



Earliness of internationalization and performance outcomes: Exploring the moderating effects of venture age and international commitment



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ABSTRACT

This study examines the impact of early foreign market entry on new ventures' performance outcomes. Venture age and international commitment are theorized as moderators to address the inconsistent findings of previous research surrounding the performance implications of early internationalization. Results from a sample of international new ventures in China found that the earliness of internationalization positively contributes to firm performance in terms of sales growth, but not innovation and profitability. The performance advantage of early internationalization becomes obsolete as young ventures become mature, especially among those with a low level of international commitment. This study highlights the importance of incorporating time-based dimensions of international venturing for a better understanding of the performance implications of early internationalization.

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1. Introduction

The growing international entrepreneurship (IE) literature has revolutionized the way researchers thought about the internationalization process of the firms by investigating the phenomenon of early and rapid internationalization (McDougall & Oviatt, 2000; Oviatt & McDougall, 2005a). Since the mid-1990s when Oviatt and McDougall (1994) published their hallmark article, theorizing in the IE field has been undertaken to plumb the depths of new ideas and to develop theoretical extensions and empirical evidence to explain the case of born globals or international new ventures, firms that are international at their inception or shortly thereafter (e.g., Jones & Coviello, 2005; Keupp & Gassmann, 2009; Knight & Cavusgil, 1996; Rialp, Rialp, & Knight, 2005; Zahra, 2005). Among the most investigated concepts has been the role of learning advantages of newness (LAN) in early internationalization.

LAN is considered as a promising theoretical foundation for the international growth of new venture internationalization (Autio, Sapienza, & Almeida, 2000). The LAN perspective posits that younger firms tend to be in a better position to succeed from early foreign market entry than older firms. The central idea is that when a firm internationalizes earlier, it is less constrained by the past

and therefore can learn more effectively from its foreign activities (Autio et al., 2000; Carr, Haggard, Hmieleski, & Zahra, 2010). From this standpoint, early internationalization itself might affect how ventures learn and how well they tend to perform in the early stages of their internationalization.

Although there is increasing evidence to support the performance implication of early international venturing, few studies have explicitly focused on the issue of time underlying a new venture's international growth. We observe that empirical studies generally pay less attention to the distinction between the earliness of internationalization and the speed of international growth. Earliness of internationalization refers to how early a new venture initiates its first foreign market activity, which is typically the short length of time between venture founding and its first sales across borders, or termed as venture age at first foreign market entry (Autio et al., 2000). In contrast, speed of international growth refers to how rapidly a new venture grows from its foreign operations, which is typically the pace and intensity of international expansion.

From a learning and knowledge perspective, Jones and Coviello (2005) point out the importance of incorporating time as a primary conceptual dimension to the understanding of entrepreneurial internationalization. Earliness of internationalization and venture age are two important time dimensions for international venturing. Through modeling these two time dimensions along with learning and international commitment related variables, this article aims to address the critical research question of what

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international new ventures do after they enter foreign markets (Morgan-Thomas & Jones, 2009). According to Zahra (2005), what they do after entry is likely to affect whether international venturing can retain the learning advantages of newness over time. In this regard, the evolution of LAN as new ventures get older and their mindset to keep learning from first-hand international experience are expected to influence the performance outcomes of early internationalization. In the next section, we present the theoretical background of the research, and review the extant literature and develop our hypotheses. Then, we describe methodology and present results. Finally, we provide conclusion and discussions as well as limitations of the study.

2. Theoretical background and hypotheses

2.1. Role of learning and knowledge in early internationalization

Following Oviatt and McDougall's (1994) identification of international entrepreneurship (IE) as a distinct field of research, much of the literature observed that many ventures were going international early and rapidly, and many did so successfully (McDougall & Oviatt, 1996; Rialp et al., 2005). A wide range of theoretical frameworks and concepts (e.g., knowledge, learning, capability, and network) are used to explain this phenomenon (e.g., Autio et al., 2000; Knight & Cavusgil, 2004; Madsen & Servais, 1997; Oviatt & McDougall, 1994; Yli-Renko, Autio, & Sapienza, 2001; Zahra, Ireland, & Hitt, 2000). An important theme that emerged from the literature is the role of learning advantages of newness (LAN) and particularly the paradoxical effect that LAN might have on the venture's ability to learn in the period following first foreign market entry.

On the one hand, the premises of LAN are at odds with the traditional theorizing of internationalization that draws from the behavioral theory of the firm (Cyert & March, 1963) to stress the inhibiting factors surrounding a firm's lack of resources and experiential learning, and considers the accumulation of foreign market knowledge as mitigating uncertainty when firms incrementally increase their international commitment (Eriksson, Johanson, Majkgård, & Sharma, 1997; Johanson & Vahlne, 1990). In contrast, the LAN perspective focuses more on the enabling factors surrounding the ability and willingness of young venture entrepreneurs to expand learning efforts specific to foreign markets. LAN considers a wide range of organizational flexibilities as learning advantages for entrepreneurs to acquire, assimilate and exploit new knowledge from various sources of information in the marketplace (Autio et al., 2000; Sapienza, Autio, George, & Zahra, 2006).

On the other hand, some researchers have raised concerns by arguing that young international firms typically are marked by a narrower set of organizational knowledge and skills. This reduces their ability to absorb new foreign knowledge (Zahra et al., 2000). This aspect manifests itself in the roles of the firm's absorptive capacity. Firms that have a greater stock of foreign knowledge or more refined organizational routines enjoy a greater capacity to integrate new knowledge within the firm's boundaries and convert it into value-creating activities (Cohen & Levinthal, 1990; March, 1991; Zahra et al., 2000). In light of the argument that the initiation of foreign market entry typically exposes the firm to extremely risky new market environments and the liabilities of foreignness (Hymer, 1976; Zaheer, 1995), international new ventures may face severe obstacles to the success of their early internationalization.

