research by drawing attention to open innovation at the individual level of analysis. We echo previous research that has deemed that the individual level of analysis provides an important contribution to better understand how open innovation actually unfolds on the micro-level (West et al. 2006). Studies set in haute cuisine have highlighted the role of chefs for the commercial success and the reputation of a restaurant (e.g. Hotho and Champion 2011, Svejenova et al. 2007, Svejenova et al. 2010). We refine these findings by adding the individual level of analysis to the discussion of open innovation, or rather the innovativeness of a creative individual. In contrast to previous open innovation research which focuses on individuals in large scale organizations (Laursen and Salter 2006), we have found that individuals

(in our case the chef) are not only of key importance for innovation and the rate of change of products (in our case the menu), but that she or he is also responsible for both the inbound and outbound open innovation activities of the organization per se (in our case the restaurant). Thus we suggest that our analysis more adequately captures open innovation at the individual level as the respective chef's impact on the menu is dominant.

Second, with regard to the generation of innovations we report a u-shaped relationship with the degree of openness (Dahlander and Gann 2010). This finding is surprising, as we expected to identify a curvilinear relationship as documented in previous open innovation research (Chen et al. 2011, Laursen and Salter 2006, Talke et al. 2009). We suggest that these findings might be related to the particularities of the creative industry as a research setting. Given that the innovativeness of a menu offered is highly dependent on the chef as an individual, we presume that successful chefs – measured in terms of the stars awarded and customer demand – need to have a distinctive style. In our study, customer demand – measured in terms of the number of days a customer has to wait to receive a table – has a u-shaped relationship with product newness. Additionally we observe the same for inbound openness, as well as a positive relationship with outbound openness. This is represented by our moderating factors of multiple goal pursuit and innovation frequency. Our findings suggest that chefs only benefit from inbound openness if they pursue multiple, albeit focused goals in parallel while at the same time changing menus frequently. Moreover, pursuing too many, let alone conflicting goals can be counterproductive as a chef might lose focus. Based on our results, we draw the managerial implication that a distinctive style is critical and can be achieved by being decidedly open with regard to both inbound and outbound innovation activities. Alternatively, we suggest that individuals in the creative industries ought to refrain as much as possible from engaging in open innovation activities. In contrast to studies suggesting a curvilinear relationship between openness and innovation success, our findings suggest that being moderately open does not lead to superior market evaluation by customers.

Third, our findings highlight the importance of external evaluations legitimizing product innovation by means of openness. We found that product innovation is moderated by the degree of inbound and outbound open innovation activity. Herein we confirm previous research that highlights the role of external evaluations and assessors for defining quality, and in our specific case the innovativeness of an individual in the creative industries (Wijnberg and Gemser 2000, cf. in a similar vein: Anand and Jones 2008, Anand and Watson 2004, Rao 1994). More precisely, this finding relates to outbound openness and market evaluations and only to a moderate extent to inbound openness. Nonetheless we can also reconfirm that having a distinctive style is decisive for a chef's success. Our findings further support the interpretation that outbound openness can legitimize inbound openness. This aspect has not been analysed in previous research on open innovation, but not least for the creative industries we deem it to be relevant, as external evaluations and evaluators (Wijnberg and Gemser 2000) or awards (Anand and Jones 2008, Anand and Watson 2004) are often critical for consumers or other persons from the field when assessing the innovation or quality of a product or service. Moreover, in cases where competing interpretations or accounts of worth are likely to collide and there is no coherent picture (Stark 2009), external assessments (as in our case the Michelin stars) might be relevant surrogates for the assessment of innovation or quality.

CONCLUDING REMARKS

We inform previous research on open innovation by introducing initial evidence for the individual level of analysis in the creative industries. As any research the present study has several limitations we deem worth mentioning to inform future research.

As is common with survey-based research, we only questioned respondents at a single point in time. A longitudinal analysis would help to elucidate the variations in inbound and outbound openness and their distinctive effect on expert evaluations and customer demand. One way we tried to circumvent this was by conducting an explorative pre-study, primarily in the form of semi-structured interviews.

Given our interest in how innovation is assessed in haute cuisine, a focus on chefs seemed warranted. However, focusing solely on chefs in the survey implies that parameters such as the degree of innovation of new menus are highly dependent on the individual chef. This hampers the validity of our findings, though we tried to mitigate it by conducting a census across European Michelin star- and Bib gourmand awarded chefs.

The interpretation of our findings is further limited, as we were not able to gather information about the categories that form the basis for the evaluation of chefs from the testers of the Guide Michelin. We tried to inquiry into the categories and scheduled interviews with representatives, but failed to gain substantial information, which is why we excluded these results from the present study. This lack of information is noteworthy as it would be interesting to know whether the personal interpretations and experiences of the testers were of strong significance, or if the criteria set forth in the Guide Michelin need to be strictly obeyed. In a similar vein, though it is the most authoritative guide in haute cuisine, the Guide Michelin is by no means the only reference available. Another possible and relevant source of information would be the Guide Gault-Millau. Comparing or consolidating the results of both guides might be worthwhile in order to generate a more robust database.

Despite these shortcomings we hope that this study offers fruitful ground for further inquiry into open innovation at the individual level. Addressing these shortcomings will be relevant to better inform future research on open innovation at the individual level of analysis as a managerial phenomenon relevant beyond the creative industries.

