

Understanding strategic entrepreneurship: a “theoretical toolbox” approach

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Abstract This manuscript provides a foundation for future research on strategic entrepreneurship (SE) through the application of nine prominent organizational theories. Specifically, we apply a “theoretical toolbox” approach to examine SE through the lens of general systems, institutional, organizational ecology, strategic choice, upper echelons, real options, agency, network, and social identity theories. We consider the implications for SE offered by these perspectives and, using insights from each organizational theory, reflect on the nature of the challenges faced by firms when attempting the simultaneous exploration and exploitation required by SE. More broadly, the application of diverse theoretical perspectives is encouraged individually and in combination within future SE research.

Keywords Strategic entrepreneurship · Exploration · Exploitation · Organizational theory

Introduction

Positioned at the intersection of strategy and entrepreneurship, *strategic entrepreneurship* (SE) is the “integration of entrepreneurial (i.e., opportunity-seeking behavior) and strategic (i.e., advantage-seeking) perspectives” for the purpose of creating wealth (Hitt et al. 2001). It encompasses all organizationally consequential innovations—at any

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level and across all facets of the firm—aimed toward exploitation and exploration (Kuratko and Audretsch 2013). Such activity is “essential to firms’ efforts to differentiate their goods or services from competitors and create value for customers” (Hoskisson et al. 2013) and is the underlying driver of growth, survival, competitive advantage, and profitability (Ireland et al. 2001).

Due to such consequential outcomes for organizations, SE has commanded increasing attention, with an expanding number of scholarly articles (the seminal 2001 article by Hitt and colleagues has nearly 1400 citations, per Google Scholar) and several notable books (e.g., Hitt et al. 2002) devoted to its investigation. While anecdotal and empirical evidence have begun to emerge in support of SE’s positive influence on firm performance (e.g., He and Wong 2004; Kuratko et al. 2001), the challenge for firms is still readily apparent as they attempt to promote and sustain both opportunity- and advantage-seeking activities (Ireland and Webb 2009). There is an inherent tension between these pursuits, as the organizational goals, policies, and procedures associated with each activity can conflict (March 1991). Exploration (opportunity-seeking behavior) and exploitation (advantage-seeking behavior) are two fundamentally different activities which compete for limited resources, and company leaders necessarily make trade-offs between them (Smith and Tushman 2005). Firms face the challenge of finding a balance between the rigidity necessary to properly monitor and control costs and the autonomy required to quickly adapt and leverage resources based on changing market demands and opportunities.

Despite its emergence as a topic of strong and growing interest among scholars, much remains unknown about how and why some firms successfully pursue SE while others falter (Ketchen et al. 2007; Kuratko and Audretsch 2009). Much of this ambiguity is due to acknowledged limitations in present conceptualizations (Kyrgidou and Hughes 2010). Also contributing is a deficient approach to theoretical application, as firm-specific resources have been the dominant focus of SE research (e.g., Ireland et al. 2003; Klein et al. 2013; Mosakowski 2002). Resource based theory (RBT)—with its emphasis on resources, competencies, and capabilities as a means to develop a sustainable competitive advantage—remains a useful, harmonizing framework and the theory most aligned with and most prominently featured in the SE literature, but has in many ways hampered scholarship on this topic.

Consistent with calls for a more conceptually diverse examination of SE and its underlying nature (Kuratko and Audretsch 2009; Schindehutte and Morris 2009), the overall objective of this manuscript is to shed new light on the burgeoning topic of SE by drawing upon a set of theories that have played central roles in organizational research, yet have received scant attention with regard to this concept. Similar to what past research has done for the topics of sustainability (Connelly et al. 2011), best value supply chains (Ketchen and Hult 2007), and strategic sourcing (Shook et al. 2009), this work strives to inspire scholars of both strategy and entrepreneurship to extend their theoretical approaches to SE. As such, the paper follows a “theoretical toolbox” methodology, which offers some similarities to a traditional literature review, but has a distinctly different format and purpose. Whereas a traditional review paper attempts to identify knowledge gaps by summarizing everything that is known about a specific topic, the goal of the toolbox approach is to stimulate research on a given topic by highlighting a broad array of theories that generate new and unique insights. While the extant literature was reviewed for other works which have applied the selected theories within SE-related studies, part of the inherent purpose for their selection was that these

theories have not been extensively applied in the investigation of the topic and therefore carry novel insight and understanding. The toolbox approach presents tremendous opportunity for discovery by exploring theories infrequently linked with a given domain, and can be particularly effective when one theory has been the dominant theoretical base used to investigate a phenomenon, as is the case with RBT and SE.

The predominant use of RBT to investigate SE has limited attention to the influences of resources at the firm level and has largely ignored influences on SE from other levels (Schindehutte and Morris 2009), such as the competitive environment and individual levels (Hitt et al. 2011). Thus, the selection of nine additional theoretical lenses was driven by the need to move beyond the firm level of analysis and farther than resource-specific thinking (including theories closely linked with RBT, such as resource dependence theory). It is not our intent to imply that these are the only theories that offer novel insights; simply, these offer another launching point in attracting new attention and creative thinking around the SE knowledge base. Other theories, along with the ones mentioned in this work, should be given careful consideration in future research on SE.

After a brief overview of each selected theory, we note what each theory might tell scholars about the nature of the challenges firms face when attempting simultaneous opportunity-seeking and advantage-seeking activities. We also use each theory to suggest future research directions for those interested in further examination of SE. Before proceeding to the application of the nine theories, we begin with an overview of SE.

A brief background on strategic entrepreneurship

The presence and ongoing pursuit of innovation within a firm leads to its description and identification as an entrepreneurial organization (Covin and Miles 1999). Accordingly, the traditional view of SE considers the firm as the fundamental unit of analysis. As such, SE is conceptually situated within the broader domain of firm-level entrepreneurship, also recognized in the literature as corporate entrepreneurship. Corporate entrepreneurship (CE) and SE are therefore related, but are not synonymous terms. While the narrative of CE has varied over the years, the most widely accepted definition reflects CE as the process whereby individuals create a new organization or instigate innovation from within an existing organization (Sharma and Chrisman 1999). Such a description distinguishes entrepreneurial phenomena surrounding innovation from those involving the creation of new businesses (Kuratko and Audretsch 2013). This distinction has led to the conceptualization of two categories of CE: corporate venturing and SE (Morris et al. 2008). While corporate venturing is depicted by company involvement in the creation of new businesses, SE—with its focus on consequential strategic renewal, product, process, and/or business model innovations—represents a broader array of entrepreneurial initiatives which do not necessarily involve new businesses being added to the firm (Kuratko and Audretsch 2013).

As SE has generated increasing interest among scholars, several models have been introduced to the literature. The most extensively acknowledged and adopted model of SE (Ireland et al. 2003) identifies four key elements: 1) an entrepreneurial mindset, culture, and leadership; 2) the strategic management of organizational resources; 3) the application of creativity; and 4) the development of radical and incremental innovation that help form and execute competitive advantage. Each of these elements works in

concert, designed to leverage entrepreneurial opportunities for both growth- and advantage-seeking purposes within a framework of strategic decision making.

The Ireland et al. (2009) model suggests that entrepreneurial leaders intent on creating wealth should embrace a mindset that encourages new ideas and creativity, enables risk taking, tolerates failure, and promotes learning (Covin and Slevin 2002). Such a mindset is both an individualistic and collective phenomenon that induces managers and employees to think and act entrepreneurially, supporting the continuous search for new opportunities that can be exploited (McGrath and MacMillan 2000) and leading to the development of an entrepreneurial culture. An entrepreneurial culture, in turn, reinforces the thinking of entrepreneurial leaders and the collective mindset of the organization, indelibly linking these components within the greater model.

Once these reciprocal factors are present, organizations are more apt to employ novelty and creativity when identifying, developing, and leveraging their resource portfolio in order to induce and produce innovation. As per the model, an entrepreneurial orientation that permeates the organization through all levels (Wales et al. 2011) enables organizational members to strategically manage and deploy resources in the best interests of the firm and in a manner consistent with their entrepreneurial strategic vision, inspiring creativity with an urgency and desire for continuous improvement. Processes and organizational mechanisms must afford enough autonomy and support resources to not only encourage new ideas, but also allow for invention to transition into innovation. Therefore, there must be a freedom for creativity within the ranks that is balanced by appropriate structure, capabilities, and buy-in to implement innovative processes or bring new products to market. It is this combination of context, process, and innovative content that allows firms to achieve entrepreneurial outcomes, competitive advantage, and subsequent wealth creation. Maximum wealth creation is obtained when firms achieve an appropriate equilibrium between opportunity-seeking and advantage-seeking activities (He and Wong 2004; Ketchen et al. 2007), with optimum levels likely to vary depending on environmental context (Coombs et al. 2009; Uotila et al. 2009).