Sapienza et al. (2006) advanced the LAN argument and pointed out the possibility of survival bias. They argued that the combination of new foreign markets and inexperienced young ventures can pose additional cost and operating strains that would cause survival threat to venturing abroad. Their theoretical

arguments suggest that young international venturing decreases survival probability while it increases growth prospects for those who survive the early threats. They expanded the LAN rationale offered by Autio et al. (2000) and credited the growth potential of international new ventures to the cognitive advantage of not having to unlearn existing routines that might be less appropriate in new markets, the structural advantage of not having organizational rigidity that might hinder learning in foreign markets, the relational advantage of not having established bonding ties with domestic partners, and the political advantage of not having top managers entrenched and protective of existing skills and markets.

The role of learning and knowledge associated with early internationalization is subject to further research. The theoretical development indicates that fewer organizational routines among early internationalizers prompt their relatively greater flexibility. These can increase their learning and performance potential in international markets. The potency of learning advantages may come to the fore in certain boundary conditions, especially in explaining young ventures' ability to be more aware of and receptive to international opportunities at first foreign market entry (Zahra, 2005). Perhaps there are limits to how well early internationalizers can materialize the learning advantages logic over time. In the next section, we will explore how well early internationalizers do at first foreign entry, and how venture age and international learning commitment factors may affect the learning processes of early internationalization.

2.2. Earliness of internationalization and performance outcomes

Following the conceptual development of the LAN perspective (Autio et al., 2000; Sapienza et al., 2006), several empirical studies have examined the expected performance outcomes associated with early internationalization. For the most part, the criteria for early internationalization have been loosely defined. A short length of time, ranging from inception up to 14 years, between venture founding and first sales across borders, has typically been used as a proxy for early internationalizer or international new ventures (Acedo & Jones, 2007; Autio et al., 2000; Coviello & Jones, 2004; Khavul, Perez-Nordtvedt, & Wood, 2010). There are at least two shortcomings with this practice. First, timing at first foreign market entry is not an explicit variable in empirical testing, which can result in multiple interpretations of the findings. Second, the intensity of building-up international sales at first entry has largely been ignored, which could inappropriately contextualize some domestically oriented ventures as international new ventures.

What becomes even more puzzling is that among those few studies which incorporated the timing at first foreign entry into their conceptual models, the empirical findings are somewhat inconsistent. The pioneering work of Autio et al. (2000) showed that the earlier a new venture enters into foreign markets, the faster it can grow internationally. Lu and Beamish (2006) provided further support by showing that FDI has a greater impact on firms' growth performance among those which started to make FDIs at their younger ages. In contrast, Brush (1992) found that venture age at first foreign entry was not significantly related to either sales growth or employee growth. Khavul et al. (2010) also did not find a significant linear association between the timing at first foreign entry and the new venture's performance outcomes including sales growth.

Although the premise of LAN suggests that age at foreign market entry is a critical variable; its effect on performance outcomes remains less conclusive. Theoretical development and empirical examination in the performance implications of early internationalization has become a central topic in IE research (Oviatt & McDougall, 2005b; Zahra, 2005).

In this article, we differentiate between financial and non-financial performance outcomes of international new ventures. Sales growth and profitability are two key dimensions of a new venture's financial performance (Autio et al., 2000; Brush & Vanderwerf, 1992; Carr et al., 2010). Firm innovation is considered as a non-financial performance (Ittner & Larcker, 1998; Ittner, Larcker, & Randall, 2003; Spencer, Joiner, & Salmon, 2009). In view of the literature on LAN and its implication on performance outcomes associated with early internationalization, we generally expect a positive relationship between the earliness of internationalization and sales growth, profitability, and firm innovation.

First, following the LAN logic, new ventures tend to possess fewer deeply embedded routines (from domestic operations), face fewer inertial constraints (past-dependent cognitive biases), and thus are in a forward-looking position to explore new opportunities in international markets (Autio et al., 2000). Furthermore, younger firms have relational flexibility with exchange partners at domestic market. This would enable them to devote more resources and learning effort toward foreign markets (De Clercq, Sapienza, & Crijns, 2005; Sapienza et al., 2006). Besides, Blomstermo, Eriksson, and Sharma (2004) found that the length of time a firm operates purely in domestic markets negatively affects its pursuit for new knowledge in international markets. By making contacts and establishing business relationships early with foreign buyers, institutions, or research centers, young firms can obtain new and diverse resources and knowledge from a greater number of new and different markets, as well as from a wide range of cultural perspectives (Capar & Kotabe, 2003; Hitt, Hoskisson, & Kim, 1997; Zahra et al., 2000). Thus, early entrants are likely to be in a better position to cultivate their innovative capacity than later entrants or those domestically based counterparts.

Second, the earliness of internationalization tends to reflect young ventures' learning capability as they pursue international expansion. Such capability may lie in congenital knowledge, which is the venture's knowledge inherited at founding by virtue of the pre-founding experiences and education of its managers (Huber, 1991). There is evidence to suggest that congenital knowledge plays an instrumental role in a new venture's learning abilities in foreign markets, to the extent that it is relevant to the location choice of foreign markets entered (Chandra, Styles, & Wilkinson, 2009). The benefits of congenital knowledge are at the heart of organizational learning theory in that "what an organization knows at its birth will determine what it searches for, what it experiences, and how it interprets what it encounters" (Huber, 1991: 91). Bruneel, Yli-Renko, and Clarysse (2010) argued that congenital learning may serve as the venture's initial "absorptive capacity," enabling it to most effectively leverage the new knowledge it encounters on initial foreign market entry. Thus, early international ventures may have the advantage of learning capability in international markets, which would help them to discover and exploit valuable international business opportunities and achieve better performance.

And third, the earliness of internationalization can be viewed as a proxy for international entrepreneurial behavior (Jones & Coviello, 2005; Oviatt & McDougall, 2005b). Through focusing on early internationalization as an entrepreneurial process, Oviatt and McDougall (2005a, 2005b) argued that early internationalization itself is a result of entrepreneurial spirit and entrepreneurial capability, which in turn prompt entrepreneurs to a greater discovery of international opportunities and better performance outcomes. Knight and Cavusgil (2004) found that young ventures' international entrepreneurial orientation (which includes a propensity to innovativeness, risk-taking, and proactive behavior) was positively related to unique product development and developing a global technology competence. Zhou, Barnes, and Lu (2010) argued that early internationalization prompts ventures' proactiveness,

innovativeness, and risk taking that would affect performance outcomes through their effects on rapid upgrading both network capabilities and knowledge capabilities in foreign markets.

