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The Entrepreneurship Industry: Influences of the Goods and Services Marketed to Entrepreneurs

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This paper constitutes the first comprehensive attempt to define and assess entrepreneurship as an industry, and it is the only study to date to empirically evaluate the extent to which the entrepreneurship industry (EI) is associated with entrepreneurial actions and outcomes. EI is defined as the goods and services explicitly intended for opportunity discovery and development by current and prospective entrepreneurs, an industry with $13 billion in annual revenue. In order to assess EI's influence, we employ a matched set comparison of EI consumers and nonconsumers, which reveals that high levels of EI consumption are associated with an increase in entrepreneurial activity but a decrease in performance and survival prospects. The findings address material gaps in existing frameworks by adding EI to the entrepreneurial contexts that exert a potent influence on the identification, development, and exploitation of opportunities.

Introduction

At what point does a collection of interrelated commercial activities become an industry? Consider the case of entrepreneurship: by any reasonable measure, the goods and services marketed to current and prospective entrepreneurs long ago became part of the contextual fabric of entrepreneurial ecosystems. As it has remained unnamed, however, the entrepreneurship industry (EI) has remained conspicuously unnoticed. This has, in turn, created gaps in both the defining frameworks of entrepreneurial environments (e.g., Aldrich and Ruef 2006; Cooper 1970; Gnyawali and Fogel 1994; Manolova, Eunni, and Gyoshev 2008; Shapero and Sokol 1982; Van de Ven and Garud 1989; Welter and Smallbone 2011) and the motivational mechanisms that relate social context to entrepreneurial action (Carsrud and Brännback 2011; Hessels, Van Gelderen, and Thurik 2008; Shane 2000; Shane, Locke, and Collins 2003).

The failure to identify and account for the socio-contextual influence of EI constitutes a notable gap in the literature. It is impossible, noted Baumol (1993), to comprehend the nature of entrepreneurial activities without taking into account the motivational mechanisms that drive them. Despite the extensive work to date in building a theoretical framework for entrepreneurship that incorporates socio-contextual factors, no prior work has examined the existence of EI, much less its motivational effects. As the first comprehensive attempt to define and demarcate EI, our study enriches existing research on the social context of entrepreneurial action by underscoring EI's role in opportunity development and firm-level outcomes.

The absence of scholarship on EI is not the consequence of a more general disinterest in socio-contextual influences. Over the course of the past four decades progress has been made in identifying a whole host of motivational mechanisms related to entrepreneurial action, including passion, emotions, and affect (Baron 2008; Cardon et al. 2009, 2012), institutional forces (Baumol, Litan, and Schramm 2007; Hunt

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2015; Welter and Smallbone 2011), bricolage (Baker and Nelson 2005), improvisation (Hmieleski and Corbett 2006; Miner, Bassof, and Moorman 2001); networks (Aldrich and Zimmer 1986; Stuart and Sorenson 2005), competitive pressures (Kirzner 1997), high velocity technological change (Eisenhardt 1989), personal circumstances (Stam, Audretsch, and Meijaard 2009), effectuation (Sarasvathy 2001), culture (Hayton, George, and Zahra 2002), tax policies (Gentry and Hubbard 2000), intrinsic aims (Hemingway 2005), and even criminal intent (Gottschalk 2009). However, the conceptualization of EI as a socio-contextual influence is conspicuously absent.

The omission of EI is important for both conceptual and practical reasons since EI consists of hundreds of thousands of enterprises, whose primary intent it is to serve as a motivational mechanism for entrepreneurial action. Without an industry-level conceptualization of entrepreneurship, the field is handicapped in its attempt to comprehensively characterize the environmental contexts of entrepreneurship. As Hitt et al. (2007) asserted, gaps in levels of analysis constitute gaps in the explanatory power of the governing frameworks. Since, as Welter (2011) observed, context is both multifaceted and multilevel, unaccounted contexts, particularly ones of EI's scale, represent an important omission. This study confronts the absence of an industry level-of-analysis in entrepreneurship, by asking: Does an EI exist? If so, does it exert meaningful influence and to what end?

In addressing the first question, that of EI's existence, we present the first comprehensive taxonomy of the private sector goods and services marketed to motivate and support entrepreneurial activity. Our research places EI on par with the key social contextual factors that influence an individual's propensity and ability to enterprise (Gnyawali and Fogel 1994). In addressing the question of EI's influence, we build upon inter-related literatures in socio-contextual forces (e.g., Baumol, Litan, and Schramm 2007; Welter 2011) and entrepreneurial motivation (e.g., Carsrud and Brännback 2011), both of which support Nuttin's assertion that motivation is shaped by the intersection between individuals and environments (1984). Although Nuttin's premise has been examined in other facets of management research, it has received less attention in entrepreneurship, prompting calls to more thoroughly explicate "the impact of environmental context on entrepreneurial motivations and intentions" (Carsrud and Brännback 2011, p. 16; Welter 2011). Our examination of EI responds to those recent, repeated calls with the development of a much-needed, industry-level social context.

Our investigation proceeds in two stages. First, we coin the term "Entrepreneurship Industry" and demarcate its boundaries and scale. Second, we assess EI's role as a motivational mechanism, influencing the development and fate of entrepreneurial opportunities. To explore each of these dimensions, we designed a head-to-head comparison of consumers of EI goods and services and nonconsumers, covering a seven-year period that chronicles individual entrepreneurial activity. The portrait that emerges from this analysis of EI is of an influential socio-contextual force that is associated with complex responses and outcomes.

The Entrepreneurship Industry—Definitions and Taxonomy

The first phase of our study seeks to ascertain the extent to which the goods and services marketed to current and prospective entrepreneurs constitute an industry. In the absence of any prior literature on the subject, our first task is definitional.

EI Definitions and Descriptions

Does EI exist? Any attempt to constructively define, describe and assess EI's existence must credibly link to both conceptual facets: entrepreneurship and industry. It is both a blessing and a curse that there is no shortage of definitions for either concept. For example, the 2013 *Academy of Management Review* issue that offered varying reflections (Alvarez and Barney 2013; Shane 2012; Venkataraman et al. 2012) on Shane and Venkataraman's foundational article on "The Promise of Entrepreneurship as a Field of Research" (2000) is a case in point, as creation, discovery, effectuation, intersubjectivity and objective determinism all received considerable mention. Regardless of whether one adopts a realist, constructionist or evolutionary realist perspective (Alvarez, Barney, and Young 2010), EI is invariably relevant to the consideration of opportunities. The common thread running through each of these perspectives is the basic premise that opportunity development requires entrepreneurial action (McMullen and Shepherd 2006). Therefore, Shane and Venkataraman's

original conception of entrepreneurship as the discovery, evaluation, and exploitation of new opportunities for goods and services (2000), offers a robust platform for the consideration of EI since the *raison d'être* of EI is to promote the belief that individuals who are motivated to develop opportunities through entrepreneurial action have the potential to harvest lucrative outcomes. As will become apparent in our detailed model of the industry, EI stands at the crossroads of the individual-opportunity nexus (McMullen and Shepherd 2006; Shane 2003), seeking to profit by fostering entrepreneurial activity. Even if EI can clearly be tied to entrepreneurship, one must ask: Are we certain that the goods and services of EI constitute an industry? Here, too, there are multiple definitions. Gilpin's often-invoked definition reflects the traditional view that industries are "all those activities that are directed toward the production of a given class of goods" (Gilpin 1973, p. 107). This production-centric conception of industry has proved to be popular, even in contemporary dictionaries, which define industry as "economic activity concerned with the processing of raw materials and manufacture of goods in factories" (Oxford English Dictionary 2014).

