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Does Embeddedness Reduce Innovation and Differentiation? Evidence from the Japanese Microbrewery Industry

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**DOES EMBEDDEDNESS REDUCE INNOVATION AND
DIFFERENTIATION? EVIDENCE FROM THE JAPANESE
MICROBREWERY INDUSTRY**

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ABSTRACT

While strategic management scholars and institutional theorists regularly debate the merits of organizational differentiation and innovation vs conformity and embeddedness, few studies have sought to empirically investigate how these seemingly opposing forces impact each other. Drawing on both qualitative and quantitative data, we contribute to closing this research gap by exploring how post-entry embeddedness impacted innovation and survival among *de-novo* and *de-alio* entrants into the Japanese microbrewery industry. Our findings indicate that post-entry embeddedness has contrasting effects, *reducing* overly non-conformist strategies among *de-novo* entrants, but *enhancing* non-conformity among *de-alio* entrants. These results indicate how institutions can serve as enablers of innovation, rather than constraints, through their dissemination of standards, norms and industry practices.

INTRODUCTION

Scholars have long recognized that new industry entrants are crucial for promoting economic growth and new innovation. Even as incumbents become ossified and inertial, new firms push the envelope of existing products, norms and strategies; in so doing they discover novel technologies and practices. The willingness and ability to undertake explorative and non-conformist behaviors that diverge from industry standards is thus a hallmark of the dynamic and innovative new entrant. At the same time, however, the long-term survival of newly entering firms hinges crucially on their level of legitimacy and social acceptance (Aldrich & Fiol, 1994). Faced with a liability of newness, recent entrants and young firms that fail to gain institutional support and external legitimacy often fail. Consequently, embeddedness in social, political and economic contexts has been extolled as central determinant in the survival of new entrants (Stinchcombe, 1965).

There is considerable support for both the notion that innovation and differentiation (Barney, 1991; Baum, Calabrese, & Silverman, 2000; Kondra & Hinings, 1998; Porter, 1991), as well as local embeddedness (Delacroix & Carroll, 1983; Jack & Anderson, 2002; Singh, Tucker, & House, 1986), enhance the survival and success of entrepreneurs. Taken together, however, the two approaches reveal a puzzle. While embeddedness enhances survival, it often does so by inducing a certain degree of isomorphism and conformity with prevailing practices and behaviors. Such conformity, however, would appear to be the quintessential opposite of the non-conformity and explorative strategies that underlie the behaviors of innovative new entrant firms.

Although previous studies have recognized this paradoxical need for both legitimacy and

non-conformity, the vast majority of extant work juxtaposes embeddedness and non-conformity *against* each other, arguing for the primacy of either one or the other (Jonsson & Regnér, 2009; Zaheer, 1995) or the need for balancing the two (Deephouse, 1999). Few researchers, however, have looked at how the two forces *interact*, i.e. how different levels and types of contextual linkages impact the propensity for non-conformist action and, by extension, organizational survival. In particular, little if any research has explored the dual effects of embeddedness and non-conformity in the case of innovative new entrants. This is an especially relevant research gap, given that new entrants face *higher* demands for both external legitimacy and strategic differentiation, than incumbent firms.

This paper seeks to shed light on this under-researched area by exploring how embeddedness impacts the level of product non-conformity among entrants into the Japanese microbrewery industry. We do so by dividing the effects of embeddedness into pre and post-entry. By *pre-entry embeddedness* we denote the external linkages and networks the organization forms *prior* to its market-entry; for de-novo entrants such pre-entry relationships and ties may be due to founders' previous experiences (Eisenhardt & Schoonhoven, 1990) while diversifying de-alio entrants carry with them the capabilities and networks formed in related industries or fields (Klepper, 2002). While no new entrant is a complete *tabula rasa*, the extent and nature of pre-embeddedness differs among firms; some firms may have nothing more than general networks and ties, while others are characterized by industry-specific experiences and relationships. An initial question we seek to answer is hence how different levels and types of pre-entry embeddedness impact the propensity for non-conformist innovation strategies.

Post-entry embeddedness is in turn defined by the social linkages and networks that organizations form after market-entry; these may include membership in industry associations, alliances, tacit knowledge sharing agreements and common procurement links. While pre-entry embeddedness may not necessary be industry specific, post-entry linkages will most likely exert greater influences on organizations in terms of the norms, practice and standards they pursue. A second question we ask is hence how increased levels of embeddedness, formed after entry, impact the degree of non-conformist innovation strategies.

Based on qualitative interviews as well as a comprehensive dataset covering 330 breweries over the complete 15 year life-span of the industry, we examine the different effects of pre-and post-entry embeddedness on Japanese microbrewer's penchant for product non-conformity and survival. Our findings suggest that greater degrees of pre-entry embeddedness in industry-related networks, logics and technologies limits differentiation and non-conformity; in particular, we find that it has a negative impact on the ability to absorb new tacit knowledge from other organizational fields. However, post-entry embeddedness has a dual effect, reducing non-conformity in previously weakly embedded actors but increasing the level of exploration and non-conformity in heavily embedded actors. Post-entry relationships and networks thus serve as coalescing mechanisms, clustering organizations around specific behavioral norms. This clustering in turn increases the propensity for survival.

We have chosen to focus this study on the Japanese microbrewery industry because it holds several unique traits that make it a suitable empirical venue; we thus begin this paper by providing a brief background portrait of the empirical research site. We

subsequently return to theory, deriving and nesting hypotheses within the context of the brewery industry. Our methods, results and discussion sections report on the analysis, central contributions and further avenues for research.

EMPIRICAL BACKGROUND: THE JAPANESE *JI-BEER* INDUSTRY

The Japanese microbrewery industry is a suitable empirical setting to investigate our research question for several reasons. To begin with, our choice of venue controls for population and industry level aspects of legitimacy. Aldrich & Fiol (1994) have noted for example that new entrants in emerging industries face not only questions about their organizational legitimacy, but also about the constitute and cognitive legitimacy of the new industry as a whole. Previous scholarship indicates this has certainly been the case among microbrewery industries in other countries that evolved through grass-roots movements and the gradual evolution of new identities (Carroll & Swaminathan, 2000, Lamertz, Heugens, & Calmet, 2005).

By contrast, the Japanese microbrewery industry was created in one fell swoop through a top-down process. In 1994, the Japanese government lowered the minimum requirements for annual beer production from two million liters to 60,000 liters. The move was part of the government's plan to encourage entrepreneurship in local prefectures beset by recession due to Japan's ongoing financial crisis. The tax authority was a particularly vocal supporter of the new industry as it hoped to increase revenues in local branches. Indeed, local tax offices were often co-owners in new ventures. Moreover, a number of breweries took the form of public-private partnerships with local municipalities, cities and prefectures joining forces with private businesses to launch breweries. Japanese rural prefectures were already dotted with local rice wine makers, known as *ji-zake*, many of

which dated back several hundred years, and the government's goal was to create a beer equivalent; thus arose the *ji-beer* industry. From its very inception, the *ji-beer* industry captured the attention and support of the local population; an advantage of our research venue is hence that any legitimacy effects that we observe can be assumed to be firm-specific, rather than industry-driven.

