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Abstract: Opportunity stands for a central category for entrepreneurship research. Entrepreneurial identity is defined with the core reference to opportunity. Meanwhile extant studies highlight important challenges when it comes to discussing the very nature of opportunity. A promising approach to reconcile discovery and creation perspectives is to embrace the notion of time. Thus the aim of this conceptual article is to contribute to existing body of knowledge by providing a dynamic perspective for understanding and investigating entrepreneurial opportunities.
Key words: window of opportunity, opportunities, time, entrepreneurship, industry life cycle, entrepreneurial orientation

Introduction

Surviving in changing competitive circumstances requires organizations to timely and effectively sense the triggers [D'Aveni 1994]. Sensing builds on a conscious linkage between organization and its environment [Bratnicki 2011]. It involves a complex set of interrelated activities of environmental scanning, searching and making sense of gathered information by evaluating area, scale, importance of the influence and by deciding whether the issues of concern are the domain of loss (threats) or the domain of gain (opportunities) [Najda-Janoszka 2016]. Outcomes of those actions have a direct impact on the form and content of organizational response to changing circumstances. It is assumed that opportunities and threats serve as fundaments for strategy formulation [Harms, Schulz, Kraus, Fink 2009]. Yet, a review of the extant management research indicates certain important challenges when it comes to discussing the nature of opportunity, the central category for entrepreneurship research, and further to analyzing

opportunities from a temporal perspective. Thus the aim of this conceptual article is to contribute to existing body of knowledge by providing a dynamic perspective for understanding and investigating opportunities. The main body of the paper unfolds as follows: it begins with a discussion on the dominant views of the nature of opportunities, then a conditioning effect of time producing "windows of opportunity" is introduced, followed by conclusions and implications for future research.

Perspectives on the nature of opportunities

A review of contributions from fields of entrepreneurship and strategic management suggests that there are two dominant views of circumstances that create a room for new economic activities [Alvarez, Barney 2007, Zahra 2008, Short et al. 2010, Krupski 2011, 2012]. According to the first view, which prevails in strategic management, such conditions are conceived in terms of concrete realities that exist independently of an entrepreneur. It means that specific circumstances for new activities arise exogenously from changes in the context within which an organization exists [Shane 2000, Alvarez, Barney 2007]. Those changes disrupt the competitive equilibrium on product and factor markets [Alvarez, Barney 2004]. Hence, opportunities for value creation and capture can be formed by environmental changes concerning technology, demography, regulations etc, [Kirzner 1979] as well as can arise from underutilized or unemployed tangible and intangible resources [Alvarez, Barney 2004]. It is assumed that as objective phenomena, competitive imperfections need to be first discovered in order to be further acted upon.

On the contrary, the second view, represented predominantly by entrepreneurship scholars, advocates that competitive imperfections are not discovered but created during the entrepreneurial process [Ardichivili, Aardozo, Ray 2003, Alvarez, Barney 2007]. It is argued that opportunities do not exist objectively, but instead emerge as a result of collective social interaction [Sarasvathy 2001]. Thus, it suggests that actions undertaken by entrepreneurs represent the essential source of opportunities for further actions. Moreover, the creation approach implicates dependency of opportunities on specific context of the firm. Accordingly, firm-specific conditions qualify given circumstances as opportunities [Sarasvathy 2001].

Those two abovementioned perspectives have important implications for the way sensing activities are performed. The first one suggests focusing on searching the environment for hidden opportunities or threats created by exogenous shocks. Since it is assumed that opportunities or threats wait for being discovered, a competitive challenge for an organization concerns alertness, i.e. becoming timely aware of

opportunities by capitalizing on information asymmetry, differentials in risk perception, cognition, etc. [Shane 2000]. According to the second, the creative perspective, issues of concern are being formed and therefore, managers are to a large extent unable to make reliable estimations of probability distributions related to undertaken decisions [Alvarez, Barney 2007, Davidsson 2015]. Thus, sensing emerging opportunities draws on experimentation and continuous scanning of the knowledge and experience generated on an on-going basis from the process of enacting an opportunity [Alvarez, Barney 2007, Krupski 2011].