The theoretical arguments on the earliness of internationalization and its performance outcomes highlight the specific roles of organizational learning and knowledge acquisition. The premises of LAN, congenital knowledge (or prior international experience of founders or managers), and entrepreneurial capability are believed to promote the global vision and norms for young ventures to seek growth opportunities internationally. Thus, we put forward the arguments and expect that the venture's earliness of internationalization is associated with its performance outcomes in terms of sales growth, profitability, and innovation.

H1a. There is a positive relationship between a firm's earliness of internationalization and its performance on sales growth.

H1b. There is a positive relationship between a firm's earliness of internationalization and its performance on profitability.

H1c. There is a positive relationship between a firm's earliness of internationalization and its performance on innovation.

2.3. Moderating effects of venture age

While the earliness of internationalization captures the timing of a venture's first foreign market entry, the critical question remains as to whether the performance advantages of newness diminish as new ventures get older. Organizational learning theory suggests that firm age is an important factor related to organizational behavior and outcomes (Aldrich & Auster, 1986; Hannan, 1998). For example, scholars pointed out that age may influence a new venture's technological learning (Dodgson, 1993), and international business activities (Brush & Vanderwerf, 1992). One important reason is that organizational routine is often a function of venture age (Lu & Beamish, 2006). The older a firm, the more established the routines, and the higher the level of organizational inertia (Hannan & Freeman, 1984). Older firms have more established routines which impede their learning capability in new environments, or known as learning liability of aging (Barron, West, & Hannan, 1994; Sorensen & Stuart, 2000).

As the new venture grows into the later stage of its development, its key problems may shift from opportunity discovery and product delivery to efficiency improvement (Churchill & Lewis, 1983). During their process of efficiency improvement, specialized knowledge and skills are developed and accumulated. These specialized knowledge and skills may be more helpful to improve international operation efficiency than discovery of new opportunities in international markets. Similarly, scholars have pointed out that older firms may develop "competency traps" (Cohen & Levinthal, 1990) or "dominant logic" (Bettis & Prahalad, 1995) which limits their ability to pursue new opportunities departed from their existing competencies.

Despite the assertion that young ventures are considered to have learning advantage in their international expansions (Autio et al., 2000), they may gradually transfer their international business experiences and skills into organizational routines or best practices (Griffin, 1997; Kyriakopoulos & de Ruyter, 2004; Olivera, 2000). These may feed forward into ventures' future internationalization decisions and actions (Jones & Coviello, 2005), and thus limit their further new opportunity seeking and new knowledge development. In fact, the empirical evidence obtained by Bruneel et al. (2010) indicates that experiential learning reduces the post-entry effects of vicarious learning (learning from network partners or others) and congenial learning (relying on prior international experience of managers) on further internationalization outcomes.

Their research points out the possibility that when ventures have developed certain amount of experiential knowledge through their foreign activities, they may find themselves to get locked out of certain types of knowledge to the extent that they did not acquire it early on in their existence (Hannan, 1998). Limited new knowledge and opportunities may slow down ventures' potential to grow, innovate and achieve improved performance outcomes in new international markets.

The advantages of newness enjoyed by young international ventures are expected to diminish at later stages of internationalization. Because of the past dependent routines and the development of learning impediments, older ventures may get locked out of the potential growth opportunities and external sources of innovation over time. Thus, we expect that the effects of earliness of internationalization on innovation and performance of international new ventures becomes weaker when firms at their later stage of development than that when firms at their earlier stage of development.

H2a. Venture age moderates the relationship between the earliness of internationalization and firm performance on sales growth, such that the relationship becomes weaker as the venture gets older.

H2b. Venture age moderates the relationship between the earliness of internationalization and firm performance on profitability, such that the relationship becomes weaker as the venture gets older.

H2c. Venture age moderates the relationship between the earliness of internationalization and firm performance on innovation, such that the relationship becomes weaker as the venture gets older.

2.4. International commitment as a facilitating factor

International new ventures differ in terms of their initial scale of internationalization, which captures the level of internationalization that the new venture has achieved from its first foreign market entry. Research suggests that the scale of internationalization is a key indicator of international commitment (Cavusgil, 1984; Hadley & Wilson, 2003). Firms that allocate their learning efforts toward foreign markets are more likely to increase the scope and intensity of their internationalization and to develop new foreign knowledge for enhancing their intent for further internationalization (De Clercq et al., 2005).

Knowledge and learning through direct international experience and commitment represents the fundamental to the learning logic of the Uppsala model in internationalization (Johanson & Vahlne, 1990). In response to the theoretical advances in early and rapid internationalization, Johanson and Vahlne (2009) have further refined their original model by explicitly emphasizing the “recognition of opportunity” as an enabling knowledge factor to international expansion that can be done over time. In their view, firms with increased levels of international commitment are able to acquire more market-specific knowledge so as to upgrade their capabilities for continued success in international expansion.

In contrast to new ventures with lower levels of international commitment, those with higher levels of international commitment are likely to require more interactions with foreign suppliers, partners, and customers. The deep involvement in international markets exposes ventures to learn unique knowledge and experiences, which can enhance their ability to access, assimilate, transform and exploit new external knowledge (Zahra & George, 2002). According to Zhou et al. (2010), a new venture's ability to obtain market-specific, up-to-date foreign knowledge (“knowledge

capability upgrading”) and the ability to update the existing knowledge base through networks (“network capability upgrading”) are instrumental to the performance outcomes of early internationalization. Successful increases in venture internationalization may require broad strategic changes over time (McDougall & Oviatt, 1996), and international commitment enables new ventures to make the strategic changes in line with growth opportunities in intentional markets (Cavusgil, 1984; Hadley & Wilson, 2003). Therefore, although the associated performance advantages of new ventures' earliness of internationalization may diminish as ventures become older, an increased level of international commitment is expected to compensate the “learning liability of aging”. In other words, the moderating effects of venture age as hypothesized in H2a–H2c would be more profound for ventures with a lower level of international commitment.

H3a. The moderating effect of venture age on the relationship between the earliness of internationalization and the firm's sales growth performance is greater for international new ventures featuring a lower level of international commitment than those with a higher level of international commitment.