Experimentation in the absence of tradition: Product non-conformity in brewing strategies

A second reason for focusing on the Japanese microbrewery industry is that it offers a compelling venue for studying non-conformity, specifically in the form of variation in beer-types. Beer is brewed using four basic ingredients: water, yeast, hops and grains. These ingredients can however vary widely; malt, barley, wheat and rice can for example all be used as the grain ingredient. The taste and character of hops vary significantly based on regional affiliation, type and production format, while yeasts can be either slow or fast fermenting. Many beer types also contain additional ingredients, such as fruits or herbs; consequently there are an almost infinite number of possible recipe permutations.

In many regions and countries with long histories of beer production, strong cultural norms, and in some cases even formal laws, limit the extent to which breweries can experiment with new recipes. The Japanese microbrewery industry, by contrast, had no such limitations; while the first microbreweries were formed in the 1800s, regulations passed after World War 2 reduced production to five large commercial brewers. Like most national producers, these brewers limited their product offerings to the light and fast-fermenting lager-type beers; as the popularity of these beverages grew during the

post-war era, the Japanese consumer market developed very strong norms and assumptions about beer, as embodied in typical mass-market lagers like *Asahi Super Dry* and *Kirin Ichiban Shibori*.

The Japanese microbrewery industry, however, saw itself as the very antithesis of this mass-market approach to beer. Drawing on pre-existing images of the regional *ji-zake* rice wine industry, new brewers came to be viewed (and also viewed themselves) as artisans and craftsmen; ji-beer, or *craft beer* as it was often called, came to symbolize a pure product, closely linked to local produces and regional tastes. As one brewer noted:

“Up until now, Japan has not had real beer...we wanted to make a beer that was genuine, that uses the local produce that we have here...to utilize our pure water...”

Inspired by meeting with new beer types in Europe and North America, many brewers wanted to create what they called “real” beer. At the same time, however, they also wanted their products to mirror unique regional traditions from Japan. Driven by this pathos for alternative types of beer, the new breweries began to produce a wide array of styles. Many of these, like pale ales, weissen, dunkels and stouts, were adopted from breweries in other countries, including North America, Europe, Australia and even Sri Lanka. Other recipes were homegrown, utilizing local strains of hops, yeast and grain, including rice. Brewers also experimented with new taste sensations, giving rise to the likes of milk-beer, chocolate-beer and scallop-beer.

Due to the relative lack of pre-existing norms and tradition, as well as the strong emphasis on divergence away from lager-type mass-market beers, the Japanese ji-beer industry was characterized by a significant amount of experimentation and product non-

conformity, making it an ideal venue for exploring our underlying research objectives. The venue is also fitting because like microbrewery movements in other countries (Lamertz, Heugens, & Calmet, 2005), the organizational identities of Japanese ji-beer makers were strongly tied to the beer types produced. While product differentiation is merely one aspect of firm strategy in most industries (c.f. Miller & Chen, 1996), the brewery industry thus constitutes a unique case where products are closely linked to organizational identities and strategies (Durand, Rao, & Monin, 2007; Rao, Monin, & Durand, 2003).

Brewer capabilities and competencies: foreign and local knowledge acquisition

The considerable amount of experimentation in new beer types also points to a third advantage in studying the brewing industry: it controls for firm-specific skills or assets that might impact the ability to adopt non-conformist strategies. As noted previously, the main goal of this paper is to investigate the effects of social context, in the form of embeddedness, on strategic decisions; we thus seek to highlight the *willingness* to adopt particular product strategies, as opposed to the underlying *capability* to do so (c.f. Jonsson & Regnér, 2009). An emphasis on the microbrewery industry enables this approach first of all because there are few if any technical barriers to producing novel beer types; as noted previously, beer brewing requires few ingredients and brewers can simply mix in new ingredients and experiment as they see fit.

Naturally, the ready availability of ingredients and technologies does not necessarily translate into immediate competency; like any other complex product, successful beer product relies on tacit knowledge, routines and practices accumulated over time (Dierickx & Cool, 1989; Kogut & Zander, 1992). In many European countries, for

example, breweries rely on centuries worth of experience and know-how. As noted above, however, the modern Japanese microbrewery industry is only 15 years old, hence there was little in the form of pre-existing norms or tacit knowledge to guide (or inhibit) differentiated production strategies. Instead, the new Japanese brewers sought to transfer knowledge from abroad by visiting Europe and North America, as well as by inviting foreign brewers to Japan to educate local staff. Several brewers also sent staff to study at formal brewing schools, both in Japan and overseas. Many of these students subsequently shared their knowledge not only with their home-brewery but also with other producers, ostensibly with the motivation to increase the quality and capabilities of the industry.

Like in any industry, Japanese microbreweries exhibited heterogeneous capability levels, skills and knowledge. These variations, however, were limited by the short history of the market, as well as the ready availability of tacit knowledge in the form of foreign study trips and domestic learning. Consequently, the main differences in non-conformist product behavior should be found in the social context and networks in which breweries were embedded, rather than in their individual brewery-specific capabilities.

Characteristics of Japanese microbreweries: De-novo vs de-alio entrants

The breweries entering the ji-biru industry were characterized by significant variation in their origins and pre-histories; some were newly started breweries, others diversified from unrelated industries. Sake brewers also constituted one larger group, as did restaurants, pubs and other entertainment establishments. Previous work on organizational performance in new industries has drawn a distinction between de-novo and de-alio entrants (Carroll, Bigelow, Seidel, & Tsai, 1996; Klepper, 2002). We apply a

similar classification scheme, based on the level and type of pre-industry embeddedness.

De-novo entrants were characterized by low pre-entry levels of embeddedness in industry-specific networks; members of this group included start-ups dedicated specifically to the ji-beer industry, as well as new divisions of pre-existing firms diversifying from completely unrelated industry segments, including motorcycle parts, fishcakes and construction equipment.

A common trait among de-novo organizations is that they were almost always founded by individuals with limited personal experience of beer but a strong pathos for brewing. In the case of new startups, the founders of de-novo breweries had quit previous employment and invested substantial amounts of their life savings into the new ventures. The non-related diversifying companies that entered microbrewing were in turn often small family-based enterprises, where the CEO or owner was dedicated to beer production. Many of these entrepreneurs thus saw brewing not as a business opportunity but as a life-calling or passion.

The de-alio entrant segment in turn included current and former sake-makers, as well as restaurants and hotel establishments. While none of these organizations (including *sake* makers) had direct knowledge of beer brewing, they did have significant relationships to brewery-related networks and organizations, including liquor stores, bars, brewery equipment makers and alcohol licensing offices. They also had related goods and direct contact with potential customers through their existing businesses. As a result, they enjoyed a considerably deeper level of industry-specific embeddedness than the de-novo entrants.

