



Speed and learning in the opportunity development process

Tadeu F. Nogueira, Andrew C. Corbett, Joshua V. White & Tommy H. Clausen

To cite this article: Tadeu F. Nogueira, Andrew C. Corbett, Joshua V. White & Tommy H. Clausen (2022): Speed and learning in the opportunity development process, Journal of Small Business Management, DOI: [10.1080/00472778.2022.2088774](https://doi.org/10.1080/00472778.2022.2088774)

To link to this article: <https://doi.org/10.1080/00472778.2022.2088774>



© 2022 The Author(s). Published with license by Taylor & Francis Group, LLC.



Published online: 29 Jun 2022.



Submit your article to this journal [↗](#)



Article views: 811







View related articles [↗](#)



View Crossmark data [↗](#)

Speed and learning in the opportunity development process

Tadeu F. Nogueira ^a, Andrew C. Corbett ^{a,b}, Joshua V. White ^c,
and Tommy H. Clausen ^a

^aNord University Business School, Bodø, Norway; ^bEntrepreneurship Division, Babson College, Massachusetts, USA; ^cDepartment of Management and Marketing, University of Dayton, Ohio, USA

ABSTRACT

Opportunities can be fleeting due to competitive factors or changes in markets and customer preferences; as such, speed matters. However, few studies have looked at the issue of how quickly entrepreneurial opportunities are developed, particularly with a focus on how the learning behaviors of entrepreneurs influence opportunity development speed during the entrepreneurial process. In this article, we investigate this important relationship. Specifically, we examine the role of entrepreneurs' planned and emergent learning behaviors in opportunity development speed. Using a sample of new venture founders, and through the use of ordinary least squares regression and ordered logistic regression, our study suggests that planned learning is associated with faster opportunity development. This article contributes to entrepreneurship process research by highlighting speed in the opportunity development process and its interplay with entrepreneurs' learning behaviors.

KEYWORDS

Speed; learning; opportunity development; start-up; entrepreneurs; entrepreneurship; planned and emergent learning behaviors

Introduction

Many scholars agree that entrepreneurial opportunities represent the central phenomenon that entrepreneurship research seeks to explain (for example, Alvarez & Barney, 2007; Shane, 2012; Shane & Venkataraman, 2000), and that process, time, and speed are critical constructs that need further investigation (Johannisson, 2011; McMullen & Dimov, 2013). In addition, a recent line of research focuses on how entrepreneurs develop an opportunity initially perceived to be worth pursuing (Corbett et al., 2018; Korsgaard & Sassmannshausen, 2017). Aligned with these recent developments, we draw on Vogel's (2017) understanding of "opportunity development" as a process by which entrepreneurs transform rudimentary business ideas into fully formed new venture opportunities over time. Our article deals with a core activity in the new venture creation process, namely the development of a new venture opportunity. This activity is important

CONTACT Tadeu F. Nogueira  tadeu.f.nogueira@nord.no  Nord University, Bodø, Norway, Post box 1490, 8049 Bodø

© 2022 The Author(s). Published with license by Taylor & Francis Group, LLC.

This is an Open Access article distributed under the terms of the Creative Commons Attribution License (<http://creativecommons.org/licenses/by/4.0/>), which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited.

because entrepreneurs “. . . almost always found new companies to develop specific opportunities they have recognized or discovered” (Baron & Henry, 2011, p. 1). We interpret an opportunity as an emerging entity that takes shape in the initial stages of development of a new venture and that depends both on the creative work of entrepreneurs and on situations conducive to entrepreneurship (Ardichvili et al., 2003; Corbett & Hmieleski, 2007).

This article directs attention to speed as a particularly salient characteristic of the opportunity development process. Time is an essential component in opportunity development (Dimov, 2018; Wood & McKinley, 2018), and speed is of critical importance to entrepreneurs for many reasons. For instance, many opportunities are time-sensitive and may be available for a period of time but not indefinitely (Capelleras et al., 2010). Moreover, it is crucial that entrepreneurs quickly work out what value they are creating, to whom, and with which resources, so that they can exploit a new venture opportunity in a timely fashion (Hopp & Greene, 2018). Speed is an essential element of entrepreneurship (Navarro-García et al., 2015) and can be an important moderator for success (Huang, 2016). Furthermore, a fast opportunity development leads to the achievement of important new venture milestones (Schoonhoven et al., 1990). Higher speed enables entrepreneurs to identify and access necessary resources, such as feedback from customers and revenues, sooner rather than later. Opportunity development speed helps therefore to ensure that entrepreneurs do not run out of fuel before they have had a chance to prove the viability of their business idea and business model. Despite its importance, we have scarce insight into opportunity development speed. In this article, we study this important – yet largely neglected – aspect of the opportunity development process.

In addition, we argue that there is limited knowledge about the role of entrepreneurs’ learning in the opportunity development process. Despite the presence of several studies exploring the relationships between the cognitions of entrepreneurs and entrepreneurial opportunities (see, Grégoire et al., 2011 for a review), and although extant research acknowledges that learning is a crucial component in the development of opportunities (Corbett, 2005, 2007; Dimov, 2007; Sanz-Velasco, 2006), we still need to improve our understanding of the relationship between entrepreneurs’ learning behaviors and opportunity development. From the moment that an opportunity is first perceived until the moment it is successfully exploited or abandoned, learning behaviors are essential for entrepreneurs to obtain and refine the knowledge necessary for navigating such process. Extant studies tend to focus on the pre-start-up phase when entrepreneurs use their stocks of experiences (for example, prior start-up experience) in the identification of opportunities (for example, Gabrielsson & Politis, 2012). However, there is a need for an

increased understanding of what happens after an entrepreneur has started a new venture to develop a previously identified opportunity (Korsgaard & Sassmannshausen, 2017; Vogel, 2017).

In this paper, we focus on entrepreneurs' planned and emergent learning behaviors (Van Gelderen et al., 2005). A planned approach to learning involves setting goals for the development of knowledge, and being systematic throughout the learning process, whereas an emergent approach to learning involves the unanticipated exploration of knowledge, and learning from challenges as they emerge (Megginson, 1996; Van Gelderen et al., 2005). Investigating the role of planned and emergent learning behaviors in opportunity development speed is important because it resonates with the broader discussion, in entrepreneurship research, about whether planning promotes new venture success (Brinckmann et al., 2010) and how (Delmar & Shane, 2003).

This study contributes to the field of entrepreneurship in three important ways. First, inspired by Vogel (2017), we develop a conceptual model focusing on the relationship between learning and speed in the opportunity development process, and we empirically examine the model. In this respect, our study connects to calls for a process perspective in the research of entrepreneurship and new venture creation (Davidsson & Gruenhagen, 2021; Leyden & Link, 2015). We direct attention to opportunity development as an important subprocess within the overall new venture creation process (Davidsson & Gruenhagen, 2021), and we conceptualize an opportunity as an emerging entity that takes shape in the initial stages of development of a new venture.

Second, and relatedly, this article is among the first to look at speed as a salient characteristic of the opportunity development process. As such, we contribute by highlighting the issue of time in opportunity development, which is a perspective still lacking empirical examination (McMullen & Dimov, 2013). We also contribute with insights on the significance of opportunity speed for new venture viability, following arguments in favor of entrepreneurs moving quickly through early stage activities in order to achieve new venture viability (Clausen & Korneliussen, 2012; Hopp & Greene, 2018).

Third, in contrast to prior studies focusing on the role of entrepreneurs' cognitions, prior experience and knowledge in opportunity identification (George et al., 2016), we focus on the role of entrepreneurs' learning behaviors in opportunity development speed. In this respect, our results suggest that entrepreneurs' planned learning behaviors speed up the development process of an opportunity in a new venture, a finding that is relevant both for theory and practice.

This article is structured as follows. We start by introducing our theoretical framework, and by reviewing the literatures on entrepreneurial opportunities and on entrepreneurs' planned and emergent learning behaviors. Then, building upon extant theory, we develop the hypotheses for the study. Next, we

describe our sample and data sources, and present our analytical methods. Finally, we report our results, discuss their implications for theory and practice, and offer potential avenues for further research.

Theoretical framework and hypotheses development

This article addresses the following research question: what is the role of entrepreneurs' planned and emergent learning behaviors in the speed of the opportunity development process? Through this study, we seek to advance knowledge on the role of two prominent learning behaviors of entrepreneurs (that is, planned and emergent) in the speed of development of a new venture opportunity. This is an important undertaking because planned and emergent learning behaviors represent two fundamental ways by which entrepreneurs acquire and develop the knowledge necessary to craft an opportunity in a new venture (see, Van Gelderen et al., 2005), and because the speed with which entrepreneurs develop an opportunity influences the likelihood of new venture viability (see, Clausen & Korneliusson, 2012; Hopp & Greene, 2018). This is in contrast to the majority of extant research which focuses – not on how the entrepreneur learns – but on how the entrepreneur makes decisions, most notably through causal and effectual logics (Sarasvathy, 2001). Our study is anchored on the literature concerning entrepreneurs' learning (Wang & Chugh, 2014), and on the literature pertaining to entrepreneurial opportunities (for example, Alvarez & Barney, 2007; Ardichvili et al., 2003; Korsgaard et al., 2015; Shane & Venkataraman, 2000; Venkataraman, 1997) in order to better understand the role of speed in the entrepreneurship process. In particular, we build upon the studies on entrepreneurs' planned and emergent learning behaviors (Megginson, 1996; Van der Sluis, 2000; Van Gelderen et al., 2005), and upon the view that regards opportunities as a process by which entrepreneurs transform initially rudimentary ideas into fully formed new venture opportunities over time (Vogel, 2017). The theoretical framework for this article can, therefore, be presented as follows (Figure 1):

The entrepreneurship process and emerging new venture opportunities

Recent contributions point to the importance of incorporating the notions of “entrepreneurial trajectories” and “path-dependency” in the study of the entrepreneurship process (EP; Matricano, 2020). Entrepreneurial trajectories refer to stylized paths that entrepreneurs can take and that depend on characteristics of the entrepreneurial opportunity, the business model and the growth aspiration of the firm (Matricano, 2020). Path-dependency refers to the solidification of a path following individuals' decisions wherein the available alternatives to choose from are reduced over time (Sydow et al., 2009).