H3b. The moderating effect of venture age on the relationship between the earliness of internationalization and the firm's profitability performance is greater for international new ventures featuring a lower level of international commitment than those with a higher level of international commitment.

H3c. The moderating effect of venture age on the relationship between the earliness of internationalization and the firm's innovation is greater for international new ventures featuring a lower level of international commitment than those with a higher level of international commitment.

3. Methodology

3.1. Sample and data collection

Although the emergence of international new ventures is a worldwide phenomenon, most of the empirical evidence has so far been obtained from the developed economies. Inadequate attention has been paid to international new ventures from developing or emerging economies (Khavul et al., 2010; Rialp et al., 2005; Yamakawa, Peng, & Deeds, 2008). Emphasis should be given to further generalize the impact of new ventures' early internationalization on their performance by using sample of new ventures from emerging economies. It has been observed that Chinese new ventures are expanding rapidly in international markets (Zhou, 2007; Zhou et al., 2010). Therefore, China provides a favorable platform to test our theoretical propositions.

China plays an increasing important role in today's world economic development. According the Statistical Bulletin of China's Outward FDI, by the end of 2008, nearly 8500 Chinese domestic investing entities had established about 12,000 overseas enterprises, spreading in 174 countries or regions globally. In 2009, China became the second largest trading nation and the largest exporter and second largest importer of goods in the world. China also is one of the most entrepreneurial economies in the world. Zhejiang province, located in the east of China, is a major player in the economic miracle of China's international business and economic growth.

According to the Statistical Bulletin, Zhejiang has the largest number of overseas enterprises, accounting 22% of China's total overseas enterprises. Zhejiang's export is US\$154.29 billion, accounting for 10.8% of China's total exports in 2008. Zhejiang is also one of the most entrepreneurial economies in China and the

average annual growth rate of the number of new ventures is 13.93% from 2001 to 2008. In 2009, Zhejiang had over 1.2 million enterprises, of which 99.6% were SMEs. Therefore, an examination of international new ventures from Zhejiang is appropriate both to better understanding international activities of emerging-market economies and also to add new insight into the existing international new ventures literature that predominately focuses on firms in the developed economies (Yamakawa et al., 2008).

The challenge that publicly available data in emerging markets are generally scarce, outdated or inaccurate (Khavul et al., 2010) is acute in China. In response, the data for this study were collected through questionnaire survey, and the field work was conducted during the period of late 2009 and early 2010. The questionnaire was originally prepared in English and then translated into Chinese. To avoid cultural bias and ensure validity, the Chinese version was back-translated into English. We paid special attention to detecting any misunderstandings that might arise due to translation. To make the measurement items more acceptable and identifiable to the informants, a preliminary version of the questionnaire was pretested with six executives. Feedback from these executives was incorporated into a revised version of the questionnaire.

We obtained a list of firms compiled by the Economic and Trade Commission of Zhejiang province, and then selected the firms in manufacturing sector from this list. Among these manufacturing firms, we randomly selected 1000 independently owned firms (not subsidiaries or joint ventures with large state-owned companies or foreign multinational groups) as the sub-sample frame. We administered the questionnaire on-site, similar to previous practices (e.g., Peng & Luo, 2000; Zhou, 2007). Five trained research assistants participated in the distribution and collection of questionnaires. In-person data collection helps enhance the validity of the data because ambiguities pertaining to the meaning of questions can be clarified at the time of administration of the survey by a researcher familiar with the study and trained to maintain consistency across respondents (Khavul et al., 2010). Additionally, for the purpose of improving response rate, we used several methods. First, the survey packet contained a cover letter that introduced the main goal and potential value of the study. Second, the participants were informed that they would receive a summary report of the study as an encouragement.

We finally obtained data from 381 firms, with an effective participation rate of 38.1%. Five of the returned questionnaires had too many missing values and were considered invalid. The final number of responding firms was 376, representing a valid return rate of 37.6%. Of the valid sample firms, international new ventures were 128 (34.0%). In our study, international new ventures were characterized by the following criteria: (1) they entered international markets within three years of inception (Zhou et al., 2010; Zhou, Wu, & Luo, 2007); (2) they achieved significant international involvement – at least 10% of foreign sales to total sales (Zhou et al., 2007); (3) they founded in or before 2007 in order to test the effects of our independent variable in this study. For causal inferences, following prior studies (Fernhaber & Li, 2010; Lu & Beamish, 2001; McDougall & Oviatt, 1996; Zahra et al., 2000), we explored 2-year lags of independent variable. Firms that were founded during 2008 and 2009 are excluded in our study.

To assess the nonresponse bias, we compared the early respondents with late respondents and found no significant difference in firm size and age. This indicates that nonresponse bias does not appear to be a significant problem (Armstrong & Overton, 1977). In this study, 50.8% of valid sampling firms revealed that their top executive responded to the questionnaire, while the remaining 49.2% firms suggested that marketing managers, R&D managers or product managers filled out the questionnaire. This increased our confidence in the quality of data,

since they were experienced and knowledgeable about the issues under this study (Kumar, Stern, & Anderson, 1993).

3.2. Measures

Firm innovation. An innovation can be a new product or service, a new production process, or a new structure or administrative system (Hult, Hurley, & Knight, 2004; Rhee, Park, & Lee, 2010). The complex and diversified nature of innovation can hardly be accurately assessed in empirical studies (Archibugi & Pianta, 1996; Archibugi & Sirilli, 2001; Romijn & Albaladejo, 2002). In the literature, two main types of indicators are used to measure firm innovation: direct measures (innovation count, firm-based surveys) and indirect measures (R&D, patents). Other indicators, such as sales generated by the innovations, the speed of innovation, the level of innovativeness, and the time allocated by managers to innovation related activities, are also used to measure firm innovation in some studies. It has been acknowledged that each of these innovation indicators is associated with certain limitations (Griliches, 1990; Patel & Pavitt, 1993). Patent counts, as one of the most popular proxies for firm innovation (Wan, Ong, & Lee, 2005), are considered to be directly related to inventiveness (Walker, 1995). Patent counts are also found to be highly correlated with other measures of innovative output, such as new products (Comanor & Scherer, 1969), innovation and invention counts (Achilladelis, Schwarzkopf, & Cines, 1987), R&D spending (Balkin, Markman, & Gomez-Mejia, 2000), and expert ratings of corporate technological strength (Narin, Noma, & Perry, 1987). Therefore, patents are largely used to measure innovation output in the literature (Trajtenberg, 1990). Consistent with previous research (e.g., Ahuja & Katila, 2001; Liu & Buck, 2007; Sun & Du, 2010), we measured firm innovation using the number of granted patents a firm possesses in a given year.