Though several theories are mentioned, the Ireland et al. (2003) model presents RBT as the “foundation” for SE activity. Financial capital, human capital, and social capital are three specific resources prominently discussed by Ireland and colleagues. Each of these resources are representative examples of a firm’s heterogeneous assets and capabilities with the potential to drive sustainable competitive advantage and superior performance over time (Barney 1991). Consistent with resource-based tenets (Penrose 1959), the model suggests that these resources must be strategically managed (that is, structured, organized, and maximized to cultivate creativity and innovation within the organization) by organizational leaders in order to foster the opportunity- and advantage-seeking behaviors that lead to organizational prosperity (Ireland et al. 2003; Sirmon and Hitt 2003).

Because opportunity- and advantage-seeking activities compete for scarce resources, firms must recognize the resources and capabilities currently leveraged for success, yet also be keenly aware of (or willing to invest assets to determine) the resources and capabilities required to explore, invent, and innovate in new markets (Sirmon et al. 2007; Sirmon et al. 2011). Understanding a firm’s source of advantage is critical for that firm to be competitive in their existing marketplace; it may also allow managers to strategically think about how the resources could be leveraged for innovative behaviors

(Mosakowski 2002). Exploring new opportunities relies on resources such as information, social capital, and entrepreneurial experiences (Michael et al. 2002) as well as the entrepreneurial capabilities of cognition, discovery, understanding market opportunities, and coordinated knowledge (Alvarez and Busenitz 2001). These types of resources and capabilities must also be developed or acquired in order to balance exploration and exploitation. The optimum scenario is when an organization recognizes existing resources or easy to acquire resources that can be leveraged for both opportunity- and advantage-seeking, and develops the capabilities to properly transition between them (Ireland and Webb 2009; O'Reilly and Tushman 2008).

Despite the obvious benefits drawn from the application of RBT, recent work suggests SE is broader in scope and spans more levels of analysis than originally conceptualized (Chiles et al. 2007; Hitt et al. 2007; Hitt et al. 2011). A growing number of scholars have begun to advocate for more diverse conceptualizations of SE due to the limitations inherent within the original model and supporting theory. For example, Kyrgidou and Hughes (2010) argue that the extant literature fails to address internal environmental conditions, specifically noting inadequate conversation related to the internal design of the firm and a failure to recognize individual-level motivations and behavior in the SE process. Hitt et al. (2011) offer similar insights on the limited articulation of individual knowledge and skills as resource inputs to the SE, and extend the criticism to inputs from the external environment. Accepting the authenticity of resource inputs located at different levels, including the external environment, firm-specific factors, and individual organizational members, it is necessary to revisit the implications of how these varied inputs interact with the SE resource orchestration processes. Applying a diverse set of theories in accordance with these inputs can help toward building additional clarity around the phenomenon.

Realizing the limited application of theory conventionally appropriated in the SE literature, there are nuances of the SE phenomenon that haven't yet been discussed or explored, questions for which RBT fails to grant insight. For instance, what are motivations of organizational leaders to trigger SE behavior or in decision making about how to execute an SE strategy? What experiences and backgrounds help shape the entrepreneurial mindset necessary to pursue SE? How do firm leaders navigate the myriad of opportunities presented within an SE strategy to promote the balance? How do resources both within and outside the firm respond, cooperate, and antagonize one another in seeking to balance exploration and exploitation? How is the organization's identity, across functional and divisional lines, impacted and influenced by the pursuit of SE? More broadly, how do environmental factors positively or negatively influence an SE strategy? We therefore reach beyond RBT to pursue such knowledge via the toolbox approach, viewing the concept through the lens of multiple theories not traditionally or frequently applied in SE-related work. For that reason, we turn to nine other well-established theories from organizational research, applying these perspectives to SE with the intent of uncovering novel insight and serving as a catalyst for future scholarly endeavors.

Theoretical perspectives applied to strategic entrepreneurship

Scholars have advocated multi-theoretic approaches to investigating SE (Ireland et al. 2009; Ireland et al. 2003). Theory allows scholars practical and conceptual insight into a phenomenon and helps them to understand the systematic reasoning for a particular

occurrence or non-occurrence (Penney and Combs 2013). Theory is the means through which scholars investigate and gain understanding of concepts and their interrelationships (Corley and Gioia 2011), and provides alternative lenses for us to evaluate and consider new concepts.

Because most organizational phenomena are mixed-level (Rousseau 1985)—with innovation specifically noted as such (Gupta et al. 2007; Schindehutte and Morris 2009)—and in accordance with the diversity of resource inputs recently advocated (e.g., Hitt et al. 2011), this work seeks understanding by looking across levels of analyses. As noted by Davidsson and Wiklund (2001), significant advancements in entrepreneurship research can be made through more frequent use of appropriate but largely overlooked levels of analysis and combinations of different theoretical perspectives across levels of analysis. Taking cues from the prior work illustrating limitations in extant SE-related theory and modeling—namely, in how external contexts and the decisions and actions of organizational members might influence SE (e.g., Hitt et al. 2011; Kyrgidou and Hughes 2010)—we identified a need for more expansive analyses involving theories at the environmental and individual levels of analysis. In addition, we include several supplementary theories at the firm level that do not limit their focus to heterogeneous resources.

For these reasons, level of analysis has guided the selection of theories and provides an organizing framework for discussing the research implications from our analyses. In all, and in accordance with past toolbox-style papers, nine additional theories have been selected for examination. Specifically, we consider three theories (beyond RBT) at the firm level of analysis (agency, real options, and social network); three theories dealing with a firm's external environment (institutional, organizational ecology, and general systems); and, finally, three theories relating to the individual level (strategic choice, upper echelons, and social identity).

This is not meant to be an exhaustive list of theories. While others may offer contributions of considerable value, these theories were chosen for the significance in addressing potentially interesting research questions and important, acknowledged gaps in the SE knowledge base. We believe our choice of established theoretical bases should instill confidence in the resultant insights, providing a rich and diverse conceptual frame for future research. Table 1 offers a summary of the key premises of each of the nine theories, illustrates potential implications for SE, and offers a sampling of research questions developed from each theory.

Firm level of analysis

We start with an inclusion of three theories at the firm level of analysis. Agency theory explains how organizations are structured to deal with conflicting goals of principals and agents, while real options theory has frequently been linked to entrepreneurial firms and represents a strategic approach to SE. Both theories deal with how firms cope with inherent risks, and therefore have implications for how firms deal with opportunity-seeking and advantage-seeking innovative behavior. Social network theory has been noted to span multiple levels of analysis (Brass et al. 2004), but we choose to focus on how organizations structure their internal and external relationships. Examples involving Trident Systems, Amazon, and Yum! Brands are used to demonstrate how these three firm-level theoretical perspectives are being carried out in a real-world context.

Table 1 Important theories and their implications for strategic entrepreneurship

Theoretical perspective	Core premise of theory	Key implications for organizations engaging in SE	Possible future research questions
Firm-Level			
Agency theory	Principals must monitor agents to ensure decisions are aligned for firm success	Present ample opportunity for managers to take responsibility for entrepreneurship, recognize individual performance contributions toward both exploration and exploitation, and reward entrepreneurial performance appropriately	What mechanisms do firms use to encourage, monitor, and reward acts of SE throughout their organization? How can franchising successfully be employed as a corporate structure for exploration and exploitation?
Real options theory	Firms should seek multiple low-cost alternatives for action through investments in options that do not require further obligation	Build a portfolio of entrepreneurial opportunities; invest incrementally until sufficient information is available and develop capabilities to transition an opportunity from exploration to exploitation as options are exercised	How are firms best structured to identify and build a portfolio of entrepreneurial opportunities along both exploration and exploitation activities? What controls and mechanism do firms use to best manage their portfolio of entrepreneurial opportunities?
Network theory	Managing inter-firm and intra-firm relationships are keys to success	Strong ties might serve useful to leverage relationships in search of current advantages (exploitation); weak ties may serve a firm in developing radical innovation and recognizing opportunities in new product-market domains (exploration)	How does managing a network of both strong and weak ties promote or strain efforts toward SE? How does becoming overly embedded in a network inhibit SE?
Environment-Level			
Institutional theory	Institutional pressures implore firms to conform to the environment	Differentiate using a staged approach in order to maintain legitimacy from key stakeholders (exploitation); mimic behaviors and adopt conventions in new environments (exploration)	How can firms engage in SE without evoking negative response by current competitors? Are their specific actions that develop legitimacy when exploring new markets?
Ecological theory	The external environment dictates organizational survival and will select out firms that do not fit	Avoid coevolutionary lock-in that leads to greater emphasis on past success and current advantages (exploitation); stay committed to a balanced approach that includes scanning for new product and market opportunities (exploration)	How can firms identify proper balance for exploration and exploitation to best fit their environment? What structures or processes help firms avoid coevolutionary lock-in and overemphasizing exploitation?