Like de-novo entrants, brewers at de-alio firms exhibited an interest and pathos for beer

production; however, their entry into the business was often equally motivated by purely economic concerns. Many of the *ji-sake* makers for example chose to enter the microbrewery segment due to falling sales in their main stay product and its lack of popularity among younger generations. Similarly, restaurants, bars and hotels hoped the creation of their own homegrown brews would increase overall customer sales. In sum, de-novo and de-alio entrants thus differed not only in their levels and types of embeddedness, but also in their motivations for entering the new industry.

Macro-level trends and puzzles of the ji-biru industry

The considerable top-down institutional and political support enjoyed by the ji-beer industry meant that there were a large number of new entrants in the industry's initial years, yet few exits. As indicated in Figure 1 below, over 250 breweries were registered between 1994 and 1998, yet only two of these exited the market. This period also saw a wide range in the types and styles of beers introduced onto the Japanese market. Change began to sweep the market in 2000, however. As the novelty of the industry began to wear off and the Japanese economy stumbled, an increasing number of breweries went out of business. By 2009, a total of 355 breweries had been founded, yet 133 of these, close to 40%, subsequently exited.

--- Inset Figure 1 here ----

With a unique combination of industry-level sociopolitical legitimacy and support, but few specific norms and traditions to guide individual organizational behaviors and strategies, the Japanese ji-beer industry thus appears to have been characterized by significant non-conformity and differentiation. At the same time, it also experienced a high level of attrition and failure. The question we ask in this paper is how these factors

inter-relate with the new entrants' levels of embeddedness.

THEORY AND HYPOTHESES: EMBEDDEDNESS, NON-CONFORMITY AND ORGANIZATIONAL SURVIVAL

Differentiation and innovative non-conformity in new entrant strategies

Scholars have long noted that entrepreneurs and new entrants are crucial for continuous innovation and growth. While incumbent firms may grow large and inertial due to ossified routines and practices, the relative lack of pre-history of new entrants enable them to innovate and explore new ground. By doing so, new entrants thus act as important catalysts for industry-level change, an insight shared by both strategic management scholars (Christensen & Bower, 1996; Henderson & Clark, 1990; Moran & Ghoshal, 1999), and institutional theorists (Leblebici, Salancik, Copay, & King, 1991; Maguire, Hardy, & Lawrence, 2004; Zucker & Darby, 1997).

For new entrants, however, the emphasis on differentiation is not only an advantage but also a necessity; with pre-existing assets, networks and market positions, incumbent competitors often constitute significant threats to the survival of new entrants (Caves & Porter, 1977). Overcoming these threats requires differentiation and the identification of niche-positions that are more easily defensible against incumbent attacks and, thereby, more profitable (Porter, 1991). Consequently, textbooks in strategic management regularly extol the virtues of innovation and differentiation among new entrants.

Partially as a result of this usage context, however, terms such as innovation and differentiation have come to identify *successful* entrepreneurial departures from pre-existing industry standards, products and strategies. This selectivity ignores the fact that the majority of new firms' attempts to diverge end in failure. Consequently, a more appropriate terminology for the study of new-entrants' attempts at truly innovative

actions is *non-conformity* (c.f. Miller & Chen, 1996). Non-conformity in particular highlights how the novel actions of new entrants are fundamental departures from established routines, norms and strategies of the industries. The term hence encompasses both the eventual successes (i.e. innovations and differentiation) and failures (i.e. illegitimate deviations) of such norm-breaking behaviors.

Notably, without the willingness to diverge from pre-existing practices by taking non-conformist actions, new entrants will be unable to identify the market niches and unique positions that can enable their survival. While differentiation and innovation are positive outcomes, the willingness and ability to take non-conformist action is an underlying necessity for firms entering new markets and also the primary variable we explore in this paper.

Embeddedness and new market entry

In entering pre-existing industries, new firms are at risk not only from the predatory strategies of incumbent firms; they also suffer from a lack of networks, relationships and industry-specific knowledge. Because of this liability of newness (Stinchcombe, 1965), new entry survival depends not only on the willingness to take non-conformist action, but also on attaining a minimum level of legitimacy and acceptance in the local market (Aldrich & Fiol, 1994). As Singh, Tucker & House (1986) have shown, such legitimacy is primarily achieved through linkages to external social actors and contexts, including industry associations and field-level norms and practices, as opposed to developing unique internal capabilities and skills.

Embeddedness in the external environment increases new entrants' chances of survival firstly because it grants them access to networks and relationships that act as conduits for

social and technical learning, tacit-knowledge acquisition and inter-organizational-alliances (Elenkov, 1997). While these positive effects of embeddedness are evident for all organizations, they may be particularly important in the case of new-entrants. In entrepreneurship research, Jack & Andersson (2002) show for example how embeddedness not only fosters survival through legitimacy, but also enables new firms to access and leverage crucial resources and markets. Sorenson and Audia (2000) in turn demonstrate that regional clustering effects observed in new innovative start-ups (e.g. Silicon Valley in California and Route 128 in Boston) can be explained by emphasizing the social benefits of establishing a new firm in close proximity to innovative contexts. From a sociological perspective, however, embeddedness is also crucial because it affords the firms cognitive and sociopolitical legitimacy (Aldrich & Fiol, 1994; Suchman, 1995). By linking themselves with pre-existing firms and institutions, innovators and new entrants not only establish a minimum necessary level of legitimacy and status, they also expose themselves to isomorphic pressure for adopting institutionalized norms and behaviors. In doing so, new firms take on the organizational forms, practices and behaviors of incumbent firms, thereby increasing chances of survival (Suchman, 1995).

Embeddedness vs non-conformity

Embeddedness and non-conformity in organizational repertoires, practices and strategies are hence both crucial for new firm survival and success. The paradox, however, is that the two theories proffer quintessentially opposite organizational behaviors. Embeddedness engenders legitimacy by compelling organizations to adopt prevailing field and industry-level norms, strategies and logics. The very definition of non-conformity, however, is to deviate from pre-existing taken-for-granted practices.

In recent years, a number of studies spanning the threshold between strategy and organization theory have focused in particular on these competing effects. The majority of this research has found that strategic decisions are often subsumed and driven by norms and practices of the larger institutional context. Jonsson and Regnér (2009) find for example that finance companies with strong linkages to pre-existing practices, norms and power structures were less likely to adopt deviant new mutual fund products (see also Jonsson, 2008). Palmer & Reger (2001) in turn explicate how elites embedded in pre-existing networks were unwilling to entertain the notion of new financial techniques in the U.S. mergers and acquisition wave of the 1980s. Ahmadjian & Robbins (2005) find that Japanese firms with stronger ties to local constituencies were slower to diverge from accepted human resource practices. While diverse in their focus, all of these studies highlight the role that pre-existing norms, routines and institutional linkages have on the willingness to adopt differentiated actions. In particular, industry-specific embeddedness had a negative effect on organizations' willingness to adopt deviant behavior.