Firm performance. The measurement of firm performance varies substantially from one study to another. Scholars have long acknowledged that the choice of performance measures is difficult and discretionary (Capon, Farley, & Hoenig, 1990; Venkatraman & Ramanujam, 1986). Related literature shows that growth and profitability are two important indicators of firm financial performance. Relevant to the outcomes of international activities, we used both sales growth and profitability to assess ventures' financial performance from foreign operations (Fernhaber & Li, 2010). Consistent with previous studies, we measured sales growth by the average year-to-year change in firm's overall sales (Zahra & Garvis, 2000; Zahra & Hayton, 2008). Firm profitability was measured by return on assets (ROA) (Lu & Beamish, 2001, 2006; Zahra & Garvis, 2000; Zahra & Hayton, 2008).

Earliness of internationalization. Earliness of internationalization refers to how early a new venture enters its first international market. Consistent with previous research (Autio et al., 2000; Khavul et al., 2010; Oviatt & McDougall, 1994; Zhou, 2007), earliness of internationalization was measured as the amount of elapsed time (in years) between the year the new venture was established and the year it entered its first international market.

Moderators. Similar to previous research, venture age was measured by the number of years the firm has been in existence (Zahra & Hayton, 2008). International commitment was estimated by the scale of internationalization. A higher level of foreign sales to their total sales is an indicator of a higher level of international commitment (Cavusgil, 1984; Hadley & Wilson, 2003).

Control variables

Scope of internationalization. We controlled the scope of internationalization because previous studies show that the scope of internationalization positively affects performance of interna-

tional new ventures (Khavul et al., 2010; Tallman & Li, 1996). Scope of internationalization captures the number of countries from which the new venture generates its international sales. Consisted with past research (Lu & Beamish, 2001; Tallman & Li, 1996), scope of internationalization in our study was measured by the number of countries in which the new venture sold its products.

R&D intensity. We controlled R&D intensity because previous research indicates that R&D spending can contribute firm innovation (Katila, 2002; Katila & Ahuja, 2002). Following these studies, we controlled R&D intensity, measured by the ratio of expenditure on R&D and sales.

Prior innovation. We controlled past innovation performance because it affects firm's ability to further innovation. A firm has a good innovation performance in the past years when it has relative high innovation capability and absorptive capacity, the firm is more likely to achieve higher innovation performance. Prior innovation performance was measured as the number of patents a firm owned in 2007.

Prior performance. Past firm performance was included as a control variable because it affects the availability of slack resources. High past firm performance was found to be positively associated with international entrepreneurship (Zahra & Garvis, 2000). We controlled sales growth performance and profitability in 2007 in respective regression models.

Firm size. The size of the firm was considered because large firms have more resources available, which might influence their ability to internationalize (Burgel & Murray, 2000; Tallman & Li, 1996; Zahra et al., 2000). We measured by the log of a firm's total number of employees (Zahra & Hayton, 2008).

Market uncertainty. We controlled market uncertainty because market environment uncertainty may affect a firm's innovation and performance. Adopted from Jaworski and Kohli (1993) and Atuahene-Gima and Li (2004), a three-item scale measuring market uncertainty which reflected the speed of change in customer demand, product preferences and emergence of new customer segments in the industry on a five-point Likert scale was used. Reliability tests and factor analysis indicated that the standardized scores of the three items can be aggregated to produce one factor (Cronbach's alpha = 0.74), we averaged these items to obtain scores for the construct.

Sector. Firms in different industries face different competitive challenges, causing them to use different approaches to internationalization, and achieve different levels and patterns of internationalization, and opportunities for innovation and performance (Covin, Slevin, & Covin, 1990; Zahra & Garvis, 2000). We created a high-technology industry dummy. If the venture was

reported as a high-technology venture, the dummy for high technology industry coded as "1", otherwise as "0".

3.3. Models

To test the hypotheses, we ran separate ordinary least squares (OLS) regression analyses for innovation and performance. A series of models were tested. In model 1, firm innovation or performance was regressed on the study's control variables. In model 2, we added the earliness of internationalization and venture age variables into model 1. In model 3, the interaction term (venture age by earliness of internationalization) was added. To reduce the potential problem of multicollinearity, predictor and moderating variables were mean-centered prior to the creation of interaction terms (Aiken & West, 1991). We tested for improvements made in the explanatory powers between successive steps, applying the procedure suggested by Cohen and Cohen (1975). Further, to examine the moderating effect of venture age on the relationship between the earliness of internationalization and innovation and performance among different international commitment levels of international new ventures, we used a median split method to divide the sample into high versus low international commitment group. Ventures with above median value of the scale of internationalization were considered in the high international commitment group whereas those with below median value of the scale of internationalization were treated in the low international commitment group.

4. Results

Table 1 shows the mean values, standard deviations, and correlations for all the measured variables. Table 2 shows the results of regression analyses estimating the effects of the earliness of internationalization on international new ventures' innovation and performance, as well as the moderating effects of venture age on the relationship between the earliness of internationalization and innovation and performance of international new ventures. H1a predicts that an international new venture's earliness of internationalization is positively associated with its performance on sales growth. The coefficient for the earliness of internationalization in regression function with the dependent variable of sales growth is statistically significant ($\beta = 0.19, p < 0.05$). The earliness of internationalization contributes to the venture's sales growth. Thus, H1a is supported.

H1b predicts that an international new venture's earliness of internationalization is positively associated with its performance

Table 1
Means, standard deviations, and correlations.