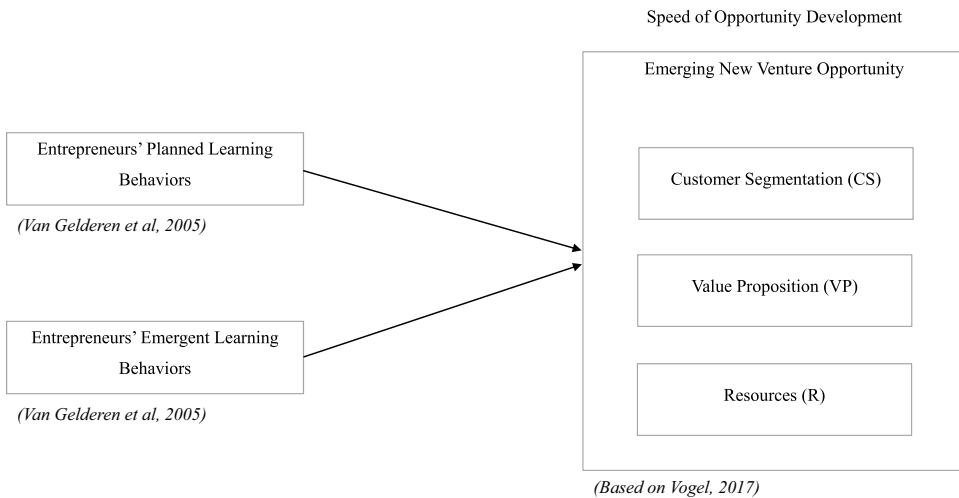


Figure 1. Theoretical framework.

Despite progress, a series of issues are present in the study of EP (Moroz & Hindle, 2012). For one, there is limited knowledge of which elements and activities compose such process (Davidsson & Gruenhagen, 2021). Another issue is that extant models of EP seem to lack generalizability and distinctiveness (Moroz & Hindle, 2012). Further, the majority of extant studies are of a conceptual nature and few are grounded in empirical investigation (Moroz & Hindle, 2012).

Aiming to contribute to the conversations about EP, the present study explores the opportunity concept as an inherent component of entrepreneurship and the entrepreneurship process (see, Baron & Henry, 2011; Davidsson & Gruenhagen, 2021; Vogel, 2017). Discussions surrounding the opportunity concept started with calls to establish the theoretical boundaries of the entrepreneurship field (Shane & Venkataraman, 2000). Since then, much effort has been given to defining opportunities and discussing whether or not they are objective and independent of the perception and actions of entrepreneurs (for example, Alvarez & Barney, 2007; Hansen et al., 2011; Klein, 2008; Shane, 2012). Amid many definitions/views of the opportunity construct, an inevitable reflection is that opportunities seem to be simultaneously objective and subjective in their nature – that is, opportunities are objective in the sense that external circumstances can enable entrepreneurial action (for example, demographic and regulatory changes), as well as being subjective in the sense that entrepreneurs help create the future through the introduction of new products or services in the marketplace. Consequently, opportunities can be seen as a combination of characteristics of the entrepreneur with properties of the environment (Vogel, 2017). Through this combination, an opportunity is shaped and materialized over time, that is, opportunities are emerging entities

that depend both on the creative work of entrepreneurs and on situations conducive to the introduction of new offerings in the marketplace by a new venture (Ardichvili et al., 2003; Corbett & Hmieleski, 2007). Following this line of argumentation, this article adopts Vogel's (2017) understanding of opportunities as the result of a series of iterations that transform entrepreneurs' rudimentary ideas into fully formed new venture opportunities.

Speed in the opportunity development process

Vogel's conceptualization directs special attention to the temporal dynamics in opportunity development, and so do we by focusing on speed as a salient characteristic of the opportunity development process. Time is crucial as today firms tend to compete more often on a time-orientation (Chen et al., 2010; Stalk & Hout, 1990). The issue of how fast entrepreneurs develop a new venture opportunity is important because the potential value created by a new venture frequently has an "expiry date," meaning that an opportunity may be successfully introduced and exploited in the marketplace for a period of time but not indefinitely. If an opportunity takes too long to be developed, it may be surpassed by other ventures with similar offerings, thus losing its appeal and impact. And although multiple opportunities may be available for a new venture (Bakker & Shepherd, 2017), it is still important for entrepreneurs to quickly work out which path to follow; otherwise, the new venture may not be able to sustain itself. Further, a quick opportunity development allows entrepreneurs to communicate with relevant stakeholders, enabling partnerships, attracting resources for the new venture (for example, investments and employees), and introducing the opportunity to potential customers. Also, a quickly developed opportunity may contribute to the legitimization of a new venture, similar to the contribution of a business plan in this respect (Honig & Karlsson, 2004). Moreover, and relatedly, a fast opportunity development may facilitate the timely allocation and coordination of the resources necessary for building the new organization (Delmar & Shane, 2003).

All the benefits associated with the rapid development of an opportunity are particularly important for the typical new venture founder, which represents the empirical context of this study. This is so because the typical entrepreneur does not venture him/herself into completely uncharted territory, nor are most new venture founders starting super-sophisticated high technology firms that get venture funding or take their firm public (Aldrich & Ruef, 2018). Rather, these authors explain that most entrepreneurs work in more "mundane" industries and operate in partially explored spaces where products or services can be improved, customer needs better understood and more thoroughly addressed, and existing business models enhanced (see, Aldrich & Ruef, 2018 for a thorough discussion on ordinary start-ups, the most common form of

entrepreneurship). In addition, speed is particularly important in the domain of opportunity development. While some gestation activities – such as building the new venture team and product quality – may benefit from a slow development process, progressing toward a fully formed opportunity rapidly is of critical importance for entrepreneurs.

Lastly, and importantly, empirical examination of issues related to time within the opportunity development process remains limited. Despite the presence of studies dealing with the issue of time in new venture creation, most notably those using PSED data sets (for example, Carter et al., 1996; Honig & Samuelsson, 2012; Shim & Davidsson, 2018), we still lack empirical studies tapping into the characteristics of the opportunity development process. In our case, we highlight speed as a particularly relevant characteristic of this process, and we capture speed by focusing on entrepreneurs' progress with an opportunity in relation to time. Moreover, we argue that the speed of opportunity development is something that entrepreneurs can influence, particularly by their learning behaviors.

Customer segmentation, value proposition, and resources

Based on Vogel (2017), we conceptualize an emerging new venture opportunity as a multidimensional artifact constituted by three core elements: customer segment(s), value proposition,¹ and resources (Vogel, 2017). Customer segment(s) refers to the groups of potential customers for a new venture, where they are located, how to reach them, and so on. A value proposition refers to how the product(s) or service(s) of a new venture solve customers' needs, the advantages of these in comparison to the competition, and so on. Lastly, resources refers to the different types of resources that a new venture needs (for example, capital and technology), how such resources can be accessed, and so on. These three elements are akin to a nascent, preliminary business model (see, Osterwalder & Pigneur, 2010) of a new venture (Vogel, 2017).

It is worth mentioning that Vogel's model does not specify how the stages of opportunity development correspond to an entrepreneur's new venture creation activities. In this respect, we interpret that opportunity development is a process that is particularly salient during the early phase of development of a newly created firm and, moreover, is a process that is particularly susceptible to entrepreneurs learning post-entry. Entrepreneurs' learning post-entry is of fundamental importance. Key reasons are that entrepreneurs have taken the decision to start a venture, are fully exposed to the uncertainties of the process of entrepreneurship, and need to learn from feedback from external stakeholders, such as (potential) clients,

¹"Customer need" in Vogel's (2017) conceptual model.

customers, suppliers, and so on. Learning from market feedback – which happens more intensely post-entry – typically triggers the need for entrepreneurs to challenge their assumptions and beliefs about the previously identified opportunity. Thus, learning and developing an opportunity post-entry typically triumphs the learning pre-entry. This is so because post-entry learning is fully infused with feedback from market actors in a situation where the entrepreneur has taken the decision to start a venture and has committed resources to pursuing an opportunity further, typically seeking to achieve viability sooner rather than later. Thus, we focus on entrepreneurs' learning from experiences generated through entrepreneurial action. This is of pivotal importance when seeking to develop an identified opportunity into a profitable venture offering and a viable venture (Clausen, 2020).