As noted above, new-entrants to the Japanese ji-beer market differed markedly in their level of embeddedness; while all entrants had some degree of sociopolitical legitimacy thanks to the political and popular support for the industry, some of the newcomers also had considerable ties to industry-specific networks, assets and institutions. Sake makers for example already had relationships to liquor stores and other distribution networks such as restaurants and pubs; they also had pre-existing networks with local tax authorities and brewery licensing boards, as well as equipment manufacturers and industry associations. Restaurants and hotels similarly had ties to food and drink establishments and distribution networks. They also had considerable knowledge access

to the end-customer and their needs. By contrast, newly formed breweries and firms diversifying from unrelated businesses such as autoparts and construction exhibited little if any pre-existing embeddedness in industry-specific networks, institutions or practices.

Drawing on this we hypothesize:

H1: The product strategies of de-novo entrants will exhibit greater levels of non-conformity and differentiation than those of de-alio entrants.

Post-entry legitimization processes and non-conformity

Significantly, embeddedness is not a fixed state but a variable condition; outsiders, fringe organizations and new entrants can thus take pro-active steps to increase their level of local network connectivity and linkages. These legitimization strategies include obtaining necessary regulatory and legal approval, joining industry associations, increasing interaction with similar organizations and taking part in public industry arrangements (c.f. Singh, Tucker & House, 1996). Organizations also attain legitimacy by employing professionals and experts; while these individuals enhance capabilities and skills, they also act as agents of institutions (Scott, 2001), essentially transferring norms and practices from one organization to another.

All of these legitimization strategies were evident in the Japanese microbrewery industry. Initial entry into the market required a brewing license that was obtained after inspection from the local tax authority. A large number of brewers subsequently joined industry associations, including the Japan Microbrewery Association, the Japan Craft Beer Association and various regional support groups and knowledge-sharing organizations. In order to promote the development of the ji-beer industry, these groups arranged beer festivals and competitions, introduced quality assurance labels, educated and sanctioned

official beer tasters and published guides to beer production techniques and recipes. Japanese microbrewers also established co-operative links on a bilateral and multilateral basis, separate from the overarching industry association. In particular, many of the older breweries would provide support and guidance to younger breweries starting up. While this help was sometimes technical in nature, it often centered on extended discussions about new recipes and the latest developments in the brewery industry. Breweries also provided advice and help about how to deal with other related aspects of the business, including how to deal with tax authorities, distribution networks, licenses, etc. Notably, these collaborations were rarely one-time events but rather ongoing relationships, with breweries meeting up once or twice per year to share information. As one brewer noted:

“We meet about once a year, it’s a good way of sharing information and knowledge, and to get to know the other brewers...we’re all friends in this industry...”

The post-entry embeddedness strategies of firms can first and foremost be seen as a form of learning; in particular, the primary goal of the industry associations as well as the bilateral relationships was to promote the standards and quality of the beer industry. As one brewer we spoke with noted:

“...consumers bunch all ji-beer brands together, so we have to make sure that everyone is good, otherwise we all suffer...”

At the same time, however, learning constitutes not only the acquisition of specific knowledge and capabilities, but also the transfer of tacit norms and practices that underpin taken-for-granted institutions and behaviors. In the nascent ji-beer industry, with its lack of pre-existing standards and norms, this aspect was particularly important.

Having learned their craft from a wide variety of sources, brewers we spoke to often expressed competing views on what constituted “real” beer.

Consequently, the industry associations, competitions and organizational ties acted as arenas for institutional contestation (Schneiberg & Soule, 2004) in the identity and definition of the Japanese ji-beer industry emerged. Over time such contestations serve to cement specific norms and practices, thereby enforcing greater isomorphism and conformity. These forces are particularly evident in the case of the ji-biru industry where brewers were exposed to coercive, normative and mimetic pressures for institutional alignment. Put differently, greater embeddedness through legitimization and learning exposed brewers to forces for isomorphism.

An increase in the pressures for isomorphism would suggest that non-conformist behavior is limited as firms become more involved in local industry associations, contests and increase their level of inter-organizational ties. This would particularly be true for firms with low levels industry-specific embeddedness pre-entry; as their involvement in local institutions increases norms, logics and assumptions are transferred, enticing them to reduce their non-conformist behavior. We thus have:

H2a: Post-entry embeddedness, legitimization and learning will reduce non-conformity, and thereby decrease differentiation, among de-novo breweries.

By contrast, an interesting question is what effect the level of local involvement has on new entrants with significant pre-entry industry linkages. Because of their pre-existing embeddedness, many of these actors have been relatively more exposed to industry norms and practices. The Japan Microbrewery Association, for example, is largely comprised of sake-makers; consequently, local involvement and increased

interorganizational relations may only have marginally limiting effects on these actors' product repertoires.

Instead, increased interaction with industry associations and local actors may have the opposite effect on brewers with significant pre-entry industry-specific embeddedness.

Miller and Chen (1996) find for example that airlines with more heterogeneous networks are more likely to adopt non-conformist strategies than those with limited linkages; from this perspective, an increase in local ties should raise the level of non-conformity among pre-embedded entrants. By interacting with local industry associations and increasing their interorganizational ties, *sake*-makers, restaurants and other brewers with significant pre-entry levels of embeddedness would *raise* their level of differentiation and non-conformity to coincide with industry norms and standards. Taken together, we thus have:

H2b: Post-entry embeddedness, legitimization and learning will increase non-conformity, and thereby also increase differentiation, among de-alio breweries.

Pre and post-entry embeddedness, product non-conformity and survival

The focus on differentiation strategies and embeddedness not only in this paper but other studies is largely motivated by the need to understand why and how new entrepreneurs survive. In fact, the majority of studies on new entrants, especially in organization theory, employ survival as the dependent variables (Carroll et al., 1996; Singh et al., 1986; Zaheer & Mosakowski, 1997). Several of these studies have focused on how pre-entry organizational characteristics, including embeddedness, firm-specific capabilities and local linkages, impact the risk of exit from the industry. In their study of the U.S. automobile industry, Carroll *et al* (1996) found for example that de-novo entrants lacking pre-entry networks, embeddedness and preparation were at far greater

risk for exit than de-alio entrants. As Klepper (2002) notes, the assumption that pre-embedded de-alio entrants outperform de-novo firms is firmly established in the literature. This insight can also be extended to the case of the Japanese microbrewery industry; while start-up breweries and un-related diversifying actors had little in the way of industry-specific assets and networks, sake makers and restaurants had significant pre-entry linkages to important resources, logics and sources of legitimacy. We thus have:

H3: De-novo breweries will be at greater risk for exit than de-alio breweries

As noted previously, increased levels of interaction and local linkages by new entrants with little pre-existing embeddedness can be expected to reduce their levels of non-conformity by exposing them to industry-level norms and practices. By contrast, an increase in local learning and legitimization activities on the part of sake brewers and other actors with pre-entry embeddedness may well *increase* their levels of product non-conformity, for the same reason. As noted previously, the reason for these opposing effects is that local learning and organizational interaction has an isomorphic effect on breweries, essentially coalescing their product strategies around similar norms and standards. Through this clustering process, local learning and organizational ties increase isomorphism and hence survival. We thus have:

H4: Involvement in post-entry legitimization and learning, in the form of industry association membership and inter-organizational ties, will decrease all brewers' risk of exit.