Table 1 (continued)

Theoretical perspective	Core premise of theory	Key implications for organizations engaging in SE	Possible future research questions
General systems theory	Organizations are best viewed as part of a system of interconnected parts	Capitalize on certainty of interior of open system to maximize current advantages (exploitation) while scanning changes in external environment for new opportunities (exploration)	What are the internal/external triggers that lead firms to engage in SE? What are the intended/ unintended consequences to changes in the internal/external systems due to engagement in SE?
Individual-Level			
Strategic choice theory	Organizational decision makers drive the firm's fit with the environment through the choices they make	Focus on cutting edge innovations that make immediate and dramatic impressions in new or existing markets (exploration), but will evolve into lasting competitive advantage products that can sustain the company for longer periods (exploitation)	Do managers deploy resources in a steady balance of exploration and exploitation, or does the flow of resources shift based on other contextual circumstances? What characteristics dictate the correct time to shift exploration efforts into exploitation and vice versa?
Upper echelons theory	Firm outcomes are largely due to the decisions made by biased executives	Past experiences, training, education, and personalities of executives are likely to shape interpretations of environmental contexts and impact business decisions; throughput-oriented leaders will likely focus greater attention on efficiency (exploitation), while output-oriented leaders will gravitate toward new product and market opportunities (exploration)	How are top management groups best composed to engage in SE? What backgrounds, experiences, or characteristics better equip managers to engage in and balance SE?
Social identity theory	People tend to classify themselves and other people into social classifications	Leaders should manage the identity of an SE-focused firm such that it rectifies the appropriate balance of exploration and exploitation, rather than traditional organizational identities which are often built around one behavior or the other.	What are characteristics of firms that are successfully able to develop multiple identities built around exploration and exploitation? Do identities developed around innovation inhibit exploitation (and vice versa)?

Agency theory is based upon the premise that principals and agents are engaged in some form of cooperative behavior, but have conflicting goals and differing attitudes toward risk (Jensen and Meckling 1976). Considering this in the context of medium and large firms, when owners (principals) hire managers (agents) and give them authority over resources, agents must be monitored to ensure the decisions they make are not self-aggrandizing (Eisenhardt 1989). Because each agent is assumed to be self-interested and to possess divergent goals, the principals must expend resources and put controls in place to align the interests of the agent with those of the principal (Fama 1980; Fama and Jensen 1983). Often this comes in some form of ownership (e.g., stock or stock options) or rewards system for the agents, to better align their long-term interests with that of other principals (Dalton et al. 2007).

SE from an agency perspective views shareholders as principals that delegate responsibility to top management for entrepreneurship (Jones and Butler 1992). Top managers, acting as agents, are expected to organize entrepreneurship, but are often not rewarded as the residual claimant for taking on the weight and risks of entrepreneurial decisions. Organizational emphasis on financial control might create an agency issue as managers become risk averse or conservative instead of entrepreneurial, unwilling to take on risk in fear of financial loss or weaker performance owing to investment requirements and uncertainties (Kyrgidou and Hughes 2010). As Jones and Butler point out, the circumstances are often even more complicated in large public organizations where ownership is diffused and entrepreneurship is regularly delegated to lower tiers of management. Middle managers are primarily rewarded in straight salary and bonuses tied to the overall performance of the firm; thus, management at both levels do not receive the personal profit upside that their exploratory entrepreneurial activity would receive if they were to become entrepreneurs independent from their current organization. Moreover, agent compensation is challenged by the difficulty in monitoring entrepreneurial behavior; as the responsibility for entrepreneurship has been shifted to many agents across the organization, it becomes a much more difficult task to monitor, assess, and reward (Burgelman 1983). Additionally, the impact of entrepreneurial behaviors is best evaluated in the long run when innovations' effects become manifested in changes in long run profitability (Jones and Butler 1992). Therefore, short-term appraisals are difficult, which further incentivizes agents to pursue their own interests.

Trident Systems Inc., a veteran-owned business offering consulting services to major U.S. Department of Defense contractors, is an example of a firm that embraces SE while employing mechanisms to align employee interest with that of its owners. Trident uses a profit sharing plan that distributes a significant portion of company profits to employees on the basis of merit and behavior. Not only has the program led to process efficiencies and innovations that have increased profit margins, but it has encouraged employees to be more proactive in seeking out new business opportunities, generating additional contracts, and delivering affordable innovative technology services and products to a wide variety of clients (National Research Council 2009).

Despite the proactive steps taken by firms like Trident, the challenges of properly monitoring and rewarding entrepreneurial behavior may prove to be detrimental to finding the appropriate balance of exploration and exploitation. Without significant upside reward, agents are likely to focus on more easily monitored exploitation activities that achieve positive short-term organizational benefits (improved efficiency, better turnover rates, short-term profitability), reduce employment risk, and maximize

personal wealth under typical compensation bonus packages based on annual firm performance. Future work might therefore examine how the agency problem, including the structures and policies designed and employed to diffuse such risk, lead to issues of moral hazard and adverse selection that have negative impact on firms' ability to achieve appropriate levels of balance between opportunity- and advantage-seeking behaviors. What motivations lead organizational members toward SE behavior? Are there particular rewards systems that are most effective in carrying out a consistent and balanced SE strategy? In congruence, agency theorists might further investigate how organizations seeking balance between opportunity- and advantage-seeking efforts are able to most constructively present ample opportunity for the corporate entrepreneur at all levels to take responsibility for entrepreneurship through the promotion of both incremental innovation and proactive exploration, tolerance for risk, and by providing some degree of autonomy (Lumpkin and Dess 1996). Governance structures, organizational design, and employee motivations, therefore, should more consistently be addressed in SE-related research.

As prior empirical work has shown that lower-level managers are less apt to engage in entrepreneurial initiatives than their more senior counterparts (Hornsby et al. 2009), researchers might also be well-served in looking at organizational mechanisms that best encourage exploration and exploitation at lower levels of the organization by recognizing individual performance contributions and suitably rewarding entrepreneurial performance (Jones and Butler 1992). Providing the appropriate amounts and forms of autonomy, recognition, and reward offer to not only better align principal-agent interests, but also contribute to the development of the collective entrepreneurial mindset and entrepreneurial culture necessary for SE. Cooperatively, these may serve as a system of work practices that promotes more effective management and leveraging of firm resources (Audretsch et al. 2009).

Agency theory might promote other lines of inquiry as well. For example, prior research has noted the differing impediments to large and small firms engaging in SE. While often nimble and innovative, small firms lack market power and have limited resource stocks to achieve competitive advantage; meanwhile, larger firms have extensive scale advantages, but their bureaucracy, separation of ownership and control, and focus on efficiency can inhibit exploration efforts (Ketchen et al. 2007). Given agency theory, smaller private firms, where ownership and management are not largely diffused, might have greater propensity to successfully exhibit a balance of exploration and exploitation than large public organizations due to ownership concentration.

Real options theory centers on a systematic approach to analyzing the relative merits of alternative actions that limit or mitigate risk (Folta 2005). In effect, real options theory is based on the core premise that obtaining multiple alternatives for action through investments in options that do not require further obligation can be a successful strategy in pursuing opportunities for wealth creation (McGrath 1999). Maintaining these options for business decisions offers flexibility in managerial decision making—allowing organizational leaders to make small investments on numerous fronts, while delaying decisions on larger capital investments until more information is available and the environment becomes more certain. Preserving options infers a value in delaying irreversible investments in order to resolve current levels of uncertainty; an informed decision to proceed with or abandon the opportunity can be made at a later date with the benefit of more information, if it becomes available (McDonald and Siegel 1986).

Amazon, the e-retailer that started selling books and has since expanded into numerous other markets, is a company that has leveraged real options extensively while balancing opportunity- and advantage-seeking behaviors. Emerging as one of the few winners from the dot-com bubble, Amazon has been able to “place bets” in order to develop a portfolio for large scale invention. The initial exploration into hardware with the Kindle e-book reader and an investment in a web services platform, which has grown to an estimated \$160 billion business (Kim 2015), represent two investments to explore new markets that have paid extensive dividends for the firm. More recent bets on exploratory innovation include the Dash, a handheld grocery ordering device, and efforts to introduce 30-min drone delivery, which would create a radical paradigm shift in the shipping industry. Each of these would enhance and take advantage of current markets the firm capitalizes on with their traditional web-based marketplace platform, complementing exploitative innovations in improved recommendations, quick-delivery memberships (i.e., Amazon Prime), and incremental technology advances in existing Amazon hardware (e.g., Kindle handhelds, Amazon Fire tablets). According to Bezos, “if you place enough of those bets...none of them are ever betting the company... If you invent frequently and are willing to fail, then you never get to that point where you really need to bet the whole company” (Masnick 2011).

In viewing SE through a real options lens, the challenge is for companies to identify exploration and exploitation opportunities, realizing those opportunities through limited investment until greater certainty on profit potential is available (Ketchen et al. 2007). The real options literature suggests firms invest in multiple alternatives in order to develop a portfolio of entrepreneurial opportunities (Ireland et al. 2003). Collaborative alliances and joint ventures have been presented in previous literature as strong, low-risk options to help develop a portfolio of opportunities (Folta and Miller 2002), so they may play a significant role in successful SE. These arrangements allow firms to test a market before a larger capital outlay, as each partner firm avoids total commitment initially but has the option to buy or sell at a later date. Beyond this, more work is necessary to look at how the composition of a portfolio influences SE and what composition is optimal for balancing SE activities. Real options research might shed light on optimum equilibriums for firms in different industries or at different life cycle stages. Research has yet to determine if stretching out the “window” on a few opportunities best maximizes a firm’s options—as more information is revealed and future markets and technology develop—or if exploration and exploitation are best cultivated using broader portfolios (i.e., investing in a multitude of options which only present short-term windows). Scholars might examine which is more suitable to achieve a proper balance of opportunity- and advantage-seeking behavior.