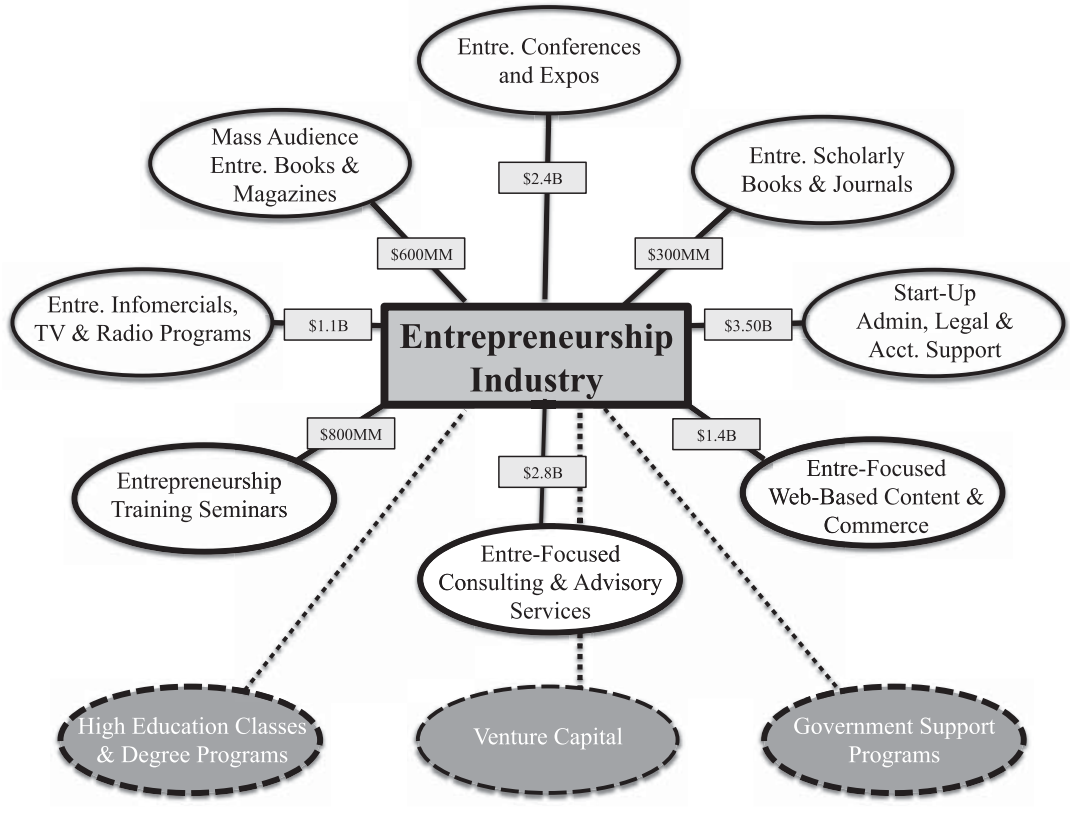
Despite its widespread use, this approach is somewhat antiquated when studying economies characterized by large service-oriented sectors. As an alternative, Nobbs offers a more apropos criterion for delineating an industry by asking: Are the firms involved in solving the same basic problem? (Nobbs 1975). There is strong precedent for demarcating industry boundaries in this fashion. A potent example can be seen in the tourist industry. It is only quite recent that tourism was defined as an industry (Leiper 1979). Previously, tourism was simply considered to be an amalgamation of discrete, well-established industries, consisting of transportation, lodging, and restaurants. For more than a century of leisure travel, service providers such as travel agents, traveler check issuers, and local guides, were each largely considered to be no more than support mechanisms for more traditional industries (Leiper 1979). Missing from this understanding of modern travel was the notion that the collection of products and services designed to promote leisure travel had in fact become the tourist industry (MacCannel 1976). Now, tourism is widely considered to be an indispensable contributor to the GDP of many countries (Theobald 2004).

Similarly, EI is also a service sector–oriented amalgamation of firms geared toward providing tangible and intangible support mechanisms to consumers; in this case, entrepreneurial aspirants. In a fashion that is highly analogous to tourism, the EI goods and services that are marketed to current and prospective entrepreneurs have evolved to become an industry by virtue of market participants offering solutions to "the same basic problem." The "problem" in the case of EI, and the value proposition proposed by EI goods and services, is to provide enabling support for the discovery and development of profitable opportunities. Therefore, consistent with prominent conceptions of industry (e.g., Chandler 1962; Nelson and Winter 1982; Nobbs 1975; Porter 1980), and reflecting the experience of scholars studying tourism (Leiper 1979; Theobald 2004), EI is defined as *the goods and services explicitly intended for opportunity discovery and development by current and prospective entrepreneurs*. These goods and services, depicted in Figure 1, consist of diverse offerings, ranging from entrepreneur-oriented books, periodicals and websites to expos, conventions and conferences; and from seminars, workshops and consulting to radio and television programming.

Demarcation of the eight categories comprising EI was developed through a triangulation of three separate clustering methods. The first, involved the compilation and analysis of Google search results for the terms "small business and entrepreneurship resources." The first 50,000 Google hits were sorted by key words drawn from the abbreviated description of each site, such as "magazine," "expo," "journal," and "business plan consulting." Forty-one key word clusters emerged from this compilation, ranging in size from 52 sites (loan application packaging services) to 1,114 sites (books on starting a new business). Thousand randomly selected firms, at least ten of which were drawn from each of the 41 clusters, were categorized by the primary NAICS code indicated for each firm, based on the Dun & Bradstreet database. The resulting NAICS sorting of the 1,000 firms congregated into eight distinct sectors, which are reflected in Figure 1.

The second approach involved identifying and assessing the stated intent of companies offering goods and services to current and prospective entrepreneurs, as indicated on each firm's website. Five doctoral students in entrepreneurship independently sorted 3,000 EI firms

Figure 1
The Entrepreneurship Industry



into separate categories of each coder's own devising. The fewest number of categories developed by an individual coder was 6, and the greatest number of categories was 11. The median and the mean were both 8. After configuring the categories into eight sectors, five new coders sorted the same 3,000 firms into the eight sectors. Inter-rater reliability for this round of sorting exceeded 97 percent. Finally, as an independent check, NAICS codes for the 3,000 firms were obtained from Dun & Bradstreet and then compared across all the firms clustered in each of the eight EI sectors. Less than 1 percent of the sorted firms (27 total) were found to be distal from each cluster's dominant NAICS codes.

The Scale and Characteristics of EI

By any measure, EI is big business. Through the detailed estimates of EI that underlie this investigation, it was discovered that at least $13 billion in worldwide revenue was generated in 2014 through the sale of goods and services to current and prospective entrepreneurs. This constitutes a 26-fold increase from the $500 million estimated for 1987, implying an annual growth rate of 12 percent, making it one of the fastest growing sectors over that 27-year period.

The estimates for each of the eight private sectors of EI were derived using published sources and industry experts from each sector to develop baseline levels for each industry component. To ensure conservatism, only readily identifiable firms and business activities were included. Therefore, the estimated size of each component should be considered a minimum. It is likely that each component has business activity that could not be explicitly identified. As indicated by the descriptions and examples for

each of the sectors listed in Table 1, EI consists of wide range of goods and services.

Seventy-five percent of EI consists of three large components: outsourced start-up support, consulting and advisory services, and entrepreneurship conferences and expos. Although both the outsourced support sector and consulting services sector clearly provide services on an ongoing basis for firms all sizes and business complexity, the intent here is to only capture those revenues that pertain to entrepreneurial ventures.

In addition to the eight EI sectors that represent profit-seeking firms serving end users, three other industry components are included in the EI taxonomy: direct government support ("direct" connoting the exclusion of broad policies such as tax rates), venture capital, and higher education. The dotted lines linking each of these components to EI reflects the unique relationship each of these has with its respective stakeholders while still acknowledging the indisputable role that each plays in promulgating opportunity discovery and development. For example, the presence of a vibrant venture capital sector, not only provides important pools of risk capital, but also shapes cultural perceptions regarding entrepreneurial opportunities and provides value-added intangible assets and prestige to funded firms (Fitza, Matusik, and Mosakowski 2009). However, the investment aims and management role of VCs bears little resemblance to EI firms who competitively seek to mass-produce and market goods and services to end-consumers.

Two other large-scale EI components—government entities (e.g., Mole et al. 2011) and educational institutions (e.g., Solomon 2007)—have also taken a vested interest in stimulating entrepreneurial activity. Each has positioned itself as an important facet of EI, evidenced in part by the steady increase of both degree-granting programs in entrepreneurship (Katz 2003; Kuratko 2005) and government-sponsored business advisory services (Mole et al. 2011). While all three of these components—venture capital, degree-granting programs, and government-sponsored initiatives—must be included in any conception of EI, they are markedly distinct from the eight private sector, consumer-oriented components in their respective scales, intents, and value propositions.

Irrespective of the size or growth rate of each EI component, however, the central aim of each is to solve the same basic problem: facilitating the identification and development of profitable entrepreneurial opportunities.

