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Paper Title: The fast the better? Temporal pattern of start-up activities and new ventures initial performance: Evidence from China

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The Fast the Better? Start-up Rate and New Ventures' Initial Performance: Evidence from China

Abstract: This study brings a fresh approach- a learning perspective-to the literature examining the relationship between start-up rate and new ventures' initial performance. Hypotheses concern how the speed[1]-performance relationship is influenced by environmental dynamism and the innovativeness of entrepreneurial opportunities. The empirical study using the random sample from "Chinese Panel Study of Entrepreneurial Dynamics, CPSED project" shows that start-up rate has inverted U shape relationship with new ventures' initial performance. The curvilinear effects become more pronounced with high environmental dynamism, and tend to be less pronounced when new ventures were created to exploit a more innovative opportunity.

Keywords: Start-up rate; New ventures; Initial performance; CPSED

INTRODUCTION

In an era of increasingly globalization and shortened product life cycles, the attention given to the speed of firms' expansion and growth process is growing. The Boston Consulting Group has maintained that "the ways leading companies manage time represent the most powerful new sources of competitive advantage" (Stalk, 1988: 41), and another observer has noted that "the big don't outperform the small, the fast outperform the slow" (Thomas, 1990: ix).

In an entrepreneurship context, speed in launching new businesses account for an even more prominent concerns. Nascent entrepreneurs who were able to run a business were more aggressive in making their businesses real. They undertook activities that made their businesses tangible to others: they looked for facilities and equipment, sought and got financial support, formed legal entities, organized a team, bought facilities and equipment, and devoted fulltime to the business. They tend to launch entrepreneurial activities as quickly as they could and these activities results in a running firms that generated sales (Carter, Gartner, & Reynolds, 1996).

As an important strategic construct, speed has received considerable attention in the organization and strategy literature (Baum & Wally, 2003; Eisenhardt, 1989, 1990; Judge & Miller, 1991; Stalk & Hout, 1990), especially the literatures of product innovation and firms' international expansions (Eisenhardt & Tabrizi, 1995; Kessler & Chakrabarti, 1996). No consensus, however, concerning to its implication to firm performance has been arrived.

The strategy literatures on speed demonstrated that fast actions can be beneficial to firm performance (Brown & Eisenhardt, 1998). To make it more convincible, entrepreneurship scholars emphasized the importance of fast action that underlies entrepreneurial orientation (Lumpkin & Dess, 1986). High speed on start-up activities help new ventures learn faster than its competitors, make adaptive changes to successfully exploit the value of entrepreneurial opportunities, which would improve initial performance. The "time compression diseconomies" argument (Dierickx & Cool, 1989), *however*, stated that organizations are subject to diminishing returns when faced with time pressure, which sheds light on detrimental effects associated with fast expansions. Hence, an incremental pattern may enable new ventures to win by surmounting the liability of newness and reducing the hazard of failure in founding period.

[1] In this paper, we use the term " rate" and " speed" inter-changeably for the ease of discussion.

To resolve this inconclusive arguments and certain conceptual confusion found in the literature, we have undertaken this study to integrate and extend these arguments, and by doing so to provide a more complete picture of the temporal pattern in entrepreneurship context and test the start-up rate-new ventures' initial performance relationship. Based on organizational learning theory, we would like to address the following intriguing questions: *does it all about speed to build a new venture with sound performance? Is it necessary to evaluate the trade-offs when considering the speed strategy of start-up activities and under what kinds of conditions that benefits outweigh the detrimental effects, so that a fast paced strategy would increases new ventures' initial performance?* We argued that within certain limits, fast speed in launching start-up activities helps nascent ventures improve their initial performance. As the speed increase beyond a certain level, however, this positive effect will level off due to constraints on speed traps, and it will be further offset by increased direct costs. Thus, the start-up speed-initial performance relationship might best be described as an inverse U-shape, an increase in start-up activities to a certain level is beneficial for new ventures' performance, but after that level initial performance should level off and eventually decline.

Moreover, we argue that the benefits of start-up speed will vary with the level of dynamism in a venture's operating environment. In a highly dynamic environment, a nascent venture is likely to be more active to substantiate their new ventures and thus, speed up their founding activities in order to cash up the values of their entrepreneurial opportunities. In addition, start-up speed functions as a less reliable antecedent to initial performance when the new venture's entrepreneurial opportunities are highly innovative.

