Home-country Environmental Conditions, International Expansions, and Firm Value: The Case of E-commerce Firms in the United States

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John M. Mezias, Namgyoo K. Park, and Jinah Choi

Abstract: Utilizing the sudden technology sector crash in the United States, we conduct a natural experiment investigating how home-country environmental munificence affects stock market response to 214 international expansions by 42 e-commerce firms from 1995 to 2001. We find that international expansion of e-commerce firms during the less munificent period create more favorable outcomes, and that environmental munificence interacts significantly with entry mode. Although cultural distance does not directly affect outcomes of international expansion, its interaction with home-country conditions and entry mode significantly affects outcomes of international expansions. These findings demonstrate the importance of studying home-country conditions of multinational firms.

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INTRODUCTION

International management researchers have made great strides examining location and entry mode choices of multinational corporations (MNCs), which has significantly improved our understanding of relationships between cultural distance and strategic choices such as entry mode selection (e.g., Kogut & Singh 1988), and their impact on outcomes of international expansion (e.g., Hennart, 1988, 1991; Wan & Hoskisson, 2003). However, a critical issue affecting international performance remains under researched: effects of the MNCs’ home-country environmental conditions. This is surprising given that many studies show critical effects of environmental munificence, the level of resources in an environment, on various corporate actions including geographic expansions, firm growth, and survival (e.g., Hawley, 1968; Staw & Szajkowski, 1975; Starbuck, 1976; Aldrich, 1979; Dess & Beard, 1984; Randolph & Dess, 1984; Castrogiovanni, 1991; Wan & Hoskisson, 2003). However, effects of environmental munificence have received less attention in the international management literature. We address this research gap by investigating how home country munificence affects outcomes of international expansion by e-commerce firms.

The sudden technology sector crash on March 11, 2000 strongly affected environmental munificence of e-commerce firms. This environmental jolt demarcated dramatically different periods of e-commerce munificence: very high levels of munificence from January 1995 through February 2000 followed by a rapid, significant, and sustained decline following this jolt. The e-commerce sector’s unique pattern of environmental munificence provides an opportunity to conduct a natural experiment examining outcomes of strategic actions before and after an environmental jolt (Meyer, 1982). We examine how home country environmental munificence in two distinctly different periods affects outcomes of international expansion of e-commerce firms. Following Kotha, Rindova & Rothaermel (2001) we define international expansion as efforts to target foreign markets and gain access to suppliers or customers in different countries by establishing business infrastructures in the form of either creating foreign language specific website operation or foreign subsidiaries to target customers and/or access suppliers in foreign countries. Such efforts represent substantial strategic commitments to internationalize
and are important steps toward internationalization (Johanson & Vahlne, 1990; Andersen, 1993). We define e-commerce firms as companies selling products or services exclusively through websites, which distinguishes them from traditional bricks-and-mortar firms (e.g., Rayport, 1999; Afuah & Tucci, 2001; Park & Mezias, 2003). While organizational scholars have investigated contingent outcomes of strategic actions (e.g., Aldrich, 1979; Boyd, 1990; Gulati & Higgins, 2003), we build on this research by investigating how dramatic environmental differences affect strategic outcomes, especially how home-country munificence affects international expansion efforts.

Despite the importance of internationalization, few studies investigate outcomes of international expansion by e-commerce firms. We address this void by analyzing 214 international expansions of 42 e-commerce firms in the United States (U.S.) from 1/1/1995 to 12/31/2001. We examine how dramatically different periods of resource munificence, demarcated by the abrupt technology crash, affect stock market responses to international expansion. We also investigate how home-country munificence moderates outcomes of international expansion in terms of cultural distance and entry mode choices. Unlike previous international expansion studies that investigated traditional, bricks-and-mortar firms and host-country environmental conditions, this study explicitly examines effects of home-country munificence on international expansion in the nascent e-commerce sector. Investigating this new context enables testing if international expansion by e-commerce firms yield results consistent with theories developed in the bricks-and-mortar context.