EI's Influence—Theory and Hypotheses

Entrepreneurial Activity and the Contextual Environment

Having addressed the gap in extant literature regarding EI's existence, the next step is to assess the nature and extent of its influence. Here, too, there are significant gaps, both in the omission of EI from explanatory frameworks and in the need for more foundational work linking motivational effects to entrepreneurial environments (e.g., Carsrud and Brännback 2009, 2011). The identification and explication of EI epitomizes the looming presence of socio-contextual factors related to entrepreneurship and begs the important question posed by Welter and Smallbone (2011, p. 108): Do these factors impact the nature, pace of development, and extent of entrepreneurship as well as the way entrepreneurs behave?

Efforts to craft viable frameworks governing the environmental factors influencing entrepreneurial action have deep roots in entrepreneurship studies (e.g., Cooper 1970), Carsrud, Olm, and Eddy (1986) were among the first to formally model the interaction between individual decision-making and contextual factors. Gartner (1988), in reacting to the drift toward a traits approach to entrepreneurship, argued that contextual factors are decisive in determining whether or not entrepreneurial action occurs as well as what form it might take. Low and MacMillan (1988) concurred and extended the work of Shapero and Sokol (1982), by insisting that "meaningful entrepreneurship research must carefully account for contextual factors" (1988, p. 150). Responding to this call, Van de Ven and Garud developed a framework detailing the requisite infrastructure for entrepreneurship (1989). This was followed by Gnyawali and Fogel's comprehensive taxonomy for the study of entrepreneurial environments (1994).

Gnyawali and Fogel defined the entrepreneurial environment as "the overall economic, sociocultural, and political factors that influence people's willingness and ability to undertake entrepreneurial activities" as well as "the availability of assistance and support services that facilitate the start-up process" (1994, p. 44). Their taxonomy incorporates five dimensions: government policies and procedures, socioeconomic conditions,

Table 1
Entrepreneurship Industry Components—Examples and Scale

Entrepreneurship industry components	Description	Size	Examples
Outsourced Start-Up Support	Office Administration, Legal, Intellectual Property, and Accounting Services explicitly aimed at start-ups	$3.50B	Bank and SBA loan document preparation. Outsourced secretarial, accounting and legal support. Patent filing services.
Entrepreneurship and New Venture Consulting & Advisory Services	Primarily guidance on strategy, market positioning and obtaining government or private sector financing.	$2.8B	Business plan and pitch document preparation services. Financing advisors. SME strategy consultants.
Entrepreneurship Conferences & Expos	General and Sector-specific gatherings of current and prospective entrepreneurs, EI service providers. Some expos are government sponsored; most are privately staged by for-profit event planners.	$2.4B	TiEcon Small Business Expo SXSW Ignite Startup Week
Entrepreneurship TV & Radio Infomercials and Programming	Radio and TV programs providing advice, pair programming, news, and reality entertainment.	$1.1B	Shark Tank (TV) American Entrepreneur (Radio) The Coaching Show (Radio) How I Made My Millions (TV) The Entrepreneurs (TV)
Entre-Focused Web-Based Content, Commerce and Crowd Funding	(a) Destination sites providing informational content, advice, chats, and e-commerce. (b) Access to potential investors	$1.4B	onstartups.com startuplawyer.com whiteboard.com Indiegogokickstarter
Mass-Audience Entre Books & Magazines	Thousands of titles in more than 200 languages	$600M	Entrepreneur India Inc Fast Company Business.com Euro Entrepreneur
Entrepreneurship Training Seminars	Private workshops, often by academicians staged for individuals and companies, including corporate entrepreneurship.	$800M	Continuing Education, Non-degree certificate programs. FITT for Innovation. Motivational entrepreneur speakers.
Scholarly Entrepreneurship Books & Journals	Nearly 100 academic journals on entrepreneurship and innovation as well as textbooks and new titles from academic publishers.	$300M	Entrepreneurship Textbooks Entrepreneurship Journals Special Editions and Annual Series

Table 1
Continued

Entrepreneurship industry components	Description	Size	Examples
Other Industry Components			
University Classes & Degree Programs in Entrepreneurship	Higher education classes in entrepreneurship for bachelors, masters and doctoral degrees worldwide	>$2.5B	
Direct Government Support	Investments and grants. Excludes tax assistance and loan guarantees.	>$25.0B	
Venture Capital	Financial capital providers to early-stage, high-potential, growth start-up companies	>$20.0B	

entrepreneurial and business skills, financial support to businesses, and nonfinancial support to businesses. It aims to assess the extent to which any environmental factor impacts the "propensity to enterprise" and the "ability to enterprise" (1994).

Aside from the omission of EI, the Gynawali-Fogel framework has proven to be robust even under complex conditions arising in emerging markets, such as G. Fogel's use of the model in her analysis of the entrepreneurial environment in Hungary (2001). More recent scholarship has brought into sharper focus the role of formal and informal institutions in influencing entrepreneurial activity (Greene, Mole, and Storey 2008; Welter and Smallbone 2011). Key findings from research examining institutional forces include the macrolevel impact of the entrepreneurship climate on heterogeneous start-up rates across regions (Frisch and Mueller 2007), the role of public policy in tackling barriers to SME emergence and growth (Baumol, Litan, and Schramm 2007; Huggins and Williams 2009; Robson, Wijbenga, and Parker 2009), the impact of regional learning processes and socio-cultural preconditions (Keeble et al. 1999), and the role of spatial variation in determining the inter-relatedness between birth and death rates (Johnson and Parker 1996).

Drilling down on these macrocontextual influences of entrepreneurship, scholars have also delved into the specific ways in which firm-level institutional support may influence the frequency and fate of new enterprises (Mole et al. 2008; Sawang, Parker, and Hine 2016). The burgeoning literature in small business support has sought to assess the extent to which intentional, direct interventions by publicly supported entities can result in more numerous and more fit new enterprises (LEED 2013). Studies examining publicly funded small business advisory services have examined the impact of diverse programs, including those developed and implemented in Africa (Obeng and Blundel 2015), Belgium (Lambrecht and Pirnay 2005), Canada (Chandler 2012), OECD countries (Mole and Bramley 2006), transitional economies (2011), and the United States (Chrisman and McMullan 2004). Institutional support for firm-specific initiatives has also been associated with enhanced learning and innovation (Sawang, Parker, and Hine 2016), especially when the intervention can constructively disrupt path dependent behaviors that prevent small firms from exploring fresh perspectives (Parker and Hine 2015). Looking even earlier in the chain of institutional impacts, Souitaris, Zerbinati, and Al-Laham (2007) found that university-based entrepreneurship programs can shape certain facets of students' entrepreneurial attitudes and intentions.

Through these studies and others related to entrepreneurial environments, mounting empirical evidence suggests that socio-contextual features play a prominent role in shaping entrepreneurial actions and outcomes (Aldrich and Ruef 2006; Shane 2003; Welter 2011). In a review of the relevant research on entrepreneurial contexts, Ucbasaran, Westhead, and Wright

(2001) identified empirical support for the assertion that new venture creation, business survival, business closure, the competitive strategies pursued by organizations and business performance are each at least partially the product of contextual factors. And yet, in spite of this progress, entrepreneurship scholarship has struggled to tie environmental contexts to entrepreneurial motivation (Carsrud and Brännback 2011). This is particularly important to the study of EI.

Motivational Effects of the Contextual Environment

Since entrepreneurial motivation is shaped through the nexus of individuals and their contextual environments (Carsrud and Brännback 2009; Glade 1967; Nuttin 1984), all motivational mechanisms related to entrepreneurship are socially embedded (Carsrud and Brännback 2009; Shane 2000; Shane, Locke, and Collins 2003). Central to the individual-opportunity nexus are three elements: motivations, intentions, and goals (Gollwitzer and Brandstätter 1997). Ajzen's Theory of Planned Behavior (TPB) holds that an individual's activity-specific intent is the most robust predictor of a given activity actually occurring (Ajzen 1991), including those arising in entrepreneurial contexts (Sieger and Monsen 2015). In turn, goals provide motivational substance that ultimately connects intentions and actions (Locke and Latham 2002; Nuttin 1984).