Along with differences regarding the ontological stand, the management literature provides a mixed view when it comes to discern circumstances that create a room for new economic activities from the actual evaluation of those circumstances [Najda-Janoszka 2016]. Hence, the use of the term opportunity often remains unclear. Scholars refer to "possibilities", "competitive imperfections", "strategic chances", "options" while discussing opportunities [Harms et al. 2009]. Moreover, lacking distinction between content and the evaluation of content it becomes challenging to delineate opportunities from threats [Davidsson 2015].

Despite the fact that discussed opportunity-discovery and opportunity-creation perspectives are built on distinct assumptions about the nature of reality [Alvarez, Barney 2007], provided valuable insights shape a fruitful ground for acknowledging complementarities between those standpoints. Given that according to both perspectives circumstances, which create possibilities for new activities, exist when competitive imperfection occur in product or factor markets and the goal of entrepreneurs is to form and exploit those conditions, it suggests that some opportunities might be discovered whereas others created [Short et al. 2010, p. 54]. Zahra [2008] also supports an integrative approach by implying that discovered competitive imperfections usually generate further changes and lead to creation of new possibilities for new activities. Hence, the whole process can be conceived as a recursive cycle of discovery and creation. Further, by acknowledging the role of perception in the conceptual construct of opportunity, the understanding of the underlying competitive imperfections becomes free from evaluative bias. It is the perception of particular circumstances that gives the meaning of an opportunity or a threat [Gilbert 2005, Krupski 2011, McMullen, Shepherd 2006, Davidsson 2015]. Thus, sensing circumstances that create room for new economic activities embrace both the identification of events and making sense of them by recognizing either possibilities of gains due to supportive context, or risk of loss by acknowledging existing vulnerabilities [Najda-Janoszka 2016]. Nevertheless, firms may sense many changes but may choose to respond only to selected subsets.

Time and opportunities

Provided integrative understanding of an opportunity enables further exploration of its temporary nature. According to the integrative perspective, competitive imperfections may come to existence through different patterns, which in turn are shaped by co-evolution of firms, demand, technology, institutions, i.e. industry dynamics [Nelson 1995]. The nature of industry evolves over time and reflects dynamic interdependencies between environmental changes and firm's strategic choices [e.g. Miles, Snow, Sharfman 1993, Klepper 1996, Audretsch, Houweling, Thurik 2004, Cusumano, Kahl, Suarez 2015]. Most of well documented longitudinal studies have analyzed regularities and irregularities in the trajectory of industry development by referring to the concept of industry life-cycle decomposed into emergence, growth, mature and decline stages [e.g. Abernathy, Utterback 1978, Klepper 1996, Miles et al. 1993, Anderson, Tushman 1990]. Hence, the potential for discovery and/or creation of opportunities as well as their very nature are expected to vary along the industry development trajectory.

Authors contributing to the industry life-cycle research stream link industry emergence with an initial opportunity produced by the technological discontinuity [Klepper 1996, Audretsch et al. 2004]. As an outcome of innovation process such discontinuity can either enhance or destroy currently utilized competences [Tushman, Anderson 1986]. It is argued that competence-destroying discontinuities are driven by expertise external to an industry and brought in by new entrants, while knowledge developed by established incumbents tend to produce competence-enhancing discontinuities [Tushman, Anderson 1986, Henderson, Clark 1990, Klepper 1996, Sarkar et al. 2006]. In order to describe the industry dynamics of the early, stage scholars refer to the entrepreneurial regime [Audretsch 1991] characterized by prevalence of external sources of knowledge (new entrants) used for diverse product innovation activities [Agarwal, Sarkar, Echambadi 2002]. Thus, emergence of a new industry is considered to be a product of new technological avenues opened by new entrants [Henderson, Clark 1990]. Such line of reasoning encouraged research on the strategy of market pioneering [Lieberman, Montgomery 1988, Teece 2002, Kerin, Varadarajan, Peterson 1992, Zhou 2006]. Given that for one innovative category there is usually a bundle of potential pioneers in the pursuit of market success, a vast body of management literature elaborated on first-mover advantages (e.g. preempting scarce resources, experience effects, brand image strengthening, market share building) supporting the principle of early entry. However, as scholarly attention gravitated toward early stage of industry life cycle to explore most promising strategic opportunities for building a competitive advantage,