THEORY AND HYPOTHESE

New venture creation as a learning process

New venture creation and initial growth has inherited disadvantages which often termed as "stigma of being new entrants" or "liability of newness" (Stinchcombe, 1865). As such, entrepreneurs and their teams continuously learn how to develop necessary knowledge for being effective in starting up and managing new ventures (Politis, 2005; Smilor, 1997, p344). As such, new venture creation process could be considered as a sequential and path-dependent learning process, which could be captured by the *learning-by-doing* approach in organizational learning theory, which refers to the process by which the firm becomes more practiced and, hence, more efficient at doing what it is already doing (Cohen & Levinthal, 1989).In other words, firms improve their skills in information-processing through learning-by-doing and thus improve their performance(Levitt & March,1988;Nass,1994).

At the founding period, entrepreneurs, gradually, learn how to set up a business from scratch. They know the process and accumulate their mindset of doing business. And most importantly, the get to know how to initiate or response the competitive rivals in entry markets. Most of these are tacit knowledge or more fine-grained practical knowledge about the real markets. Organizational learning is a critical means to gain such tacit knowledge, and hence is central to the success of new ventures' creation and initial performance.

In addition, organizational learning is an important means to deal with the growing internal complexity in a new venture. Over time, a venture has to experience and learn how to effectively handle the organizational complexity growing along with new venture growth. Learning often follows a prolonged process of consistent operations to acquire facilities and

personnel, to build up relations and tacit organization knowledge (Teece, 1988). By observing and experiencing the results of the operations in this process, a new venture is able to learn about markets, and about the compatibility of its capabilities to the opportunities in those markets. As a result, the firm gradually acquires new knowledge and develops new capabilities suited for the new markets and the increasing organizational complexity (Chang, 1996). This further contributes to the knowledge base and the absorptive capacity of the firm as a whole, and improves the firm's operational efficiency and competitive advantages (Barkema et al., 1996; Caves, 1982; Li, 1995).

In all, entrepreneurial learning, uncertainty reduction and gradual commitment are the core in the process of new venture creation and growth, through which they overcome the newness and improve initial performance and finally be substantiated from market competition. The speed of a venture's creation is deemed to affect the quality and effectiveness of entrepreneurial learning, and to generate different performance outcomes. Rapid start-up process help new ventures to capture the business value before the opportunity window shut off, however, too fast expansion would cause time compression diseconomies for organizational learning, and become detrimental to firm performance (Oviatt & McDougall, 2005; Vermeulen & Barkema, 2002; Wagner, 2004). As such, this study brings a fresh approach- a learning perspective-to the literature examining the debating relationship between start-up speed and new ventures' initial performance.

Considering that entrepreneurship is a field of research that has not been particularly well studied in relation to the process of learning (e.g., Politis, 2005), and particularly, learning-by-doing, although is a well-established concept in the literature, it has usually been associated with the learning-curve effect in manufacturing (cf. Argote, 1999) and has rarely been investigated in the context of new venture creation process, this study makes a contribution to this gap of knowledge.

The benefits of start-up rate

Academic interest in the association between strategic decision-making speed and firm performance emerged initially when Bourgeois and Eisenhardt (1988) identified a positive association between fast strategic decision-making and firm performance. Following this line of research, Judge and Miller (1991) found there was a positive association between strategic decision-making speed and firm performance, among firms in biotechnology, a high-velocity industry. In an entrepreneurship context, start-up rate reflects the speed at which nascent ventures launches their new business and finishes various preparation activities over time (Lichtenstein, Carter, Dooley, & Gartner, 2007). The higher the rate, the more start-up activities a nascent venture undertakes within a given period of time. High speed of start-up process could help ventures, within a given period of time, learn faster than its competitors, and make adaptive changes to successfully exploit its entrepreneurial opportunities. These would improve new ventures' initial performance and generate competitive advantages.