Even so, as Carsrud and Brännback noted (2011, p. 16), "The contextual impact on entrepreneurial motivations and intentions requires further exploration." There is still a broadly held sentiment that scholars' understanding of the environment-intention–action link is insufficient (Bird and Schjoedt 2009), especially as the linkage relates to socio-contextual factors. The open question, as posed by Carsrud and Brännback (2011, p. 20) is: How do contextual settings influence intentions, goals, and motivation to ultimately impact entrepreneurial behaviors? Since the propensity to enterprise may or may not be related to one's ability to enterprise, (Morrison, Breen, and Ali 2003) any meaningful evaluation of EI's influence on entrepreneurial action and outcomes needs to engage both opportunity identification and opportunity development.

The widely used and heavily cited framework developed by Ardichvili, Cardozo, and Ray (2003) is particularly useful in this regard because it examines the entire opportunity development lifecycle and effectively incorporates multiple perspectives on opportunity development into its model of antecedent conditions and "core processes" (2003, p. 118). By identifying the "major factors" influencing opportunity development, Ardichvili et al. provide a roadmap for determining the junctures at which motivational mechanisms could potentially exert influence. Key among the factors they model are: alertness, optimism, creativity, business acumen, knowledge, personal networks, and the type of opportunity being considered (2003).

EI and Entrepreneurial Action

The motivational mechanisms (Shane, Locke, and Collins 2003) associated with Ardichvili et al.'s list of key factors represent a direct fit with the value proposition posed by firms offering goods and services through EI. As the examples in Table 1 demonstrate, all eight private sector components aim to motivate opportunity development through entrepreneurial action along one or more dimensions. For example, entrepreneurship expos and conventions offer networking opportunities and convey optimism; workshops are designed to hone business acumen; and, publications disseminate knowledge about approaches to entrepreneurship and specific ways to consider opportunities.

EI's goal, its shared value proposition, is to offer products and services specifically designed to help entrepreneurs overcome the many challenges of starting a new venture (Ardichvili, Cardozo, and Ray 2003; Shane 2008). In line with this aim, EI is motivated to increase the social desirability of entrepreneurship by creating entrepreneurial role models and helping to develop specific cultural beliefs about entrepreneurship. Through its tremendous size and reach, EI has increased the attention and interest in pursuing entrepreneurial activity by its consumers. As Isenberg (2010, p. 41) states, "we know enough about how entrepreneurship develops in the world to deliberately create the conditions so that there will be measurably more of it." Consistent with extant literature conjoining socio-contextual factors and entrepreneurial activity (Aldrich and Ruef 2006; Hunt 2015; Shane 2003; Sørensen 2007), we expect that EI serves as a motivational mechanism for current and prospective entrepreneurs. Accordingly, it is predicted:

H1: New venture creation is positively related to the consumption of EI goods and services.

EI and Entrepreneurial Outcomes

Thus far, we have argued that EI has a significant vested interest in promulgating the belief that individuals possess critical, idiosyncratic knowledge, and the ability to put it to work in generating profits. The problem, Shane argued (2008), is that the perceptions and intentions leading to one's proclivity to enterprise may not intersect with the realities of one's ability to enterprise (Ardichvili, Cardozo, and Ray 2003; Morrison, Breen, and Ali 2003). Often the impediments to successful entrepreneurship stem from an inadequate appreciation of the extent to which the opportunity development process involves analytical rigor, a process of "trial by fire" that enriches the entrepreneur's knowledge base (Ardichvili, Cardozo, and Ray 2003) through which opportunities should be subjected to vigorous due diligence (Ronstadt 1988). Evaluative judgments function as indispensable tools to determine whether or not the necessary resources can be accessed and whether or not these resources should be deployed toward further development of an opportunity (Perry 2001). The theory advanced in this investigation is in line with the Ardichvili et al. and Ronstadt models, in that we propose EI influences societal perceptions of entrepreneurship and drives aspirants to pursue entrepreneurial action under the influence of EI.

The "mythology" of entrepreneurship often accentuates the positive aspects of becoming one's own boss, managing your schedule, earning your own profits, and so forth (Brockhaus 1987; Shane 2008). EI tends to promote these entrepreneurial virtues and may disproportionately influence ill-equipped and weakly resourced aspirants. Prior research has shown that requisite cognitive abilities (Busenitz 1996), special insights (Kirzner 1997), and prior experience (Shane 2000, 2003) are germane to the discovery and pursuit of profitable market opportunities. Even if remarkable opportunities can be discovered through the support of EI goods and services, resource-based theories of entrepreneurship (Alvarez and Busenitz 2001) have underscored the challenges entrepreneurs face in gaining legitimacy, earning greater heterogeneous outputs, or attaining new venture success. This is, in essence, Ardichvili et al.'s notion that there are no shortcuts to the arduous process of developing and exploiting profitable opportunities (2003). In this fashion, EI may create—perhaps inadvertently—an atmosphere of illusory conditions (Shane 2008) wherein aspirants are prone to overconfidence (Hayward, Shepherd, and Griffin 2006), leading then to misjudge the acquisition and orchestration of mission-critical resources (Sirmon et al. 2011).

In our theory of how EI serves as a motivational mechanism, we hypothesize that the consumption of EI goods and services may impede the rigor brought to feasibility analyses (Ardichvili, Cardozo, and Ray 2003). It is predicted that under certain circumstances EI may circumvent the knowledge corridor model (Ronstadt 1988) by offering implied substitutes to due diligence, so that evaluative judgments about perceived opportunities are based on more readily available sources of information that are perhaps less reliable. Kahneman and Frederick (2002) referred to this process as attribute substitution, whereby computationally or analytically complex judgments are set aside in preference for simpler heuristics that were characterized by information processing shortcuts. The substitution of simple rules-of-thumb for seemingly complex problems relies on weak approximations of the actual variables involved. This effort to minimize cognitive strain makes substitutions appear attractive. This compilation of the eight EI sector components revealed that firms are heavily invested in portraying entrepreneurship as being achievable and lucrative. Since much of EI is linked to motivating entrepreneurial actions rather than entrepreneurial outcomes, the consumption of EI goods and services invites substitution by individuals who neither rigorously stress test perceived opportunities nor fully comprehend the required resources. More formally, it is hypothesized:

H2a: Firm performance is inversely related to the consumption of EI goods and services.

H2b: Firm survival is inversely related to the consumption of EI goods and services.

Data, Methods, and Analyses

As the foregoing discussion highlighted, the goods and services designed to foster entrepreneurial activity constitute a large, multifaceted industry, one that must be taken into account when seeking to describe and predict the

antecedents and outcomes of entrepreneurship. Unfortunately, existing frameworks are silent on the existence and influence of EI, creating a material level-of-analysis gap pertaining to the industry dynamics of entrepreneurship. By leveraging emerging research streams on social context, motivation and opportunity development, we have sought to address the industry-level omission of EI by advancing the argument that socio-contextual forces exert a complex and sometimes conflicting influence. This complexity is captured in our predictions that EI consumption is positively related to new venture creation but negatively related to venture performance and survival.

In seeking to test the three hypotheses, it was necessary to obtain data on both consumers and nonconsumers of EI. Since there is no existing data that bifurcates a population based on EI consumption, we approached internationally prominent expo organizers with a proposal to send a survey to attendees of events that were specifically geared toward entrepreneurship. Given that expo attendance involves committed action and a relatively significant investment of time and money, the approach enabled us to identify and contact a sizable population of EI consumers, each of who had spent a material amount of money on EI goods and services.

Data Sources

The database we assembled consists of survey responses gathered in early 2013 from individuals who attended at least one of five different entrepreneurship expos held in 2006, thereby creating retrospective data for a seven-year period. Two of the expos were held in California, one in Texas, one in New York and one in Illinois. The surveys were conducted as part of an evaluative instrument and marketing tool by the expo organizers. 6,473 attendees were contacted in three e-mail waves, of which 1,908 attendees (29 percent) completed utilizable surveys. In exchange for receiving access to the data, we agreed to maintain anonymity regarding the expos and all information concerning the individuals who were contacted as part of the survey.

Since the purpose of our research involved comparing EI consumers to nonconsumers, the attendee survey data were compared to a matched set of randomly selected employees drawn proportionally from business directories associated with regions surrounding each of the expo sites. Nearly 80 percent of the expo attendees lived within 100 miles of each event, so this radius set the geographical frame for the nonattendee sampling. Of the 6,000 nonattendees who were contacted, 995 (17 percent) responded. After screening for prior expo attendance and disqualifying omissions in completing the survey, 161 responses were excluded, generating a pool of 734 utilizable surveys. The response rate of nonattendees is in line with those realized by other empirical analyses of entrepreneurial activity (Dennis 2003). As indicated in Table 2, the matched pools of attendees and nonattendees are statistically indistinguishable in terms of gender, race, age, education, financial assets, and work experience.