It is after entry that entrepreneurs, through learning, are developing their understanding of who their (potential) customers are, what problems customers have, how to solve these problems creatively and profitably, and how to organize the resources necessary to craft a feasible new venture offering. This is so because the process leading to the start-up of a new venture is typically short and simple, with a duration of around three months for emergence chance after inception of the process (Shim & Davidsson, 2018). Our argument that entrepreneurs are chiefly developing opportunities post-entry is further corroborated by the characteristics of the Norwegian context (our sample) where one of the first gestation activities for the entrepreneur is to register the new firm (Alsos & Kolvereid, 2011). A key insight from this research, given the objective of our paper, is that “business registration corresponds very closely with entrepreneurs' self-perception of business birth” (Isaksen & Kolvereid, 2005, p. 18). The main implications are that entrepreneurs are typically developing an opportunity following the creation of a new venture, and that the opportunity development process is particularly susceptible to entrepreneurs' post-entry learning.

Entrepreneurs' planned and emergent learning behaviors

Whereas this study is closely related to Vogel (2017) with respect to the importance of time in opportunity development, we extend his model by adding entrepreneurs' learning as a potential driver of such process. In this respect, we are combining Vogel's model with insights from the broad body of literature on entrepreneurial learning (see, Nogueira, 2019b for a recent review), which not only recognizes the critical importance of learning in entrepreneurship (Boso et al., 2019; Brettel & Rottenberger, 2013; Chandler & Lyon, 2009; Clausen, 2019; DeTienne & Chandler, 2004; Gemmill, 2017; Sanz-Velasco, 2006), but also acknowledges the multidimensionality of the

learning phenomenon (Sardana & Scott-Kemmis, 2010), and points to a variety of learning behaviors among entrepreneurs (Page West & Gemmell, 2021; Wing Yan Man, 2012).

Entrepreneurs' learning behaviors are particularly important because entrepreneurs need to act upon their ideas in order to realize new venture opportunities (Schlesinger & Kiefer, 2012). In other words, action is key for entrepreneurs to sustain the development of an opportunity over time, and learning behaviors – a form of action – enable the acquisition and/or development of knowledge and/or skills necessary for the development of a new venture opportunity.

Learning behaviors are akin to personal action strategies (Frese et al., 2000; Megginson, 1996), and refer to individuals' choices in particular settings. Our study focuses on the role of entrepreneurs' planned and emergent learning behaviors in the speed of opportunity development. This is so because these two learning behaviors are representative of two major schools of thought in entrepreneurship regarding business planning vs business improvising (Brinckmann et al., 2010). Specifically, planned learning behaviors involve deliberation in the sense that the individual sets preestablished objectives for his/her learning and then proceeds in a systematic fashion in the development of knowledge; whereas emergent learning behaviors involve improvisation, unanticipated exploration of knowledge, and learning from challenges as they emerge (Van Gelderen et al., 2005).

Planned learning and opportunity speed

With this background, this article proceeds to present its hypotheses on the relationship between entrepreneurs' planned behavior and opportunity development speed. Our thesis begins from our supposition that emergent learning will slow down opportunity development. The extant literature shows that an entrepreneur with a plan will move faster when they are guided by that plan as opposed to altering it, changing course, and following an emergent strategy. Hopp and Greene (2018) explain that those who follow a plan are able to synchronize it with other gestation activities in order to bring the venture idea toward viability. A planning behavior helps the venture opportunity move quickly because the plan operates as an orchestration device that allows the nascent entrepreneur to scrutinize the development of the emerging venture (Delmar & Shane, 2003).

Given this, our first and main hypothesis posits that entrepreneurs' planned learning behaviors will lead to a fast opportunity development in a new venture. The key reason is that planned learning takes place within a particular opportunity development trajectory (see, Matricano, 2020). Such learning quickly leads to useful insights, which can be used to develop the opportunity into a revenue-generating venture offering that is in line with market feedback post-

entry. Emergent learning, however, typically happens across several potential opportunity development trajectories. Such learning typically takes more time, is more complex, and may result in ambiguity and conflicting insights. It is thus our expectation that entrepreneurs' planned learning behaviors will speed up the opportunity development process. Planned learning behaviors support the typical new venture founder in progressing rapidly toward a better understanding of customer needs, an improved solution to such needs, and a potentially value-adding new venture offering. Hence, our first and main hypothesis:

H1: Entrepreneurs' planned (but not emergent) learning behaviors promote speed in the opportunity development process.

Given the multidimensional nature of an opportunity, we now introduce our subhypotheses concerning the three constituent elements of an emerging new venture opportunity: customer segments (CS), value proposition (VP), and resources (R) (Vogel, 2017). For each, we argue that planned learning behavior will promote faster development. Customer segmentation in a new venture is, for the typical entrepreneur, a directed and intentional endeavor (see, McDougall & Robinson, 1990). Without directed efforts toward the specification of which groups of customers a new venture will focus on, it is likely that the typical entrepreneur will drift along many possible options without commitment to any specific group. Engaging in such activity through planned learning behaviors means that entrepreneurs are organized in the way they acquire new information toward the achievement of their goals, and we expect this activity to take place rapidly when supported by planned learning behaviors. Thus, we hypothesize that:

H1a: Entrepreneurs' planned (but not emergent) learning behaviors promote speed in the segmentation of customers in a new venture.

As noted previously, Aldrich and Ruef (2018) describe the typical entrepreneur as one who does not venture him/herself into completely uncharted territory, but rather into partially explored spaces. As such, the value proposition of a new venture will most often incrementally improve upon established ones. In this respect, the work of the entrepreneur is largely one with pre-established goals. Thus, we expect a value proposition to be rapidly developed when supported by planned learning behaviors. Hence:

H1b: Entrepreneurs' planned (but not emergent) learning behaviors promote speed in the development of a value proposition in a new venture.

Our last hypothesis follows the same logic and argues that entrepreneurs' planned learning behaviors will be beneficial for the speed of resource development in a new venture. This is so because the development of resources in

a new venture typically involves planning and strategic behavior (Hopp & Greene, 2018). One important activity, in this respect, is for entrepreneurs to meet the expectations of stakeholders, who need to be persuaded of the attractiveness of a new venture. We expect that entrepreneurs, through planned learning behaviors, will rapidly develop the knowledge necessary to meet such expectations, and in doing so, will be able to rapidly craft a new venture opportunity with regard to resources. More broadly, planning has been recognized as an aid to entrepreneurs' decision-making as it reduces biases and subjectivity given the presence of preestablished goals (Brinckmann et al., 2010), which we expect to apply also in learning situations. Consequently, our last hypothesis is:

H1c: Entrepreneurs' planned (but not emergent) learning behaviors promote speed in the development of resources in a new venture.

Method

Sample and data sources

Our data was collected through a survey of new venture founders in Norway, designed specifically for this study. Before its final implementation, the survey instrument was tested in two small-scale pilots, and extensively discussed with entrepreneurs. Such procedures allowed us to refine the survey design in a way that respondents would find relevant and easy to follow. The next step was to secure access, through the Norwegian National Business Registry, to the entire population of new limited liability companies incorporated in Norway in 2017 ($n = 28,943$). Then, we excluded from the population: inactive firms (that is, firms that had been terminated); firms without an industry code, as we could not identify the business activity of such firms; firms within the real estate and financial sectors, as these are mostly involved in passive investment rather than active entrepreneurial activity; and public organizations, as they fall outside the scope of the article (our focus is on private new ventures). After this procedure, the population included 16,985 firms.

Next, we drew a sample of 2,187 firms – those with an e-mail address – and sent an invitation through the online survey software Questback. In total, 2,073 entrepreneurs received our invitation (114 did not for various possible reasons, such as inactive e-mail addresses). Finally, after four reminders, we received 184 surveys,² reflecting a response rate of 8.9%, which is consistent with average response rates in the field of entrepreneurship (Newby et al., 2003). In this respect, our most important consideration was to select

²All research participants have provided appropriate informed consent. The consent form accompanied our questionnaire. This project has been approved by the Norwegian Center for Research Data (project no. 56,028).

a research context where our hypotheses could be meaningfully tested, and we have achieved this through a focus on newly registered ventures. Then, we excluded the surveys that failed to provide complete information regarding our variables of interest. In all, the final dataset includes 149 observations from Norwegian new ventures.

Our study relied mainly on self-reported data. This was necessary because we could only capture the constructs of interest to this article through a survey. We complemented data obtained from surveys with data from the Business Registry, where we collected the organization identifier number, the creation and official registration date of the firm, and its initial capital.

The survey data confirmed that the entrepreneurs in our sample served in key management roles in their businesses (such as CEO or chairman), and are involved in making decisions in the firm to a large extent. The survey included demographic questions tapping into the education level and previous work experiences of the entrepreneurs. Their highest level of education is a PhD degree ($n = 6$), followed by master's degree ($n = 46$), bachelor's ($n = 57$), secondary school ($n = 35$), and primary school ($n = 5$). Entrepreneurs' overall work experience was, on average, 26 years. Lastly, approximately a third of our sample was composed by novice entrepreneurs (34.2%), and two-thirds by serial entrepreneurs (65.8%). The serial entrepreneurs had started, on average, four ventures prior to their current businesses. Roughly 38% of the entrepreneurs in our sample are solo entrepreneurs, and 62% founded their ventures as a team. On average, the size of the entrepreneurial teams was three people.

We surveyed firms between September and December 2018. As mentioned previously, all ventures in our sample were incorporated at some point in 2017, therefore the age of the ventures in our sample ranged from nine to 23 months, with an average of 14. Our focus on early stage new firms was deliberate and appropriate given our focus on opportunity development. Moreover, focusing on newly incorporated ventures allowed entrepreneurs to recall recent events with relative ease. Our sample includes firms from various industries and regions in Norway.