REFERENCES

Alexy O, Criscuolo P, Salter A (2012) Managing unsolicited ideas for R&D. *Calif. Management Rev.* 54(3): 116-140.

Almirall E, & Ramon C-M (2010) Open versus closed Innovation: A model of discovery and divergence. *The Acad. Management Rev.* 35(1): 27-47.

Alvarez J, Mazza C, Pedersen J, Svejenova S (2005) Shielding idiosyncrasy from isomorphic pressures: Towards optimal distinctiveness in European filmmaking. *Organization* 12(6): 863-888.

Anand N, & Jones BC (2008) Tournament rituals, category dynamics, and field configuration: The case of the Booker Prize. *J. Management Studies* 45(6): 1036-1060.

Anand N, Watson MR (2004) Tournament rituals in the evolution of fields: The case of the Grammy Awards. *Acad. Management J.* 47(1): 59-80.

Asakawa K, Nakamura H, Sawada N (2010) Firms' open innovation policies, laboratories' external collaborations, and laboratories' R&D performance. *R&D Management* 40(2): 109-123.

Baker T, Nelson RE (2005) Creating something from nothing: Resource construction through entrepreneurial bricolage. *Admin. Sci. Quart.* 50(3): 329-366.

Baldwin C, von Hippel E (2011) Modeling a paradigm shift: From producer innovation to user and open collaborative innovation. *Organ. Sci.* 22(6): 1399-1417.

Banerjee PM, Campbell BA (2009) Inventor bricolage and firm technology research and development. *R&D Management* 39(5): 473-487.

Barge-Gil A (2010) Open, semi-open and closed innovators: Towards an explanation of degree of openness. *Industry and Innovation* 17(6): 577-607.

Baron JN (2004) Employing identities in organizational ecology. *Ind. Corp. Change* 13(1): 3-32.

Belussi F, Sammarra A, Rita S (2010) Learning at the boundaries in an "pen regional innovation system": A focus on firms' innovation strategies in the Emilia Romagna life science industry. *Reg. Stud.* 39(6): 710-721.

Bitektine A (2011) Toward a theory of social judgments of organizations: The case of organizational legitimacy, reputation, and status. *Acad. Management Rev.* 36(1): 151-179.

Cassiman B, Valentini G (2009) Strategic organization of R&D: The choice of basicness and openness. *Strateg. Organ.* 7(1): 43-73.

Caves RE (2000) *Creative Industries. Contract between art and commerce* (Harvard University Press, Cambridge, MA and London).

Chen J, Chen Y, Vanhaverbeke W (2011) The influence of scope, depth, and orientation of external technology sources on the innovative performance of Chinese firms. *Technovation* 31(8): 362-373.

Chesbrough HW (2003) *Open innovation. The new imperative for creating and profiting from technology* (Harvard Business School Press, Boston).

Chesbrough HW (2006) *Open business models: How to thrive in the new innovation landscape* (Harvard Business School Press, Boston).

Chesbrough HW (2011) *Open Services Innovation: Rethinking Your Business to Grow and Compete in a New Era* (Jossey-Bass, San Francisco).

Chesbrough HW, Crowther AK (2006) Beyond high tech: Early adopters of open innovation in other industries. *R&D Management* 36(3): 229-236.

Chesbrough HW, Rosenbloom RS (2002) The role of the business model in capturing value from innovation: Evidence from Xerox Corporation's technology spin-off companies. *Ind. Corp. Change* 11(3): 529-555.

Chiang Y-H, Hung K-P (2010) Exploring open search strategies and perceived innovation performance from the perspective of inter-organizational knowledge flows. *R&D Management* 40(3): 292-299.

Christensen JF, Olesen MH, Kjær JS (2005) The industrial dynamics of open Innovation: Evidence from the transformation of consumer electronics. *Reg. Stud.* 34(10): 1533-1549.

Classen N, Van Gils A, Bammens Y, Carree M (2012) Accessing resources from innovation partners: The search breadth of family SMEs. *J. Small Bus. Management* 50(2): 191-215.

Cooke P (2005) Regionally asymmetric knowledge capabilities and open innovation: Exploring 'Globalisation 2'—A new model of industry organisation. *Reg. Stud.* 34(8): 1128-1149.

Cronshaw M, Davis E, & Kay J (1994) On being stuck in the middle or good food costs less at Sainsbury's. *Brit. J. Management* 5(1): 19-32.

Dahlander L, Gann DM (2010) How open is innovation? *Reg. Stud.* 39(6): 699-709.

Deephouse DL, Carter SM (2005) An examination of differences between organizational legitimacy and organizational reputation. *J. Management Studies* 42(2): 329-360.

Desa G (2012) Resource mobilization in international social entrepreneurship: Bricolage as a mechanism of institutional transformation. *Entrep. Theory Pract.* 36(4): 727-751.

Drechsler W, Natter M (2012) Understanding a firm's openness decisions in innovation. *J. Bus. Res.* 65(3): 438-445.

Dutton JE, Dukerich JM (1991) Keeping an eye on the mirror: Image and identity in organizational adaptation. *Acad. Management J.* 34 (3): 517–554.

Duymedjian R, Rüling C (2010) Towards a foundation of bricolage in organization and management theory. *Organ. Stud.* 31(2): 133-151.

Enkel E, Gassmann O, Chesbrough HW (2009) Open R&D and open innovation: Exploring the phenomenon. *R&D Management* 39(4): 311-316.