The costs of start-up rated

Yet despite the competitive benefits of fast action, achieving such increases in speed can be considerably more problematic than it first appears. Studies at the firm level frequently assert a complex relationship between time pressure, the need to move quickly, and performance (e.g., Oliva & Sterman, 2001; Repenning, 2001; Rudolph & Repenning, 2002). Scholars highlighted that fast decision-making may produce bad decisions and bad

performance if comprehensive information gathering is sacrificed to gain speed (Kahneman *et al*., 1982).

For entrepreneurs, in order to launch their new business as fast as possible, they increase the number and speed of start-up activities, shorten innovation cycles, and enter the market before they get fully prepared. By accelerate their founding rate, they learn more by doing more within a short period. For a while, they succeed brilliantly, but too often entrepreneurs try to make this furious pace the new normal. What began as an exceptional burst of achievement becomes cognitive and behavioral overloading, with dire consequences. Bruch and Menges (2010) call this phenomenon the *acceleration trap*. It harms the company on many levels and over-accelerated firms fare worse than their peers on performance, efficiency, employee productivity, and retention etc. Empirically, Perlow, Okhuysen & Repenning (2002) supported these arguments and found that an online lecture provider, *Notes.com*, got caught in the speed trap. The combination of high expectations, a shrinking time horizon and mounting threats caused *Note.com* to increasingly value decision speed over decision content. A focus on decision speed at the expense of more careful consideration pushed the organization onto the slippery slope. Thus, fast action initially a source of competitive advantage, eventually became an internally generated and self-destructive need for speed.

The curvilinear relationship between start-up rate and initial performance

So far the discussion suggests that the actual relationship between start-up speed and initial performance is more complex than a simple positive, negative or neutral one. Analyzing the likely trends of the specific benefits and costs and integrating these opposing effects yield a new vantage point from which an inverse U shaped relationship between start-up speed and new ventures' initial performance emerges.

The benefits of fast start-up rate are expected to increase, at first due to the effect of organizational learning from launching of various activities. The positive effects derived from learning by doing have usually been associated with the learning-curve effect in manufacturing firms (e.g., Argote, 1999; Dutton, et al., 1984). Most of research on learning curves has emphasized the direct effects of cumulative experience on individual production workers' skills. For entrepreneurs, the same logic applies. The more activities they do, the deeper they involved in entrepreneurial process, and the more they gain knowledge and skills on how to set up and run a new business. However, increases in benefits would be expected to gradually level off after the optimal point. The rules "time-compression diseconomies" highlight that due to no-tradability, the firm specific component would only be accumulated internally and incrementally (Williamson, 1979; Dierickx & Cool, 1989). As such, the compression strategy in terms of start-up rate might be detrimental to initial performance. The marginal benefit of fast speed should, therefore, eventually decrease as speed increases. Considering these countervailing forces simultaneously, an inverse U-shaped curvilinear relationship between start-up rate and new ventures' initial performance should emerge.

Hypothesis 1:Start-up rate and new ventures' initial performances have an inverse U-shaped curvilinear relationship

The moderating effects

Business settings are powerful determinants of business decisions. By adopting the viewpoints of CEO, Baum and Wally (2003) highlight that decision-makers must draw upon their perceptions of organizational and external conditions in making strategic decisions. The

context decides the necessity to move fast and beat the market. When a fast action is necessary, the relationship between start-up rate and initial performance tend to more pronounced. However, there are other contexts that fast move and quick learning shall scarify speed to effectiveness.

The moderating effect of environmental dynamism

Product innovation literatures highlighted that firms that face highly competitive and dynamic environments are predicted to bring products to market faster than those that operate in more stable and static environments (e.g., Kessler & Chakrabarti, 1996).