Measures

Speed of opportunity development

Physicists frequently operationalize speed by dividing distance by time. In entrepreneurship, distance may be represented by an entrepreneurs' subjective progress toward venture goals, and time may be represented by the objective amount of time passed since venture formation. Thus, to measure speed of opportunity development, we used a 7-point Likert scale to gauge entrepreneurs' subjective judgment regarding the development of an emerging opportunity, divided by the amount of time (in months) between business creation and survey administration.

Building upon Vogel (2017) and Osterwalder and Pigneur (2010), we sought to measure speed of opportunity development in three unique areas. The survey items we developed reflect the overall development of an emerging new venture opportunity (Vogel, 2017) in three core dimensions: customer segment³ (three items, alpha = 0.81), value proposition (four items, alpha = 0.87), and resources (four items, alpha = 0.93). All items were measured on a 7-point Likert scale that read, “Please specify the extent to which you can describe . . .” (a) customers, (B) products/services, (c) resource needs. Answers ranged from “very low extent” to “very high extent.” Example items include: “How to reach customers” (customer segment), “How my product(s) or service(s) solve(s) customers’ problems” (value proposition), and “The different types of resources needed for the firm” (resources). To objectively measure the denominator for our dependent variables, we calculated the age of the venture using data sourced from the business registry.

In order to consider the higher-order factor of speed of opportunity development, we followed the approach outlined by Chandna and Salimath (2018). Specifically, we determined the average speed (that is, arithmetic mean) for each of the individual components of opportunity development (that is, customer segment, value proposition, and resources). Next, we recoded the values for each component as high (1) and low (0) if the value was above or below the mean of that dimension. Finally, we added the numbers together to obtain a consolidated measure for speed of opportunity development. Thus, a score of three indicates that a new venture had more knowledge of their customer segment, value proposition, and resources in a faster amount of time than did the mean firm within each category. Similarly, a score of two indicates that a new venture developed two of the three categories faster than the mean of those categories, and a score of one indicates a high speed in only one of the three categories. A score of zero on the measure would indicate that the venture was slower in developing customer segments, value propositions, and resources.

Learning behaviors of entrepreneurs

The measures for the independent variables were adapted from Van Gelderen et al. (2005) and Van der Sluis (2000), reflecting the extent to which entrepreneurs used a planned or an emergent approach to their learning in the opportunity development process. The properties of such scales have been refined over time through the work of Megginson (1996), Van der Sluis (2000), and Van Gelderen et al. (2005). Planned and emergent learning were measured

³As a minor note, our measurement of customer segment has a transactional nature. We focus on knowing how to reach and sell to (potential) customers. The key reason is that our entrepreneurs are in the early phase of opportunity development where it may still be premature to really know who the customers are. Adopting a process-based lens, we argue that reaching out to potential customers is a way of learning about who the customers are.

on a 7-point Likert scale. Planned learning was measured with three items, such as “I set goals for my own learning,” and the scale had an alpha equal to 0.92. Emergent learning was measured with a single item (that is, “Most of my learning experiences came unexpectedly from things that happened”).

Control variables

We control for several characteristics of the entrepreneur that are expected to play a role in the speed of opportunity development. First, we controlled for human capital because the literature shows that entrepreneurs’ previous work experience is important for new venture outcomes, such as size, growth, and profitability (Unger et al., 2011), as well as new venture creation speed (Capelleras et al., 2010). Human Capital is multifaceted, therefore in order to measure it properly, we used principal component analysis to extract a single linear composite variable. Specifically, our measure of human capital reflects management experience by including the number of years an entrepreneur has held a management position in any company, industry-specific experience by including the number of years an entrepreneur worked in the same industry as the current venture, and start-up experience by including the number of previous firms founded by the entrepreneur. These three measures were combined into one variable (that is, human capital) through the use of their factor score. Second, as entrepreneurs’ social network may speed up the opportunity development process, we controlled for the size of their networks with various groups (for example, investors and potential customers) through an adapted version of Peng’s and Luo’s (2000) scale (alpha = 0.74).

In addition to the two individual-level controls, we also controlled for firm and market-level variables, including: the category of new venture, market uncertainty, team size, and the initial capital of the new firm. First, new ventures that are related to existing ventures may develop opportunities faster. Thus, we used a dummy variable to control for whether the company was entirely new (that is, *de novo*) or related to an existing enterprise in some way (for example, spinoff, re-incorporation). Second, uncertainty is a central component in entrepreneurship, and extant theory shows that when uncertainty is high, entrepreneurial action is hindered (McKelvie et al., 2011) and time efficiency may be compromised (Bstieler, 2005). Uncertainty is inherent to the entrepreneurship process, and may be present even in ordinary start-ups as it depends largely on the perceptions of individuals (Milliken, 1987; Nogueira, 2019a). As such, we employed an adapted version of the scale by Luca and Atuahene-Gima (2007) to measure market uncertainty (alpha = 0.81). Example items include: “Customer’s preferences are very uncertain” and “The competitive environment is very unpredictable.” Third, we controlled for the number of people in the entrepreneurial team as this may have a positive influence on speed. Finally, we took the logarithm of one plus the

initial capital of the firm (NOK) sourced from the business registry, as the availability of resources at start-up may promote a fast opportunity development.

Analyses

We began by conducting exploratory factor analyses (EFA) on our independent and dependent variables using SPSS version 27. All results reported below were obtained using Kaiser's alpha factoring with promax rotation to ensure that the results are generalizable to other samples and that the factors obtained are correlated with one another (Field, 2013). We also used the output from SPSS to report CR and AVE values for each construct, as well as our descriptive statistics. After conducting EFA, we leveraged linear regression as well as ordered logistic regression to test our hypotheses. The ordered logistic regression was executed in STATA version 16.1 and we estimated regression coefficients using the Long and Freese's SPost13 user package (Jann & Long, 2010; Long & Freese, 2014).

Results

Descriptive statistics and correlations

The descriptive statistics reported in Table 1 show the mean, standard deviation, and correlation coefficients for the scales in our study. The correlations among the explanatory variables in Table 1 are low, which indicates the absence of problems with multicollinearity. Table 1 shows a strong positive association between planned learning and the speed of opportunity development for each of the three dimensions: customer segment ($r = 0.25$), value proposition ($r = 0.36$); and resources ($r = 0.36$). In contrast, emergent learning is negatively associated with customer segment ($r = -0.22$), not related to value proposition ($r = 0.00$) and negatively associated with resources ($r = -0.04$). This suggests that despite the presence of the two learning behaviors among entrepreneurs, it is planned learning that promotes a fast opportunity development. Further, the correlation between planned and emergent learning is low ($r = 0.02$), indicating that they are independent from each other.

Exploratory factor analyses

We conducted a series of exploratory factor analyses on each of the latent variables in our study. We initially extracted factors with eigenvalues greater than one, and then supplemented our analyses by examining scree plots for each of the variables (Field, 2013). In Table 2, we present the constructs measured, the survey items used to measure them, their factor loadings,

Table 1. Descriptive statistics and correlation matrix.

	Mean	SD	1	2	3	4	5	6	7	8	9	10	11	12	13
1. De novo	1.82	0.39	1												
2. Team size	2.23	1.61	0.02	1											
3. Human capital	-0.04	1.01	.03	0.06	1										
4. Social network	3.38	1.39	0.01	0.08	0.30**	1									
5. Market uncertainty	3.65	1.27	0.06	0.02	0.13	0.03	1								
6. Log initial capital (NOK)	4.76	.50	0.08	0.07	0.11	0.17*	0.14	1							
7. Planned learning	4.68	1.63	0.15	0.02	-0.07	0.19*	0.11	-0.02	1						
8. Emergent learning	4.11	1.67	0.17*	0.11	-0.27**	-0.16	0.12	0.11	0.02	1					
9. Customer segment	5.33	1.24	-0.01	-0.05	0.23**	0.23**	-0.10	0.00	0.25**	-0.22**	1				
10. Value proposition	5.78	0.98	0.02	0.05	0.07	0.13	-0.15	-0.08	0.36**	0.00	0.57**	1			
11. Resources	5.39	1.23	0.12	0.03	0.18*	0.27**	0.00	0.04	0.36**	-0.04	0.44**	0.64**	1		
12. Speed of opportunity development	1.68	1.17	0.07	0.03	0.14	0.24**	-0.13	0.00	0.33**	-0.12	0.63**	0.73**	0.72**	1	
13. Time in months	13.77	3.07	0.13	0.10	-0.01	0.03	0.07	0.04	0.03	0.00	-0.04	-0.07	-0.07	-0.10	1

* $p < 0.05$; ** $p < 0.01$

Table 2. Results of exploratory factor analysis.