Faems D, van Looy B, Debackere K (2005) Interorganizational collaboration and innovation: Toward a portfolio approach. *J. Prod. Innovat. Management* 22(3): 238-250.

Fauchart E, von Hippel E (2008) Norms-based intellectual property systems: The case of French chefs. *Organ. Sci.* 19(2): 187-201.

Fey CF, Birkinshaw J (2005) External sources of knowledge, governance mode, and R&D performance. *J. Management* 31(4): 597-621.

Fisher G (2012) Effectuation, causation, and bricolage: A behavioral comparison of emerging theories in entrepreneurship research. *Entrep. Theory Pract.* 36(5): 1019-1051.

Fuglsang L, Sørensen F (2011) The balance between bricolage and innovation: Management dilemmas in sustainable public innovation. *Serv. Ind. J.* 31(4): 581-595.

Gassmann O, Enkel E, Chesbrough HW (2010) The future of open innovation. *R&D Management* 40(3): 213-221.

Grönlund J, Rönnberg-Sjödin D, Frishammar J (2010) Open innovation and the stage-gate process: A revised model for new product development. *Calif. Management Rev.* 52(3): 106-131.

Halme M, Lindeman S, Linna P (2012) Innovation for inclusive business: Intrapreneurial bricolage in multinational corporations. *J. Management Studies* 49(4): 743-784.

Hannan MT, Pólos L, Carroll GR (2007) *Logics of organization theory: Audiences, codes, and ecologies* (Princeton University Press, Princeton).

Harison E, Koski H (2010) Applying open innovation in business strategies: Evidence from Finnish software firms. *Reg. Stud.* 39(3): 351-359.

Harrington RJ (2004a) Part I. *Journal of Foodservice Business Research* 7(3): 35-57.

Harrington RJ (2004b) Part II. *Journal of Foodservice Business Research* 7(3): 59-72.

Hendry C, Harborne P (2011) Changing the view of wind power development: More than "bricolage". *Reg. Stud.* 40(5): 778-789.

Henkel J (2006) Selective revealing in open innovation processes: The case of embedded Linux. *Reg. Stud.* 35(7): 953-969.

Henkel J (2009) Champions of revealing – The role of open source developers in commercial firms. *Ind. Corp. Change* 18(3): 435-471.

Horng J-S, Hu M-L (2008) The Mystery in the kitchen: Culinary creativity. *Creativity Res. J.* 20(2): 221-230.

Hotho S, Champion K (2011) Small businesses in the new creative industries: Innovation as a people management challenge. *Management Decis.* 49(1): 29-54.

Hsieh K-N, Tidd J (2012) Open versus closed new service development: The influences of project novelty. *Technovation* 32(11): 600-608.

Hsu G (2006) Jacks of all trades and masters of none: Audiences' reactions to spanning genres in feature film production. *Admin. Sci. Quart.* 51(3): 420-450.

Hsu G, Hannan MT, Koçak Ö (2009) Multiple category memberships in markets: An integrated theory and two empirical tests. *Amer. Sociol. Rev.* 74(1): 150-169.

Huizingh EKRE (2011) Open innovation: State of the art and future perspectives. *Technovation* 31(1): 2-9.

Jensen M (2010) Legitimizing illegitimacy: Creating markets for socially illegitimate products. *Research in the sociology of organizations* 31: 39-80.

Johnson C, Surlemont B, Nicod P, Revaz F (2005) Behind the stars: A concise typology of Michelin restaurants in Europe. *Cornell Hotel Rest. A.* 46(2): 170-187.

Kennedy MT (2008) Getting counted: Markets, media, and reality. *Amer. Sociol. Rev.* 73(2): 270-295.

Kim BK, Jensen M (2011) How product order affects market identity: Repertoire ordering in the U.S. opera market. *Admin. Sci. Quart.* 56(2): 238-256.

Knudsen MP, Mortensen TB (2011) Some immediate 'but negative' effects of openness on product development performance. *Technovation* 31(1): 54-64.

Lampel J (2001) Show-and-Tell: Product demonstrations and path creation of technological change. In R Garud, P Karnøe (Eds.), *Path dependence and creation:* 303-328. (Lawrence Erlbaum, Mawah, NJ).

Laperche B, Lefebvre G, Langlet D (2011) Innovation strategies of industrial groups in the global crisis: Rationalization and new paths. *Tecnol. Forecast. Soc.* 78(8): 1319-1331.

Laursen K, Salter A (2004) Searching high and low: What types of firms use universities as a source of innovation? *Reg. Stud.* 33(8): 1201-1215.

Laursen K, Salter A (2006). Open for innovation: The role of openness in explaining innovation performance among U.K. manufacturing firms. *Strateg. Management J.* 27(2): 131-150.

Lazzarotti V, Manzini R (2009) Different modes of open innovation: A theoretical framework and an empirical study. *International Journal of Innovation Management* 13(4), 615-636.

Lee S, Park G, Yoon B, Park J (2010) Open innovation in SMEs—An intermediated network model. *Reg. Stud.* 39(2): 290-300.

Lee Y-G, Park S-H, Song Y-I (2009). Which is better for a firm's financial performance: An externally oriented or inwardly oriented innovation strategy? An empirical study on Korean SMEs. *Asian Journal of Technology Innovation* 17(1): 57-73.

Leiponen A, Helfat CE (2010) Innovation objectives, knowledge sources, and the benefits of breadth. *Strateg. Management J.* 31(2): 224-236.