Figure 2 below offers a graphical description of our hypotheses. In the following section we discuss the methods, models and results of our empirical analysis.

--- Insert Figure 2 here ---

METHODS AND DATA

Like previous studies comparing de-novo and de-alio entrants (Carroll *et al*, 1996; Klepper, 2002), our goal was to identify and include all Japanese microbreweries founded after the deregulation in 1994. Because of the industry's relatively young age and lack of strong central institutions, no standardized yearly overview of the industry exists. Instead, we were forced to construct and verify an original data sources using a wide variety of sources. We began by coding information on 225 breweries from *Nippon no Ji-biru* (ASCII, 2007) [Japan's Regional Beers], the most comprehensive guide to the industry currently available. *Nippon no Ji-biru* provided information on the age of the breweries, geographic location and product portfolio; in many cases it also provided information on whether organization had engaged in local learning, foreign acquisition of knowledge as well as organizational background. To verify the data and check for unidentified breweries, we searched publications in major and regional newspapers, as well as specialized beverage newspapers and other industry-related publications. We also conducted an exhaustive 6 month search of company webpages, fan sites and internet blogs.

A drawback of this search process is the risk for sample bias as small and unknown breweries are founded, operate and exit without being reported. An advantage of the Japanese ji-biru industry however is that its early popularity led to considerable interest on the internet; as a result, we were able to track down information on even the smallest one-person breweries.

Moreover, because the industry was founded with the government's explicit aim of promoting regional economic growth, local prefectural newspapers devoted significant coverage to new breweries. In many cases, these accounts included interviews with

founders and brewmasters, information on product line-ups, the origins of recipes and technologies, as well information on linkages to other brewers. In addition, the *Shokuryou Shimbun*, a twice-weekly newspaper with national circulation, devoted specifically to the food and beverage industry, published regular articles on the number of new microbrewery based on statistics from the government tax authority which handles brewing licensing.

Dependent variables

Product non-conformity. Product non-conformity, our initial dependent variable, was operationalized by constructing a ratio that measured how unique each brewer’s product offering was in comparison to extant products at the time of entry. Specifically,

$$\text{Non-conformity} = \sum_{i=1...k} \left(b_{in} / \sum_{n=1...l} b_i \right)$$

where b_{in} is the number of beers of type i that brewery n produces and $\sum_{n=1...l} b_i$ is the total number of beers of type i produced by all N microbreweries in existence during the particular year. This ratio was calculated for each beer type produced by the brewery and subsequently summed for all the beer types to arrive at the measure of non-conformity. As an example, if brewery A produced 2 ales and 3 weissen, and there were currently eight ales and three weissen in existence, its non-conformity ratio would be $(2/(8+2)) + (3/(3+3)) = 0.7$. The higher the value, the more non-conformity the brewery exhibited in its level of product non-conformity.

In our hypotheses, we argue that local embeddedness may impact the degree and level of non-conformity; consequently, the non-conformity measure needs to be based on product

data from *after* firms have joined local industry associations and engaged in interorganizational networks. Ideally, this would call for panel data, detailing product strategies for each year, but this was not available. To catch the effects of local embeddedness and maintain validity of the findings, we instead calculated the non-conformity ratio using product data published *after* firms had joined industry associations and established cross-brewery relationships; effectively, this constituted the latest available product data for each of the breweries.

While our measure of non-conformity is admittedly coarse, the goal of this paper is not primarily to measure when or by how much local embeddedness impacts non-conformity, only if it does so at all, and in which direction. Consequently, we argue that the operationalization as presented above is a sufficient measure of product non-conformity.

Exit. Our second dependent variable, survival, is employed in the event history analysis. This variable takes the value of 1 if a brewery exits in that year, 0 otherwise. A brewery is dropped from the sample after it has experienced an exit. Notably, an exit event does not always constitute failure or a negative – in many industries exits may signify acquisition, IPOs or MBOS. In the case of the Japanese microbrewery industry, however, all exits constituted failure and withdrawal from the market, either in the form of the microbrewery division of the company, or in the form of exit by the entire firm through bankruptcy.

Independent variables

De-novo vs De-alio entrant. We used a dummy variable to code for the type of brewery entrants. Specifically, de-alio entrants such as sake brewers, restaurants and bars that had considerable industry-specific networks, relationships and logics at their disposal

were coded as 1. De-novo entrants, such as new start-ups and unrelated diversifying firms, exhibited little if any industry-specific embeddedness and were thus coded as 0.

Post-entry embeddedness. As argued above, new-entrants came into closer contact with the norms and practices of the microbrewery industry by joining industry associations such as the Japan Microbrewery Association, taking part in beer competitions and networks with other brewers. Drawing on data from various sources, we coded participation in each of these segments. Following Singh, Tucker & House (1986), we coded this data into a dummy variable: organizations were coded as 1 if they undertook any kind of local embeddedness in the form of JMA membership or interorganizational ties and 0 if they did.

Control variables

Both survival and product differentiation may be driven by the level of competitive intensity in the market; consequently, we control for population density in both models. We coded for regional affiliation using a dummy for membership in any one of Japan's 7 primary regions, however, since these dummies were not significant in any of our analyses, we did not include them in the final analyses. We control for age with a variable for date of entry into the industry. In our qualitative interviews we found that the number of beers each brewery can produce is largely controlled by the size of their operations and the number of vats and brewery lines in use; consequently we use total number of beers (not types) as a proxy for organizational size.

Analyses

Since we were interested in the effect of embeddedness on product non-conformity, as well as the subsequent impact of these factors on survival, we conducted

two separate analyses. In the first we used ordinary least squares to test the effect of embeddedness on non-conformity, controlling for age and number of beers. Although we collected data for region, we found that the regional dummy variables were not significant in the regression and so we excluded them.

The sample used in this analysis consists of all breweries. We collected complete information for both embeddedness and differentiation for 107 breweries, and therefore the n is 107. Descriptive statistics and correlations for the variables are reported in tables 1a and 1b below.