Our study contributes to environmental munificence research by examining effects of resource munificence on outcomes of international expansion. Prior studies investigated how environmental munificence affects firm-level reconfiguration, such as strategic diversity (Brittain & Freeman, 1980), growth and survival (Randolph & Dess, 1984), strategic changes (Koberg, 1987; Yasai-Ardekani, 1989), rationality of decision making (Goll & Rasheed, 1997), domestic alliances (Park & Mezias, 2002), and product diversification (Wan & Hoskisson, 2003). However, previous research has not examined how home-country munificence affects international expansion of e-commerce firms. Our study expands the scope of international research by utilizing a natural experiment method. Despite great potential of natural
experiments to enhance understanding of international management, researchers rarely employ this method. The sudden tech sector crash provides an ideal opportunity to conduct a natural experiment investigating how dramatically different environmental munificence levels influence international expansion. The ensuing section discusses how dramatically different munificence levels create two distinct time periods in the e-commerce sector.

ENVIRONMENTAL MUNIFICENCE OF THE E-COMMERCE SECTOR

Emerging Internet technology fueled aggressive investments and it generated generous government-funded research and development (R&D), which all provided enormous potential for new business in the emerging e-commerce sector. For example, venture capitalists devoted more than 25% of disbursements to e-commerce startups (Zider, 1998). From 1995 to early 2000, government funding provided important financial resources to startups prior to initial public offerings (IPOs). Favorable labor markets and credit terms also helped increase e-commerce resource munificence during this period (De Figueiredo, 2001). Many executives left bricks-and-mortar industries to join e-commerce start-ups while suppliers provided generous contract terms to establish business relationships in this emerging sector (Mandel, 2001). Most e-commerce firms experienced favorable stock market evaluations as early as their IPOs. In fact, the most successful IPOs in NASDAQ history occurred in the e-commerce sector during 1998 – 93% traded higher than offering prices, with the top three generating an amazing 990% average price increase (Plant, 2000).

Besides unusually successful IPOs, the NASDAQ experienced substantial and sustained increases from 1995 to early 2000. Most e-commerce stocks increased nearly 100% from 1998-1999, capping a five-year gain of 1,100% (De Figueiredo, 2001), which greatly increased available resources. Enticing stock options helped attract and retain quality personnel despite relatively small base salaries (Mandel, 2001). Highly valued equity allowed e-commerce firms to acquire or merge with other firms, which facilitated rapid infrastructure development (De Figueiredo, 2001). Favorable valuation yielded better credit ratings, which improved debt-financing capabilities. Such financial flexibility funded massive
marketing campaigns. This resource munificence dramatically enhanced financial capabilities, brand awareness, reputation, and legitimacy of e-commerce firms.

An unusually sudden and sustained downturn in resource availability followed this munificent period when developing skepticism about this sector’s potential rapidly solidified among investors, suppliers, buyers, and employees causing an abrupt crash on March 11, 2000. A week after this frenzied selling of e-commerce stocks, the NASDAQ market index declined nearly 10% and within a month it sank about 30%. Five months into this decline, the NASDAQ index dropped from a high of 5048 to below 3100 points and closed 2001 at 1950. These steady and dramatic declines significantly drained resources and reduced e-commerce legitimacy (e.g., Agrawal et al., 2001). Skeptical investors made fewer investments and financial institutions and suppliers lost confidence and tightened credit. Declining stock prices prevented e-commerce firms from completing acquisitions and made stock options less enticing, which caused many employees to leave the sector (Mandel, 2001). This widespread loss of confidence lasted several years, made resource acquisition much more challenging, and significantly reduced sector munificence creating a fundamentally different environment for e-commerce firms.

Other economic indicators also depict this dramatic shift in e-commerce munificence. As Table 1 shows, e-commerce bankruptcy filings, IPO performance, and sector specific stock indexes – Morgan Stanley (MS) e-commerce index, Goldman Sachs Technology Industry (GSTI) Internet Index, and Dow Jones Internet Commerce (DJIC) Index – all confirm this dramatic change in munificence from 1995-2001. Overall, the e-commerce sector experienced a remarkable munificence pattern: high and relatively sustained munificence until March 2000 followed by a sudden and sustained decline in munificence. This stark contrast between high and low munificence periods during 1995-2001 provides a unique opportunity to examine how dramatically different munificence levels affect strategic outcomes. We examine how domestic munificence influences stock market reactions to various international expansion strategies of e-commerce firms.