Levi-Strauss C (1966) *The savage mind* (University of Chicago Press, Chicago).

Lichtenthaler U (2011) Open innovation: Past research, current debates, and future directions. *Acad. Management Perspect.* 25(1): 75-93.

Lind F, Holmen E, Pedersen A-C (2012) Moving resources across permeable project boundaries in open network contexts. *J. Bus. Res.* 65(2): 177-185.

Lounsbury M, Glynn MA (2001) Cultural entrepreneurship: Stories, legitimacy and the acquisition of resources. *Strateg. Management J.* 22(6-7): 545-564.

Love JH, Roper S, Bryson JR (2011) Openness, knowledge, innovation and growth in UK business services. *Reg. Stud.* 40(10): 1438-1452.

Moeran B, Strandgaard Pedersen J (2011) *Negotiating values in the creative industries: Fairs, festivals and competitive events* (Cambridge University Press, Cambridge).

Nelson P (1970) Information and consumer behavior. *J. Polit. Econ.* 78(2): 311-329.

Nuvolari A (2004) Collective invention during the British Industrial Revolution: The case of the Cornish pumping engine. *Camb. J. Econ.* 28(3): 347-363.

Ottenbacher MC, Harrington RJ (2008) U.S. and German culinary innovation processes: Differences in involvement and other factors. *Journal of Foodservice Business Research* 11(4): 412-438.

Parida V, Westerberg M, Frishammar J (2012) Inbound open innovation activities in high-tech SMEs: The impact on innovation performance. *J. Small Bus. Management* 50(2): 283-309.

Podolny JM (2001) Networks as pipes and prisms of the market. *Amer. J. Sociol.* 107(1): 33-60.

Pollock TG, Rindova VP (2003) Media legitimation effects in the market for initial public offerings. *Acad. Management J.* 46(5): 631-642.

Poot T, Faems D, Vanhaverbeke W (2009) Toward a dynamic perspective on open innovation: A longitudinal assessment of the adoption of internal and external innovation strategies in the Netherlands. *International Journal of Innovation Management* 13(2): 177-200.

Porter ME (1980) *Competitive strategy. Techniques for analyzing industries and competitors* (Free Press, New York).

Preston P, Kerr A, Cawley A (2009) Innovation and knowledge in the digital media sector—An information economy approach. *Information, Communication & Society* 12(7): 994-1014.

Rao H (1994) The social construction of reputation: Certification contests, legitimation, and the survival of organizations in the American automobile industry: 1895-1912. *Strateg. Management J.* 15(1): 29-44.

Rao H, Monin P, Durand R (2003) Institutional change in Toque Ville: Nouvelle cuisine as an identity movement in French gastronomy. *Amer. J. Sociol.* 108(4): 795-843.

Rao H, Monin P, Durand R (2005) Border crossing: Bricolage and the erosion of categorical boundaries in French gastronomy. *Amer. Sociol. Rev.* 70(6): 968-991.

Spithoven A, Frantzen D, Clarysse B (2010) Heterogeneous firm-level effects of knowledge exchanges on product innovation: Differences between dynamic and lagging product innovators. *J. Prod. Innovat. Management* 27(3): 362-381.

Stark D (2009) *The sense of dissonance. Accounts of worth in economic life* (Princeton University Press, Princeton).

Suchman MC (1995) Managing legitimacy: Strategic and institutional approaches. *Acad. Management Rev.* 20(3): 571-610.

Svejenova S, Mazza C, Planellas M (2007) Cooking up change in haute cuisine: Ferran Adria as an institutional entrepreneur. *J. Organ. Behav.* 28(5): 539-561.

Svejenova S, Planellas M, Vives L (2010) An individual business model in the making: A chef's quest for creative freedom. *Long Range Plann.* 43(2): 408-430.

Talke K, Salomo S, Wieringa JE, Lutz A (2009) What about design newness? Investigating the relevance of a neglected dimension of product innovativeness. *J. Prod. Innovat. Management* 26(6): 601-615.

Teirlinck P, Spithoven A (2008) The spatial organization of innovation: Open Innovation, external knowledge relations and urban structure. *Reg. Stud.* 42(5): 689-704.

Thomas DE (2007) How do reputation and legitimacy affect organizational performance?. *Int. J. Management* 24(1): 108-116.

Tran Y (2010) Generating stylistic innovation: A process perspective. *Ind. Innov.*17(2): 131-161.

von Hippel E, von Krogh G (2003) Open source software and the 'private-collective' innovation model: Issues for organization science. *Organ. Sci.* 14(2): 209-223.

Wallin MW, von Krogh G (2010) Organizing for open innovation: Focus on the integration of knowledge *Organ. Dyn.* 39(2): 145-154.

West J (2003) How open is open enough? Melding proprietary and open-source platform strategies. *Reg. Stud.* 32(7): 1259-1285.

West J, Vanhaverbeke W, Chesbrough HW (2006) Open innovation: A research agenda. In Chesbrough HW, Vanhaverbeke W, West J (Eds.), *Open innovation. Researching a new paradigm:* 285-307 (Oxford University Press,Oxford).

Wijnberg NM, Gemser G (2000) Adding value to innovation: Impressionism and the transformation of the selection system in visual arts. *Organ. Sci.* 11(3): 323-329.

Zott C, Huy QN (2007) How entrepreneurs use symbolic management to acquire resources. *Admin. Sci. Quart.* 52(1): 70-105.