Beyond the development of a diverse portfolio of opportunities, a critical element for SE-oriented firms is to properly manage the option life cycle (Klingebiel 2012). As options are exercised, firms can create additional value by developing capabilities to transition an opportunity from exploration to exploitation, while still directing limited resources into new opportunities for exploration (Zahra et al. 2006). This realization should prompt future research to investigate how firms are best organized to not only identify, but also develop and manage a portfolio of opportunities. Additionally, what capabilities must be developed to properly exercise options and transition from exploration to exploitation? In order to not miss out on an opportunity to enter or secure early market share, what controls or other mechanisms can be developed by firms to prevent

holding entrepreneurial options too long? Are financial investments the correct determinants for decisions to exercise options in all arrangements, or do other factors come in to play, such as knowledge benefits or the strengthening of a network that might lead to new opportunities or innovations in the future?

Social network theory Networks are systems of actors (or nodes) and the set of ties that represent the relationships between those actors (Borgatti and Foster 2003). These actors have the ability to transfer information across their network, which gives rise to differential access to knowledge, resources, and power (Brass et al. 2004). Network theory revolves around these associations, suggesting that the effective management of interconnected social relationships leads to positive organizational outcomes. In an effort to improve firm performance, networks can be used to reduce a firm's exposure to uncertainty, risk, and opportunism (Gulati 1995); obtain access to resources and legitimacy (Stuart 2000); and provide access to information and knowledge resources that are difficult to obtain by other means (Powell et al. 1996).

This perspective promotes networks as sources of knowledge that have the potential to drive organizational change (Brown and Duguid 2001), inferring that relationships with various stakeholders (e.g., suppliers, customers, competitors, or other entities) provide information to assist in strategic and entrepreneurial actions. It stands to reason that the knowledge gained from an organization's network can serve as a source of innovation (Brown and Duguid 1991; Chesbrough 2003). Social networks can therefore play a critical role in shaping the entrepreneurial process and outcomes (e.g., Slotte-Kock and Coviello 2010). Research has supported networks as a driver of both innovative input, such as R&D investment (Soh et al. 2004) and innovative output (Baum et al. 2000; Powell et al. 1996). In all, networks help firms extend their internal innovative potential by accessing the creativity of partners within their network and by having its partners aid in the identification of new market applications the firm might not locate on its own (Agarwal et al. 2010; Ketchen et al. 2007); they also may lead to a competitive advantage by allowing a firm to act quicker than rivals (Gulati 1999).

Yum! Brands, Inc., a global business in the quick-service restaurant industry, illustrates insights from network theory. Yum! has over 430,000 restaurants in nearly 140 countries and territories, mostly operating under the KFC, Pizza Hut, and Taco Bell brands. The firm has developed a unique network of associates and franchisees throughout the world, actively working with these partners to deliver SE across the organization. Yum! corporate leadership handles exploration via their expansion into new geographic regions, development of new operational systems, and application of new technologies (e.g., a digital platform for online and mobile orders), but values its network of franchisees for bringing new ideas to light. Yum! does not rely on centralized R&D operations; instead, the firm largely depends on local employees and franchise partners to be innovators in marketing and product development (Siegel and Poliquin 2012). They encourage experimentation among local partners who are close to customers, innovating through new menu variety (e.g., product offerings like the creamy Krusher drink from Australian stores and the Street Wise value menu developed by local South African stores) and other service-based innovations (e.g., opening 24-h a day, developing "Tea Time" in Asia, and offering delivery or take-out services) to increase revenues. In conjuncture, Yum! leans on leadership at the core to recognize and apply best practices across markets, using a committee for each

brand to help support, analyze, grow, and implement new innovations into worldwide operations based on performance data. Once local stores have proven successful with new innovations, the corporate offices look to exploit these ideas across other stores and in other markets.

Relative to social network theory, the challenge of firms pursuing SE is to recognize the types of relationships that are to be maintained in order to best pursue new opportunities and exploit existing advantages. Networks characterized by strong ties (closely-held relationships) are likely to be beneficial for competitive advantage-seeking behaviors, as the nature of strong communication, shared values, and a long-standing relationship contribute to efficiency. While the creation of strong ties within a network can be of benefit, firms risk the possibility of becoming overly embedded in a network, leading to strategic inertia. As weak ties (loosely-held relationships) have been associated with more creativity and innovation, opportunity-seeking business units may be best served in developing a complementary network of loose ties (Granovetter 1973). Scholars might build off the research on these different types of ties to explore the optimal composition for an effective network for SE. Is there a key threshold for the number of strong and weak ties in a network to best produce SE-related outcomes, including innovations in products, processes, and/or business models? Does size of network have an impact on a firm's ability to explore and/or exploit? Perhaps there is value in developing a means to measure or quantify the entrepreneurial orientation of an entire network. Furthermore, future research might delve into the "black box" of firm processes in properly vetting strategic partners for both exploration and exploitation. Are the same capabilities needed, or are their unique characteristics of firms finding specific ties for exploration or exploitation?

As part of the composition of a collaborative, inter-organizational social network, another challenge for firms pursuing SE is the potential conflicts that might emerge among the different network relationships built to pursue opportunity and exploit competitive advantage. The building of one's network for the benefit of one behavior or the actions undertaken to pursue one behavior may strain relationships on parts of the network pursuing the other behavior (Gulati et al. 2000). Strategic partners in existing relationships could interpret entrepreneurial behavior as competitive, or possibly grow upset if a new tie is established with a competitor. Future research might investigate the impact a firm actively seeking new ties for exploration and/or exploitation has on competitive dynamics in an industry. Does association with certain partners for exploration purposes impact relations with exploitation-seeking allies, or vice versa? Moreover, research could look at how a firm's engagement in SE positively or negatively impacts the relationships of their network, in terms of both financial performance and innovative output. Therefore, it could prove informative to seek answers to how firms can best manage their inter-organizational networks to properly navigate these issues.

Beyond inter-organizational ties, research has also looked at the impact networks can have within a firm. Managing relations across business units and developing strong intra-firm networks might also prove to be successful in maintaining accord, building an organization-wide entrepreneurial strategic orientation, and infusing creativity and innovation. Good relations between organizational units can boost the likelihood of an organization sharing information and resources (for innovative pursuits) in taking advantage of opportunities in the market. Therefore, research on characteristics of

strong intra-firm networks that produce simultaneous opportunity-seeking and competitive advantage-seeking activity could be of interest.

Environment level of analysis

Past research in both strategy and entrepreneurship suggests that the external environment is a primary determinant of firms' strategies and of firm success (e.g., Aldrich 1979). Recognized environmental influences include industry structure, the hostility and dynamism of the competitive environment, and the impact of major environmental shifts (e.g., Covin and Slevin 1991). Theories selected for their environmental implications for SE include institutional theory, the ecological perspective, and general systems theory. Netflix, Nike, and Ford help to illustrate SE through these three perspectives.

Institutional theory maintains that forces in the environment coerce organizations to adopt certain forms and behaviors (Meyer and Rowan 1977). Stated more directly, organizations will mimic the behavior of others in their environment, especially when faced with uncertainty (DiMaggio and Powell 1983). Within an institutionalized environment, external forces—such as those posed by legal, financial, and/or educational systems—may also constrain the firm and impact strategic or entrepreneurial actions (Lim et al. 2010). Accordingly, organizations must comply with regulatory, normative, and cognitive expectations in order to receive positive social judgments of acceptance, appropriateness, and/or desirability (Scott 1995). Organizations enjoy benefits such as legitimacy in the eye of current or potential stakeholders and improved access to resources by complying with expected standards (Deephouse 1996).

This perspective presents an interesting conundrum for organizations seeking to be entrepreneurial. While institutional theory suggests that organizations, over time, tend to behave similarly, a key principle of entrepreneurship is creative destruction, wherein existing products or methods of production are destroyed and replaced with new ones (Schumpeter 1934). This places the fundamentals of institutional theory very much at odds with entrepreneurial behavior, as the very notion of fitting into the “institution” suggests that an organization obliges to regulatory, social, and cultural influences that promote survival and legitimacy, rather than focusing on efficiency-seeking or opportunity-seeking behavior (Bruton et al. 2010). The implications of institutional theory for SE, then, lie in understanding how institutions change over time (Aldrich and Fiol 1994) and how new initiatives become legitimate in the eyes of stakeholders (Johnson and Van de Ven 2002). Properly managing the strategic balance between differentiation and conformity likely leads to optimal success, i.e., firms should strive to be as different as legitimately possible (Deephouse 1999) as they innovate.