obtained results revealed that observed changes in customer preferences, technological possibilities, institutional policies produce a rich pool of technological opportunities not limited to the very first entrants [Lindelof, Lofsten 2006]. Attractiveness of entry during the era of ferment is enhanced by usually negligible requirements of minimum scale [Agarwal et al. 2002] and abundance of opportunities for product innovations due to fuzzy definition of the product category itself [Klepper 1996, Agarwal, Bayus 2002, Suarez, Grodal, Gotsopoulos 2015]. In the landscape shaped by high uncertainty with regard to users' preferences and technology trajectories [Miles et al. 1993, Cusumano, Kahl, Suarez 2015], new entrants act as agents of change that widen and enrich the pattern of innovative activities in an industry [Gort, Klepper 1982, Agarwal et al. 2002]. In fact, Fagerberg underlined that "what we think as a single innovation is often result of a lengthy process involving many interrelated innovations" [Fagerberg 2005, p. 6]. Such innovative ferment and technological experimentation drives entrepreneurial behavior of firms [Lindelof, Lofsten 2006, Ladner, Levinthal 2001, Jacobides Knudsen, Augier 2006], which may encompass successful innovative as well as imitative practices [Zhou 2006, Teece 2002, Droege, Dong 2008, Shenkar 2010, Najda-Janoszka 2012]. Observed patterns of business activity suggest that successful seizing of technological opportunities that ignite emergence of a new industry does not exclude the possibility of late entry to the market [Najda-Janoszka 2012]. Thus, the discussion on capitalizing on discontinuities has departed from prioritization of early entrance toward conceptualization of the link between timing of entry and firm capabilities [Teece 2002, Lee 2009].

A shift from an early, fluid state to a mature stage of industry evolution induces a profound rearrangement in the competitive landscape [Porter 1980, Agarwal et al. 2002, Cusumano et al. 2015]. Such transition generates both strategic threats and opportunities for creating and capturing value [Najda-Janoszka 2017]. On the one hand, introduced innovations enabling quality improvements, functionality extensions, price drops, lower the level of product/technology uncertainty and thus boost demand and drive a sales takeoff [Miles et al. 1993, Agarwal, Bayus 2002, Cusumano et al. 2015]. Hence, the overall technological path of industry becomes recognizable as stakeholders converge toward a specific perception of an industry [Suarez et al. 2015]. On the other hand, during transition period we can observe a decreasing variation in product design through a successive selection of features and solutions forming the future dominant architecture for a product category [Christensen, Suarez, Utterback 1998, Suarez et al. 2015]. This selection process drives industry exits of unsuccessful innovators providing alternative solutions or those failing to expand cost-efficient production scale along the emergent product architecture [Suarez 2004]. Hence, evolutionary advancing toward industry maturity implies increase of competitive pressures