Zuckerman EW (1999) The categorical imperative: Securities analysts and the illegitimacy discount. *Amer. J. Sociol.* 104(5): 1398-1438.

Zuckerman EW, Kim T, Ukanwa K, von Rittmann J (2003) Robust identities or nonentities? Typecasting in the feature-film labor market. *Amer. J. Sociol.* 108(5): 1018-1074.

Table 1: Descriptive Statistics

Variable	Mean	Std.Dev.	Min	Max	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)	(23)
(1) Reservation Lead Time	6.15	11.59	0	120	0.38	0.07	0.02	-0.03	0.07	-0.03	-0.04	-0.04	0.18	-0.05	0.03	0.10	0.06	-0.01	0.04	0.02	0.20	-0.15	-0.06	-0.01	0.01	0.14
(2) Michelin Stars	1.12	0.69	0	3		0.08	0.09	-0.04	0.18	0.19	0.09	0.05	0.35	-0.11	0.26	-0.06	0.13	0.01	0.10	0.19	0.06	0.07	0.01	-0.13	0.07	0.06
(3) Goal Pursuit	2.01	1.16	0	4			0.11	0.14	0.16	0.13	0.26	0.20	0.08	0.02	0.14	0.02	0.08	0.03	0.11	0.03	-0.03	0.07	0.10	-0.08	0.00	-0.15
(4) Product Newness	3.60	0.89	1	5				0.05	0.12	0.00	0.15	0.18	0.07	0.00	0.06	-0.10	-0.02	-0.02	0.12	-0.05	-0.05	-0.01	0.03	-0.01	0.14	-0.10
(5) Inbound Openness	4.33	1.99	0	9					0.28	0.03	0.27	0.22	0.02	0.11	-0.03	-0.02	-0.04	-0.08	0.07	-0.06	0.05	0.09	0.07	-0.08	0.01	0.00
(6) Outbound Openness	2.85	1.15	1	5						0.07	0.14	0.20	0.16	0.04	0.18	0.00	0.12	-0.04	0.04	0.08	0.09	0.10	-0.01	-0.09	0.02	0.05
(7) Time-to-renewal	6.82	4.88	1	24							0.07	0.08	0.08	-0.12	0.07	0.00	0.03	-0.07	0.04	0.12	-0.06	0.26	0.00	-0.08	-0.02	0.09
(8) Innovation Capability	4.52	0.69	1	5								0.25	-0.03	0.02	0.07	-0.03	0.03	0.03	0.06	-0.01	-0.04	0.06	0.00	-0.09	0.04	-0.02
(9) Knowledge Retention	4.10	0.98	1	5									0.07	0.02	0.01	0.01	-0.03	-0.02	0.02	-0.18	0.07	0.15	0.04	0.02	-0.03	0.06
(10) No. of Employees	14.31	13.02	2	180										0.32	0.17	-0.07	0.08	0.07	-0.05	0.24	0.14	-0.13	-0.03	-0.02	-0.03	0.00
(11) No. of Seats	49.16	26.79	14	250											0.14	0.04	0.16	0.14	0.01	0.07	0.06	-0.13	0.00	0.02	0.00	-0.06
(12) Tenure	22.05	10.28	0	55												-0.03	0.72	-0.02	0.05	0.20	-0.05	0.07	-0.02	-0.11	0.10	-0.06
(13) Gender	0.06	0.23	0	1													0.13	-0.02	-0.06	-0.06	-0.05	0.12	-0.04	-0.03	-0.02	0.17
(14) Age	45.29	9.39	26	73														-0.02	0.03	0.09	-0.05	0.04	0.05	-0.09	0.12	-0.04
(15) Austria	0.01	0.10	0	1															-0.02	-0.04	-0.02	-0.04	-0.02	-0.01	-0.03	-0.03
(16) Belgium	0.06	0.23	0	1																-0.11	-0.05	-0.11	-0.04	-0.03	-0.08	-0.08
(17) France	0.16	0.37	0	1																	-0.09	-0.19	-0.07	-0.06	-0.14	-0.14
(18) Great Britain	0.04	0.19	0	1																		-0.09	-0.03	-0.03	-0.06	-0.07
(19) Italy	0.17	0.37	0	1																			-0.07	-0.06	-0.15	-0.15
(20) Netherlands	0.02	0.15	0	1																				-0.02	-0.05	-0.05
(21) Nordic	0.02	0.13	0	1																					-0.04	-0.04
(22) Switzerland	0.10	0.30	0	1																						-0.11
(23) Spain	0.10	0.30	0	1																						