--- Insert tables 1a and 1b here ---

In our second analysis, we test the effect of embeddedness and non-conformity on the probability of exit. We use discrete time event history analysis, employing a logit model with robust standard errors to analyze the odds of exit during the period from 1994-2008. This sample includes 129 firms. To maximize sample size, and minimize the problem of survivor-bias, we used the sample mean for breweries that were missing a measure of product-nonconformity. The risk set includes observations for each brewery, for each year of existence. Independent variables include embeddedness, product non-conformity, year of entry into the industry, density (number of breweries in a given year) and year. We used robust standard errors to adjust for possible unobserved heterogeneity given the panel nature of the data. Descriptive statistics and correlations for variables used in the discrete event history analysis are reported in tables 1c and 1d below.

--- Insert tables 1c and 1d here ---

RESULTS

The results from the OLS and logistic regressions are reported in separate tables

below. In each of the tables, the main effects are first included, followed by controls and interaction variables. Taken together, the results of the two models indicate that post-entry embeddedness has distinctively different effects on non-conformity and survival, depending on whether organizations had pre-entry ties to industry-specific networks and assets.

--- Insert Table 2 here ---

Model 1 in Table 2 shows the main effects of pre- and post-entry embeddedness on product non-conformity. Contrary to H1, we find no evidence that de-novo entrants exhibit greater levels of product non-conformity. Model 2 includes an interaction between pre- and post-entry embeddedness. The main effects of both pre and post-entry embeddedness become significant, with a negative effect for pre-entry embeddedness and a positive effect for post-entry embeddedness. The interaction between the two is negative and significant. This indicates that when de novo is equal to zero, (in other words: for de alio brewers), post-entry embeddedness is associated with greater non-conformity. For de novo brewers, on the other hand, adding the main and interaction effects, post-entry embeddedness *decreases* non-conformity. Thus, we find support for both H2a and H2b.

Table 3 presents a simple comparison of means for product non-conformity for different combinations of pre- and post-entry embeddedness. For de novo brewers with post-entry embeddedness, the average produce non-conformity is .447. For de novo brewers with no embedded linkages, it is .732. The opposite is the case for de alio brewers, where post-entry embeddedness decreases the mean level of product differentiation.

--- Insert Table 3 here ---

Table 4 in turn presents the results of our discrete time event history analysis of exit. Model 1 presents the main effects of explanatory and control variables on exit. As predicted by H3, de novo brewers are significantly more likely to exit. Pre-entry embeddedness appears to have considerable benefits for survival. In contrast to H4, however, we find post-entry embeddedness also increases the average likelihood of exit for de novo and de alio brewers.

Model 2 includes an interaction between pre- and post-entry embeddedness, Model 3 includes an interaction between pre-entry embeddedness and product non-conformity, and Model 4 includes both interactions. The interaction between pre-and post-entry embeddedness is negative but not significant. It suggests that post-entry embeddedness has a different effect on de novo and de alio firms. The interaction between pre-entry embeddedness and product non-conformity shows a significant difference between the effect of non-conformity on these two categories of brewers. For de-novo brewers, in other words, brewers with low levels of pre-entry embeddedness, non-conformity is harmful, while for the de alio brewers, non-conformity actually seems to increase the likelihood of survival.

--- Insert Table 4 here ----

DISCUSSION

Our analysis of the effects of embeddedness on non-conformity offer a range of insights, relating both to de-nov and de-alio firm strategies and performance, as well as the overall role of institutions in promoting, and limiting, innovation and exploration in new industries.

De-novo vs de-alio strategies: pre-entry embeddedness and the willingness to deviate

In contrasting the fates of de-novo and de-alio microbreweries, this paper follows several previous studies that have focused on differences in new entrants' pre-entry experiences, networks and embeddedness (see for example Carroll *et al*, 1996 and Klepper, 2002). While detailed and highly informative in their own right, these studies have largely failed to account for how de-novo and de-alio *strategies* differ, focusing instead on final outcomes in terms of performance and survival. While other studies have explicitly linked culture, institutional embeddedness with strategy formation and decision-making (Abrahamson & Fombrun, 1994; Daniels, Johnson, & de Chernatony, 2002), they have not addressed how differences in pre-entry embeddedness, experience and networks impact strategy formation.

This paper thus makes a contribution by providing an initial glance into how de-novo and de-alio firms differ in their behaviors and strategies post-entry. In particular, our findings indicate that de-novo firms are more likely to adopt non-conformist strategies; we suggest that this is primarily due to their lack of embeddedness in *industry-specific* networks, practices and logics. De-novo entrants are, by our definition, either start-ups or diversifying firms from unrelated industries; as such they presumably enter the new industry primarily because they see it as an exciting opportunity, as opposed to market-entry processes driven by uncertainty reduction and safety-in-number effects (c.f. Ahmadjian & Robinson, 2001; Greve, 1998). From such an entrepreneurial vantage point not only are de-novo entrants more likely to adopt non-conformist strategies, they also face fewer pre-existing ties to restrict their behavior.

De-alio entrants, by contrast, may see market entry as a strategic necessity (as in the case of *sake* brewers) or an incremental diversification (as in the case of restaurants and pubs).

Consequently, their willingness to adopt non-conformist strategies may be limited both by their own strategic motivations, as well as pre-existing networks and relationships. While extant work on de-novo and de-alio performance and survival has found overwhelming evidence that de-alio entrants are far superior to de-novo entrants, both Carroll *et al* (1996) and Klepper (2002) identify unique cases where de-novo entrants were able to outperform and outlive de alio firms. Both studies suggest these effects are driven by the specific capabilities of de-novo entrants. Controlling for capabilities and experience, our study suggests an augmenting argument, namely that individual de-novo entrants may outperform due to their willingness to take more non-conformist high-risk, high-return differentiated strategies.

Post-entry embeddedness and non-conformity: competing or complementary effects?

The underlying theoretical motivation for this study was the juxtaposition of two seemingly contrasting theories for new-entrant survival, one emphasizing non-conformity and differentiation, the other highlighting local embeddedness and conformity. In so doing, we reflect the larger debate between strategy scholars and institutionalists over the merits of similarity and differentiation. Ours is certainly not the first paper to investigate these opposing effects; the past few years have witnessed a number of highly fruitful and informative works that combine insights from both sides of the strategy-institutional gap (see for example Deephouse, 1999; Jonsson & Regnér, 2009; Kennedy & Fiss, 2009).

The vast majority of this work, however, is still characterized by the underlying view that institutional and strategic forces pull firms in opposing directions. Consequently, studies have generally tended to highlight how organizations balance institutional and strategic aspects (Deephouse, 1999; Kennedy & Fiss, 2009) or how higher order institutional

factors impose contextual constraints on managerial strategies (Ingram & Clay 2000; Jonsson & Regnér, 2009).

By contrast, our study suggests institutional contexts have a more refined, and important, role to play than simply strategic constraints. To begin with, the findings indicate that for some entrants, increased embeddedness and greater exposure to institutionalized norms may indeed have a dampening effect on non-conformity. We thus found that local embeddedness reduced the level of non-conformity among de-novo entrants. Counter to expectations, post-entry embeddedness had a negative effect on firm survival for de alio firms, and a neutral effect of the de novo firms. Post-entry embeddedness seems to have helped the de novo firms by putting a damper on their non-conformity. More research must be done to better understand the negative impact on de alio firms.