and minimum efficient scale barriers, which discourage entries lacking accumulated stocks of market-base experience [Nelson, Winter 1982, Klepper 1996]. Given that maturity stage is typically marked by a high level concentration with few large players enjoying disproportional market power [Agarwal et al. 2002], the entrepreneurial challenge involves detecting early signals indicating transformation in the competitive landscape of an industry [Najda-Janoszka 2017]. Nonetheless, too early entry tend to be associated with higher risk of failure due to expenditures on resources and capabilities that might become obsolete soon [Christensen et al. 1998, Suarez et al. 2015]. Thus, scholars have strived to identify and conceptually frame limited periods in the industry life span during which firms may approach an optimal time to enter a particular market [Christensen et al. 1998, Suarez et al. 2015]. Such periods are commonly labeled as windows of opportunity [Abell 1978, Christensen et al. 1998, Suarez et al. 2015]. The extant literature indicates that the transition stage generates an attractive window of opportunity starting with early signals of convergence toward architectural standardization and closing with emergence of a dominant design [Agarwal et al. 2002, Suarez et al. 2015]. Given that "the best initial design concepts often turn out to be hopelessly wrong" [Teece 2002, p. 98], new entrants can seize opportunity either through enforcing own solution as a dominant product architecture, imitating emerging architectural propositions, conforming to an emerging standard early enough to pre-empt scarce resources and capitalize on a growing market acceptance, or repositioning to a distant niche with sufficient residual demand [Suarez 2004, Argyres et al. 2015]. However, considering strategic maneuvering during the transition period in the industry life-cycle it is important to highlight that some markets may not coalesce around one compromised dominant design (e.g. video game consoles). Moreover, it has been observed that the pace of changes shaping the evolutionary pattern of industries is accelerating and thus further shortens the time for sensing and seizing opportunities during the transition period [Agarwal et al. 2002].

High entry barriers at the mature phase of the industry life-cycle, stemming from accumulated knowledge, controlled collateral assets, economies of scale, significantly limit the number of new entries [Agarwal et al. 2002]. According to Adner and Levinthal [2001] entrepreneurial opportunities decrease significantly as industry reaches maturity and a new structural environment visibly strengthens incumbent advantage. Nevertheless, successful entries do occur indicating potential innovative opportunities not exploited by incumbents [Jacobides et al. 2006, Adner, Kapoor 2010]. In fact, strategic opportunities for entry shift from the center of the market toward peripheral submarkets ignored by dominant firms [Agarwal et al. 2002]. Management literature supports this argument, pointing at a growing specialization

along the industry development trajectory, which produces entrepreneurial opportunities in vertically specialized niches [Jacobides et al. 2006, Gulati, Puranam, Tushman 2012]. Hence, although extant studies confirm that "mature industries present the fewest opportunities for growth for a new company" [Chandler 2015, p. 22], its consolidated market structure may generate promising opportunities for specialized, also small-scale, entrants [Funk 2014]. Interestingly, recent studies elaborate on entrepreneurial opportunities sensed and sized successfully in declining industries [Chandler, Broberg, Allison 2014, Chandler 2015]. Chandler et al. [2014] argue that industry dynamics observed in the decline stage is driven by exits, consolidation practices but also visible entrepreneurial activity. Authors admit that the scope of entry modes appears quite narrow, given that all strategic paths forming around dominant standard are rendered obsolete. Yet, provided results indicate that turning to radical innovations, business model redesign and value proposition diverging from existing firms and categories, enable entrants to achieve high growth. Thus, entrepreneurial opportunities are again linked with increase in variety, as they are created by breaking commonality and conformity [Chandler et al. 2014].

Conclusions

Discussed temporal perspective on entrepreneurial opportunities holds interesting insights that open avenues for further studies. According to the line of reasoning presented in the article firms are conceived as embedded in a broader industrial context formed by distributed efforts of incumbents and new entrants. This context transforms along with changes in knowledge and technology, demand conditions, institutional regulations [Lee, Malerba 2017], forming distinct founding conditions at different periods in the industry life span [Agarwal et al. 2002]. In the light of the industry evolution perspective entrepreneurial opportunities reveal their true complex nature shaped by a recursive cycle of discovery and creation. Acknowledging that industry transformation reflects the overall, emerging pattern of decision making, it becomes feasible to identify windows of opportunity as both – arising as exogenous events sensed by an alert firm and resulting from activities performed by a given firm. Such approach expands the research area beyond the thoroughly discussed issue of early and late entrance during industry growth. Adopted conditioning view of time shifts the exploratory attention to all entrants across the phases of the industry life cycle. Moreover, it provides an interesting perspective for investigating the varying durance of windows of entrepreneurial opportunity.

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