Variables

Dependent Variables. To assess the extent of EI's influence and its related outcomes, three separate dependent variables were employed: new venture creation, operational performance, and venture survival. *New Venture Creation* is widely used as an indicator of entrepreneurial activity (Cohen, Smith, and Mitchell 2008; Gartner 1985; Shane and Venkataraman 2000). It was operationalized in this study through a discrete dichotomous variable that was coded "1" if a respondent founded at least one new venture during the six-year window, 2006–2012, and "0" if a respondent founded no new ventures during that time.

Two separate measures were used to evaluate the relative success of each new venture. Gimeno et al. (1997) found that the individual utility function of each business owner, including lifestyle motivators (Amit, MacCrimmon, and Zietsma 2000), often dictated firm survival, such that lower performing firms may persist for personal reasons that are only partially a function of profitability. Additionally, an emerging body of literature has demonstrated that entrepreneurial exits are multi-faceted and complex (e.g., Wennberg et al. 2010), often involving successful outcomes that have historically been coded as failures, thereby complicating measures of firm survival. Cognizant of these important findings, we employed both *Firm Performance*, which is a measure of the number of years that a new venture generated revenue, and *Firm Survival*, which is a dummy coded variable, reflecting whether each firm was revenue generating or had been exited successfully prior to the end of 2012 (coded as "1"). Firms that were neither revenue generating nor had

Table 2
Matched Set Covariate Means—Comparison Between Entrepreneurship Expo Attendees and Nonattendees

	Attendees	Nonattendees	T-test	*p*-value
Gender (percent male)	65 percent	63 percent	0.55	0.46
Avg Age (yrs)	40.36	40.29	0.01	0.91
Avg Education (scaled)	3.20	3.24	0.39	0.53
Holds College Degree in Business (percent)	26 percent	24 percent	0.53	0.47
Work Experience (yrs)	19.33	19.26	0.01	0.91
Prior Entrepreneurship Experience (percent)	12 percent	10 percent	0.77	0.21
Residence within 100 miles of Expo (percent)	80 percent	79 percent	0.36	0.55
Financial Assets (scaled)	3.18	3.24	0.44	0.35
Home Owner (percent)	65 percent	66 percent	0.15	0.44

been sold successfully to another party were coded as"0."

Predictors. Among the independent variables utilized in the study, *Expo Attendance* is a dummy coded variable, where "1" indicates expo attendance. *EI Expenditures* is the average annual dollars spent by each subject on EI goods and services during the seven-year period, 2006–2012. *Risk Evaluation* is an averaged value (1–5) drawn from questions asking subjects to assess the risks of starting a new venture. *Risk Willingness* is an average value (1–5) drawn from questions asking subjects to assess their respective willingness to accept the risks of starting a new venture. *Business Venture Timing* is an averaged value (1–5) drawn from questions asking subjects to assess the propitiousness of starting a new venture and then weighted by the number of total U.S. firms receiving first-time venture financing. *Confidence-Ideas* is an averaged value (1–5) drawn from questions asking subjects to assess the quality of their new venture ideas. *Confidence-Management Acumen* is an averaged value (1–5) drawn from questions asking subjects to assess their ability to manage a new venture. *Confidence-Network* is an averaged value (1–5) drawn from questions asking subjects to assess their ability to successfully activate their personal network towards the successful launch of a new venture.

Control Variables. Two vectors of control variables were used: (i) macroeconomic indicators of regional economic health, including GDP growth, unemployment rate, new business ventures, and new housing starts; and, (ii) EI-specific variables related to total volume EI firm formations and EI market growth. Additionally, individual-level controls were included for age, gender, education, work experience, and individual financial assets.

Analytical Strategy

Adding further dimensionality to the analysis, we performed a pair-wise comparison of 500 subjects drawn from each pool. Although the matched pools of attendees and nonattendees display equivalent means and variance for each focal covariate, as indicated in Table 2, the mean values obfuscate underlying variance that is important to determining if and how EI influences entrepreneurial behaviors and outcomes. Therefore, 500 expo attendees were paired one-by-one with 500 pair-mates who resembled the attendees in all respects other than expo attendance.

The purpose of employing pair-wise analysis with data drawn from matched sets is to remove bias in the comparison of groups by ensuring equality of distributions of the matching covariates employed (Rubin 2006). In this study, the comparisons were intended to isolate and analyze the consumption of EI goods and services. With pair-wise matching, the null hypothesis is that there are no significant differences between the paired subjects. In hypothesizing a discernible role of EI in motivating entrepreneurial activity, the default predication for H1 is that the null hypothesis will be rejected in the great preponderance of pair-wise cases, tested using

z-statistics and applying McNemar's test (McNemar 1947).

H2a and H2b predicted that EI consumption is inversely related to firm fitness. As noted above, we tested both firm performance and survival since survival is not strictly a function of performance (Gimeno et al. 1997; Hunt 2013). Lower performing firms may persist for nonfinancial reasons. Therefore, the regression model examines matched sets for differences in operational viability, indicated by the total years of revenue generation, while firm survival was modeled using both logistical regression and Cox Proportional Hazard (PH) models.

Results

Descriptive Statistics and Correlations

Table 3 presents descriptive statistics and a correlation matrix for the variables comprising the analytical models used in the study. The directionality and magnitude of the correlations is consistent with our central assertions about the relationships between EI consumption and entrepreneurial activity and outcomes. Both measures of EI consumption—expo attendance and dollars spent on EI—are significantly and positively correlated with new venture creation, but negatively correlated with firm performance and survival.

Matched Set Comparison

The matched set comparisons of 500 paired subjects were analyzed across nine separate dimensions (Table 4). In each instance, the null hypothesis was rejected, indicating the presence of significant mean differences across the two sets of paired subjects. In support of H1, 27.7 percent of EI consumers started at least one new venture between 2006 and 2012, compared to 16.5 percent of nonconsumers (comparison A). Further, EI consumers displayed significantly higher confidence in their business ideas (comparison F), management acumen (comparison G), and supporting networks (comparison H). However, firms founded by EI consumers actually performed far worse than those founded by nonconsumers of EI goods and services, whether measured by firm performance (comparison B) or survival rates (comparison C).

Additionally, EI consumers rated the risk associated with starting a new business more than one-third lower than nonattendees (comparison D) and indicated a 50 percent higher willingness to accept the risks of starting a new business (comparison E). Overall, these results point toward two very different clusters of responses when the groups are bifurcated by the contextual influences of the EI. Detailed analysis of the 500 pair-wise matches revealed that, on average, more than 90 percent of the pairs displayed substantively the same results as the mean differences for each of nine comparison dimensions. Put differently, fewer than 50 of the 500 matched pairs failed to display significantly different behaviors attitudes and outcomes than those predicted by the mean comparisons of the two matched sets.

Quintile Analyses

Since mean comparisons do not allow us to draw conclusions regarding the quantity and quality of entrepreneurial activity and outcomes across varying levels of EI consumption, we examined firm formations and average firm lifespan by expenditure quintile. Ideally, EI expenditures would be treated as a continuous variable, but this would require an unreasonable level of detailed recollection on the part of survey respondents. Therefore, the survey captured data by asking respondents to select one of five expenditure levels, ranging from "an average of $0 per year" (coded as "1") to "an average of greater than $1,000 per year" (coded as "5"), with three other choices representing the levels lying in between. Figures 2A and 2B display the results by expenditure quintile. The graphs show that the subjects with the lowest reported consumption of EI goods and services (Quintile 1) had a firm formation rate of 11 percent and an average firm lifespan of 3.07 years. Meanwhile, the biggest spenders on EI (Quintile 5) had a firm formation rate four times higher than Quintile 1, but a lifespan that was 60 percent lower. These findings provide support for H1, which predicted that the consumption of EI goods and services is directly related to firm formations, as well as H2b, which predicted that EI consumption is inversely related to firm survival.