As a new entrant into a relatively stagnant environment, Netflix used business model innovation to attack the mature video rental industry in the late 1990s. Netflix was able to exploit the existing video rental market, while exploring new means of delivery. They did not stray far from what traditional firms in the industry offered, initially renting video content through the familiar physical DVDs. However, by using the DVD-by-mail approach, Netflix was able to avoid the excessive costs of running brick-and-mortar stores, reach a broad audience very quickly, and offer a level of convenience that existing competitors could not match, while staying legitimate in the eyes of

consumers and not yet expanding into unreliable technologies (Trevis Team 2013). In this instance, industry stalwarts Blockbuster and Movie Gallery failed to recognize the threat posed by Netflix, did not adapt in a timely manner, and were quickly pushed towards obsolescence. CEO Reed Hastings allowed technology to advance, all the while investing heavily in streaming capabilities in preparation for the development and installation of a high-capacity broadband infrastructure. Netflix now reaches over 60 million global subscribers and is the largest source of North American downstream web traffic (nearly 37 %; Luckerson 2015). Despite this tremendous success, Netflix continues to balance exploration and exploitation. They continue their growth into new geographic regions and have expanded their capabilities to include original content creation (to vertically integrate and challenge networks and production studios), while continually improving the algorithms necessary to serve and improve the viewing experience for the existing Netflix customer base.

Through an investigation into the actions exhibited by firms successfully and legitimately innovating, as Netflix did, future research using the institutional perspective might look at how firms can engage in SE without evoking negative responses from current competitors. Especially in a long-standing industry, one that is mature and slow to change, norms in behavior might be such that there are systemic elements and/or extreme pressures to maintain the status quo. In an established industry, firms may have carved out and actively defended their market segment or “role” in the marketplace, industries may have time-honored processes and metrics, and regulatory bodies may have conventional regulations that guide industry behavior. Firms looking to step outside these understood, established, and recognized positions through innovative action to improve efficiencies and increase market power may incur negativity from the institutional environment for upsetting the static equilibrium. Other players in the competitive environment are likely to perceive this changing behavior as threatening and uncharacteristic (Dougherty and Heller 1994), eliciting a response to fall back in line with the established norms of the original industry.

A potentially fruitful area of future research surrounds the investigation of implicit and explicit responses to SE by various stakeholders: other industry members are likely to react in some competitive manner, customer sales may decline, relationships with suppliers may be tarnished, and investors might be tempted to flee. Thus, scholars might investigate when and how departures from the norm are most likely accepted or rejected. Research questions might include: Are there optimal times in a firm or industry life cycle for SE activity? How far can firms innovate before stakeholders react? How does legitimacy help or hinder a firm’s engagement in SE activity? Can SE be used as a means to develop legitimacy in a given industry?

Future work might also look at how to best engage in SE when exploring entrepreneurial opportunities in new markets or perhaps if there are certain institutional characteristics that offer better context for SE. For instance, a look at other institutional elements, such as legal, financial, and educational systems surrounding the firm, may offer insight into the antecedents or constraints of SE activity. Institutional logic suggests that exploring firms can best establish legitimacy in a new environment by adopting the socially approved conventions most appropriate there (Johnson and Van de Ven 2002), although they should be cautious adopting norms in still-developing industries where behavior may not have achieved adequate acceptance for legitimacy (J. I. Miller 2012). Prospective research might, then, analyze specific trends or actions

by entrepreneurial firms that successfully develop legitimacy in new markets or institutional characteristics that are amenable to such activity. Possible research questions could include: How do industry-wide levels of entrepreneurship influence entrepreneurial culture and leadership within a given firm? How does legitimacy in existing markets help with exploration of new markets? Are there industry-specific actions that entrepreneurial firms must incorporate as they target new arenas? What timing or characteristics are necessary in a new market to best facilitate exploration? What implications are there for current markets (i.e., exploitation targets) when firms explore new markets? What characteristics of a new market hinder SE or might push firms towards an imbalance between opportunity- and advantage-seeking activities?

Organization ecology Stemming from contingency theory, which advances the premise that an organization's success is dependent upon the "fit" it has with its environment (Lawrence and Lorsch 1967), the ecological perspective argues that the external environment dictates organizational survival and will select out organizations that do not adapt appropriately or fit into their environment (Hannan and Freeman 1977). Ecological principles suggest that the quantity of inputs available in the environment determines the optimal number of organizations that can be sustained. If the population size is below the optimum level, participants flourish, all the while attracting new organizations to the population; once the environment achieves saturation (above the optimal number), increased competition for resources lead to organizational mortality and returns the population to the optimum level (Johnson and Van de Ven 2002). The temporal emphasis is an important element of the theory, suggesting firms must remain adaptable to ensure survival (Hannan and Freeman 1989).

A prominent application of the ecology perspective to firm-level entrepreneurship research suggests that, in order to overcome self-selection from the market, firms must be careful to avoid strategic inertia as a result of management's escalation of commitment to existing resources and coevolutionary lock-in (Burgelman 2002; Leonard-Barton 1992). Coevolutionary lock-in occurs when positive feedback increasingly ties the previous success of a firm to its current product-market environment, thus making it difficult to change strategic direction. Such inertia restricts entrepreneurial efforts and dulls organizational members' capabilities toward opportunity recognition. To avoid this problem, strategic leaders can create an entrepreneurial culture and promote ongoing cycles of innovation throughout their organization (Burgelman and Grove 2007).

As it relates to SE, an ecological perspective would suggest that firms maintaining an ability to repeatedly identify and successfully enter new markets will survive and thrive (Alvarez and Barney 2000); yet coevolutionary lock-in frequently constrains organizational change and innovation, leading to greater emphasis on exploitation over time and a limited focus on exploring new markets and opportunities. Given shifting markets, evolving consumer demand, and increased competition, standing pat or wholly relying on incremental innovation in existing product lines and markets may be a recipe for destruction. Firms may become set in their ways and so focused on existing advantages that they miss new and exciting opportunities. Entrepreneurial opportunities are fleeting, and failure to earn profits before an industry reaches optimal capacity can be detrimental (Johnson and Van de Ven 2002).

Athletic footwear and apparel giant Nike is an innovative firm actively pursuing SE. Nike CEO Mark Parker refuses to allow strategic inertia to set in to his industry-leading

firm as he directs Nike to continue pushing for continuous innovation. The Flyknit running shoe, designed to be as comfortable and lightweight as socks, is one such innovation that is revolutionizing the slow-cycle footwear industry (Townsend 2012). This “game-changing” development delivers both process and product innovation, as it dramatically reduces time, material, and labor while also allowing for a customized look and fit. Using computer-controlled knitting machines to weave the shoes with synthetic yarn and cables, Nike uses 35 fewer pieces to assemble the shoe, produces 66 % less waste, and can make the shoes anywhere in the world, giving them the ability to be quicker to market. Their micro-level precision engineering allows them to minutely alter the shoe’s structure, comfort, and aesthetics to match the exact dimensions of the purchaser’s foot and personalize color and style down to a single thread. Flyknit, in a single initiative, is affording Nike both advantages in existing markets and exploration into new opportunities.

Using companies like Nike as case studies, future scholarly work might look at the organizational structures and processes used by firms to prevent coevolutionary lock-in and unleash entrepreneurial capacity. Do successful firms have specific internal controls to guard against strategic inertia? Is there an ideal structural component used by firms successfully engaging in SE? Conversely, are there structural elements that inhibit SE? Nike uses an “innovation kitchen,” essentially an independent team of researchers, designers, and engineers, that pursue creative and innovative ideas, keeping them separate from associates working on more traditional projects.

Researchers might also use ecology theory to investigate how managers deploy resources to properly align with their environments, using both types of SE activity. More work is required on the investigation into the types of environmental changes that create a lack of fit or put firms outside of the optimal balance between opportunity-seeking and advantage-seeking pursuits. Are there early warning signs managers should look for to determine if their exploration/exploitation balance is inadequate in the given environment? Are there environmental jolts that disturb equilibrium and select competitors out if they do not move to rebalance their SE activities?

General systems theory contends that organizations are best viewed as part of a system (Boulding 1956). Therein, the organization is reflected as a set of interconnected and interdependent parts that interact to produce products and services (von Bertalanffy 1972). Interaction with an organization’s environment is often recognized through the nomenclature of an “open” system, in which the inner workings of an organization work with external systems. More information is available on parts closer to the core, while external systems remain more complex and offer less certainty. Because of this information asymmetry, feedback loops are important for organizations to gather more information on interactions so that they might achieve their goals via maintaining homeostasis or some sort of dynamic equilibrium with the external components of the larger system (Peery 1972).

The SE model put forth by Ireland et al. (2003) is consistent with general systems theory in that their model describes SE in terms of inputs (entrepreneurial mindset, leadership, and culture), transfer functions (strategically managing resources, applying creativity, and developing innovation), and outputs (competitive advantage and wealth creation). Hitt et al. (2011) extend the Ireland et al. (2003) model by incorporating environmental factors such as munificence, dynamism, and interconnectedness, and by making a case for the validity of additional outputs such as social benefits and

individual benefits. In total, these views are harmonious with an open systems approach in that to maximize wealth creation through SE an organization and its internal systems must work within the constraints and opportunities presented by the peripheral context, while also influencing external systems (e.g., industries and institutions) with its behavior and output.