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International Expansion of E-Commerce Firms

Environmental Munificence

Major innovations in information technology are fundamentally changing the way business is conducted. Despite the technology sector crash in March 2000, de la Torre & Moxon (2001) argued that this technological revolution could fundamentally change the way MNCs configure global businesses by minimizing effects of distance and geography. This implies that minimized influences of distance and geography may increase the relative importance of home-country munificence as a determinant of firm performance. Acquiring raw materials, capital, and labor requires environmental interactions (Starbuck, 1976; Hannan & Freeman, 1977; Aldrich, 1979), and resource availability influences strategic decision-making (e.g., Bourgeois, 1981; Wan & Hoskisson, 2003). As such, munificence significantly affects survival, growth, strategic choices and performance (Castrogiovanni, 1991; Rajagopalan et al., 1993). Rajagopalan et al. (1993) argued that munificent environments, such as high growth industries significantly differ from less munificent environments, such as mature industries with declining growth. Wan & Hoskisson (2003) found that product diversification is negatively related to performance in more munificent environments.

Low munificence levels adversely affect firms by increasing competition for dwindling resources. Firms devote greater attention to understanding and mastering threats in less munificent environments (Khandwalla, 1973). Koberg (1987) discovered that changes in munificence lead to frequent administrative, personnel, and strategic changes in educational institutions. Yasai-Ardekani (1989) found that firms often change structures to respond to low munificence. Staw & Szwajkowski (1975) reported that firms operating in less munificent environments are more likely to commit illegal acts. While these studies demonstrate the impact of munificence, few empirical studies investigate effects of home-country munificence on international expansion.

Home-country munificence may significantly affect international expansion for several reasons. First, munificence likely affects internationalization efforts because it affects resource availability and
expansion decisions (Dess & Beard, 1984). International expansion require firms to make significant resource commitments in hopes of obtaining critical resources in foreign countries (e.g., Kogut, 1989; Hennart, 1991). Therefore, munificence levels affect firms’ willingness to expand their business scope, but also to seek resources outside of their home environment (Das & Teng, 1998; Gulati, 1998; Luo, 2001a). Second, since resource dependencies influence both firm strategy and stakeholder evaluation of that strategy (Pfeffer & Salancik, 1978), home-country munificence likely affects the relative value of internationalization efforts to pursue foreign resources.

Munificence levels likely alter the relationship between international expansion and their outcomes because firms with abundant resources are less concerned with uncertainty and face less competition. Munificence allows firms to easily acquire resources and reduce resource dependencies (e.g., Pfeffer & Salancik, 1978). Therefore, a munificent domestic environment, rather than competitive advantage, may drive internationalization efforts of e-commerce firms. E-commerce firms depend less on physical infrastructure to replicate their business models than bricks-and-mortar firms do, so international expansion may be a less risky way of accessing foreign resources. Internationalization efforts may increase access to new customers, which are critical to young e-commerce firms. However, in munificent home-country environments, resource availability likely decreases the marginal value of accessing foreign resources. So stakeholders may not value international expansion because of it generates significant transaction costs such as partner search, relationship maintenance, and host-country monitoring (Hennart, 1988; 1991).

However, in less munificent environments, resource acquisition becomes more difficult and competition for resources intensifies resource dependencies (Pfeffer & Salancik, 1978; Dess & Beard, 1984; Yasai-Ardekani, 1989). For example, investors often limit or cancel investments in firms facing hostile environmental conditions (Zider, 1998). When facing harsh conditions, stakeholders appreciate strategies that either cope with resource dependencies or access new customer bases (Aiken & Hage, 1968; Pfeffer & Nowak, 1976; Katz & Shapiro, 1985; Oliver, 1990). International expansion often allow firms to access new sources of critical resources, such as new customer bases, which are especially
important for e-commerce success. When munificence is low, firms may consider international expansion more favorably because potential to reduce resource dependencies likely outweighs transaction cost concerns. A less munificent home-country environment may increase managerial commitment, effort, and willingness to develop better relationships with international partners (Luo, 2001a). Accordingly, investors more likely view international expansion of e-commerce firms favorably in less munificent environments.

Hypothesis 1 (H1): International expansion of e-commerce firms may result in higher abnormal stock returns when home-country environmental munificence is low rather than high.