Construct	Item	Factor Loading	Cronbach's Alpha	CR	AVE
Planned learning	1 My learning was a planned process of determining goals, reaching them and then setting new goals.	0.80	0.91	0.92	0.78
	2 I set goals for my own learning.	0.94			
	3 I set goals for my own development.	0.91			
Customer segment ^a	1 When the customers make purchases (for example, how often).	0.72	0.81	0.79	0.56
	2 Where the customers are (geographically).	0.64			
	3 How to reach customers.	0.87			
Value proposition ^a	1 How the venture's products or services solve customers' problems.	0.68	0.87	0.83	0.55
	2 What customers appreciate with regard to the venture's products or services.	0.73			
	3 Why customers should buy the venture's products or services.	0.74			
	4 The advantages of the venture's products or services compared to the competition.	0.80			
Resources ^a	1 How the venture can access the necessary resources.	0.75	0.93	0.92	0.75
	2 How the venture can cover its resource needs.	0.83			
	3 Which people to contact to access the necessary resources.	0.95			
	4 Where the necessary resources are localized.	0.92			
Social network	1 Indicate the size of your network with potential customers.	0.65	0.74	0.75	0.44
	2 Indicate the size of your network with potential suppliers.	0.75			
	3 Indicate the size of your network with potential competitors.	0.75			
	4 Indicate the size of your network with potential investors.	0.45			
Market Uncertainty	1 Customers' needs change very rapidly.	0.63	0.81	0.82	0.54
	2 Customer's preferences are very uncertain.	0.87			
	3 It is very difficult to predict changes in customers' needs/preferences.	0.83			
	4 The competitive environment is very unpredictable.	0.55			

^aSpeed of customer segmentation, value proposition, and resources calculated as a function of time. See methods section.

alphas, CRs, and AVE. The results are acceptable and exceed the criteria suggested for convergent validity (that is, CR of 0.60, and AVE of 0.50; Chen et al., 2015; Kline, 1998). In addition, we assessed the degree of common method bias by conducting Harman's (1967) one-factor test. The test extracted five factors that accounted for 71% of the total variance, with the first factor accounting for 33%. These findings suggest one factor does not account for most of the variance (Podsakoff et al., 2003).

Hypothesis testing

Regression analyses were used to test the hypotheses. The regression models applied in this study are shown in Tables 3 and 4.

Table 3. Ordinary least squares regression results.

Predictor	Dependent Variables		
	Speed of Customer Segmentation	Speed of Value Proposition	Speed of Resources
	β (SE)	β (SE)	β (SE)
Human capital	0.19** (0.01)	0.13 (0.01)	0.18* (0.01)
Social network	0.07 (0.01)	-0.02 (0.01)	0.11 (0.01)
De novo	-0.10 (0.03)	-0.14* (0.03)	-0.02 (0.03)
Market uncertainty	-0.19** (0.01)	-0.25*** (0.01)	-0.14 (0.01)
Log initial capital	0.02 (0.02)	-0.03 (0.02)	0.00 (0.02)
Team size	-0.10 (0.01)	-0.05 (0.01)	-0.07 (0.01)
Planned learning	0.18** (0.01)	0.26*** (0.01)	0.23*** (0.01)
Emergent learning	-0.04 (0.01)	0.08 (0.01)	0.06 (0.01)
R ²	0.13**	0.13**	0.11**

* $p < 0.10$; ** $p < 0.05$; *** $p < 0.01$

The results of the ordinary least squares regression in Table 3 indicate that planned learning has a positive and significant impact on speed of customer segmentation, speed of value proposition development, and speed of resource development. However, the results also demonstrate that emergent learning is not significantly related to any of the three dimensions of opportunity development. Thus, in summary, we find support for Hypotheses 1a, 1b, and 1c.

Our operationalization of speed of opportunity development is such that respondents could earn a score of zero to three based on their speed of progress toward venture goals. As such, the dependent variable (that is, speed of opportunity development) is categorical, not continuous, and would be inappropriate to test using ordinary least squares regression. Consequently, we used ordered logistic regression to evaluate the impact of planned and emergent learning on speed of opportunity development. Our results are shown in Table 4 and they indicate that planned learning is significantly related to the speed of opportunity development, while emergent learning is not. Thus, we find support for Hypothesis 1.

Discussion

Our results support our initial expectation that entrepreneurs' planned learning behaviors speed up the opportunity development process. In this study, we have worked toward a theoretical model and the development of hypotheses with the aim of extending the current state of knowledge on the topic. Our

Table 4. Ordered logistic regression results.

Speed of Opportunity Development			
Predictor	Coefficient	Robust Std Error	P-Value
Human capital	0.25	0.18	0.15
Social network	0.24	0.13	0.06
De novo	0.17	0.43	0.70
Market uncertainty	-0.26	0.13	0.04
Team size	-0.03	0.06	0.66
Log initial capital	-0.04	0.23	0.87
Planned learning	0.41	0.11	0.00
Emergent learning	-0.10	0.10	0.32
Pseudo R ²		.08*	
Log-likelihood		-183.83	
Wald χ^2		29.49	
Observations		150	

Coefficients reported in log odds ratios.

results point to the importance of planned learning behaviors in opportunity development speed, shedding light on a topic that lacks empirical examination.

It is worth noting that it is possible to theorize and draw conclusions about a process from a variety of methodological perspectives, not least from a cross-sectional study. This is exemplified in a quote from Davidsson and Gruenhagen (2021, p. 1084): “. . . researchers can and do add insights into the NVC [New Venture Creation] process through many different approaches, and not just through adherence to the ideal of holistic understanding of individual processes, building ‘process theory’ as opposed to ‘variance theory’ (Langley, 1999; Mohr, 1982; Van de Ven, 1992) and conducting ‘small n’ empirical research (compare, Langley, 2009, p. 411).” As such, this article has three key implications for entrepreneurship research.

First, inspired by Vogel (2017), we have developed and empirically tested a model focusing on learning and speed in the opportunity development process. We have interpreted an opportunity as an emerging entity that takes shape in the initial stages of development of a new venture, and our results suggest that entrepreneurs’ planned learning behaviors are beneficial for opportunity development speed. As such, our study provides an improved understanding of opportunity development as a subprocess within the overall new venture creation process (Davidsson & Gruenhagen, 2021), adding to the view of entrepreneurship as a process (Leyden & Link, 2015), and responding to calls for more empirical investigations of time, speed, and the entrepreneurial process (Johannisson, 2011; McMullen & Dimov, 2013). It has been our intention, with our study, to work toward an improved understanding of a central subprocess of EP, namely opportunity development and its relationship with entrepreneurs’ learning. In this regard, we have aligned our study to the view of opportunities as “developed” (Vogel, 2017), and we have

highlighted the importance to understand how the development of an opportunity relates to the development of a new venture. Our study allows for the insight that opportunity development correlates with earlier stages of new venture development. Although some could argue that opportunity development is an activity that precedes the creation of a new venture, we follow the understanding that entrepreneurs found new ventures to develop previously identified opportunities (Baron & Henry, 2011; Davidsson & Gruenhagen, 2021).

We argue that examining opportunity development at an early stage of new venture development is meaningful because at this stage the entrepreneur has committed resources to pursuing the opportunity and has a stronger influence on how the opportunity is shaped. Too early and prior to venture creation, the entrepreneur may consider multiple opportunities without any real commitment to any of them. At later stages of new venture development, the opportunity may no longer be in development and/or dependent upon the entrepreneur.

Conceptually, we have implicitly envisioned opportunity development as a path-dependent process in which entrepreneurs develop their opportunities within a path. According to Sydow et al. (2009), the notion of path-dependency involves an initial phase with a broad scope of action, which may funnel into a path by a trigger (such as a particular decision); an intermediary phase with self-reinforcing processes that reduce the set of options and create a narrowing path; and a lock-in phase where the scope of action is bounded by a solidified path. Applied to the opportunity process, and assuming progression, entrepreneurs would initially consider multiple ideas or courses of action. Then, at some point in time, they would reach a path involving fewer options, and would (re)shape an opportunity within the boundaries of this path. Finally, entrepreneurs would reach a lock-in phase when efforts are targeted at opportunity exploitation. Looking at our empirical material from the lenses of path dependency, we evaluate that our entrepreneurs were situated in the intermediary phase of a potentially path-dependent process, when the opportunity was being (re)shaped within the boundaries of a narrowing path. This understanding is compatible with Vogel's (2017) conceptual model, which proposes that, over time, venture ideas are transformed into a venture concept, which is then transformed into a new venture opportunity.

At the same time, we acknowledge the variance in NVC processes and its relationship with an opportunity, including different modes of entry (for example, a wish to start a business followed by systematic search and implementation of ideas vs an unexpected encounter with an opportunity that fits an individual's particular experiences), variability in duration, content, and sequence of NVC activities (for example, the building of an entrepreneurial team may last from months to years), and different development modes (for

example, from planned and rationalistic to iterative and serendipitous) (Davidsson & Gruenhagen, 2021). Our study sheds light on some of these aspects, namely entrepreneurs' planned and emergent learning as stylistic development modes, and speed as a process characteristic of opportunity development. As such, our study is of the kind "process pattern" (Davidsson & Gruenhagen, 2021) as it is concerned with two key patterns of entrepreneurs' learning (that is, planned and emergent), and with a salient characteristic of the opportunity development process (that is, speed).

An important conclusion from the systematic review by Davidsson and Gruenhagen (2021) is that that "... there does not exist a sizable and unified literature (or literatures) on the NVC process." (p. 1095). Through our study, we have sought to advance knowledge on this underdeveloped topic by examining the relationship between learning and speed in the new venture opportunity development process.

Second, and relatedly, through the investigation of opportunity development speed, this article has addressed research calls for more empirical work on the issue of time in early start-up activities (Capelleras et al., 2010; Hopp & Greene, 2018). These research calls reflect a key argument within the opportunity development view: that time matters in opportunity development (McMullen & Dimov, 2013). In this regard, this article is among the first to empirically investigate the speed of opportunity development as an outcome variable. In the investigation of the role of entrepreneurs' learning in opportunity development, we have highlighted an important driver (planned learning behaviors) of a central characteristic of the opportunity development process (speed).