Indeed, environmental dynamism, the level of turbulence or instability in the competitive environment, has been cited as an important challenge in the strategic decision-making process because in high-velocity industries, changes in technology, demand, and competition are so rapid and discontinuous that information is often inaccurate, unavailable, or obsolete (Bourgeois & Eisenhardt, 1988: 816). Fast action becomes appropriate in such situations where delay or waiting would not yield more useful information for a firm to configure a "right" strategy. Instead, it becomes more critical for a firm to "just do it" and to maintain organizational flexibility to enable quick adaptation. Previous studies generally support these arguments. For example, Eisenhardt (1989) noted that fast strategic decisions appeared to be associated with high levels of sales growth and profitability in high-velocity industries. She also provided the reasons on why is slow decision making problematic and one reason is learning. It is said that executives learn by making decisions, but if they make few decisions, as slow decision makers do, they learn very little. So they are likely to make mistakes and that leads to poor performance (P. 570). Extending this research to 32 firms in three industries, Judge and Miller's (1991) also supported the conclusion that the effects of decision speed depend upon context, and fast decision making enhances performance in 'high-velocity' markets. Furthermore, Baum and Wally (2003) offers large sample support of a theory begun by Eisenhardt (1989) and Judge and Miller (1991) that decision speed affects firm performance. They found that decision speed affected subsequent 4-years' sales and employment growth and 'profit % of assets and that environmental dynamism speeds decision making.

We argue that the same mechanisms apply to new ventures' creation and operation. Dynamic environments are particularly challenging to start-ups, because information is poor, mistakes are costly, and recovery from missed opportunities is difficult in such context (Bourgeois & Eisenhardt, 1988). New ventures are less likely to endure such costs and their urgency to fast actions is thus highlighted. Fast action may yield valuable organizational learning (Eisenhardt, 1989; Mosakowski, 1997). In a highly dynamic environment, the speed of new venture creation plays a more crucial role in learning how to set up new businesses, resulting in a greater financial benefit, because time-consuming comprehensive research and discovery have little value in such context and hardly to bear for new ventures.

Overall, these arguments suggest that the positive effects of start-up rate on a new venture's initial performance should become more pronounced in highly dynamic environments, and that the inverse U-shaped curve will be expected to demonstrate a steeper upward curvature and a higher plateau.

Hypothesis2a: Environmental dynamism moderates the inverse U-shaped start up rate–initial performance relationship in such a way that the same level of start-up rate

corresponds to a higher level of initial performance when the external environment is more dynamic.

The moderation effects of innovativeness of entrepreneurial opportunity

One of the central questions in the field of entrepreneurship has focused on the discovery, evaluation and exploitation of opportunities (Shane & Venkataraman, 2000). The idea that opportunities may differ on various dimensions is not entirely new. Early research draws attention to the idea that opportunities may differ on such dimensions as their importance, expected value and innovativeness (Shane, 2001). Variation in opportunities themselves can account for at least some of the observed patterns in entrepreneurial activity (Shane, 2003: 18). Despite of its importance, however, scholars have noted that relatively less work has examined how these differences may affect the entrepreneurial process (Smith, Matthews, & Schenkel, 2009).

In this study, we focus on nature of innovativeness of entrepreneurial opportunity, defined as being more or less different from running of the incumbent firms (Tian & Gustafsson, 2012). Innovation is important to the speed of first product shipment because it creates a form of uncertainty for the new venture (Schoonhoven, Eisenhardt & Lyman, 1990). Previous studies have found some support for the relationship between innovativeness and waiting time to product introduction to the marketplace. In a study of biomedical and pharmaceutical start-up firms, technological innovativeness was positively associated with longer waiting times to product introduction (Roberts & Hauptman, 1987). In another case, in the U.S. semiconductor industry, Schoonhoven, Eisenhardt & Lyman (1990) found that substantial technological innovation lengthens development times and reduces the speed with which first products reach the marketplace.

In a departure from most past research on technological innovation and its implication on product development speed, we investigated the extent to which new ventures' outcomes, *initial performance*, are influenced by internal processes, *start-up rate* in face of highly innovative entrepreneurial context.

Following the arguments that innovation creates an uncertainty to new venture, ventures that are based on novel technologies destined for unfamiliar or latent markets. Through case study, Utterback, Meyer, Tuff, & Richardson (1992) showed that successful ventures, particularly the more risky and potentially rewarding, require commitment and persistence. The more risky and potentially rewarding a venture is, the more necessary it is that top management be patient and resist looking for immediate payoff.