International Expansion Strategies

Internationalization research demonstrated that firms with greater international presence have more stable returns (e.g., Caves, 1996) and tend to be more profitable (e.g., Geringer, Beamish, & daCosta, 1989; Tallman & Li, 1996). Although Internet technology provides international reach, international expansion strategies are likely to benefit e-commerce firms in various ways. First, e-commerce firms building large installed customer bases are more likely to trigger increasing returns or winner-take-all mechanisms (Arthur, 1994). E-commerce firms tried to establish a first mover advantage by increasing customer base at the expense of initial profits (Evans & Wurster, 1999), and this quest for increasing returns drove many e-commerce firms to spend excessively on advertising. International expansion represents another strategy for increasing customer base and it may create a significant momentum toward accessing additional foreign customers. Second, besides attracting international customers, international expansion may also help e-commerce firms access more resources, increase brand awareness, and broaden the pool of potential stakeholders (Kotha, Rindova, & Rothaermel, 2001).

There are various modes of international expansions: Collaborative modes include joint ventures and alliances while solitary modes include wholly owned or greenfield investments. Much research has shown that entry mode choice affects the extent to which firms benefit from international expansion (e.g., Kogut, 1988; Hennart, 1991; Agarwal & Ramaswami, 1992; Kim & Hwang, 1992). However, little is known about how entry mode choice affects outcomes of international expansion by e-commerce firms.
Stock market participants may evaluate more favorably international expansion of e-commerce firms using collaborative expansion modes rather than modes that are more solitary. First, consistent with the virtual nature of e-commerce, collaborative modes require less development and management of physical business infrastructures, especially abroad (Kogut & Singh, 1988; Hennart, 1988, 1991; Johanson & Vahlne, 1990). Second, collaborative modes generally increase the speed of market penetration, which could help e-commerce firms either access competitors’ customers or gain early mover advantages in target countries (e.g., Merchant & Schendel, 2000). These expected benefits are especially important for e-commerce firms trying to increase their customer bases and trigger increasing returns mechanisms as early as possible. Third, collaborative modes facilitate local adaptation, especially if the partner is local, or has experience operating in the host-country (e.g., Haddad & Harrison, 1993). Quicker local adaptation helps relatively nascent firms avoid liabilities of foreignness (Zaheer 1996; Mezias 2002). These arguments suggest investors would respond more favorably to e-commerce firms using collaborative mode of international expansion.

Hypothesis 2 (H2): International expansion of e-commerce firms using collaborative modes result in higher abnormal stock returns than those using wholly owned strategies.

Cultural Distance

Cultural distance is widely used for determining entry mode choices and their outcomes. Kogut & Singh’s (1988) cultural distance index developed from Hofstede’s (1980) country culture measures allowed many studies to investigate effects of cultural distance in international management research. Cultural distance increases information requirements and challenges facing foreign investors because differences in values, customs, and behaviors between home and host countries affect implementation, operation, and outcomes of international business (e.g., Kogut & Singh, 1988; Johanson & Vahlne, 1990). For example, cultural distance limited capability to generate rents when entering new countries (e.g.,

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1 We recognize Hofstede’s measures are not universal accepted due to methodological weaknesses and biases (e.g., Mezias, et. al. 2002; Brothers and Brothers, 2001). However, validated in previous studies, these measures remain the most widely accepted available measures. Although Hofstede added a fifth dimension of Confucian dynamism, we were unable to incorporate this dimension because measures are not available for a majority of our target countries.
Chang, 1995) and U.S. subsidiaries of culturally dissimilar foreign partners were more likely to fail in the U.S. (e.g., Li & Guisinger, 1991). This theoretical and empirical research has consistently suggested that cultural distance hinders performance of international expansions, leading investors to prefer international expansion to countries with similar cultures (e.g., Brouthers & Brouthers, 2001; Shenkar, 2001).

Following this well-developed argument, we hypothesize:

*Hypothesis 3 (H3): International expansion of e-commerce firms into more culturally similar countries may result in higher abnormal stock returns than those into culturally dissimilar countries.*

**Environmental Munificence and International Expansion Strategies**

While many researchers have examined contingent effects of environmental conditions, examining how munificence may moderate the relationship between entry mode choices and outcomes of international expansion has received less attention. An early investigation by McArthur & Nystrom (1991) found that munificence levels modified the strength of the relationship between corporate strategies and performance. Recently researchers examined interaction effects of munificence and other strategic actions in the international context (Wan & Hoskisson, 2003), and with respect to alliance strategies of e-commerce firms (Park & Mezias, 2003). Extending this recent research stream, we explore if environmental munificence moderates the relationship between international expansion strategies and their outcomes. Specifically, we argue for an interaction effect between munificence level and international entry mode.