Regression Analysis

In Table 5, Model 1 is a logistic regression of the probability that an individual will create a new venture. Consistent with the mean differences analysis (Table 4), Model 1 provides significant support for our prediction that EI consumption is a reliable predictor of new venture creation. Expo attendance and increasing levels of EI outlays are associated with a

Table 3
Descriptive Statistics and Correlations

		Mean	S.D.	1	2	3	4	5	6	7	8	9	10	11	12	13
1	**DV1—New Venture Creation**	0.25	0.43													
2	**DV2—Survial (Yrs)**	2.24	1.28	−.030												
3	**DV3—Oper Perf (Rev-Yrs)**	0.40	0.49	*−.109*	.225											
4	**Expo Attendance**	0.72	0.45	*.117*	*−.218*	*−.139*										
5	**Annual EI Expenditures**	3.07	1.34	*.209*	*−.245*	*−.173*	*.574*									
6	**Eval of Entre Risk**	2.76	1.25	−.040	.084	.031	*−.422*	*−.230*								
7	**Confidence in Ideas**	3.52	1.17	*.056*	.020	−.049	*.323*	*.190*	*.078*							
8	**Confidence in Mgmt Acumen**	3.54	1.19	*.059*	−.066	−.072	*.206*	*.134*	.001	*.101*						
9	**Confidence in Network**	3.36	1.27	*.103*	*−.070*	*−.088*	*.221*	*.138*	−.014	.005	.017					
10	**Gender (1 = male)**	0.64	0.48	.003	−.005	.047	.014	.046	.001	−.013	.049	.011				
11	**Age (yrs)**	40.31	12.39	.038	−.024	−.069	-.002	*.162*	.020	*−.109*	*.125*	*.216*	.034			
12	**Education (scaled)**	3.22	1.43	−.021	−.048	−.037	−.012	−.006	−.014	−.017	−.018	.028	.038	.055		
13	**Work Experience (yrs)**	19.31	11.94	.041	−.015	−.066	.003	*.162*	.019	*−.106*	*.129*	*.214*	*.185*	−.052	.017	
14	**Financial Assets ($ 000's)**	37.00	23.00	−.035	*.137*	*.094*	−.028	−.044	*−.109*	−.050	−.012	.001	*.171*	*.354*	*.277*	*.216*

Italics indicate that correlation is significant at the 0.01 level (two-tailed).

Table 4
Consumers versus Nonconsumers of Entrepreneurship Goods and Services—Self-Reported Proclivity and Ability to Enterprise

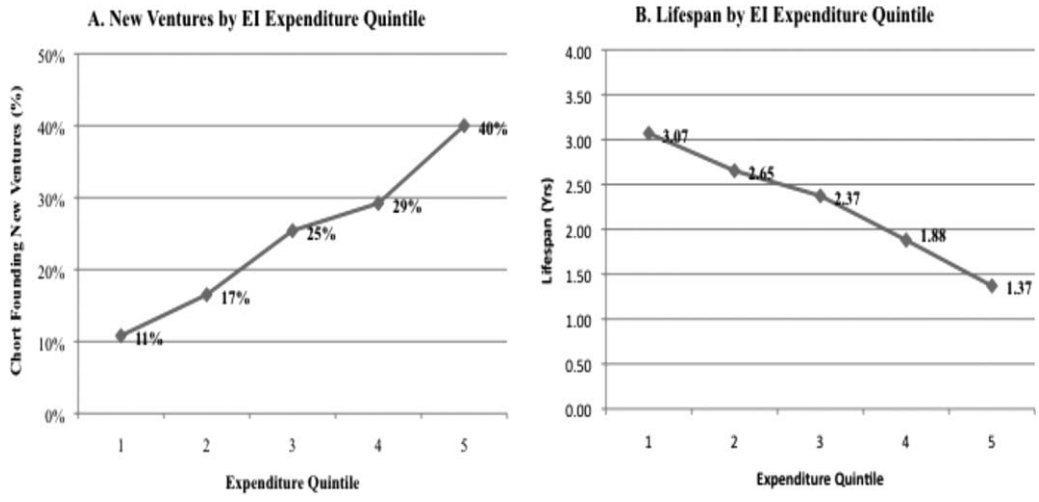
	A. Firm formation rate (percent)		B. Firm performance (yrs with revenue)		C. Firm survival rate (percent)	
	Attendees	**Nonattendees**	**Attendees**	**Nonattendees**	**Attendees**	**Nonattendees**
Mean	0.277	0.165	1.18	2.826	0.371	0.545
Std Deviation	0.448	0.071	2.11	1.18	0.529	0.121
$(H_0 : \mu_i = \mu_{i-1})$[a]	6.05***		5.69***		3.57**	

	D. Evaluation of risk (Low (1)–High (5))		E. Risk willingness (Low (1)–High (5))		F. Confidence in Busi ideas (Low (1)–High (5))	
	Attendees	**Nonattendees**	**Attendees**	**Nonattendees**	**Attendees**	**Nonattendees**
Mean	2.43	3.6	3.65	2.23	3.75	2.91
Std Deviation	1.43	1.21	1.18	1.04	1.12	1.08
$(H_0 : \mu_i = \mu_{i-1})$[a]	23.93***		28.65***		17.53***	

	G. Confidence in Mgmt Acumen (Low (1)–High (5))		H. Confidence in supporting network (Low (1)–High (5))		I. Interest in entrepreneurship (Low (1)–High (5))	
	Attendees	**Nonattendees**	**Attendees**	**Nonattendees**	**Attendees**	**Nonattendees**
Mean	3.63	2.58	4.02	2.91	3.66	2.98
Std Deviation	1.19	1.12	2.87	1.24	1.17	1.15
$(H_0 : \mu_i = \mu_{i-1})$[a]	21.10***		19.88***		14.05***	

[a]The tests are t-tests for continuous variables and chi-square tests for discrete variables.
***$p < .001$.
**$p < .01$.

Figure 2
Firm Formation and Survival—Quintile Comparison of EI Expenditures



significantly higher likelihood that individuals will undertake entrepreneurial action.

Conversely, the regression results for Models 2 and 3 support our predictions that: (i) ventures founded by EI consumers face a lower probability of survival than those founded by nonconsumers (Model 2); and, (ii) EI consumption is associated with lower operational performance (Model 3). This supports t-test C in Table 4, which shows survival rates among EI consumers to be 40 percent lower than nonconsumers. These findings suggest that an increase in the consumption of EI goods and services is positively related to the quantity of entrepreneurial activity but negatively related to the quality of entrepreneurial outcomes.

An examination of the subject perception predictors provides further support for the mean differences in Table 4. As all three models in Table 5 reveal, within the context of EI consumption, an individual's confidence in his or her respective ideas, management acumen and professional network increases the likelihood of starting a business, but decreases the likelihood that the business will perform well, or even survive. The far higher levels of confidence exuded by EI consumers (Table 4, Items F, G, and H), does not translate into superior performance.

It is important to note that for all three regression models in Table 5, the total EI expenditures are a significant predictor of new venture creation and firm performance over and above the effects of expo attendance. As noted in the Methods section above we necessarily used expo attendance as a behavioral indicator in compiling matched sets of study participants. If expo attendance were significant, but overall EI expenditures were not significant in the context of a complete model, then it could reasonably be claimed that the results are simply an artifact of expo attendance. Instead, it is apparent that EI expenditures are highly significant ($p < .001$) even after taking into account the effect of attending or not attending an entrepreneurship expo.

Proportional Hazard Analysis

Since the logistic analysis of firm survival measures the probability of survival from birth, it is important to also run a Cox Proportional Hazard Model in order to assess survival rates as they are continuously updated. For each of the model variables in a Cox PH model, a one-unit increase in the predictor results in corresponding impact on the probability of failure. Values above 1.00 indicate an increase in the probability of failure, while values below 1.00 indicate a decrease the probability. For example, in Table 6, a one-year increase in a subject's age will decrease the probability of failure by 2

Table 5
Regression Results

	Logistic models		Multivariate model
	Model 1	**Model 2**	**Model 3**
Dependent variable	**New venture creation**	**Firm survival**	**Operational performance**
Predictors			
Constant	Incl	Incl	Incl
Controls—Macro	0.20**	0.44***	0.24**
	0.08	*0.12*	*0.10*
Controls—EI	0.24**	0.17**	*0.07*
	0.13	0.06	*0.02*
Subject characteristics			
Age	−0.11*	−0.02	0,11*
	0.04	*0.01*	*0.07*
Gender (male = 1)	0.17*	−0.04	0.03
	0.11	*0.01*	*0.01*
Education	−0.06	0.02	0.06
	0.02	*0.01*	*0.04*
Work experience	0.21**	0.13*	0.10
	0.08	*0.05*	*0.03*
Financial assets	−0.07	0.14*	0.12*
	0.06	*0.07*	*0.04*
Subject perceptions			
Risk evaluation of entre	−0.18**	0.14*	0.18**
	0.10	*0.08*	*0.12*
Confidence in ideas	0.26***	−0.13*	−0.21**
	0.16	*0.08*	*0.13*
Confidence in Mgmt Acumen	0.12*	−0.20**	−0.18**
	0.08	*0.13*	*0.14*
Confidence in network	0.31***	−0.11*	−0.16**
	0.19	*0.07*	*0.12*
EI Consumption			
Expo attendance	0 71***	−0.53***	−0.33***
	0.45	0.18	0.15
Annual EI expenditures	0.35***	−0.44***	−0.20***
	0.26	*0.23*	*0.05*
Adjusted R^2	–	–	0.343
F-value	–	–	57.60
A Adjusted R^2 (versus controls)	–	–	+0.175
χ^2	219.36	148.70	–
Psuedo R^2	0.425	0.328	–
Predictive accuracy	91 percent	86 percent	–

Logistic regression values are log odds. Multivariate regression values are standardized coefficients. Standard deviations are in italics.
***$p < .001$.
**$p < .01$.
*$p < .05$.