Table 2: Estimation Results

Model	1		2		3		4		5		6	
Dependent variable	Product Newness		Product Newness		Goal Pursuit (avg.)		Goal Pursuit (max.)		Michelin Stars		Michelin Stars	
Independent variables	Parameter	(S.E.)	Parameter	(S.E.)	Parameter	(S.E.)	Parameter	(S.E.)	Parameter	(S.E.)	Parameter	(S.E.)
Main Variables												
Inbound Openness	0.28457	0.28469	1.10645 **	0.49093	0.02369 *	0.01379	-0.440 **	0.17102	-0.495 **	0.19515	-1.5858 ***	0.48414
Inbound Openness^2	-0.0266	0.02674	-0.0976 **	0.04503			0.05294 ***	0.01805	0.04137 **	0.02056	0.13673 **	0.05368
Time-to-Renewal	-0.003	0.01912	0.28578 **	0.14161	0.01663 ***	0.00562	0.0462 **	0.01807	0.02534	0.02214	0.02443	0.02231
Inbound Openness * Time-to-Renewal			-0.1075 **	0.05138								
Inbound Openness^2 * Time-to-Renewal			0.00921 **	0.00455								
Outbound Openness					0.0763 ***	0.02911	0.13734 *	0.07998	0.10544	0.09431	-0.8905 **	0.36913
Inbound Openness * Outbound Openness											0.418 **	(0.163)
Inbound Openness^2 * Outbound Openness											-0.037 **	(0.017)
Controls												
Goal Pursuit									-0.093	(0.094)	-0.110	(0.095)
Product Newness					0.20695	0.15775	-1.135 **	0.51838	-0.2666	0.64896	-0.0911	0.64914
Product Newness^2					-0.0243	0.02213	0.16632 **	0.0728	0.05794	0.09059	0.03576	0.09063
Innovation Capability	0.267 **	(0.134)	0.223	(0.137)	0.240 ***	(0.039)	0.681 ***	(0.138)	0.379 **	(0.159)	0.398 **	(0.160)
Knowledge Retention	0.346 ***	(0.096)	0.335 ***	(0.097)	0.124 ***	(0.028)	0.288 ***	(0.093)	0.022	(0.111)	0.037	(0.112)
No. of Employees	0.015 **	(0.007)	0.015 **	(0.007)	0.002	(0.002)	0.006	(0.008)	0.086 ***	(0.011)	0.084 ***	(0.011)
No. of Seats	-0.002	(0.003)	-0.002	(0.003)	-0.001	(0.001)	-0.002	(0.003)	-0.027 ***	(0.004)	-0.026 ***	(0.004)
Tenure	0.020	(0.013)	0.020	(0.013)	0.005	(0.004)	0.032 ***	(0.012)	0.051 ***	(0.015)	0.052 ***	(0.015)
Gender	-0.477	(0.394)	-0.424	(0.396)	0.246 **	(0.114)	0.747 *	(0.389)	-0.376	(0.476)	-0.379	(0.480)
Age	-0.022	(0.014)	-0.022	(0.014)	-0.003	(0.004)	-0.018	(0.013)	-0.021	(0.016)	-0.023	(0.017)
Country Dummies	Yes		Yes		Yes		Yes		Yes		Yes	
Constant	1.257	(1.041)	-0.675	(1.436)	2.019 ***	(0.352)	0.677	(1.202)	0.764	(1.471)	2.914 *	(1.624)
$\tau(1)$	1.203 ***	(0.157)	1.248 ***	(0.160)			2.265 ***	(0.100)	4.469 ***	(0.178)	4.526 ***	(0.179)
$\tau(2)$	4.005 ***	(0.110)	4.069 ***	(0.110)			3.547 ***	(0.098)	6.632 ***	(0.245)	6.722 ***	(0.247)
$\tau(3)$	5.825 ***	(0.128)	5.888 ***	(0.128)			4.989 ***	(0.142)				
No of obs.	505		505		505		505		505		505	
Parameters (k)	23		25		21		26		26		28	
Log likelihood (4)	-632.33		-632.33				-763.30		-501.40		-501.40	
Log likelihood (k)	-600.51		-598.31				-705.84		-391.32		-387.42	
Chi-square	63.63 ***		68.02 ***				114.93 ***		220.17 ***		227.96 ***	
McFadden R^2	0.050		0.054		0.315[‡]		0.075		0.220		0.227	