Following the argument by extant theory that entrepreneurs should move quickly through early stage activities in order to achieve new venture viability (Clausen & Korneliusson, 2012; Hopp & Greene, 2018), our study suggests that fast opportunity development is crucial for entrepreneurs to capture the external market circumstances conducive for entrepreneurial action. That is, it is important for entrepreneurs to develop their venture opportunities rapidly in order to address market demands in a timely manner. The opposite situation (that is, when entrepreneurs move through the opportunity development process too slowly) may lead to the over-analysis of ideas (McGrath & MacMillan, 2000), and missed opportunities. Moreover, a fast opportunity development process is aligned with the recent shift in how firms compete with each other – whereas firms were once able to rely on a traditional cost-orientation strategy, today they need to employ a time-orientation strategy (Chen et al., 2010). That is, it is no longer sufficient for firms to compete on the basis of "the most value for the lowest cost"; rather, they need to provide "the most value for the lowest cost in the least amount of time" (Stalk & Hout, 1990, p. 31).

Further, our study can be connected to the discussion of timing of new venture creation activities. We argue that fast opportunity development – supported by planned learning behaviors and carried out in the early stages of new venture development – is beneficial because it can provide a boundary spanning goal statement for the new venture (Delmar & Shane, 2003), increase the likelihood of new venture viability (Hopp & Greene, 2018), serve as a legitimation device for entrepreneurs (Honig & Karlsson, 2004), and guide the arrangement of other start-up activities (Delmar & Shane, 2003; Hopp & Greene, 2018), such as hiring new employees and forming partnerships. These considerations do not preclude changes in the direction of the new venture opportunity. That is, we do not imply that entrepreneurs must rigidly follow a predetermined path. Rather, the implication is simply that there can be several potential benefits in going through the opportunity development process rapidly. Planned learning is not simply a faster way to an “end station,” but a way of learning that enables subsequent spells of opportunity development as the venture acquires resources as it develops. The key reason is that speed enables entrepreneurs to access critical resources faster. These resources are subsequent inputs to the opportunity development process. Importantly, the cumulative influence of these spells of opportunity development – enabled by planned learning – can move the entrepreneur to develop a significantly different version of the venture. Thus, when looking at the value of planned learning through a process lens, we understand that planned learning helps to ensure that new ventures either have the required viability to fully pursue a chosen and lucrative trajectory or that new ventures have the required viability to pursue other more lucrative new venture development trajectories. Thus, our paper adds to the extant notion that opportunity development is an ongoing activity/process for entrepreneurs by explicating why the speed of this process is important, particularly post-entry, and articulates the role of planned learning in this regard.

Future research could explicitly investigate the role of opportunity development speed in the achievement of new venture milestones to understand the significance of opportunity development speed for new venture development and viability (Hopp & Greene, 2018). In addition, future research could disentangle the issue of multiple opportunities under consideration by the entrepreneur (Bakker & Shepherd, 2017). Some entrepreneurs – especially those in teams – may simultaneously develop multiple opportunities. Capturing such dynamics is difficult, but future research is encouraged to examine the development of multiple opportunities in a new venture, and the possible trade-offs between the speed and scope of the opportunity development process. In particular, qualitative process studies would be well positioned to address these issues.

Third, our study suggests that it is beneficial for entrepreneurs to be aware of and exercise control over their learning behaviors in the opportunity development process, as these can have an effect not only on speed, but also on other characteristics of such process (for example, its degree of linearity). Matricano (2020) proposes three types of entrepreneurial trajectories: a flat trajectory involving efficiency-centered business models and firm survival; an incremental trajectory involving both efficiency and novelty-centered business models and firm growth; and an adventurous trajectory novelty-centered business models and high firm growth. Such trajectories likely embed different degrees of linearity for the opportunity development process, which is partly influenced by entrepreneurs' learning behaviors. In this respect, while we have focused on the role of planned and emergent learning behaviors in opportunity development speed, future research could examine the effects of different learning behaviors in various opportunity and/or new venture outcomes. Understanding which learning behaviors promote which opportunity and/or new venture outcomes is important both to theory and practice, and we encourage future research to unravel such dynamics.

Limitations and future directions

This study is not without limitations. As we have adopted a cross-sectional design, causality can be problematic. To mitigate this issue, we have grounded our hypotheses in theory and the survey instrument has been carefully designed with regard to its timeline. Further, complex temporal dynamics are frequently at play in the opportunity development process (for example, variations in opportunity clarity over time) as entrepreneurs introduce and innovate their business models. Similarly, entrepreneurs may exert different levels of effort at different times in the venture development process. Also, it can be difficult to determine the temporal boundaries of the process of opportunity development (that is, when the opportunity starts or stops being developed). Part of the reason is due to the emerging nature of opportunities (Ramoglou & Tsang, 2016), and also because opportunities are highly intangible and fluid (Hill & Birkinshaw, 2010), and not necessarily dependent upon a single individual (Davidsson, 2015). To cope with these issues, we employed a timeframe for opportunity development (that is, elapsed time from business creation to survey administration). We claim this is appropriate because the process of opportunity development is at a heightened state in earlier phases of new venture development and because the creation of a new venture represents a commitment by the entrepreneur to pursue an opportunity further. Not least, the adopted timeframe allowed us to capture a process characteristic (that is, speed of opportunity development) in a cross-sectional research design.

A single primary study is unlikely to fully capture the complex temporal dynamics that accompany opportunity development. Consequently, we strongly recommend future qualitative studies capable of delving deeper into the interplay between learning and opportunity development. It is also likely that our study does not capture the full nuance of the relationship between entrepreneurial learning and opportunity development. Although the use of single-item measures is quite common in organizational research due to their estimated reliability (Wanous & Hudy, 2001), the measurement of emergent learning could be improved in the future by using longer measures. Moreover, future research should continue to examine possible mediators and moderators of the relationship between learning and opportunity development. Further, as our study has employed a sample of Norwegian firms, generalizations may not hold in all contexts. Comparative studies that examine whether our results hold in other settings are encouraged. Also, this study has not explicitly included the insight that many start-ups are team based (apart from controlling for team size). However, it is not uncommon that firms are started and developed by entrepreneurial teams, who complement each other in various aspects, not least in their learning behaviors. Therefore, we invite further research on the role of team's learning in the opportunity development process.

Conclusion

To conclude, in addressing the research question of this study – what is the role of entrepreneurs' planned and emergent learning behaviors in the speed of opportunity development? – we find that entrepreneurs' planned learning behaviors are positively related to the speed of opportunity development. A fast opportunity development is important because it allows entrepreneurs to address market opportunities in a timely manner, and increases the likelihood of new venture viability. Through this study, we have sought to advance our knowledge on a topic lacking empirical examination, and we hope that future research will continue to pursue this line of inquiry.

Disclosure statement


No potential conflict of interest was reported by the authors.