Table 6
Cox Proportional Hazard Model Results

	Model 4 (Cox PH)		
	Probability of Failure (95 percent Cl)	**S.D.**	**p-value**
Variables			
Controls—Macro	0.99	*0.06*	0.16
Controls—EI	1.01	0.08	0.23
Age (years)	0.98	0.02	0.07
Gender (male = 1)	0.96	0.00	0.34
Education (1 = Low, 5 = High)	0.98	0.02	0.08
Work experience (years)	0.99*	0.04	0.03
Financial assets ($ 000's)	0.99*	0.03	0.03
Risk evaluation of entre (1 = Low, 5 = High)	0.97*	0.05	0.05
Confidence-ideas (1 = Low, 5 = High)	1.01**	0.09	0.01
Confidence-Mgmt Acumen (1 = Low, 5 = High)	1.02**	0.09	0.01
Confidence-network (1 = Low, 5 = High)	1.04**	0.11	0.01
Expo attendance (1 = Attended)	1.28***	0.04	<0.001
EI expenditures (1 = Low, 5 = High)	1.07***	0.02	<0.001
Chi-squared Goodness of Fit (13, $N = 1000$)	131.7		<0.001

*$p < .05$.
**$p < .01$.
***$p < 0.001$.

percent. Expo attendance, a categorical variable that is coded as "1" for attendance, increases the hazard by 28 percent.

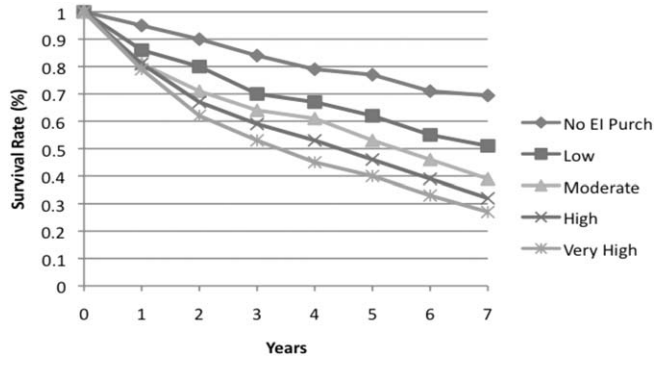
As the displayed values reveal, increases in EI expenditures have a large negative impact on firm survival. This substantiates the findings from the logistic regression model (Model 2, Table 5) and lends still further support to H2a and H2b, predicting that EI consumption is inversely related to entrepreneurial outcomes. Other variables, including attitudinal indicators involving confidence and perceptions of risk, were also significant, which is reflective of their relatively high correlations to expo attendance and EI expenditures. Figure 3 presents the hazard data in a Kaplan-Meier plot, which shows the cohort survival rates by expenditure quintile. Subjects reporting the lowest consumption of EI goods and services had by far the highest survival rate, while the biggest EI consumers had the lowest survival rate.

Robustness

As with all retrospective analyses employing survey tools, this study involves design elements that require careful assessment with respect to robustness. The use of matched sets and pair-wise analysis helped to mitigate the risk of biased predictors by providing controlled comparisons. As noted earlier, the pair-wise design fulfills several important methodological aims that improve the robustness of the results. Most importantly, the pair-wise assignments were used to insure that the matched sets are demographically indistinguishable from one another. Second, we sought to create a dataset that could provide statistically validated assurances that the results were not simply an artifact of the subject selection method: expo attendance or nonattendance. Finally, the pair-wise structure of the matched sets provided necessary support for the claims suggested by our theory concerning the relationships between EI consumption and entrepreneurial activity. Ultimately, by using pair-wise matching we control for group differences that might otherwise render comparisons spurious.

As an additional safeguard, robustness tests were performed to insure that the results were not subject to the potentially confounding effects of retrospective reporting, nonresponse,

Figure 3
Kaplan-Meier Plot for Firm Survival by EI Expenditure Quintile



common method bias, mono method bias, and right-side truncation. As with most studies in which both the business strategies and the outcomes of those strategies are included in the analysis, our research design is susceptible to endogeneity on three fronts: omitted variables, reverse causality, and errors-in-variables bias. To assess the possible presence of omitted variables, we used the Heckman two-step procedure (Heckman 1979). Applying Heckman, we generated an inverse Mills ratio, which was found to be not statistically significant. As for reverse causality, we used lagged time-series variables to confirm the directionality of focal effects (Davidson and MacKinnon 1992). We also performed a Hausman test (1978), which confirmed that the model predictors are not subject to a simultaneity bias. To mitigate errors-in-variables bias, instrumental variables were employed (Bascle 2008) that are correlated with the focal predictors of entrepreneurial activity and opportunity development, but not the error term.

Discussion

Given that this is the first study to define, demarcate and evaluate the EI, it was incumbent upon us to demonstrate both the existence and influence of EI. The central premise of this paper is that there exists a large industry focused on selling goods and services to current and prospective entrepreneurs, and that a critical assessment of its influence on entrepreneurial activities and outcomes addresses an important gap in the existing literature. Unlike any other facet of the entrepreneurial environment, EI is unique in its singular attempt to market an explicit value proposition for private profit, specifically: to facilitate the discovery and development of profitable opportunities. EI's significance as a socio-contextual driver of entrepreneurial activity provides support for the assertion that motivational effects are convincingly related to environmental factors (e.g., Carsrud and Brännback 2009, 2011). Models taking into account the motivational effects of EI meaningfully improve the ability to explain heterogeneous founding rates and new venture outcomes (Welter 2011).

The link between EI and entrepreneurial motivation is central to the industry's *raison d'etre*. Ultimately, the firms comprising EI make their money by creating interest in entrepreneurial activity. Therefore, we posed two questions regarding EI: Does the industry exert influence? If so, what are the outcomes? A core assertion of this paper has been that an omission of EI from frameworks seeking to describe entrepreneurial contexts, environments, or ecosystems unwisely ignores a large and influential component, without which predictive models will be handicapped in relating contextual factors to entrepreneurial action. Given the presence of EI as a multibillion-dollar force, whose profitability is predicated on the facilitation of entrepreneurial action, this effort to define the character, scale, and influence of EI addresses a material gap in the existing theory and empirical analysis of entrepreneurial environments.

Underlying the taxonomy for entrepreneurial environments developed by Gnyawali and Fogel (1994, p. 54) is the assumption that, "A key role

of the entrepreneurial environment is to help entrepreneurs develop both the propensity to enterprise and ability to enterprise." If so, then it appears that EI is performing well on the former and poorly on the latter. As the foregoing analysis illustrates, EI consumption is positively related to firm formations and market entry decisions. EI consumers are 68 percent more likely to start a business than nonconsumers. While additional empirical work will be required to build and test a causal case, the evidence from this study suggests that EI is positively related to entrepreneurial action. However, it is also apparent that businesses founded by EI's heaviest consumers, on average, experience shorter lifespans and fewer successful exits than businesses started by nonconsumers.