Two-tailed t -tests; * < 0.1, ** p < 0.05, *** p < 0.01; [‡] OLS-R^2 for Model 3

Table 3: Estimation Results – cont'd

Model	7		8		9		10		11		12	
Dependent variable	Reservation Lead Time		Reservation Lead Time		Reservation Lead Time		Reservation Lead Time		Reservation Lead Time		Reservation Lead Time	
Independent variables	Parameter	(S.E.)	Parameter	(S.E.)	Parameter	(S.E.)	Parameter	(S.E.)	Parameter	(S.E.)	Parameter	(S.E.)
Main Variables												
Inbound Openness	-0.190 **	(0.084)			-0.170 **	(0.085)	0.013	(0.115)	-0.1703 **	0.08612	0.05301	0.11903
Inbound Openness^2	0.019 **	(0.009)			0.017 *	(0.009)	-0.003	(0.013)	0.01677 *	0.00927	-0.0068	0.01308
Product Newness			-0.609 **	(0.278)	-0.554 **	(0.282)	-0.653 **	(0.277)	-1.1102 ***	0.36726	-1.3573 ***	0.37138
Product Newness^2			0.097 **	(0.038)	0.089 **	(0.038)	0.100 ***	(0.038)	0.16531 ***	0.05026	0.19701 ***	0.05062
Outbound Openness	0.135 ***	(0.041)	0.130 ***	(0.040)	0.129 ***	(0.041)	0.609 ***	(0.208)	-1.3109 *	0.77519	-1.0129	0.74407
Inbound Openness * Outbound Openness							-0.234 **	(0.092)			-0.2888 ***	0.09808
Inbound Openness^2 * Outbound Openness							0.024 **	(0.010)			0.02892 ***	0.01024
Product Newness * Outbound Openness									0.83855 **	0.41645	1.02728 **	0.41671
Product Newness^2 * Outbound Openness									-0.115 **	(0.054)	-0.142 ***	(0.055)
Controls												
Michelin Stars	0.672 ***	(0.069)	0.682 ***	(0.068)	0.662 ***	(0.069)	0.675 ***	(0.070)	0.656 ***	(0.071)	0.669 ***	(0.072)
Goal Pursuit	0.224 ***	(0.061)	0.241 ***	(0.065)	0.238 ***	(0.065)	0.227 ***	(0.067)	0.258 ***	(0.068)	0.251 ***	(0.069)
Time-to-Renewal	-0.016	(0.010)	-0.014	(0.009)	-0.015	(0.010)	-0.016	(0.010)	-0.015	(0.010)	-0.016	(0.011)
Innovation Capability	-0.057	(0.072)	-0.074	(0.072)	-0.044	(0.075)	-0.063	(0.079)	-0.014	(0.078)	-0.030	(0.082)
Knowledge Retention	-0.044	(0.042)	-0.077 *	(0.043)	-0.059	(0.044)	-0.056	(0.044)	-0.051	(0.044)	-0.044	(0.044)
No. of Employees	0.007 *	(0.003)	0.007 **	(0.003)	0.007 **	(0.003)	0.007 **	(0.003)	0.007 **	(0.003)	0.007 **	(0.003)
No. of Seats	-0.004 ***	(0.002)	-0.004 ***	(0.002)	-0.004 **	(0.002)	-0.004 ***	(0.002)	-0.004 **	(0.002)	-0.005 ***	(0.002)
Tenure	-0.013 **	(0.007)	-0.014 **	(0.007)	-0.013 *	(0.007)	-0.012 *	(0.007)	-0.014 **	(0.007)	-0.013 **	(0.007)
Gender	-0.025	(0.217)	-0.084	(0.241)	-0.087	(0.250)	-0.092	(0.271)	-0.051	(0.258)	-0.053	(0.286)
Age	0.006	(0.007)	0.008	(0.007)	0.006	(0.007)	0.006	(0.007)	0.005	(0.007)	0.005	(0.007)
Country Dummies	Yes		Yes		Yes		Yes		Yes		Yes	
Constant	0.959 **	(0.401)	1.497 ***	(0.546)	1.652 ***	(0.574)	1.619 ***	(0.581)	2.433 ***	(0.664)	2.548 ***	(0.643)
Overdispersion (α)	0.578 ***	(0.052)	0.574 ***	(0.051)	0.567 ***	(0.051)	0.556 ***	(0.050)	0.555 ***	(0.049)	0.539 ***	(0.049)
No of obs.	505		505		505		505		505		505	
Parameters (k)	24		24		26		28		28		30	
Log likelihood (2)	-1,459.69		-1,459.69		-1,459.69		-1,459.69		-1,459.69		-1,459.69	
Log likelihood (k)	-1,310.32		-1,307.96		-1,305.88		-1,301.87		-1,301.52		-1,295.42	
Chi-square	298.75 ***		303.46 ***		307.62 ***		315.65 ***		316.34 ***		328.55 ***	
McFadden R^2	0.102		0.104		0.105		0.108		0.108		0.113	

Two-tailed t -tests; * < 0.1, ** p < 0.05, *** p < 0.01

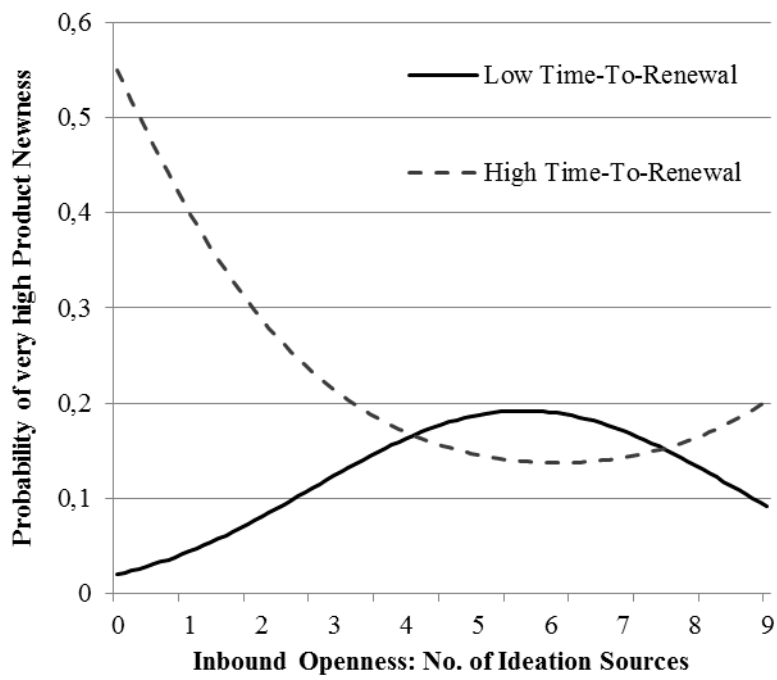Figure 1: Effect of Inbound Openness on Product Renewal