As mentioned, while international expansion of e-commerce firms using collaborative modes may receive more favorable evaluations compared to solitary modes, the value of collaborative modes will increase significantly when munificence is low. The role of foreign partners becomes more important when e-commerce firms need to access foreign resources. Foreign partners can help e-commerce firms access foreign customers and minimize set-up costs. Furthermore, collaborative modes of international expansion afford quicker local adaptation, which is especially important for managing international expansion (Mezias, 2002). Quick adaptation facilitates rapid access to host-country resources and a larger customer base, which could trigger increasing returns mechanism (Arthur, 1994; Evans & Wurster, 1999).
Thus, when environmental munificence is low, the stock market likely responds favorably when an e-commerce firm chooses a collaborative international expansion mode.

*Hypothesis 4 (H4): When environmental munificence is low, international expansion of e-commerce firms utilizing collaborative modes may result in higher abnormal stock returns than those utilizing wholly owned strategies.*

**Cultural Distance and International Expansion Strategies**

Kogut & Singh (1988) found that greater cultural distance between home- and host-countries encouraged firms to use joint ventures rather than wholly owned investments or acquisitions to bridge cultural gaps. This well-developed argument suggests using collaborative entry modes allows local partners to handle culturally sensitive tasks, such as managing foreign employees and negotiating with local governments, suppliers, and customers (Stopford & Wells, 1972; Kogut & Singh, 1988; Kim & Hwank, 1992; Erramilli & Roa, 1993; Jones & Shill, 1993; Hennart & Larimo, 1998; Brouthers & Brouthers, 2001). Although there are a few studies with insignificant or alternative findings (e.g., Larimo, 1993), we hypothesize that the predominant argument for cultural distance will apply to our sample of e-commerce firms:

*Hypothesis 5 (H5): When cultural distance is large, international expansion of e-commerce firms utilizing collaborative modes may result in higher abnormal stock returns than those utilizing wholly owned strategies.*

**Environmental Munificence, Cultural Distance, and International Expansion Strategies**

Shenkar’s (2001) review of cultural distance research specifically noted that home- and host-country effects are substantially different. Although we specifically incorporate measures of both home- and host-country effects into our research design, there is reason to believe that a three-way interaction among environmental munificence, cultural distance, and international expansion strategy would provide a multiplicative effect on entry mode selection. As argued above, when environmental munificence levels are low, investors prefer collaborative entry modes (H4). In addition, when cultural distance is large, investors prefer collaborative entry modes (H5). To avoid repetition, we simply combine arguments for hypotheses 4 and 5 and hypothesize:
Hypothesis 6 (H6): When environmental munificence is low and cultural distance is large, international expansion of e-commerce firms utilizing collaborative modes may result in higher abnormal stock returns than those utilizing wholly owned strategies.

DATA, STATISTICAL METHODS, AND MEASURES

Data

We collected data on 284 international expansion announcements of 47 e-commerce firms from 1995 to 2001. To better distinguish these firms from traditional bricks-and-mortar firms, we define e-commerce firms as companies selling products or services exclusively through websites, (e.g., Rayport, 1999; Afuah & Tucci, 2001). Based on stock price availability, we selected firms from the DJIC, MS E-commerce, GSTI Internet, and Bloomberg E-commerce indexes, as well as e-commerce firm listings from Yahoo, AOL, and other published sources. Our observation period starts with the first e-commerce IPO, which was AOL.com on January 3, 1995. The number of international expansions per firm ranges from 1 to 24 with more occurring later in our study period.

Only international expansion announcements containing accurate and detailed information about date, target country(ies), entry mode, partner information, and duration were included. We excluded e-commerce firms that have bricks-and-mortar sales. For instance, we excluded Dell Computers and 800flowers.com because they have telephone or retail sales. To control for potential confounding effects, our sample does not include any international expansion announcements coinciding with other firm-specific announcements such as profit statements, executive turnover, large investment decisions, alliances, and mergers or acquisitions (for a review of confounding events see McWilliams & Siegel, 1997; Park, 2004). However, we included announcements missing information or coinciding with other firm-specific events to calculate number of previous international expansions. After meeting these conditions, the final sample contains 214 international expansions by 42 e-commerce firms.

International expansion announcements and firm-specific confounding events information came from four major publications via the Lexis/Nexis database: The Wall Street Journal, New York Times, PR Newswire, and Business Wire, which together provide an almost comprehensive report of e-commerce
business events (e.g., Das et al., 1998). The FactSet database, used by most investment banks, provided daily stock-returns, market index returns, and e-commerce index returns. Industrial publications, SEC filings, and annual reports provided control variable data.