Thus, new ventures that based on highly innovative entrepreneurial opportunities need a lot of experimentation and learning to reduce uncertainty. In such case, the agile responses, fast actions might scarify their effectiveness to speed, and hence lead to bad performance. In contrast, it is unlikely that opportunity innovativeness will have an impact on the direct benefits associated with fast start up rate. Taken together, these arguments suggest that innovation can influence the costs associated with fast speed in offsetting ways. The positive effects of start-up rate on a venture's initial performance should become less pronounced in face of highly innovative entrepreneurial opportunities and that the inverse U-shaped curve will be expected to demonstrate a flat upward curvature and a lower plateau.

H2b: The innovativeness of entrepreneurial opportunity moderates the inverse U-shaped start-up rate –initial performance relationship in such a way that the same level of start-up

rate corresponds to a lower level of initial performance when the entrepreneurial opportunity is more innovative.

METHODS

Data and Sample

Data from Chinese Panel Study of Entrepreneurial Dynamics (CPSED) were analyzed to test these hypotheses. The study was part of an international research project organized by Babson College (Reynolds & Miller, 1992)[2]. The study used stratified sampling and random digital dialing (RDD) to select entrepreneurs aged 18 or above and track them in 3 waves over a period of 3 years as they were creating new ventures. In China, the CPSED divided the nation into four regions according to the intensity of entrepreneurial activity based on Global Entrepreneurship Monitor (GEM) report of China in 2008 (Gao, Li, & Jiang, 2008). In the eastern region we target cities of Beijing, Tianjin, Hangzhou, and Guangzhou. The midland region includes Wuhan and northeastern region targets the city of Shenyang. The western region targets Chengdu and Xi'an. In each city the CPSED project set a sampling quota based on the city's population. Then it selected nascent entrepreneurs as informants and a CATI (Computer Aided Telephone Interview) survey was conducted.

Consistent with PSED-type research, the CPSED project considered an individual as a nascent entrepreneur 1) if he or she had taken action to create a new venture in the previous 12 months; 2) if he or she owned a new venture as the proprietor; or 3) if an entrepreneurial activity had begun, but no sales revenue had yet been earned at the time of the first round survey (Reynolds & Miller, 1992). After a pre-test of the Chinese version of the instrument, the first wave CPSED survey was conducted simultaneously in the above 8 cities in 2009. In all, 69,990 households were contacted and 22,045 persons were interviewed (a response rate 31.5%), from which 974 nascent entrepreneurs were identified. Of these, 601 finished the first wave phone interview, giving a response rate of 61.7%. The second wave tracking survey was launched from July to September 2010. It successfully tracked 321 of the 601 original respondents. Finally, the third wave survey was conducted in August and September 2011, and 120 of the 321 cases in the second wave survey were tracked.

The CPSED project attempted to uncover factors triggering, blocking and driving the creation and growth of new ventures. In each wave, we tracked the progress on entrepreneurial activity, which was the main part of PSED type of research. Besides this, in the each wave, customized questions related to Chinese context and scholars' enquiry were included. It was therefore these three wave data that was used for testing the hypotheses of this study, which constitute a panel dataset.

Measures

Dependent variable

In this paper, we measured two dimensions of initial performance, survival performance and growth performance(Chrisman & Bauerschmidt, 1998).To be specific, survival performance was measured by a dummy variable as whether the new venture has already generated sales revenue(Brush et al., 2008; Davidsson & Honig, 2003; Delmar & Shane, 2006). On the other hand, growth performance was measured by whether the ventures have profit, 0-1 dummy variable (Chandler et al., 2005; Davidsson & Honig, 2003; Honing &

[2] The project aimed at analyzing entrepreneurial activities at the micro level including the process of new venture creation and growth. By 2010, nine countries had joined in this effort.

Karlsson, 2004).The performance data was coded from the third wave survey of CPSED.

Independent variable

Start-up rate is defined as the total number of activities divided by the total duration of the process (average speed during venture creation process). First, we summed the total number of start-up activities (during venture creation process) in each case. Second, we calculated duration time as the time span between when they first launch their first start-up activities, and when the effort succeeded or was abandoned (Lichtenstein, et al., 2007; Liao & Gartner, 2009). This variable was coded based on three waves' data of CPSED.