	Mean	S.D.	1	2	3	4	5	6	7	8	9	10	11	12	13
1. Sales growth	0.09	0.15													
2. Profitability	0.21	0.22	0.20*												
3. Innovation	9.19	18.55	-0.07	0.27**											
4. Firm size ^a	5.30	1.24	-0.15†	0.20*	0.30**										
5. R&D intensity	0.06	0.06	0.06	0.05	-0.02	0.03									
6. Scope of internationalization	9.11	9.79	0.01	0.31***	0.37***	0.34***	0.06								
7. International commitment	0.47	0.24	-0.10	-0.24**	-0.22*	-0.23*	0.01	0.05							
8. Prior sale ^a	7.86	1.32	-0.25**	0.06	0.31***	0.53***	-0.27**	0.35***	-0.02						
9. Prior profitability	0.17	0.13	0.13	0.70***	0.09	0.18*	0.12	0.04	-0.14	-0.01					
10. Prior innovation	5.63	12.57	-0.13	0.27**	0.88***	0.30**	-0.08	0.37***	-0.23**	0.35***	0.04				
11. Sector	0.56	0.50	-0.07	0.08	0.11	0.10	-0.15	0.02	-0.18*	0.11	0.04	0.11			
12. Earliness of internationalization	2.19	0.82	0.15†	0.02	-0.14	-0.05	-0.02	0.05	0.24**	0.01	0.07	-0.09	0.07		
13. Firm age	8.90	4.13	-0.07	0.11	0.09	0.35***	0.05	0.19*	-0.12	0.28**	0.11	0.06	0.22*	0.09	

^a Variable takes its logarithmic value.

* $p < 0.05$ (two-tailed test).

** $p < 0.01$ (two-tailed test).

*** $p < 0.001$ (two-tailed test).

† $p < 0.10$ (two-tailed test).

Table 2
Results of OLS regression: effect of earliness of internationalization on performance and innovation of international new ventures.

	Dependent: sales growth			Dependent: profitability			Dependent: innovation		
	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8	Model 9
Firm size	-0.113	-0.114	-0.126	-0.094	-0.094	-0.094	0.036	0.035	0.033
R&D intensity	-0.005	-0.006	-0.009	-0.030	-0.030	-0.032	0.044	0.042	0.038
Scope of internationalization	0.142	0.133	0.107	0.330 ^{***}	0.331 ^{***}	0.326 ^{***}	0.034	0.038	0.026
International commitment	-0.149	-0.195 [*]	-0.199 [*]	-0.182 ^{**}	-0.196 ^{**}	-0.177 ^{**}	-0.008	0.007	0.007
Market uncertainty	0.082	0.072	0.062	0.105 [†]	0.106 [†]	0.103 [†]	-0.007	-0.004	-0.010
Prior innovation							0.852 ^{***}	0.847 ^{***}	0.852 ^{***}
Prior sales	-0.223 [†]	-0.226 [*]	-0.206 [†]						
Prior profitability				0.706 ^{***}	0.708 ^{***}	0.705 ^{***}			
Sector	-0.075	-0.100	-0.131	0.015	0.018	0.011	0.020	0.027	0.012
Earliness of internationalization (EI)		0.187 [*]	0.243 ^{**}		-0.023	-0.009		-0.063	-0.035
Firm age		0.022	0.130		-0.003	0.023		0.002	0.055
Firm age*EI			-0.218 [*]			-0.052			-0.105 [*]
R ²	0.106	0.139	0.173	0.647	0.647	0.649	0.770	0.773	0.781
Adjusted R ²	0.053	0.072	0.101	0.626	0.620	0.619	0.756	0.756	0.762
R ² change	-	0.032	0.035	-	0.000	0.002	-	0.004	0.008
F-Change	-	2.172	4.810 [*]	-	0.081	0.640	-	0.949	4.252 [*]
F value	2.006 [†]	2.073 [*]	2.408 [*]	30.863 ^{***}	23.648 ^{***}	21.282 ^{***}	56.319 ^{***}	43.976 ^{***}	41.113 ^{***}

^{*} $p < 0.05$ (two-tailed).

^{**} $p < 0.01$ (two-tailed).

^{***} $p < 0.001$ (two-tailed).

[†] $p < 0.10$ (two-tailed).

on profitability. As shown in Table 2, the coefficient for the earliness of internationalization in regression function with firm profitability is not significant ($\beta = -0.02$, n.s.). Earliness of internationalization has little effect on the venture's profitability. Hence, H1b is not supported.

H1c predicts that an international new venture's earliness of internationalization is positively related to its performance on innovation. Unlike our expectation, the coefficient for earliness of internationalization is not significant ($\beta = -0.06$, n.s.). This result indicates that the earliness of internationalization does not contribute to the venture's performance on innovation. Thus, H1c is not supported.

H2a states that venture age moderates the relationship between the earliness of internationalization and firm

performance on sales growth, such that the relationship becomes weaker as the venture gets older. In the regression function with the dependent variable of sales growth in Table 2, the coefficient of the interaction is statistically significant ($\beta = -0.22$, $p < 0.05$), indicating that there is a moderating effect of venture age. Consistent with our prediction, the positive impact of the earliness of internationalization on sales growth diminishes as the ventures become aging. Thus, H2a is strongly supported.

H2b predicts that venture age moderates the relationship between the earliness of internationalization and firm performance on profitability. In the regression function with the profitability variable, we found that the interaction coefficient does not register a significant value ($\beta = -0.05$, n.s.). Thus, venture age does not significantly moderate the effect of the earliness of

Table 3
Results of OLS regression: effect of earliness of internationalization on performance and innovation among international new ventures with low and high international commitment.