Previous work would suggest these positive effects of embeddedness are primarily the result of greater legitimacy, as well as access to key input and output markets (Aldrich & Fiol, 1994; Singh, Tucker & House, 1986). While we do not deny that this may certainly be the case, it's important to note that in the case of the Japanese microbrewery industry, firms already had substantial legitimacy (thanks to the top-down support and popularity of the industry) and that both input and output markets were readily available.

Instead we suggest another effect, namely that embeddedness in local networks and relationships served to moderate *excessive* non-conformity, while promoting a more acceptable level of experimentation. As noted in the discussion, the willingness to diverge from pre-existing practices is a key aspect of new entrants, yet all deviance is not good deviance. After being exposed to institutionalized norms and practices, de-novo entrants that had previously lacked traditions or standards on which to base their

activities began to reign in their behaviors, effectively benchmarking acceptable standards of differentiation. Put differently, institutional exposure, in the form of embeddedness, reduced excessive *non-conformity*, even as it encouraged acceptable levels of *differentiation*.

We find further evidence of this effect when considering de-alio entrants; as the findings indicate, these brewers were far less willing to undertake non-conformist production strategies. A central reason for this may have been their pre-existing networks, relationships and identities. For these *sake* makers, bar-owners and restaurants, the risks of non-conformity widely overshadowed the benefits; with their pre-existing linkages to industry-specific networks, de-alio brewers had considerable downside in the event product experimentations failed. As a result, it was safer to follow existing products and practices.

When de-alio entrants increased their exposure to local industry associations and established linkages to other brewers, however, their level of non-conformity *increased*. The fact that greater embeddedness and exposure to institutionalized practices increases the level of non-conformity might at first appear counterintuitive. The notion does make sense, however, if we consider institutions as pillars of the social context that provide standards, norms and meaning that help organizations make decisions under uncertainty (DiMaggio & Powell, 1983; Greve, 1998). In the case of de alio entrants, these norms and meanings emphasized a *greater* degree of non-conformity and diversification.

The norms and practices that new entrants were exposed to thus served not as a wet blanket, limiting innovation and differentiation. Instead, embeddedness in local norms and practices refined organizational strategies, thereby extending the chances of survival.

The pressures for isomorphism thus served as *coalescing* factors, effectively gathering organizations around common assumptions of differentiation. In so doing, it reduced uncertainty both for de-novo and de-alio firms. It also provided meaning and social context to how Japanese microbreweries should compete and survive in the new industry.

CONCLUSION

The past 10 years have witnessed an increasing level of cross-collaboration between scholars from the new-institutional theory and strategic management. Our paper makes a contribution to this burgeoning literature stream by examining the dynamic relationship between normative conformity and differentiation among new entrants in an emerging industry. The focus on new industry entrants is of particular interest because it constitutes an arena where the competing effects of isomorphism and non-conformity are heightened. On the one hand, new institutionalists have long argued that entrants must acquire legitimacy through isomorphism and conformity in order to overcome the liability of newness and a general lack of embeddedness (Aldrich & Fiol, 1994; Singh, Tucker & House, 1986). In contrast, strategic management scholars have shown that new entrants can successfully compete with incumbents and survive by differentiation, carving out unique product and strategic niches beyond the reigning status-quo (c.f. Christensen & Rumelt, 1996; Porter, 1991). The need for examining these opposing approaches is further highlighted by the fact that both new-institutionalists and strategic management scholars view entrants as crucial catalysts for change and innovation (Caves & Porter, 1977; Chen & MacMillan 1992; Leblebici *et al*, 1991). To date, however, no work has sought to investigate this specific arena.

We fill this research gap by exploring how local embeddedness impacted differentiation,

and ultimately survival, among de novo and de alio brewers in the Japanese microbrewery industry. Combining qualitative and quantitative data methods, we examined how varying levels of post-entry embeddedness impacted de novo and de alio entrants' strategies for product non-conformity. Our results suggest that while de novo and de alio brewers differed significantly in their levels of product differentiation, post-entry embeddedness and interorganizational linkages reduced these differences. Increased social interaction between the breweries thus had a clustering effect, coalescing organizations around a particular product differentiation norm, thereby enhancing survival.