Moderators

Environment dynamism was measured by the perception of entrepreneurs. We used a 10-item measure from CPSED survey, being consistent with other PSED type of research (Liao & Gartner, 2006; Tan & Litschert, 1994). Each variable used a five-point Likert scale to assess respondents' perceptions of difficulty to implement the following activities, such as acquire raw material, recruit skilled workers, acquire venture capital, bank loans, and national and local government support. Each reply was solicited using a scale ranging from 1 for very difficult, to 5, for very easy. The ratings were reversely coded and averaged to produce a continuous variable. The larger the number, the more dynamic the perceived external environment.

Using the measurements developed in Samuelsson's (2004) study, this paper measures the innovativeness of entrepreneurial opportunity from four dimensions: the priority of the R&D investment, the importance of the patent, the uniqueness of the products and services, and the competitive pressure. These were rated based on the five-point Likert scale: 1 for "strongly disagree" all the way to 5 for "strongly agree". The first three questions are designed positively, which means the higher the score, the more innovative the entrepreneurial opportunity is. The last item is designed negatively, with the lower the score, the more innovative the entrepreneurial opportunity is. The measures of moderation variable come from the first wave's CPSED survey.

Controls

We control the demographic of entrepreneurs, gender and age in our model. Gender was coded as a dummy variable, with 1 for as male, and 0 for female. Gender and age's measure come from the first wave survey.

Furthermore, we control entrepreneurial motivation. Allied with the Global Entrepreneurship Monitor report, the individuals who set up new ventures due to lack of employment opportunities are regarded as necessity-based entrepreneurship, coded as 0. The others create their ventures driven by profitable opportunities were regarded as opportunity-based entrepreneurship, coded as 1(Bosma & Levie, 2010). The data sources from the first wave survey.

In order to avoid the situation in which someone was trying to start any kind of entrepreneurial effort rather than enacting a specific business idea, we excluded from our analysis any events that took place before the first-thought-of date. Further, the events that took place before the first-thought-of date were captured as an "early activity" variable, which was used as a control in each model. For example, consider a nascent entrepreneur who had completed one organizing activity in December 1999, first thought of starting a particular business in January 2000, completed two organizing activities in March, one in August and

one in November 2000, and then said that the business was up and running as of October, 2000. In this case the events in December 1999 and in November 2000 would be discarded; we would measure "early activity" as 1.0 (i.e. One event in December 1999), duration would be measured as 10 months (i.e. January through October 2000 inclusive), and the event history would be indicated by a time series of event times (with January 2000) =1: (1, 3, 3, 8).

RESULTS

Table 1 reports the means, standard deviations, and correlations of all the variables used in the analysis. In table 2 presented results of main effects analysis. Hierarchical multiple regression analysis was applied to test for the hypothesized curvilinear relationship between start up rate and two dimensions' new venture initial performance. Models 1 and 4 in table 2 report the effects of a few basic control variables: gender, age, motivation and early activity. Entering these variables into the regressions yielded significant equations for both survival and growth performance. New ventures created by male were found to have a higher survival and growth performance, as shown in model 1 and 4 of table 2. Opportunity based entrepreneurship was found to have better survival performance, compared to necessity-based on.

In models 2 and 5 of table 4, the start-up rate was added to assess its possible linear effects on survival and growth performance measures; it was found to have no significant effects on survival and growth performance.

When the quadratic term for the giving amount was entered in Models 3 and 6 to assess the possibility of a curvilinear relationship with survival and growth performance, however, the coefficients on both the linear giving term (at the $p < 0.05$ level) and the quadratic term were highly significant for both measures of performance (at the $p < 0.01$ level). The positive coefficient on the linear term and the negative sign on the quadratic term are consistent with the predicted curvilinear (inverse U-shaped) effect of start-up rate on initial performance. Thus, Hypothesis 1 was strongly supported in terms of both performance measures.

Insert Table 1and Table 2 about here

In table, 3, the linear and quadratic-by-linear interactions of start-up rate and environmental dynamism were added. When only a linear interaction was added (Models 2 and 5), the interaction of dynamism and the start-up rate did not significantly affect survival and growth performance. When a quadratic-by-linear interaction was then added (Models 3 and 6), the coefficient on the quadratic-by-linear interaction was found to be positive and significant for both survival ($P<0.05$) and growth ($P<0.1$) performance. These results provided support to Hypothesis 2a, indicating that environmental dynamism positively moderates the inverse U shaped start up rate-initial performance relationship. The same level of start-up rate corresponds to a higher level of initial performance when the external environment is more dynamic.