**Statistical Methods**

We employed both an event study method and regression analyses. The event study method, commonly used to examine financial implications of corporate events (MacKinlay, 1997; McWilliams & Siegel, 1997), measures abnormal stock returns. While some analysts describe the dramatic stock market changes of the last few years as unique, others showed that major technology innovation and entrepreneurial spirit often fuel stock market optimism and subsequent declines (Lowry & Schwert, 2002). In particular, Fama (1998) showed that event studies using short event windows are not sensitive to unusual anomalies, and recent mainstream finance research uses the event study method to investigate stock market response to the e-commerce sector (e.g., Ljungqvist & Wilhelm, 2002).

We use a regression analysis to investigate effects of environmental munificence while controlling for several firm characteristics. Since the data include multiple international expansions of focal firms over a seven-year period, autocorrelation, heteroskedasticity, and unobservable firm-specific factors may bias coefficient estimates (Greene, 2000). We use the Durbin-Watson and Breusch-Pagan tests to check for autocorrelation and heteroskedasticity, respectively (Kennedy, 1998) and these tests indicate that our regression results are not subject to autocorrelation and heteroskedasticity. Unobservable firm features, such as firm capabilities to engage in international expansions, might also influence results (e.g., Barney & Zajac, 1994). Using either a fixed or a random effects specification can control for unobservable firm effects (Kennedy, 1998). We report results with random effects because the sample is not a complete population and the Hausman test favors the random effect model specification (Greene, 2000). The regression model includes explanatory variables, interaction terms, and control variables. We used the mean centering technique to reduce correlation among interaction terms without affecting coefficient estimates, which transforms data into deviation scores with means equal to zero (Aiken & West, 1991).
Dependent Variable

Stuart, Hoang, & Hybels (1999) argued that high levels of uncertainty associated with entrepreneurial ventures make perceived performance operationalized in stock market value a particularly appropriate performance measure of entrepreneurial strategies. Because entrepreneurial firms possess few tangible assets and often have negative earnings and even negative book values, traditional accounting measures (ROI, ROA, or Tobin’s q) are often unavailable or inappropriate. Thus, we measure outcomes of international expansion using cumulative abnormal stock returns (CAR) during an event window of three days surrounding international expansion announcements. CAR are the sum of daily percentage stock price changes after adjusting for general stock market movements and a focal firm’s systematic risk, for each day in an event window (e.g., Das et al., 1998; Reuer, 2001; Park, 2004). The dynamic e-commerce sector argues for a short event window, albeit long enough to account for information leakage and transitory delays (McWilliams & Siegel, 1997). The short event window of day –1 to +1 is common for investigating alliance announcements (e.g., Koh & Venkatraman, 1991; Das et al., 1998; Park, Mezias, & Song, 2004), divestments (Cinebell & Cinebell, 1994), acquisitions (Shelton, 1988), and diversification (Nayyar, 1993). Day 0 is the first day the market could respond to an international expansion announcement. For announcements made after trading hours, we adjusted day 0 accordingly. If multiple announcements appeared for the same international expansion, day 0 was the earliest announcement date. Residuals from a market model helped yield predicted stock returns that we subsequently used to estimate abnormal stock returns surrounding international expansion announcements.