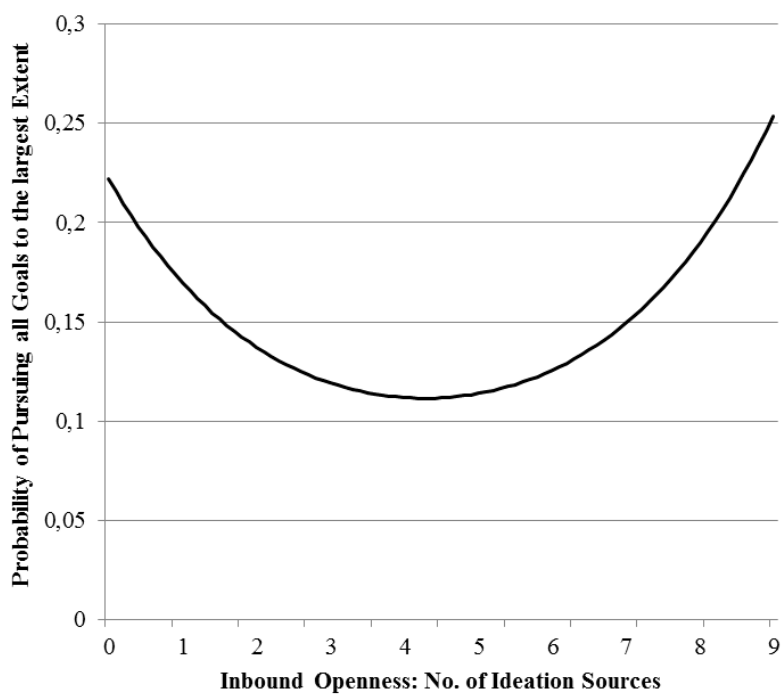Figure 2: Effect of Inbound Openness on Goal Pursuit

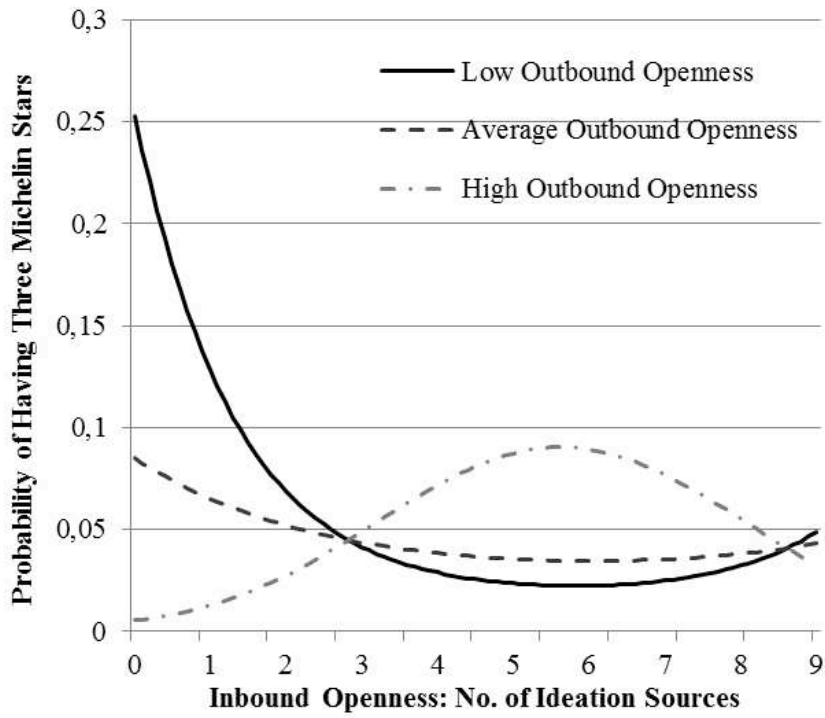Figure 3: Effect of Inbound Openness on Market Evaluation by Critics

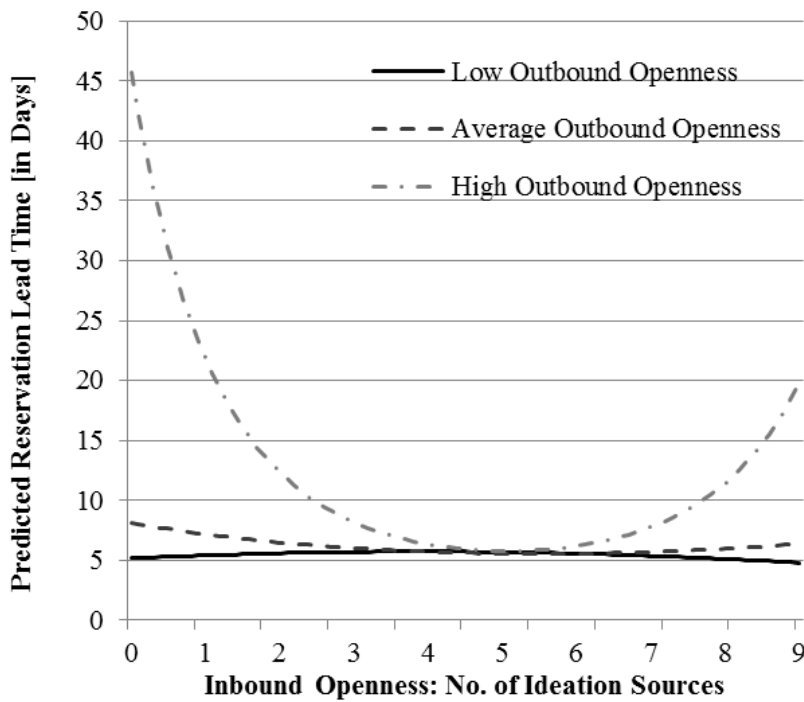Figure 4: Effect of Inbound Openness on Market Evaluation by Customers

Figure 5: Effect of Product Newness on Market Evaluation by Customers