ORCID

Tadeu F. Nogueira  <http://orcid.org/0000-0002-0182-6141>

Andrew C. Corbett  <http://orcid.org/0000-0003-0687-8116>

Joshua V. White  <http://orcid.org/0000-0001-9307-3177>

Tommy H. Clausen  <http://orcid.org/0000-0002-4932-137X>

References

- Aldrich, H. E., & Ruef, M. (2018). Unicorns, gazelles, and other distractions on the way to understanding real entrepreneurship in the United States. *Academy of Management Perspectives*, 32(4), 458–472. <https://doi.org/10.5465/amp.2017.0123>
- Alsos, G., & Kolvereid, L. (2011). Business start-up processes in Norway. In P. D. Reynolds & T. Curtin (Eds.), *New business creation: An international overview* (pp. 195–222). Springer. https://doi.org/10.1007/978-1-4419-7536-2_8
- Alvarez, S. A., & Barney, J. B. (2007). Discovery and creation: Alternative theories of entrepreneurial action. *Strategic Entrepreneurship Journal*, 1(1–2), 11–26. <https://doi.org/10.1002/sej.4>
- Ardichvili, A., Cardozo, R., & Ray, S. (2003). A theory of entrepreneurial opportunity identification and development. *Journal of Business Venturing*, 18(1), 105–123. [https://doi.org/10.1016/S0883-9026\(01\)00068-4](https://doi.org/10.1016/S0883-9026(01)00068-4)
- Bakker, R. M., & Shepherd, D. A. (2017). Pull the plug or take the plunge: Multiple opportunities and the speed of venturing decisions in the Australian mining industry. *Academy of Management Journal*, 60(1), 130–155. <https://doi.org/10.5465/amj.2013.1165>
- Baron, R. A., & Henry, R. A. (2011). Entrepreneurship: The genesis of organizations. In S. Zedeck (Ed.), *APA handbook of industrial and organizational psychology, Vol. 1. Building and developing the organization* (pp. 241–273). American Psychological Association. <https://doi.org/10.1037/12169-008>
- Boso, N., Adeleye, I., Donbesuur, F., & Gyensare, M. (2019). Do entrepreneurs always benefit from business failure experience? *Journal of Business Research*, 98, 370–379. <https://doi.org/10.1016/j.jbusres.2018.01.063>
- Brettel, M., & Rottenberger, J. D. (2013). Examining the link between entrepreneurial orientation and learning processes in small and medium-sized enterprises. *Journal of Small Business Management*, 51(4), 471–490. <https://doi.org/10.1111/jsbm.12002>
- Brinckmann, J., Grichnik, D., & Kapsa, D. (2010). Should entrepreneurs plan or just storm the castle? A meta-analysis on contextual factors impacting the business planning-performance relationship in small firms. *Journal of Business Venturing*, 25(1), 24–40. <https://doi.org/10.1016/j.jbusvent.2008.10.007>
- Bstieler, L. (2005). The moderating effect of environmental uncertainty on new product development and time efficiency. *Journal of Product Innovation Management*, 22(3), 267–284. <https://doi.org/10.1111/j.0737-6782.2005.00122.x>
- Capelleras, J. L., Greene, F. J., Kantis, H., & Rabetino, R. (2010). Venture creation speed and subsequent growth: Evidence from South America. *Journal of Small Business Management*, 48(3), 302–324. <https://doi.org/10.1111/j.1540-627X.2010.00296.x>
- Carter, N. M., Gartner, W. B., & Reynolds, P. D. (1996). Exploring start-up event sequences. *Journal of Business Venturing*, 11(3), 151–166. [https://doi.org/10.1016/0883-9026\(95\)00129-8](https://doi.org/10.1016/0883-9026(95)00129-8)
- Chandler, G. N., & Lyon, D. W. (2009). Involvement in knowledge-acquisition activities by venture team members and venture performance. *Entrepreneurship Theory and Practice*, 33(3), 571–592. <https://doi.org/10.1111/j.1540-6520.2009.00317.x>
- Chandna, V., & Salimath, M. S. (2018). Peer-to-peer selling in online platforms: A salient business model for virtual entrepreneurship. *Journal of Business Research*, 84, 162–174. <https://doi.org/10.1016/j.jbusres.2017.11.019>
- Chen, J., Damanpour, F., & Reilly, R. R. (2010). Understanding antecedents of new product development speed: A meta-analysis. *Journal of Operations Management*, 28(1), 17–33. <https://doi.org/10.1016/j.jom.2009.07.001>
- Chen, M. H., Chang, Y. Y., & Lo, Y. H. (2015). Creativity cognitive style, conflict, and career success for creative entrepreneurs. *Journal of Business Research*, 68(4), 906–910. <https://doi.org/10.1016/j.jbusres.2014.11.050>

- Clausen, T. H., & Korneliusson, T. (2012). The relationship between entrepreneurial orientation and speed to the market: The case of incubator firms in Norway. *Technovation*, 32(9–10), 560–567. <https://doi.org/10.1016/j.technovation.2012.05.004>
- Clausen, T. H. (2019). Guest editorial. *The Learning Organization*, 26(6), 553–559. <https://doi.org/10.1108/TLO-09-2019-239>
- Clausen, T. H. (2020). Entrepreneurial thinking and action in opportunity development: A conceptual process model. *International Small Business Journal*, 38(1), 21–40. <https://doi.org/10.1177/0266242619872883>
- Corbett, A. C. (2005). Experiential learning within the process of opportunity identification and exploitation. *Entrepreneurship Theory and Practice*, 29(4), 473–491. <https://doi.org/10.1111/j.1540-6520.2005.00094.x>
- Corbett, A. C., & Hmieleski, K. M. (2007). The conflicting cognitions of corporate entrepreneurs. *Entrepreneurship Theory and Practice*, 31(1), 103–121. <https://doi.org/10.1111/j.1540-6520.2007.00165.x>
- Corbett, A. C. (2007). Learning asymmetries and the discovery of entrepreneurial opportunities. *Journal of Business Venturing*, 22(1), 97–118. <https://doi.org/10.1016/j.jbusvent.2005.10.001>
- Corbett, A. C., Mitchell, R., Shelton, L. M., & Wood, M. (2018). The attitudes, behaviors and cognition of entrepreneurs: Rebels with a cause. *International Journal of Entrepreneurial Behavior & Research*, 24(5), 938–946. <https://doi.org/10.1108/IJEER-08-2018-530>
- Davidsson, P. (2015). Entrepreneurial opportunities and the entrepreneurship nexus: A re-conceptualization. *Journal of Business Venturing*, 30(5), 674–695. <https://doi.org/10.1016/j.jbusvent.2015.01.002>
- Davidsson, P., & Gruenhagen, J. H. (2021). Fulfilling the process promise: A review and Agenda for new venture creation process research. *Entrepreneurship Theory and Practice*, 45(5), 1083–1118. <https://doi.org/10.1177/1042258720930991>
- Delmar, F., & Shane, S. (2003). Does business planning facilitate the development of new ventures? *Strategic Management Journal*, 24(12), 1165–1185. <https://doi.org/10.1002/smj.349>
- DeTienne, D. R., & Chandler, G. N. (2004). Opportunity identification and its role in the entrepreneurial classroom: A pedagogical approach and empirical test. *Academy of Management Learning & Education*, 3(3), 242–257. <https://doi.org/10.5465/amle.2004.14242103>
- Dimov, D. (2007). Beyond the single-person, single-insight attribution in understanding entrepreneurial opportunities. *Entrepreneurship Theory and Practice*, 31(5), 713–731. <https://doi.org/10.1111/j.1540-6520.2007.00196.x>
- Dimov, D. (2018). Opportunities, language, and time. *Academy of Management Perspectives*, 34(3), 333–351. <https://doi.org/10.5465/amp.2017.0135>
- Field, A. (2013). *Discovering statistics using IBM SPSS statistics*. Sage.
- Frese, M., Van Gelderen, M., & Ombach, M. (2000). How to plan as a small scale business owner: Psychological process characteristics of action strategies and success. *Journal of Small Business Management*, 38(2), 1–18. <https://www.proquest.com/docview/221010345?pq-origsite=gscholar&fromopenview=true>
- Gabrielsson, J., & Politis, D. (2012). Work experience and the generation of new business ideas among entrepreneurs: An integrated learning framework. *International Journal of Entrepreneurial Behaviour & Research*, 18(1), 48–74. <https://doi.org/10.1108/13552551211201376>
- Gemmell, R. M. (2017). Learning styles of entrepreneurs in knowledge-intensive industries. *International Journal of Entrepreneurial Behaviour & Research*, 23(3), 446–464. <https://doi.org/10.1108/IJEER-12-2015-0307>

- George, N. M., Parida, V., Lahti, T., & Wincent, J. (2016). A systematic literature review of entrepreneurial opportunity recognition: Insights on influencing factors. *International Entrepreneurship and Management Journal*, 12(2), 309–350. <https://doi.org/10.1007/s11365-014-0347-y>
- Grégoire, D. A., Corbett, A. C., & McMullen, J. S. (2011). The cognitive perspective in entrepreneurship: An agenda for future research. *Journal of Management Studies*, 48(6), 1443–1477. <https://doi.org/10.1111/j.1467-6486.2010.00922.x>
- Hansen, D. J., Shrader, R., & Monllor, J. (2011). Defragmenting definitions of entrepreneurial opportunity. *Journal of Small Business Management*, 49(2), 283–304. <https://doi.org/10.1111/j.1540-627X.2011.00325.x>
- Harman, H. H. (1967). *Modern factor analysis*. University of Chicago Press.
- Hill, S. A., & Birkinshaw, J. M. (2010). Idea sets: Conceptualizing and measuring a new unit of analysis in entrepreneurship research. *Organizational Research Methods*, 13(1), 85–113. <https://doi.org/10.1177/1094428109337542>
- Honig, B., & Karlsson, T. (2004). Institutional forces and the written business plan. *Journal of Management*, 30(1), 29–48. <https://doi.org/10.1016/j.jm.2002.11.002>
- Honig, B., & Samuelsson, M. (2012). Planning and the entrepreneur: A longitudinal examination of nascent entrepreneurs in Sweden. *Journal of Small Business Management*, 50(3), 365–388. <https://doi.org/10.1111/j.1540-627X.2012.00357.x>
- Hopp, C., & Greene, F. J. (2018). In pursuit of time: Business plan sequencing, duration and intraentrainment effects on new venture viability. *Journal of Management Studies*, 55(2), 320–351. <https://doi.org/10.1111/joms.12251>
- Huang, H. C. (2016). Entrepreneurial resources and speed of entrepreneurial success in an emerging market: The moderating effect of entrepreneurship. *International Entrepreneurship and Management Journal*, 12(1), 1–26. <https://doi.org/10.1007/s11365-014-0321-8>
- Isaksen, E., & Kolvereid, L. Growth objectives in Norwegian start-up businesses. (2005). *International Journal of Entrepreneurship and Small Business*, 2(1), 17–26. Document URL. <https://doi.org/10.1504/IJESB.2005.006067>
- Jann, B., & Long, J. S. (2010). Tabulating SPost results using estout and esttab. *The Stata Journal*, 10(1), 46–60. <https://doi.org/10.1177/1536867X1001000106>
- Johannisson, B. (2011). Towards a practice theory of entrepreneuring. *Small Business Economics*, 36(2), 135–150. <https://doi.org/10.1007/s11187-009-9212-8>
- Klein, P. G. (2008). Opportunity discovery, entrepreneurial action, and economic organization. *Strategic Entrepreneurship Journal*, 2(3), 175–190. <https://doi.org/10.1002/sej.50>
- Kline, R. (1998). *Principles and practices of structural equation modeling*. Guilford Press.
- Korsgaard, S., Berglund, H., Thrane, C., & Blenker, P. (2015). A tale of two kirzners: Time, uncertainty and the “Nature” of opportunities. *Entrepreneurship: Theory and Practice*, 40(4), 867–889. <https://doi.org/10.1111/etap.12151>
- Korsgaard, S., & Sassmannshausen, S. P. (2017). Beyond discovery: Exploring the field of entrepreneurship without a discovery view. In C. Leger-Jarniou & S. Tegtmeier (Eds.), *Research handbook on entrepreneurial opportunities: Reopening the debate* (pp. 115–143). Edward Elgar Publishing. <https://doi.org/10.4337/9781783475445.00011>
- Leyden, D. P., & Link, A. N. (2015). Toward a theory of the entrepreneurial process. *Small Business Economics*, 44(3), 475–484. <https://doi.org/10.1007/s11187-014-9606-0>
- Long, J. S., & Freese, J. (2014). *Regression models for categorical dependent variables using stata* (3rd ed.). Stata press.
- Luca, L. M. D., & Atuahene-Gima, K. (2007). Market knowledge dimensions and cross-functional collaboration: Examining the different routes to product innovation performance. *Journal of Marketing*, 71(1), 95–112. <https://doi.org/10.1509/jmkg.71.1.95>