Explanatory Variables

Environmental munificence While some studies operationalized environmental munificence with continuous variables, such as industry growth rate, sales, price-cost margin, and total employment (e.g., Dess & Beard, 1984; Goll & Rasheed, 1997), the newness of the e-commerce sector prohibits collection of reliable data for these variables. To reflect properly the pattern of environmental munificence in the e-commerce sector, we operationalized munificence using a dummy variable coding the more munificent time-period prior to March 2000 as 0 and the less munificent time-period from March 2000 as 1. This
operationalization corresponds to the timing of the environmental jolt in the technology sector occurring on March 11, 2000. While this dummy variable coding is parsimonious, it appropriately reflects the dramatic change in munificence facing e-commerce firms. Other studies used such dichotomous measures of environmental munificence. For instance, Wan & Hoskisson (2003) divided European countries into high and low munificence environments when examining the impact of munificence on diversification performance and validated their dichotomous distinction by using mean-difference tests on critical environmental factors. We took several steps to validate our operationalization of munificence. First, we conducted mean-difference tests for the two periods of munificence and found significant differences between the e-commerce environment before and after March 2000. Second, because entrepreneurial studies used stock market indexes, bankruptcy rates, and IPO decisions to measure environmental conditions (Stuart et al., 1999; Certo et al., 2001), we investigated various indicators of the e-commerce environment including Internet sector indexes, bankruptcies, IPOs, and the NASDAQ stock market. For each indicator, we found that all mean-difference tests significantly distinguish the e-commerce environment before and after March 2000 (see Table 1). Lastly, following previous studies (e.g., Castrogiovanni, 1991; Chen et al., 1992), we gathered expert judgment to triangulate this measure by conducting telephone and face-to-face interviews with eight e-commerce experts, including three executives, two e-commerce sector analysts, and three academic experts. These experts consistently agreed that e-commerce munificence fundamentally changed in March 2000. These additional procedures help ensure the validity of the environmental munificence measure.

Cultural Distance  Following Kogut & Singh (1988), we used Hofstede’s (1980) measures of culture to assess cultural distance between the U.S. (all sample firms are from the U.S.) and the target countries of a focal firms’ internationalization efforts. We recognize that Hofstede’s measures are not universally accepted and contain some methodological weaknesses and biases (e.g., Mezias, et. al. 2002; Brothers & Brothers, 2001). However, validated in previous studies, these measures remain the most widely accepted, available measures of culture. Although Hofstede added a fifth dimension of Confucian dynamism, we were unable to incorporate this dimension because measures are not available for a
majority of our target countries. Assessing cultural distance using Kogut & Singh’s index is straightforward, except when a firm internationalizes into more than one country. For these cases, we followed the methodology used by Yeheskel, Zeira, Shenkar, & Newburry (2001) and averaged the cultural distance for all target countries of a specific international expansion to obtain a single cultural distance measure for that specific event. In a few cases, firms may target a region, which includes a country that does not have any cultural measures available. In these cases, we averaged the cultural distance for all available countries in the region. We used a dummy variable to identify and track each of these cases, and our sensitivity tests indicate that using the Yeheskel et al., (2001) coding procedure did not affect our findings.

International Expansion Using Collaborative Mode We classified international expansion strategies by entry mode: Alliances, joint ventures, wholly-owned subsidiaries, greenfield investments, mergers, and acquisitions. The 39 greenfield investments, 4 mergers, and 8 acquisitions represent wholly owned entry mode strategies. The 128 alliances and 35 joint ventures represent collaborative entry mode strategies. We operationalized collaborative entry mode by coding a dummy variable as 1 for joint ventures and alliances and 0 for wholly-owned expansion strategies. We checked the sensitivity of our entry mode classification scheme by conducting additional analyses, first excluding joint ventures and then assigning separate dummy variables for alliances and joint ventures in turn. Results were not sensitive to these treatments of entry mode classifications. Thus, following previous studies (e.g., Hennart, 1991), we collapsed alliances and joint ventures into one category of the collaborating mode. The same sensitivity procedures indicated we could collapse all wholly-owned entry modes into one category as well. Several sources including international expansion announcements, stock analysis sites (e.g., www.marketwatch.com), press releases, and SEC filings provided information about partners.

Control Variables

Although we offer no substantive hypotheses for these variables, it is important to control for factors that likely affect stock market response to rule out alternative explanations for CAR. Managerial learning from previous international expansions may increase benefits of current international expansions.
(e.g., Anand & Khanna, 2000). However, strategic activities such as international expansion increase coordination costs and reduce strategic flexibility (e.g., Gulati & Singh, 1998). Therefore, a focal firm’s previous international expansions may affect stock market response to future international expansions. We measured a focal firm’s previous international expansions by summing all international expansions from its founding date to one day prior to the focal announcement date, which avoids left censoring and controls for its entire international expansion history.

Firm age significantly influences capabilities to cope with international expansions, survival, profitability, and exposure to liabilities of foreignness (e.g., Autio et al., 2000; Mezias, 2002). Following prior studies in entrepreneurial sectors (e.g., Kotha et al., 2001), we measure firm age using the number of days from a focal firm’s IPO to one day prior to international expansion announcements. Additional analyses confirmed that using number of days from a firm’s founding date did not alter regression results. Previous studies found that firm size significantly influences stock market response to announcements of strategic actions (e.g., Koh & Venkatraman, 1991; Chan et al., 1997; Das et al., 1998) and that smaller MNCs were more likely to share equity of affiliates (Larimo, 1993). Accordingly, we measure firm size using a logarithm of quarterly market capitalization value.