In table 4, the linear and quadratic-by-linear interactions of start-up rate and EOI were added. When only a linear interaction was added (Models 2 and 5), the interaction of EOI and the start-up rate did not significantly affect survival and growth performance. When a quadratic-by-linear interaction was then added (Models 3 and 6), the coefficient on the quadratic-by-linear interaction was found to be positive and significant for both survival and

growth performance. Furthermore, including the interaction term for EOI and start-up rate led to better-specified models for both performance measures. These results provided some support for Hypothesis 2b, indicating that EOI positively moderates the inverse U-shaped start-up rate-initial performance relationship. The curvilinear relationships became less pronounced with an increase in EOI, which means the same level of start-up rate corresponds to worse survival and growth performance when the innovativeness of entrepreneurial opportunity is high.

Insert Table 3 and Table 4 about here

DISCUSSION

The major phenomenon of interest in this research is speed of new venture creation and its initial performance. The speed with which to move concepts to market is a fundamental issue facing new ventures and their parent corporate sponsors (Utterback, Meyer, Tuff, & Richardson, 1992). Against this background, our research aimed at providing an improved understanding of how a new venture's performance at the founding period depends on its speed in start-up process-- an important feature of strategic implementation. Our key arguments are that fast start-up rate is associated with both benefits and detriments on venture performance, and within a limit, fast action tend to benefit new ventures due to learning by doing effects, however, after the limit, the acceleration trap effects dominate over beneficial effects. The results of the empirical investigation confirm that there is a curvilinear relationship between start-up rate and initial performance. Moreover, the effect of fast action tends to vary with context. The curvilinear effect became positive and strong when firms competing in highly dynamic environment. However, it tends to be less pronounced as ventures were created with highly innovative entrepreneurial opportunities.

These findings make a number of contributions to our understanding of the process of new venture creation and its performance implications. First, we offer a fresh perspective-learning perspective, to examining the relationship between start-up rate and new ventures' initial performance. To the best of our knowledge, no previous study has so clearly demonstrated the existence of the curvilinear relationship between start-up rate and new ventures' performance and it also seems to consolidate the debating results in literatures. The consistent pattern found using both survival and growth performance measures strengthens the results. Second, the finding that environmental dynamism and EOI have significant moderating effects on the start-up rate-performance relationship suggest that a venture's operating environment and internal context play an important role in determining the extent to which it can benefit from fast action. These arguments and the supporting results are also in line with a main tenet of contingency theory (Galbraith 1973, Lawrence & Lorsch 1967), which argues that the effectiveness of a particular management practice depends on environmental factors. In addition, the opposite moderation effects suggest that fast action can be good or bad to initial performance, depending on internal and external context. The dynamic environment bring the urgency of fast action, however, the innovative opportunity tend to slow ventures down. Thus, this analysis helps paint a more complete picture of the relationship between start-up rate and new venture's initial performance. Also, the results concerning to EOI's moderation effect suggest that start-up rate contributes to a venture's

management of internal uncertainty, which has not been emphasized previously.

The focal interest in this paper, the speed-performance relationship, was extremely applicable to China economic transition context, where slogans such as " the fast the better" and the "Time is efficiency" prevail in the past 30 years economic development. The empirical findings drawn from current study were expected to provide important managerial implication on entrepreneurial management and general social practices. The findings suggest that the right question for entrepreneurs to ask is not whether fast speed are uniformly good, bad, or neutral for their venture's initial performance, but rather what range of start-up rate is most likely to be effective. In addition, it highlighted the importance of contextual factors, both internally and externally, and interactions between strategic actions and the contexts in which they are carried out (Cyert & March, 1992).