TABLES AND FIGURES

Figure 1: Evolution of the Japanese microbrewery population

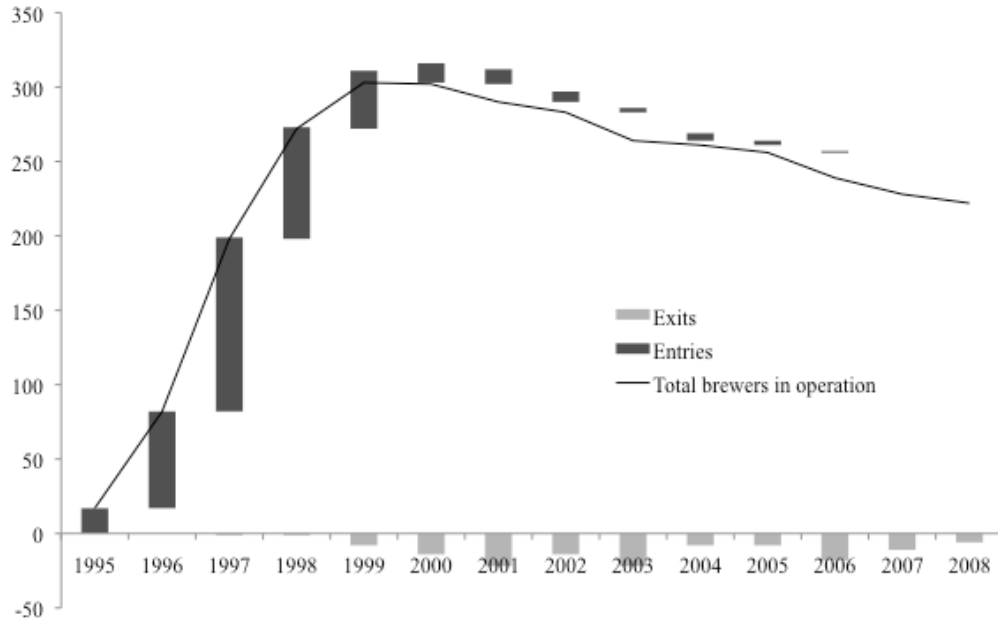


Figure 2: Hypothesized relationships

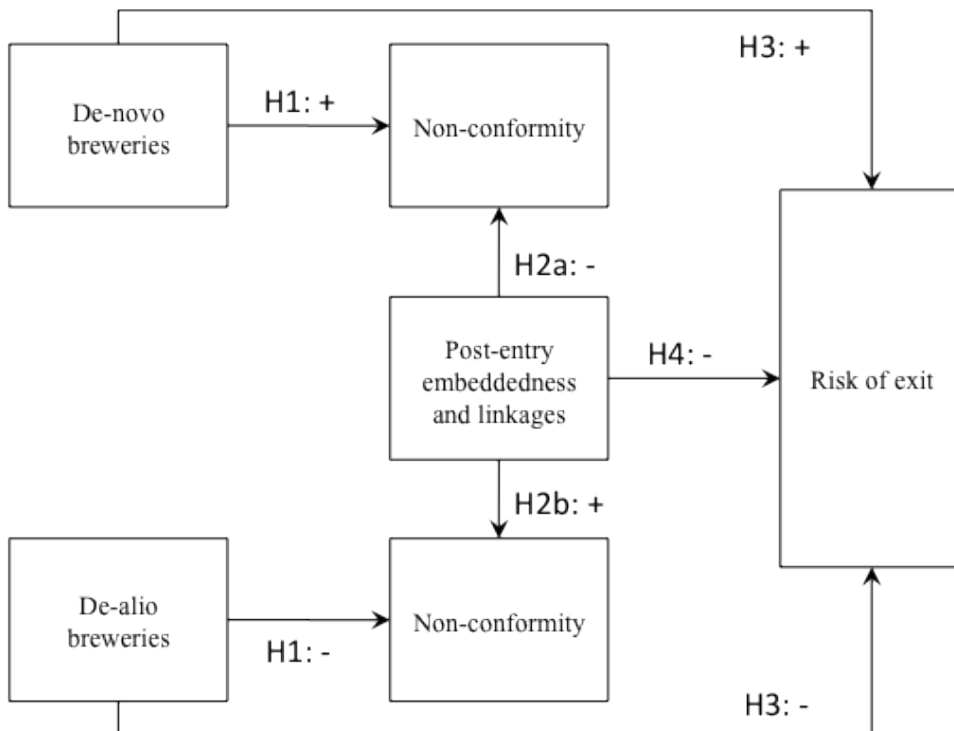


Table 1a: Descriptive statistics, 107 breweries, cross-sectional sample

		n	mean	S.D.	Minimum	Maximum
product non-conformity	NONCONFORM	107	0.593	0.640	0.019	3.167
de novo	NEW	107	0.467	0.501	0.000	1.000
total number of beers	NUM	107	3.710	1.408	1.000	8.000
year of entry	ENTRY	107	1997.449	2.025	1995.000	2006.000
post-entry embeddedness	POSTEMBED	107	0.336	0.475	0.000	1.000

Table 1b: Correlations, 107 breweries, cross-sectional sample

		1	2	3	4	5
1	NONCONFORM	1.00				
2	NEW	0.05	1.00			
3	NUM	0.38	0.27	1.00		
4	ENTRY	-0.37	0.21	0.10	1.00	
5	POSTEMBED	0.06	0.01	-0.06	-0.18	1.00

Table 1c: Descriptive statistics, 129 breweries, 1994-2008, breweries at risk only

		n	mean	S.D.	Minimum	Maximum
Exit	EXIT	1495	0.02	0.13	0.00	1.00
de novo	NEW	1495	0.43	0.49	0.00	1.00
total number of beers	NUM	1495	3.67	1.35	1.00	8.00
year of entry	ENTRY	1495	1997.16	1.70	1995.00	2008.00
Density	DENSITY	1495	252.20	43.23	31.00	278.00
Year	YEAR	1495	2002.83	3.80	1995.00	2009.00
post-entry embeddedness	POSTEMBED	1495	0.33	0.47	0.00	1.00
product non-conformity	NONCONFORM	1495	0.62	0.62	0.02	3.17

Table 1d: Correlations, 129 breweries, 1994-2008, breweries at risk only

		1	2	3	4	5	6	7	8
1	EXIT	1.00							
2	NEW	0.06	1.00						
3	NUM	0.00	0.23	1.00					
4	ENTRY	0.01	0.14	-0.04	1.00				
5	DENSITY	0.04	0.01	-0.01	0.22	1.00			
6	YEAR	0.07	-0.01	0.00	0.24	0.44	1.00		
7	POSTEMBED	0.07	0.03	-0.03	-0.14	-0.04	-0.07	1.00	
8	NONCONFORM	0.01	0.03	0.36	-0.44	-0.18	-0.10	0.06	1.00

Table 2: OLS regressions of product non-conformity, 107 breweries cross-sectional sample

		Model 1	Model 2
total number of beers	NUM	.190*** (.039)	.166*** (.038)
de novo	NEW	.033 (.110)	.265* (.136)
post-entry embeddedness	POSTEMBED	.013 (.112)	.286* (.148)
year of entry	ENTRY	-.133*** (.027)	-.142*** (.026)
de novo * post-entry embeddedness	NEW* POSTEMBED		-.608** (.222)
constant		264.86*** (53.64)	284.04*** (52.47)
R2		0.32	0.37
F		11.99 (4,102)	11.70 (5,101)
n		107	107

*** p <= .001; **p <= .01; *p <= .05 (two-tailed tests for controls, one-tailed for hypothesized effects)

Table 3: Comparison of means for product non-conformity

	post-entry embeddedness=1	post-entry embeddedness=0
de novo	.447 (.546) n=17	.732 (.660) n=33
de alio	.821 (.814) n=19	.432 (.051) n=38

Table 4: Discrete time event history analysis of exits of breweries, 129 breweries, 1994-2008, logit analyses with robust standard errors

		Model 1	Model 2	Model 3	Model 4
total number of beers	NUM	-.104 (.164)	-.125 (.163)	-.150 (.176)	-.171 (.172)
de novo	NEW	1.032** (.440)	1.968** (.821)	.082 (.559)	1.112 (.853)
post-entry embeddedness	POSTEMBED	1.112** (.421)	2.086** (.824)	1.390** (.465)	2.448** (.850)
product non-conformity	NONCONFORM	.313 (.274)	.144 (.329)	-.805* (.442)	-1.113* (.573)
year of entry	ENTRY	.019 (.127)	-.021 (.135)	.027 (.135)	-.020 (.142)
density	DENSITY	.045 (.029)	.045 (.029)	.045 (.029)	.045 (.029)
year	YEAR	.227* (.099)	.227* (.099)	.233* (.098)	.232* (.097)
de novo * post-entry embeddedness	NEW* POSTEMBED		-1.509 (1.063)		-1.668 (1.053)
de novo* product non-conformity	NEW* NONCONFORM			1.629** (.548)	1.777 ** (.609)
constant		-510.49*** (306.28)	-429.19 (321.74)	-537.11** (320.65)	-439.791 (335.841)
pseudo R2		0.096	0.106	0.115	0.127
Wald chi2		25.22 (7)	20.36 (8)	35.28 (8)	27.05 (9)
n (firm years at risk)		1495	1495	1495	1495

*** p <= .001; **p<= .01; *p<=.05 (two-tailed tests for controls, one-tailed for hypothesized effects)

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