	Dependent: sales growth		Dependent: profitability		Dependent: innovation	
	Model 10 LICINVs	Model 11 HICINVs	Model 12 LICINVs	Model 13 HICINVs	Model 14 LICINVs	Model 15 HICINVs
Firm size	-0.106	-0.071	-0.164 [†]	0.027	-0.005	0.015
R&D intensity	-0.089	0.122	-0.002	0.001	0.039	0.116
Scope of internationalization	-0.046	0.229	0.487 ^{***}	0.086	0.120 [*]	-0.025
Market uncertainty	-0.134	0.334 [*]	0.102	0.185 [*]	-0.031	0.032
Prior innovation					0.871 ^{***}	0.826 ^{***}
Prior sales	-0.116	-0.260				
Prior profitability			0.604 ^{***}	0.777 ^{***}		
Sector	-0.205	-0.061	0.115	-0.159 [*]	-0.020	0.052
Earliness of internationalization (EI)	0.382 ^{**}	0.064	-0.072	0.031	0.001	-0.147 [†]
Firm age	0.291 [†]	-0.153	0.045	0.071	0.009	0.057
Firm age*EI	-0.399 [*]	-0.101	-0.058	-0.076	-0.042	-0.151 [†]
R ²	0.208	0.313	0.657	0.772	0.879	0.770
Adjusted R ²	0.099	0.163	0.610	0.723	0.863	0.720
F value	1.900 [†]	2.079 [†]	13.854 ^{***}	15.465 ^{***}	52.682 ^{***}	15.253 ^{***}

LICINVs: low international commitment international new ventures; HICINVs: high international commitment international new ventures.

^{*} $p < 0.05$ (two-tailed).

^{**} $p < 0.01$ (two-tailed).

^{***} $p < 0.001$ (two-tailed).

[†] $p < 0.10$ (two-tailed).

internationalization on the venture's profitability. H2b is not supported.

H2c predicts that venture age moderates the impact of the earliness of internationalization on innovation of international new ventures. The coefficient of the interaction term between the earliness of internationalization and venture age is statistically significant ($\beta = -0.11, p < 0.05$). However, a closer examination of the pattern of the interaction shows that the moderating effect of venture age is opposite to what we expected. The older the new ventures, the more positive the outcome of firm innovation stemming from international venturing. Thus, H2c is not supported.

H3a predicts that the moderating effect of venture age on the relationship between the earliness of internationalization and the venture's sales growth performance is greater for international new ventures featuring a lower level of international commitment than those with a higher level of international commitment. As shown in Table 3, the coefficient of the interaction term between the earliness of internationalization and venture age is statistically significant ($\beta = -0.40, p < 0.05$) with low international commitment. The contribution of earliness of internationalization to sales growth decreases as ventures get older. In contrast, the contribution of the earliness of internationalization to sales growth of international new ventures with high international commitment does not significantly decrease as ventures get older ($\beta = -0.10, n.s.$). Taken together, the results suggest that in terms of sales growth the moderating effect of venture age is more profound for ventures with low international commitment than those with high international commitment. Thus, H3a is strongly supported.

H3b predicts that the moderating effect of venture age on the relationship between the earliness of internationalization and the venture's profitability is greater for international new ventures featuring a lower level of international commitment than those with a higher level of international commitment. The results show that for international new ventures with either low or high international commitment, the moderating effects of venture age were not significant ($\beta = -0.06, n.s.$; $\beta = -0.08, n.s.$ respectively). Thus, H3b is not supported.

H3c predicts a similar pattern on firm innovation. We expect that the moderating effect of venture age is more profound for international new ventures with low international commitment than those with high international commitment. The results in Table 3, however, are somewhat contradictory to our prediction. As shown, under the low international commitment condition, the moderating effect of venture age is not significant ($\beta = -0.04, n.s.$), while there is marginally significant interaction coefficient under the high international commitment condition ($\beta = -0.15, p < 0.10$). Thus, H3c is not supported.

5. Conclusion and discussion

In this study, we examined venture age and international commitment as moderators on the relationship between a young venture's earliness of internationalization and its performance outcomes. In so doing, we substantiated the learning advantages of newness (LAN) perspective and highlighted the impact of the timing at a firm's first foreign market entry on both financial and non-financial performance of early international venturing. Drawing from organizational learning theory, with particularly relevant to the concept of liability of aging (Barron et al., 1994), we argue that the premises of LAN cannot automatically be leveraged to the post-entry learning processes and associated performance outcomes, yet a firm-level international commitment can help international ventures improve performance over time.

We found that early international entry, or earliness of internationalization, is positively associated with new ventures'

sales growth, which provided support to the LAN argument. We did not find however the positive relationships between earliness of internationalization and innovation and profitability of new ventures. One possible interpretation for the non-significant relationship between earliness of internationalization and innovation is that new ventures in emerging economies generally lack of resources and capabilities compared with those from developed economies. The resource and capability deficiencies might limit new ventures effectively obtaining and assimilating new knowledge which is needed for innovation (Zahra & George, 2002; Zahra & Hayton, 2008). Another possible reason is that most of international new ventures in emerging economies focus on cost-leading competition rather than innovation during their international expansion. Thus, these international new ventures might pay more attention to access to resources and knowledge that can help to reduce their costs of international operations instead of innovation. Furthermore, the innovation measure used in the study (i.e., patent counts) might be too restricted to capture other innovation activities. Needless to say that some inventions are not patentable, others are not patented. There is also a possibility that some young international ventures located in China might not necessarily have applied for patents due to their limited organizational resources or the relatively weak institutional support for the patent application process. Therefore, the use of patent counts may underestimate the innovation performance of the firms in our sample.

A similar argument can be used to explain the non-significant relationship between the earliness of internationalization and a new venture's profitability. The cost-leading approach to internationalization by most emerging-market firms appears not be able to help them achieve high profit margin in international markets. Our fieldwork suggests that the motivation of most of international new ventures in China was to achieve a quick growth and enjoy an efficiency of international operation. Recent research based on international new ventures in three large emerging economies (China, India, and South Africa) also demonstrates that the early internationalization is not significantly related to the ventures' profitability performance (Khavul et al., 2010). They pointed out that the new ventures might use their cost advantages to undercut international competitors. Besides, there is also a possibility that the firm-level performance measure fails to reflect the venture's most important international operations, especially for firms that have many international product-market ventures.

With respect to the moderating effects of venture age, our results provide strong support on the performance dimension of sales growth. Performance advantages of new venture internationalization diminish as firms get older. This moderating effect is in line with the theoretical argument of the learning theory on the liability of aging (Barron et al., 1994). However, venture age appears to be an asset as far as firm innovation is concerned. Our results indicate that older ventures tend to be in a better position for achieving the performance outcome of innovation from international venturing. This means that, in the absence of absorptive capacity, international new ventures from emerging markets can leverage home-based advantages to upgrade innovative capability over time.