Reflection on SE behavior from a general systems perspective suggests organizations are a system within a system. The relative certainty available to organizations via the interior of its system affords them opportunities to strategically capitalize on information, expertise, and tacit knowledge to innovate through process efficiencies or incremental product developments to exploit current advantages (Russell 1999). In approaching the (external) open system with an entrepreneurial perspective, organizational members seek to recognize external changes—for example, among competitors or in legal or financial systems—that create new opportunities and capture these opportunities through reallocation of resources, shifts in organizational structure, and the revision of corporate goals. The organization engaged in SE—using information from the internal and external system—may innovate, gain market power, and move into new markets as it seeks to achieve balance in opportunity-seeking and advantage-seeking behaviors.

Ford Motor Company exists within an open system as it pursues innovations relevant for SE. Ford has inputs, including labor, equipment, and engine parts. Their throughput processes are their manufacturing and assembly operations. Outputs obviously include the automobiles, trucks, and sport utility vehicles the firm has long been known for. As an open system, Ford interacts with external systems, including suppliers, strategic partners, and customers. Ford has sought process innovation through its supply chain for years, seeking to bring many partners closer to their internal system. For instance, Ford has been known to encourage major suppliers to locate operations close by their manufacturing facility or even under Ford's roof, just feet away from their production line (Porter 2002). This brings improvement in product quality and advancements in assembly line configurations, as well as lowering inventory carrying costs, shortening delivery times, and streamlining logistics. The auto manufacturer also invests heavily in exploration, as evidenced by the recent opening of a new 25,000 square foot facility at Stanford Research Park in Palo Alto, CA. Looking to better integrate and collaborate with external systems in the dynamic and innovative Silicon Valley, Ford is attempting to capitalize on changing sociocultural and physical trends by investing heavily in research and development on sustainable energy, connectivity, mobility, autonomous vehicles, and the customer experience (Tilley 2015).

The example of Ford illustrates a firm getting feedback from societal trends and looking to ingratiate itself within different systems as a means to seek and develop new opportunities. In future research, scholars might examine the different types of systemic triggers that lead firms to engage in SE. Are firms more often pushed towards SE by characteristics of internal or external systems? Do some triggers lead toward either explorative or exploitative activities? What systemic characteristics lead to optimal equilibrium for SE behaviors?

One qualification associated with systems theory is that *any* change offers the potential to disrupt the system, which may, or may not, make the system more efficient and/or profitable. While Ford appears to be embracing its evolving “system,” changes are likely to elicit a reaction—whether it be internal (e.g., changes to employee morale,

culture, or organizational identity) or external (e.g., changes in customer, supplier, or shareholder perceptions, or competitors taking strategic actions in response). Thus, future research might investigate how changes inside the organization (i.e., engaging in SE) positively and/or negatively influence both the internal and external systems. For instance, building off work by Monsen and Boss (2009), scholars might further investigate how engagement in SE influences employee performance, job satisfaction, organizational commitment, and corporate culture over time. Looking at the external system, work focusing on how SE impacts competitive dynamics within and across industries and ecosystems should be fruitful. In sum, additional scholarship is necessary to understand how changes both within and outside the firm cause entrepreneurial firms to respond, cooperate, and/or antagonize one another when seeking to balance exploration and exploitation.

Individual level of analysis

The third set of organizational theories under examination pertain to the influence individuals have on firm-level entrepreneurship. Managers play critical roles in directing firm action (e.g., Simon 1957). The demographic characteristics, values and beliefs, and behaviors of organizational leaders influence how they interpret information, recognize opportunities, and make strategic decisions for their organizations (e.g., Finkelstein et al. 2009). Additionally, as innovation is often developed by organizational members not in the dominant coalition, it is important to understand how middle managers and operational employees cognitively realize, associate with, and carry out SE-related objectives. We therefore turn attention to strategic choice theory, upper echelons theory, and social identity theory as theories that directly address the influences of individuals, using Under Armour, Apple, and Google as case illustrations.

Strategic choice theory posits that the decision makers in an organization drive the organization's fit with its environment through the choices they make about organizational structure, positioning, and procedures (Child 1972). Organizational success is achieved when decision makers evaluate information from the internal and external environments, identify opportunities and threats, and make strategic decisions that best align their organization with the environmental context (Child 1997). With findings that suggest as much as 30 % of the variance in corporate profitability is due to CEOs (Mackey 2008), research supports the notion that managerial decision makers are key drivers of firm performance.

Under Armour is indelibly linked to its founder and CEO, Kevin Plank. Plank has had direct influence on organizational structure, product design, product portfolio, and all other functions of the sportswear retailer. From the beginning, he has intentionally built the vision, culture, and operations of the firm with maxims focused on innovation: *Think like an entrepreneur. Create like an innovator. Perform like a teammate* (Foster 2016). Plank has been responsible for Under Armour's business in just about every facet, from what products to invest in, when and where to advertise, and how fast to scale. While continuing to exploit first-mover advantages in the "performance apparel" market through supply chain efficiencies and incremental product improvements to their innovative compression t-shirts, they have consistently and thoughtfully staged expansions into new product markets (e.g., footwear, sports equipment, and luxury

sportswear) and new geographic regions (Foster 2014). As Under Armour has started to make new bets in technology—wearable biometric fitness devices and fitness-related mobile apps are among the recent investments—Plank continues to demonstrate his capability as a strategic leader who values SE.

The decision to direct a firm toward the pursuit of SE is, of course, made by individuals and therefore is a strategic choice. According to Miles and Snow (1978), executives must solve three problems: the entrepreneurial problem (how to develop insight into a specific product or service and a target market or market segment), the engineering problem (how to create a system which puts into operation the chosen solution to the entrepreneurship problem), and the administrative problem (how to reduce uncertainty within the organizational system by rationalizing and stabilizing activities). The entrepreneurial problem deals with the seeking of new opportunities, while the engineering and administrative problems are focused more on the advantage-seeking. Analyzing cases of how organizations solved these problems uncovered three viable approaches. Defenders focus on efficiency and approach growth cautiously and incrementally, preferring a narrow and stable industry domain. Prospectors are flexible innovators, constantly scanning the broad environment for new opportunities. Analyzers balance aspects of both defenders and prospectors, seeking a stable core of products or services while also seeking new opportunities.

SE is reflected in the strategic choices of organizational decision makers by how they resolve Miles and Snow's (1978) three problems and, as a more distal outcome, how they position their firm. Defenders' focus on efficiency clearly denotes the organization as emphasizing the exploitation of current advantages; prospectors' flexibility, constant scanning of new markets, and innovative tendencies align with exploration activities. With regard to SE, neither defenders nor prospectors, with their strong emphasis on either opportunity- or advantage-seeking activities, balance the two types of behaviors. It is the analyzer type that achieves the best balance and thereby offers an unambiguous path to take advantage of opportunities in both the present and future.

While analyzers are clearly best suited for balanced SE activity, questions remain to increase understanding of how and when environments might dictate leaders' attention to emphasize advantage-seeking over opportunity-seeking (or vice versa). For instance, do stable environments dictate that decision makers limit exploration to emphasize exploitation? Are there scanning and decision-making processes used by strategic leaders that have been successful in deploying resources to properly align with their environments? How do these leaders navigate the myriad of opportunities presented within an SE strategy to promote the balance? Do managers deploy resources in a steady balance of exploration and exploitation, or does the flow of resources shift temporally based on other contextual circumstances? What characteristics dictate the correct time to shift exploration efforts into exploitation and vice versa?

These inquiries may lead to research analyzing resource deployment patterns in an attempt to better understand how firms leverage resources to move products from opportunity-seeking business units to competitive advantage-seeking units. As attributable in the Under Armour example, firm success in leveraging SE may result from top managers' focus on innovative products or services that can make an immediate and dramatic impression in new or existing markets and set the company up for first mover advantages, but will also evolve into lasting competitive advantage products that can sustain the company for longer periods and through lulls between radical innovations.

Organizational leaders wishing to focus on SE need to be willing to compromise, such as in sacrificing some internal efficiency for the ability to be quickly adaptable in certain situations or with particular products or markets. Therefore, scholars might further investigate characteristics of SE decision makers and their ability to interpret complex information, accept uncertainty, and ultimately carry through on decisions to properly align their organization with the external environment. Conversely, there may be work to identify leader characteristics that hinder SE pursuits. Entrepreneurial traits, decision making, and opportunity recognition have been a focus of research on serial entrepreneurs in start-up firms, but less attention has been allocated for similar inquiries on corporate entrepreneurs, especially those that can successfully strike a balance between exploration and exploitation.

Upper echelons theory is another theory inclusive of the important role played by senior management. Upper echelons theory builds on strategic choice theory's contention that firm outcomes are largely due to the decisions of executives to suggest that these decisions are shaped by executives' past experience, values, and personalities (Hambrick and Mason 1984). In essence, in order to understand why organizations do what they do, or why they perform the way they do, it is important to consider the biases and dispositions of their top executives (Hambrick 2007). Additionally, Hambrick and Mason (1984) emphasized that strategic leadership was largely a shared activity and was, therefore, best observed through the collective cognitions, capabilities, and interactions of the entire top management contingent of an organization, rather than a single individual leader.