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Table 1 Descriptive Statistics and Correlation Matrices

Variables	Mean	s. d.	1	2	3	4	5	6	7
1. Sales	0.461	0.499	1						
2. Profit	0.383	0.487	0.852***	1					
3. Gender	0.700	0.459	0.126**	0.207***	1				
4. Age	31.749	10.560	0.022	0.016	0.072	1			
5. Motivation	0.520	0.500	0.075	0.026	-0.069	-0.117**	1		
6. Early activity	1.168	1.592	0.087	0.070	0.018	-0.030	0.011	1	
7. Rate	0.347	0.284	-0.071	-0.042	-0.077	-0.250***	0.027	0.104*	1

Notes: *Significant at the P＜0.10 level； ** Significant at the P＜0.05 level； *** Significant at the P＜0.01 level； N=321

Table 2 start-up rate and initial performance

	DV: survival performance			DV: growth performance		
	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
Gender	0.573**	0.563**	0.448*	1.031***	1.025***	0.937***
Age	0.005	0.002	0.014	0.002	0.001	0.010
Motivation	0.401*	0.397*	0.380	0.217	0.213	0.189
Early activity	0.107	0.117	0.121	0.089	0.092	0.095
Rate		-0.473	1.527**		-0.212	1.551**
$(Rate)^2$			-5.997***			-4.895***
Chi-Square	10.155**	11.305**	26.576***	16.422***	16.633***	27.242***
-2Log likelihood	424.542	423.391	408.121	402.231	402.021	391.411
Cox &Snell R Square	0.032	0.035	0.081	0.051	0.051	0.083
Nagelkerke R Square	0.042	0.047	0.108	0.069	0.070	0.113
df	4	5	6	4	5	6

Notes: *Significant at the P＜0.10 level； ** Significant at the P＜0.05 level； *** Significant at the P＜0.01 level； N=321

Table 3 Start-up rate and new ventures' growth performances moderated by environment dynamism

	DV: survival performance	DV: growth performance

	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
Gender	0.592**	0.473*	0.506*	1.051***	0.960***	1.004***
Age	0.004	0.016	0.016	0.002	0.013	0.012
Motivation	0.410*	0.371	0.371	0.224	0.174	0.167
Early activity	0.124*	0.125	0.139*	0.099	0.097	0.109
Rate	-0.481	1.536**	1.612**	-0.215	1.575**	1.646**
Environmental dynamism	-0.178	-0.337	-0.322	-0.151	-0.352	-0.302
(Rate)2		-5.902***	-7.370***		-4.827**	-6.054***
Rate ×Environmental dynamism		0.545	-0.136		0.666	-0.075
(Rate)2 ×Environmental dynamism			-3.947**			-3.681*
Chi-Square	13.539**	29.476***	34.002***	18.103***	29.809***	33.714***
-2Log likelihood	421.158	405.220	400.694	400.550	388.843	384.939
Cox &Snell R Square	0.042	0.089	0.102	0.056	0.090	0.102
Nagelkerke R Square	0.056	0.119	0.137	0.076	0.123	0.138
df	6	8	9	6	8	9

Notes: *Significant at the P＜0.10 level； ** Significant at the P＜0.05 level； *** Significant at the P＜0.01 level；N=321

Table 4 Start-up rate and new ventures' initial performances moderated by innovativeness of entrepreneurial opportunity

	DV： Survival Performance			DV： Growth Performance		
	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
Gender	0.563**	0.425	0.419	1.025***	0.914***	0.921***
Age	0.002	0.017	0.018	0.001	0.014	0.014
Motivation	0.395*	0.382	0.355	0.221	0.197	0.167
Early activity	0.116	0.114	0.130*	0.093	0.089	0.103
Rate	-0.471	1.544**	1.595**	-0.221	1.582**	1.602**
EOI	0.008	0.050	-0.268	-0.040	0.001	-0.268
$(Rate)^2$		-6.364***	-10.309***		-5.265**	-8.059***
Rate × EOI		0.977	0.427		1.049	0.520
$(Rate)^2$×EOI			7.525***			6.391**
Chi-Square	11.310*	29.102***	37.555***	16.740***	30.296***	36.488***
-2Log likelihood	423.387	405.595	397.141	401.913	388.357	382.165
Cox &Snell R Square	0.035	0.088	0.112	0.052	0.092	0.109
Nagelkerke R Square	0.047	0.118	0.150	0.070	0.125	0.149
df	6	8	9	6	8	9

Notes: *Significant at the P＜0.10 level； ** Significant at the P＜0.05 level； *** Significant at the P＜0.01 level；N=321