- Matricano, D. (2020). *Entrepreneurship trajectories: Entrepreneurial opportunities, business models, and firm performance*. Academic Press.
- McDougall, P., & Robinson, R. B., Jr. (1990). New venture strategies: An empirical identification of eight 'archetypes' of competitive strategies for entry. *Strategic Management Journal*, 11(6), 447–467. <https://doi.org/10.1002/smj.4250110604>
- McGrath, R. G., & MacMillan, I. C. (2000). *The entrepreneurial mindset: Strategies for continuously creating opportunity in an age of uncertainty*. Harvard Business Press.
- McKelvie, A., Haynie, J. M., & Gustavsson, V. (2011). Unpacking the uncertainty construct: Implications for entrepreneurial action. *Journal of Business Venturing*, 26(3), 273–292. <https://doi.org/10.1016/j.jbusvent.2009.10.004>
- McMullen, J. S., & Dimov, D. (2013). Time and the entrepreneurial journey: The problems and promise of studying entrepreneurship as a process. *Journal of Management Studies*, 50(8), 1481–1512. <https://doi.org/10.1111/joms.12049>
- Meggison, D. (1996). Planned and emergent learning: Consequences for development. *Management Learning*, 27(4), 411–428. <https://doi.org/10.1177/1350507696274002>
- Milliken, F. J. (1987). Three types of perceived uncertainty about the environment: State, effect, and response uncertainty. *Academy of Management Review*, 12(1), 133–143. <https://doi.org/10.2307/257999>
- Moroz, P. W., & Hindle, K. (2012). Entrepreneurship as a process: Toward harmonizing multiple perspectives. *Entrepreneurship Theory and Practice*, 36(4), 781–818. <https://doi.org/10.1111/j.1540-6520.2011.00452.x>
- Navarro-Garcia, A., Schmidt, A. C. M., & Rey-Moreno, M. (2015). Antecedents and consequences of export entrepreneurship. *Journal of Business Research*, 68(7), 1532–1538. <https://doi.org/10.1016/j.jbusres.2015.01.047>
- Newby, R., Watson, J., & Woodliff, D. (2003). SME survey methodology: Response rates, data quality, and cost effectiveness. *Entrepreneurship Theory and Practice*, 28(2), 163–172. <https://doi.org/10.1046/j.1540-6520.2003.00037.x>
- Nogueira, T. F. (2019a). *Entrepreneurial learning: An exploration of the learning of new venture founders*, [Doctoral thesis, Nord University Business School].
- Nogueira, T. F. (2019b). Entrepreneurial learning: What do we mean by it? *The Learning Organization*, 26(6), 560–573. <https://doi.org/10.1108/TLO-04-2018-0067>
- Osterwalder, A., & Pigneur, Y. (2010). *Business model generation: A handbook for visionaries, game changers, and challengers*. John Wiley & Sons.
- Page West, G., III, & Gemmill, R. M. (2021). Learning behaviors across levels in new ventures and innovation outcomes. *Journal of Small Business Management*, 59(1), 73–106. <https://doi.org/10.1111/jsbm.12484>
- Peng, M. W., & Luo, Y. (2000). Managerial ties and firm performance in a transition economy: The nature of a micro-macro link. *Academy of Management Journal*, 43(3), 486–501. <https://doi.org/10.5465/1556406>
- Podsakoff, P. M., MacKenzie, S. B., Lee, J.-Y., & Podsakoff, N. P. (2003). Common method biases in behavioral research: A critical review of the literature and recommended remedies. *Journal of Applied Psychology*, 88(5), 879–903. <https://doi.org/10.1037/0021-9010.88.5.879>
- Ramoglou, S., & Tsang, E. W. (2016). A realist perspective of entrepreneurship: Opportunities as propensities. *Academy of Management Review*, 41(3), 410–434. <https://doi.org/10.5465/amr.2014.0281>
- Sanz-Velasco, S. A. (2006). Opportunity development as a learning process for entrepreneurs. *International Journal of Entrepreneurial Behavior & Research*, 12(5), 251–271. <https://doi.org/10.1108/13552550610687637>

- Sarasvathy, S. D. (2001). Causation and effectuation: Toward a theoretical shift from economic inevitability to entrepreneurial contingency. *Academy of Management Review*, 26(2), 243–263. <https://doi.org/10.5465/amr.2001.4378020>
- Sardana, D., & Scott-Kemmis, D. (2010). Who learns what?—a study based on entrepreneurs from biotechnology new ventures. *Journal of Small Business Management*, 48(3), 441–468. <https://doi.org/10.1111/j.1540-627X.2010.00302.x>
- Schlesinger, L. A., & Kiefer, C. F. (2012). *Just start: Take action, embrace uncertainty, create the future*. Harvard Business Review Press.
- Schoonhoven, C. B., Eisenhardt, K. M., & Lyman, K. (1990). Speeding products to market: Waiting time to first product introduction in new firms. *Administrative Science Quarterly*, 35(1), 177–207. <https://doi.org/10.2307/2393555>
- Shane, S., & Venkataraman, S. (2000). The promise of entrepreneurship as a field of research. *Academy of Management Review*, 25(1), 217–226. <https://doi.org/10.5465/amr.2000.2791611>
- Shane, S. (2012). Reflections on the 2010 AMR decade award: Delivering on the promise of entrepreneurship as a field of research. *Academy of Management Review*, 37(1), 10–20. <https://doi.org/10.5465/amr.2011.0078>
- Shim, J., & Davidsson, P. (2018). Shorter than we thought: The duration of venture creation processes. *Journal of Business Venturing Insights*, 9, 10–16. <https://doi.org/10.1016/j.jbvi.2017.12.003>
- Stalk, G. J., & Hout, T. M. (1990). *Competing against time: How time-based competition is reshaping global markets*. The Free Press.
- Sydow, J., Schreyögg, G., & Koch, J. (2009). Organizational path dependence: Opening the black box. *Academy of Management Review*, 34(4), 689–709. <https://doi.org/10.5465/amr.34.4.zok689>
- Unger, J. M., Rauch, A., Frese, M., & Rosenbusch, N. (2011). Human capital and entrepreneurial success: A meta-analytical review. *Journal of Business Venturing*, 26(3), 341–358. <https://doi.org/10.1016/j.jbusvent.2009.09.004>
- Van der Sluis, E. C. (2000). *Management Learning and Development: The Role of Learning Opportunities and Learning Behavior in Management Development and Career Success*. [Doctoral dissertation, Erasmus University]. Thela Thesis/Tinbergen Institute.
- Van Gelderen, M., Van De Sluis, L., & Jansen, P. (2005). Learning opportunities and learning behaviours of small business starters: Relations with goal achievement, skill development and satisfaction. *Small Business Economics*, 25(1), 97–108. <https://doi.org/10.1007/s11187-005-4260-1>
- Venkataraman, S. (1997). The distinctive domain of entrepreneurship research: An editor's perspective. In J. Katz & R. Brockhaus (Eds.), *Advances in entrepreneurship, firm emergence, and growth* (pp. 119–138). JAI Press.
- Vogel, P. (2017). From venture idea to venture opportunity. *Entrepreneurship Theory and Practice*, 41(6), 943–971. <https://doi.org/10.1111/etap.12234>
- Wang, C. L., & Chugh, H. (2014). Entrepreneurial learning: Past research and future challenges. *International Journal of Management Reviews*, 16(1), 24–61. <https://doi.org/10.1111/ijmr.12007>
- Wanous, J. P., & Hudy, M. J. (2001). Single-item reliability: A replication and extension. *Organizational Research Methods*, 4(4), 361–375. <https://doi.org/10.1177/109442810144003>
- Wing Yan Man, T. (2012). Developing a behaviour-centred model of entrepreneurial learning. *Journal of Small Business and Enterprise Development*, 19(3), 549–566. <https://doi.org/10.1108/14626001211250289>
- Wood, M. S., & McKinley, W. (2018). The entrepreneurial opportunity construct: Dislodge or leverage? *Academy of Management Perspectives*, 34(3), 352–365. <https://doi.org/10.5465/amp.2017.0162>