Past research suggests that upper echelons play a significant role in firm-level entrepreneurship (Hornsby et al. 2009). Firms that exhibit entrepreneurial behavior patterns tend to reflect their managers' overall strategic philosophy (Covin and Slevin 1991). Conventional thought therefore suggests that leaders should exhibit an entrepreneurial leadership quality in which they influence others throughout their organization to carry out innovative activity in accordance with an SE-orientation (Ireland et al. 2003). Additional arguments suggest that for the dominant coalition to positively influence creative activity, those leaders must possess substantial technical and professional expertise and creative skills, as well as the ability to process complex information (Mumford et al. 2002). Also, they must have the motivation and means to exercise that ability (Crossan and Apaydin 2010) through their own job demands (Hambrick et al. 2005) and the discretion available in their role (Hambrick and Finkelstein 1987). The manner in which the leadership team interacts may also play a positive role in influencing entrepreneurial action within a firm (Ling et al. 2008). This "behavioral integration" creates an environment for freely exchanged thought, differences in knowledge and opinion, and positive cognitive conflicts, resulting in a set of shared perceptions, which then can be integrated and acted upon to facilitate SE activity within the organization (Lubatkin et al. 2006).

Through the lens of upper echelons theory, age, tenure, education, personality, and past experience of executives are likely to shape interpretations of the internal and external environmental contexts and impact business decisions related to exploration and exploitation. For instance, younger CEOs and those with longer tenures are associated with increased investment in innovation (Barker and Mueller 2002). Executives with sales, marketing, research and development, and/or customer relations backgrounds (i.e., output-oriented) are likely to be more focused on product-related

issues and developments (Cho and Hambrick 2006). In contrast, those with finance, accounting, personnel, labor relations, operations, and/or law experience (throughput-oriented) are likely to be more focused on short-term productivity and efficiency (Rappaport 1992), as it is more in line with their own specialties (Carpenter and Fredrickson 2001).

A brief review of Apple's recent leadership provides an illustration. Steve Jobs had a technical background, was heavily involved with product design, and proved to be a master at marketing; these characteristics and strengths led to remarkable product innovations such as the Mac, iPod, iPhone, and iPad while he was the CEO. Jobs frequently credited his studies of Zen Buddhism and his experimentation with meditation as having distinct influence on his approach to product design and his intuition about the desires of his customers (Baer 2015). Upon Jobs' passing in 2011, COO Tim Cook was named to the top job. Cook's primary corporate experience was in operations and cost control. Under Cook's direction, Apple has improved its supply chain and made incremental improvements to existing product lines, but critics have suggested the company is less innovative than it was under Jobs (Gustin 2013). While Apple still pursues SE, the balance under Cook's leadership has leaned towards more emphasis on exploiting advantage than seeking new opportunity.

Based on the recognized biases of strategic leaders through a lens of upper echelons theory, future research might investigate how past experiences influence the balance between exploration and exploitation in SE-related activities, as seen with Apple. Do output-oriented CEOs gravitate toward the more entrepreneurial activities of exploration, while those with throughput-oriented experience emphasize the more strategic advantage-seeking activities of exploitation? Do leaders with Ivy League educations or decorated military experience have better abilities to lead their organizations to an optimum balance of SE activities? What impact do corporate boards have on SE activity?

As shared leadership has been shown to enhance an organization's ability to pursue both SE activities (Mihalache et al. 2014), scholars might investigate leadership group composition as a positive influence on SE as well. Traditional upper echelons logic would suggest that a more heterogeneous team is better equipped to properly balance exploration and exploitation. Research inquiries could extend this line of reasoning to investigate how altering group composition impacts SE output: How does diversity in top management team age or tenure influence SE? Does changing the mix of output- and throughput-oriented associates on a leadership team have a direct influence on the emphasis on or balance between exploration and exploitation? Will staggered director term limits influence firms' abilities to engage in SE?

Social identity theory suggests that people tend to classify one another using categorized schemas in an attempt to develop a systematic means of defining themselves and others in a social environment (Ashforth and Mael 1989). The development of such schemas and the subsequent self-categorization into a group allows an individual to become psychologically intertwined with the fate of that group (Tolman 1943). This group identification helps to shape loyalties, priorities, and behavior (Hogg and Abrams 1988; Tajfel 1974). In the context of organizational studies (Ashforth et al. 2008), scholars have put forth the notion that organizational members develop shared beliefs that embody a central, distinctive, and enduring characteristic of their organization that form an organizational identity, essentially serving as a collective

response to the question “who are we as an organization?” (Albert and Whetten 1985; Whetten 2006). Organizational identity has been shown to activate individuals’ motivation for action and influence strategic decision making (Barney 1998; Golden-Biddle and Rao 1997) and organizational action over time (Dutton and Dukerich 1991).

Entrepreneurial firms are recognized for developing cultures, processes, and structures to support innovation (Covin and Miles 1999). The Ireland et al. (2003) model of SE included an entrepreneurial culture as an important element of SE, suggesting that culture influences organizational members’ expectations (of one another as well as interactions with external stakeholders) and aids firms’ efforts to manage resources strategically. As with much of the research mentioning culture, the model fails to address the impact and influence of SE on the identity developed by organizational members.

Although viewed as distinct constructs (Corley et al. 2006), identity and culture are indelibly linked, yet share a complex and involved relationship (Hatch et al. 2015; Whetten 2006). Organizational identity is derived by associates from cultural assumptions, yet identity is also embedded in cultural understandings; that is, there is a reciprocal relationship between the constructs (Hatch and Schultz 2002). From a social identity perspective, the group identity developed by organizational members through this complex relationship with culture can serve as a key driver of cognition and attitudes and, more importantly for SE, normative priorities and behaviors (Hogg 1993). Implicit to the Ireland et al. model then is that the culture of an organization influences the identity developed by organizational members, which subsequently will impact their actions. Hence, identity plays an important role in firm-level entrepreneurship, as the advancement of shared beliefs as a means for organizational success leads to the maintenance and reinforcement of an entrepreneurial culture that supports new ideas and creativity, encourages risk taking, tolerates failure, promotes learning, and facilitates innovative activity.

The critical nature and role of identity and culture brings forth notable challenges for existing organizations attempting to pursue and balance strategic entrepreneurial behaviors. Organizations, especially those that have existed and been successful over a period of time, are likely to have achieved some sense of themselves and what they do well in order to have obtained that success (i.e., either exploration or exploitation). An organizational identity is built through that success, supported by culture that has developed internally and the image portrayed or reputation achieved in the external environment. This identity may make it difficult to institute strategic philosophical and operational changes, such as those required for SE (Floyd and Lane 2000). For example, if a firm has been long established as a low-cost provider who has maintained a competitive market share and consistent revenue, it is likely difficult for the firm to make a dramatic change to enter a new market, or even to divert resources to innovative initiatives. Questions of “who are we now?” and “what are we becoming?” may lead to identity conflict or a sense of identity ambiguity (Corley and Gioia 2004). Intent to disrupt status quo behavior and alter identity is likely to be met with hesitancy and resistance. However, by actively managing organizational identity and culture through clear communication of the SE-related goals and the staged adoption of new entrepreneurial behavioral patterns, firms may actually add new identities to their organization and develop multiple identities (Fiol 2001).

Google’s business model illustrates a company that successfully pursues SE with an entrepreneurial culture and has developed multiple organizational identities. Google, of

course, is known for their prowess in internet-based content search, for which they have developed a definite identity since their inception. Per their current corporate website: “We do search...we know what we do well, and how we could do it better” (Google 2015). Google has used this sense of self to exploit their dominance and market advantages in web search and cash in on advertising revenues, which were the primary contributor on overall annual revenues that approached \$60 billion by 2014 (Google 2015). While they continue efforts to expedite and improve search results, the company has also embraced a second identity around exploration. Famously noted for allowing employees to devote 20 % of their work hours toward new ideas, the company empowers employees to be corporate entrepreneurs. Google Glass, the Android mobile operating system, Chromecast, and self-driving cars are some of the projects the company is investing in to explore new market opportunities. Google’s culture has allowed it to embrace multiple identities: one about their core expertise of search, and a second about innovation and exploration in new, interesting, and exciting markets.

Case examples like Google help to demonstrate a firm’s intentional development of culture and identity to successfully engage in the dual activities of SE. Nonetheless, social identity theory provides a lens to develop numerous research questions for the simultaneous pursuit of exploration and exploitation. For instance, how is the organization’s identity, across functional and divisional lines, impacted and influenced by the pursuit of SE? Do identities developed around exploration inhibit exploitation (and vice versa)? What happens when image (how others see your firm) and identity are not consistent in firms attempting SE? How fast can identities shift, and what role can identity serve in promoting organizational change along the lines of SE? How much of an identity change is required when firms shift from a singular focus on opportunity or advantage to the dual focus required by SE? Does a firm pursuing SE develop multiple identities around exploration and exploitation, or is there a singularly regarded identity that embraces ambidextrous capabilities? What other issues or conflicts surface when attempting to develop and maintain multiple identities of exploration and exploitation? What are the long-term performance implications of firms developing multiple social identities built around SE? How can organizations with multiple and changing identities develop the adaptive capabilities to both explore new opportunities and continually exploit competitive advantages in changing environments?