Theory of Substitution

The contrasting outcomes of heightened activity and weaker performance leads us to speculate that EI's value proposition is front-loaded, meaning that it generates a propensity to enterprise, but without the commensurate ability to succeed in doing so. Indeed, many of the goods and services emanating from the EI focus more on initiation than development. It appears that propensity drivers can be packaged and sold successfully while the "ability to enterprise" (Gnyawali and Fogel 1994; Hunt 2015; Morrison, Breen, and Ali 2003) appears to be less easily achieved.

The question of why heavy consumers of EI appear to be at a disadvantage versus nonconsumers is important. If EI does not deliver on the back-end facets of its value proposition, then the performance of the average EI consumer should simply resemble the performance of the average nonconsumer. There is no obvious reason why EI consumption would be a disadvantage. Unless, that is, something else is causing consumers to significantly underperform nonconsumers. The explanation that can and should be tested is one of substitution. Consistent with the attribute substitution theory advanced by Kahneman and Frederick (2002), EI consumers would be expected to employ cognitively less demanding EI substitutes for resources, capabilities and networks that are otherwise painstakingly developed over long periods of time.

The substitution effects can be seen in the matched set data comprising Table 4. Comparison H shows that EI consumers rate their supporting networks markedly higher than nonconsumers. Prior research has demonstrated that the fulfillment of entrepreneurial aims is significantly influenced by an entrepreneur's network (Dollinger 1985; Hills, Lumpkin, and Singh 1997, Stuart and Sorenson 2005) and other close associations, be they professional (Kacperczyk 2013) or familial (Aldrich and Zimmer 1986). Expo attendees often return home with scores of business cards that may resemble networking, but are instead more likely to be a precursor to networking. Similarly, comparisons F and G (Table 4)—examining confidence in one's business ideas and management acumen, respectively—reveal that, on average, EI consumers give themselves higher ratings for each. Lower confidence in one's ideas may actually be indicative of a more objective analysis of an idea's true market potential. As noted earlier, opportunity development has been shown to be an arduous process (Ardichvili, Cardozo, and Ray 2003; Hunt 2013), requiring rigorous analytical checks and balances (Perry 2001; Ronstadt 1988; Stevenson, Roberts, and Grousbeck 1985), a complex assortment of business capabilities (Shane 2008) and no obvious substitutions. The process of identifying and selecting propitious opportunities is extraordinarily difficult (Busenitz 1996; Kirzner 1997; Stevenson, Roberts, and Grousbeck 1985).

In addition to alertness (Busenitz 1996; Kirzner 1997) and prior knowledge (Shane 2000), the identification of opportunities that are worth developing requires an objective assessment of environmental signals. For these reasons, opportunity development may not lend itself to labor saving substitutions, rather: "The development process is cyclical and iterative: an entrepreneur is likely to conduct evaluations several times at different stages of development; evaluation could also lead to recognition of additional opportunities or adjustments to the initial vision" (Ardichvili, Cardozo, and Ray 2003, p. 106). An unwillingness or inability to pursue opportunities in this fashion may lead to what Kirzner referred to as "maladjustment," circumstances in which entrepreneurs persist in implementing a business model that is fundamentally at odds with the true market conditions (Kirzner 1997). This is because, as Kirzner noted, entrepreneurs are not simply selling their goods and services, but also their knowledge of how to assemble and market valued resources. The question is whether the components comprising EI can deliver value on this ability-driven facet of opportunity development.

Limitations

As with all research, design decisions related to this study have some limitations. The potential issues related to robustness and endogeneity were addressed earlier in the results section. Cognizant of these potential risks, extensive measures were taken to insure that the predictive models are unbiased to the greatest extent possible, while still substantively addressing the central research questions.

The possibility of alternative explanations deserves additional attention, particularly reverse causality and self-selection. The former holds that the greater consumption of EI goods and services is part of a self-fulfilling package of characteristics associated with someone who is already planning to launch a new venture. If indeed higher levels of entrepreneurial activity are driving EI consumption, then our predictors would be biased and our DVs would be significantly correlated to the error terms. However, as noted above, our models are robust to this potential confound. By using lagged time-series variables we established the directionality of focal effects (Davidson and MacKinnon 1992), which were subsequently confirmed through Hausman's test for simultaneity (1978). Consistent with our hypotheses, both procedures demonstrated that the statistically significant coefficients for EI expenditures (Table 4) are positive for *New Venture Creation* and negative for *Operational Performance* and *Survival*. Consequently, an alternative explanation hinging on reverse causality claims does not explain the dramatic underperformance by the most prodigious consumers of EI in the context of the time-lagged effects.

Another alternative explanation—that lower quality individuals self-select to higher levels of EI consumption—is also plausible. Through this lens, the high failure rate for EI consumers could be interpreted as being a manifestation of weaker, pre-existing capabilities that are simply being sorted through the study as expo attendance and overall higher EI consumption. Such a view may partially explain the performance disparity between consumers and nonconsumers, but this too ultimately supports our central argument since the data demonstrate that high-quantity consumers rate themselves to be more capable entrepreneurs, ones who foresee relatively little in the way of serious start-up risk (see Table 4). This is consistent with the findings of Greene, Mole, and Storey (2008), who found that lower performing entrepreneurs often exude greater confidence. If weaker individuals do inherently self-select to EI consumption in greater numbers, then they do so in an over-confident fashion, judging by their lower average performance. In this respect, EI goods and services do not appear to improve the decision making of under-achievers, and the self-selection argument is more of a complementary explanation than an alternative one.

Our investigation establishes a firm foundation for the consideration of entrepreneurship as an industry, but much more work can and should be undertaken to understand EI's impact. For example, our study solely relies upon data drawn from U.S. consumers and nonconsumers. While the scale and characteristics of our EI taxonomy is conceptualized as a global industry, the use of a U.S.-based dataset constitutes both a limitation and an opportunity. Since culturally derived perceptions of entrepreneurship have been shown to play a key role in shaping the quality and quantity of entrepreneurial action (Freytag and Thurik 2010), it is likely that the specific nature of EI consumption and its outcomes will vary as a function of cultural context. Follow-on research should explore the extent to which EI's motivational effects and performance outcomes are similar to or different from those revealed in the U.S. context.

Future research can also tangibly enhance our understanding of how EI influences entrepreneurial intentions and actions by cultivating a dataset that expands upon the individual-level controls included in our model: age, education, gender, work experience, and financial assets. Matched set comparisons that capture data regarding individual ambition and other measures of intentionality would be in a position to further refine, isolate and quantify the EI-individual nexus.

Implications and Opportunities

For scholars and practitioners alike, the identification and assessment of EI offers some fresh perspectives. For example, both the producers and consumers of EI could benefit from a fuller articulation and evaluation of the value propositions associated with EI goods and services. Given the range of EI's various sectors, firms would be well served differentiating viable value propositions from those that are perhaps suspect. The sheer range of EI offerings and the

mixed performance-related outcomes suggest that consumers need better tools to separate the wheat from the chaff. This differentiation may allow prospective entrepreneurs to more realistically weigh their propensity to enterprise against their ability to enterprise. As a blossoming market that fuels activity in key areas of potential economic growth, both producers and consumers will be best served by quality standards, reasoned expectations, and measurable outcomes.

For scholars, the findings extend and enhance research streams concerning environmental influences of entrepreneurial actions and outcomes. Research on opportunity identification, development, and exploitation can benefit from EI's industry level of analysis. Scholars studying the antecedents and outcomes of entrepreneurial action may want to include EI consumption as a key determinant in surveys and measurement instruments. Further disaggregation of the industry's producers and consumers would enable scholars to delve deeper into the cognitive and social aspects of EI consumption. From a more macroperspective, efforts to understand the relatedness between EI and other efforts to stimulate entrepreneurial activity have the potential to yield industry-level insights that are germane to the formulation of more effective government policies intended to support entrepreneurial activity.

Conclusion

Among its many different functions, features, and forms, entrepreneurship is also an industry. It is by any measure a large, fast-growing sector comprised of firms and organizations that are heavily invested in promulgating the "entrepreneurial dream." As such, EI constitutes a key contextual component that must be taken into account when studying entrepreneurs, entrepreneurship, entrepreneurial action and a wide variety of entrepreneurial outcomes. Empirical findings from this study suggest that EI is a potent motivational mechanism that exerts significant social-contextual influence on entrepreneurial activity. Goods and services marketed to would-be entrepreneurs increase founder confidence, reduce perceived risk, and increase firm formations and market entries. However, the industry may also spawn mediocrity, evidenced by weaker results and shorter lifespans for firms founded by EI's most loyal customers.

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