Furthermore, we found that the moderating effects of venture age vary with new ventures' international commitment. As expected, high international commitment reduces the liability of aging in regards to new ventures' sales growth. This suggests that high international commitment may provide better opportunities and upgrading ability to international learning, thus the LAN can sustain for a relative long time in international new ventures. Yet, to our surprise, international new ventures seem to be better off on innovation when they maintain a relatively low level of international commitment over time.

On possible reason, as mentioned earlier, is that international new ventures from emerging economies tend to put more emphasis on their low cost advantages. Without high international commitment, new ventures might be able to allocate more resources to developing their innovation capabilities from home-based advantages. Our fieldwork also suggests that most of international new ventures in China pay more attention to low cost advantage than innovation in order to attract foreign customers. That is why Chinese government starts to highlight the role of indigenous innovation capability in firms' sustainable growth and competitive advantage.

From a theoretical point of view, our study further advances the current understanding of new ventures' earliness of internationalization and performance implications. Although the LAN perspective has been extensively used to describe the learning processes and associated outcomes of early internationalization, we see possible areas for improvement in terms of its relationship to other theoretical concepts of organizational learning such as absorptive capacity (Cohen & Levinthal, 1990) and learning liability of aging (Barron et al., 1994). In turn, we extend the arguments from a broad-based international entrepreneurship (IE) perspective to emphasize the role of entrepreneurs and their prior international experiences and capabilities with respect to early internationalization. We further reveal the boundary conditions, in light of the notion of liability of aging, by focusing on venture age and international learning commitment factors. Our conceptual model explicates the time dimensions underlying performance outcomes of early international venturing efforts.

Scholars have argued that firm performance is a multi-dimensional construct. An internationalization strategy could have differential effects on different dimensions of firm performance (Delios & Beamish, 2001; Sapienza et al., 2006). Studies on the impact of early internationalization itself have predominantly focused on firms' financial performance such as international sales growth (Autio et al., 2000; Brush, 1992), profitability, and market share (Khavul et al., 2010). Yet, very little attention has been paid to non-financial performance such as learning and innovation. Internationalization in nature is an innovative act and can lead to the development of key capabilities required for improving a firm's innovative solutions (Knight & Cavusgil, 2004). By examining both financial and non-financial performance simultaneously we provide a more comprehensive understanding of the performance implications of early internationalization.

5.1. Managerial relevance

From a practical point of view, our research suggests that entrepreneurs or managers should not assume automatic benefits associated with early internationalization of their new ventures. Congenial knowledge i.e., its inherited knowledge by virtue of its pre-founding experience and vicarious learning such as through network relationships may matter more when the focal firm had less experiential learning in a new foreign market. On the one hand, a venture that enters its first foreign market at an earlier point may enjoy learning advantages, and thereby international sale growth potential, yet the venture may actually be better off when it can absorb new foreign knowledge through increasing international commitment over time and then convert the market-specific knowledge into value-creating activities (Zahra & George, 2002).

Moreover, we encourage managers in international new ventures to balance their growth and innovation. Young ventures may take advantage of internationally experienced managers or foreign network partners to offset initial knowledge constraints for achieving higher growth, whereas older firms hold a relative advantage at first entry into foreign markets for achieving better

innovation. In short, this study provides entrepreneurs with insight into whether early internationalization is an advantageous strategy for their ventures, and how it may evolve over time.

5.2. Limitations

Several limitations should be noted in this study. First, our sample only included international new ventures in a single Chinese province. Although Zhejiang province is a representative economic region in China (Yiu, Lau, & Bruton, 2007; Zhou, 2007; Zhou et al., 2007), there are some differences in terms of the degree of economic development, entrepreneurial environments and culture across different regions in China. Therefore, the results obtained from the specific research context are by no means generalizable to international new ventures in other countries. Thus, we believe that it is important for future research to explore how regional, national and international level context may affect the benefit of early internationalization itself.

Second, although our study carefully measured the innovation of international new ventures based on previous related literature, a more rigorous measure of its complex and diversified conceptual domain would be desirable to validate the findings in our study. For example, not all the innovation can be patented, and many international new ventures may not patent their new production process or new services. Thus, the use of the number of patents as an indicator of innovation in our study is largely inadequate, which may threaten the validity of findings reported here. Future research may consider using multiple indicators to capture a broader spectrum of innovative activities. For example, Balkin et al. (2000) measured firm innovation by combining patents and R&D spending, with R&D spending measuring investments in innovation and number of patents indicating innovation outputs. Leiponen and Helfat (2010) utilized two variables (whether the firm introduced any technological innovations and the percent of total firm sales revenues that derived from the sale of technologically new products) from the R&D survey to measure innovation performance. Future studies should use composite measures so as to capture firm innovation more completely.

Third, the measure of firm performance in our study was related to overall performance outcomes of the venture's international operations. A firm's performance tends to vary across different product lines and target markets. Although most young and small international firms tend to have limited number of product-market combinations pertaining to their international operations, it is advisable to use a performance measure that specifically addresses the firm's most important international venture. To some extent, our focus on the ventures' primary international markets in the survey minimizes the concern for firms that might have many international product lines across the global markets.

A fourth limitation of our study has to do with possible survival selection bias from which many studies in management share. Although it is difficult to collect data about the failure of international new ventures together with survivals, it is valuable for future research to explore the effect of early internationalization on international new ventures' failure (Sapienza et al., 2006). Perhaps longitudinal study and in-depth case approach would be needed for this research endeavor.

Finally, our study only examines the moderating effects of venture age and international commitment. Future research needs to empirically examine other moderators such as managerial experience, resource fungibility (Sapienza et al., 2006), absorptive capability (Zahra & Hayton, 2008) and environment uncertainty. In addition, strategic orientations (such as, international entrepreneurial orientation and international market orientation) are arguably important variables to be included into our research model (Knight & Cavusgil, 2004).

In conclusion, our investigation lends itself to a much needed longitudinal research designs. Future research should consider differing effects of performance outcomes in relation to international venturing as a learning and knowledge acquisition process, thereby acknowledging the importance of how international new ventures evolve in terms of their learning capabilities as time lapses.

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