Having identified implications and possible future research opportunities for SE based upon nine organizational theories in isolation, it is also valuable to acknowledge the merit in assessing multi-theoretic integrations. The next section offers several possible combinations from the chosen list of theories.

Potential future theoretical integration for SE research

Much in the way that scholars have begun to view exploration and exploitation as complementary behaviors rather than competing strategies (March 1991), the theories explored above offer potentially complementary views that, when synthesized, could expand the SE knowledge base. The processes through which firms and their leaders engage in SE are intricate, and the environments in which firms operate are multifaceted. Integrating multiple theories to investigate particular and necessarily complex research questions (often across levels of analysis) creates richness, often delivering insights that a lone theory would be unable to provide (Mayer and Sparrowe 2013).

Indeed, novel advances in the social sciences frequently occur when scholars rely on multiple theoretical lenses and work to compare, contrast, and combine them (Wallis 2014).

While each of the nine organizational theories discussed above could be used as a foundation for a single study (or group of studies) investigating SE, multiple theoretical perspectives might be used in conjunction to gain an even greater understanding into the nature of SE and its challenges. For example, a study bringing together strategic choice and social identity theories might offer unique insights. Strategic choice theory focuses on the decisions made by strategic leaders to best fit with the organization's environment. Relative to SE, these executives can direct resources in such a way as to leverage an exploratory innovation by bringing it to market and successfully incorporating the product or service into everyday operations that can be exploited for years to come. This type of success calls for resources deployed for R&D and product development as well as operations management and process improvement, yet also includes allocations for properly managing the transition to ongoing operations once the product or service is brought to market. Developing organizational capabilities around such transition will likely have a profound impact on the organizational identity developed by organizational members. Repeated successes in both the ability to explore and subsequently exploit, combined with ongoing storytelling of those achievements to encourage organizational efficacy and cultivate an entrepreneurial culture, can strongly support and reinforce multiple organizational identities built around exploration and exploitation. Reciprocally, identities built around past exploration and exploitation are likely to help an organization direct attention to and engage in SE-related activity, strengthening the entrepreneurial culture. This example illustrates how firms may shift resources and, subsequently, alter the balance of actions taken to exploit current advantages versus those exploring for new opportunities over time, highlighting the importance of longitudinal sampling in SE research.

Another interesting example is the combination of institutional and network theories. Institutional theory deals with the procurement (or withholding) of resources due to conformity and the achievement of some threshold of legitimacy within a given environment. A network of strong ties might help a firm exploit an opportunity in the wake of strong (negative) institutional pressures by providing the resources necessary to overcome any opposition. Networks may stand as beneficial to firms seeking to explore new markets, too. Exploring firms may be bolstered by developing a network of strategic partners that can help grant legitimacy in the eyes of resource brokers. For instance, mimicking the network of firms already successful in a new market—whether it be in a given network structure, the overall balance of strong and weak ties, or strategic alliances with specific firms—may lead to legitimacy. In other instances, developing legitimacy through past exploits or some other means might also contribute to an expanding and diverse network as firms explore new markets. Thus, a network might help accrue legitimacy, but there might also be occasions where legitimacy stands to deliver an increasing network that better positions a firm to pursue SE.

One more possible integration includes agency theory and the upper echelons perspective. Agency-theoretic principles applied to SE help to identify structures and incentives that encourage the interests and actions of managers toward both exploration and exploitation, aligning their positions with that of principals. Supplementing this

view with an upper echelons perspective might provide clarity to the types of managers that are best suited for a management team geared toward SE. Composing a top management team with a mix of both output- and throughput-oriented executives is likely to have some positive effects in achieving a balance of SE activities. Executives willing to compromise on individual biases toward innovation or efficiency will likely contribute to wealth creation by balancing the deployment of resources on the exploitation of current competitive advantages with an investment in exploration to find future advantages. Beneficial to addressing the agency problem, such shared leadership with diverse perspectives on exploration and exploitation may also help to lessen monitoring costs on behalf of principals, as the diverse membership helps to maintain an internal “checks-and-balance” mechanism in support of SE.

A final suggested juxtaposition arises from the complementary nature of real options theory and the ecological perspective. The ecology perspective asserts that firms must be careful to avoid coevolutionary lock-in in order to overcome self-selection from the market. Incorporating a real options perspective advocates that the development of a portfolio of innovative options increases an organization’s ability to be nimble and adaptable, and—congruent with ecology theory—likely to remain competitive and ensure survival. Constantly scanning for and acting upon real options encourages an entrepreneurial culture, focuses organizational members on the opportunities and wealth creation potential presented by exploration and exploitation, and helps to avoid the shackles of lock-in based on past success. Limited up-front costs in securing options also free resources to exploit current advantages in existing markets prior to saturation. Furthermore, the management of the real options portfolio becomes important as firms select and exercise the specific options that help the firm maximize current advantages and explore new opportunities that best position the organization to fit within an evolving external environment. Pursuing the wrong opportunities or delaying the execution of an option may, in fact, decrease the likelihood of survival. Therefore, a third theory might offer additional complements, as integrating upper echelons theory provides insight into the building of a heterogeneous management team that can properly develop and manage a portfolio of options. Table 2 provides a summary of the insights developed through these possible multi-theoretic integrations.

Conclusion

The story of “The Blind Men and the Elephant” has been referenced in the entrepreneurship literature previously as an analogy to address theory development for the field (Gartner 2001). This parable describes six blind men who each touch different parts of an elephant (e.g., the trunk, a tusk, the tail), only to walk away describing the animal in markedly different ways. The moral of the story is that increasing the understanding of a large and complex phenomenon requires considering the phenomenon from different perspectives. Gartner concluded, much like scholars before him (e.g., Amit et al. 1993), that exploring entrepreneurship is best accomplished not through the quest for a single robust theory, but through multiple theories across a variety of disciplines.

Much like the elephant, SE is a complicated phenomenon of which scholars are trying to gain better understanding. Prior work has called for firm-level entrepreneurship research to be more tightly integrated with established theory (e.g., Covin and Lumpkin 2011; D. Miller 2011); thus, our goal has been to serve researchers and

Table 2 Potential multi-theoretic integrations that offer insights on strategic entrepreneurship

Theories under consideration	Insights on SE
Strategic choice/social identity	Decisions on resource deployment transition exploratory innovations into advantages that are exploited, helping to cultivate an SE organizational identity (or multiple identities of exploration and exploitation) over time.
Institutional/network	A network of strong ties help a firm exploit an opportunity in the wake of strong (negative) institutional pressures by providing the resources necessary to overcome any opposition, while exploration may be bolstered by a network of strategic partners that can help grant legitimacy in the eyes of resource brokers.
Agency/upper echelons	Composing a top management team with both output- and throughput-oriented executives can help in the dual pursuits of exploration and exploitation, while such shared leadership may lessen monitoring costs on behalf of principals, as the diverse membership provides an internal “checks-and-balance” mechanism in support of SE.
Real options/ecology/upper echelons	Using a heterogeneous management team with broad experience to develop a portfolio of innovative options increases an organization’s ability to be nimble and adaptable, and therefore likely to remain competitive and ensure survival.

advance scholarship in this domain by developing a “theoretical toolbox” for SE. For nascent topics like SE, new developments are often best directed through analysis using a finite set of theories and demonstrating how theory traditionally applied to one issue can be applied to another issue (Ketchen et al. 2014). Not unlike the Blind Men parable, our contribution centers on taking a relatively novel concept—one that is large and complex and crucially important to organizational prosperity—and enriching scholars’ view of it by examining the concept through nine alternative theoretical perspectives.

There is much to learn about to how firms can effectively balance exploration and exploitation, how firms deal with the oft-conflicting nature of these activities, and what the true impacts of SE are to individual, business unit, and firm performance (Ireland and Webb 2009). We believe the nine theories discussed above shed important light on these issues, offer suggestions for overcoming challenges posed by pursuing these complementary actions, and collectively provide an effective “theoretical toolbox” upon which further research and understanding of strategic entrepreneurship can build. These theories are not an exhaustive list, as it is possible—even likely—that other organizational theory can be applied to SE. Realistic journal page constraints limit our ability to delve into more theories, but other scholars are encouraged to pick up additional theoretical applications left unaddressed by this manuscript. What is more, opportunities are abundant for future research to further examine integration across theories and across levels of analysis with regard to the SE phenomenon. While we present four suggested juxtapositions, theorists may see a myriad of other possibilities that will inform and produce supplemental insights.

In all, our hope is that viewing SE through the lens of a diverse set of organizational theories serves as an important step toward developing explanations that better define and explain this entrepreneurial phenomenon. The desire is to induce many more captivating discussions on SE, propelling scholarly inquiry forward in new and interesting directions.

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