Increasingly researchers call for controlling for effects of a firm’s business model (Afuah & Tucci, 2001; Amit & Zott 2001; Hitt, Ireland, Camp, & Sexton 2001; 2002). Hitt, Ireland, Camp, & Sexton (2001; 2002) argued that business models are especially important when analyzing entrepreneurial firms because its strategic nature differentiates stakeholder transactions and relationships. Amit & Zott (2001) asserted that business models strongly affect value creation because these control content, structures, and governance systems. Heeding these calls, we control for how different business models affect value creation of e-commerce firms engaging in international expansions. Utilizing the primary distinction between e-commerce business models: business to business (B2B) versus business to consumer (B2C), we code the business model dummy variable 1 when the focal firm utilizes a B2C business model and 0 when it utilizes a B2B business model.
Some early studies of international expansion observed that R&D and advertising intensity had significant effects on stock market reaction (e.g., Morck & Yeung, 1992), and R&D intensity had significant effects on entry mode choice (Gatignon & Anderson, 1988; Gomes-Casseres, 1989). These studies indicate the importance of these variables so we control for these measures. We measure R&D and advertising intensities using firms’ R&D and advertising spending divided by their total assets (Morck & Yeung, 1992). Additionally, we track the number of countries the internationalizing firm targets to control for effects related to scope of international expansion.

**RESULTS**

Table 2 presents statistics on the average abnormal stock returns, measured as the CAR over three trading days from day –1 to day +1 (CAR\(_{1,+1}\)), is +1.46%, significantly different from zero (z=2.78, p < .01), and far from trivial in practice. We used average standardized returns to check the significance of CAR\(_{1,+1}\) (Brown & Warner, 1985). The CAR\(_{1,+1}\) is greater in magnitude than that reported in several previous event studies of strategic actions: +0.60% to +1.20% (Woolridge & Snow, 1990; Koh & Venkatraman, 1991; Chan et al., 1997; Das et al., 1998; Anand & Khanna, 2000). The correlations among explanatory variables are not particularly high except correlations between a few control variables. As expected, the correlation between firm age and size was moderately high and significant. Thus, we conducted additional analyses by entering or dropping some control variables sequentially to confirm that multicollinearity did not threaten coefficient estimates.

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Table 3 presents multiple regression results with random firm effects. Model 1 reports control variables and there is a significant effect of previous international expansion. This negative impact may be significant because most e-commerce firms are young, and have yet to accumulate organizational capabilities prior to international expansion. Thus, the stock market may evaluate unfavorably aggressive international expansion by young entrepreneurial firms. Firm age was not significant, a result that may
stems from low variance in firm age in this emerging sector. Consistent with prior research, firm size is significant \((p < .01)\) and negatively associated with abnormal stock returns (e.g., Koh & Venkatraman, 1991; Reuer, 2001). This implies that the stock market responds more favorably to international expansion of smaller rather than larger e-commerce firms. Surprisingly, R&D and marketing intensity did not affect outcomes of international expansions, a finding that seems to contradict results from previous studies (e.g., Morck & Yeung, 1992). This implies that market participants may view e-commerce firms as too young to accumulate those critical capabilities yet. Model 1 also shows that international expansion of B2C firms and the number of target countries in international expansion did not significantly affect outcomes.

Model 2 includes the main explanatory variables. As predicted, home-country environmental munificence significantly affects outcomes of international expansion \((.05\) level). Specifically, when munificence is low and resources become scarce, international expansion may represent a speedy way to access foreign customer bases or resources. Expanding internationally may signal that an e-commerce firm is more rigorous and reliable. This signaling, and the likelihood that international expansion facilitates foreign resource acquisition, created higher abnormal stock returns for international expansion when munificence was low. Thus, H1 is supported. Model 2 also shows that in general, e-commerce firms using collaborative modes for international expansion created greater abnormal returns than those using wholly-owned entry strategies. This implies that market participants believe nascent e-commerce firms are better off collaborating to enter foreign markets. The positive and significant coefficient \((p < .05)\) of international expansion using collaborative modes confirms H2. However, unlike most previous studies, the cultural distance variable is not significant and H3 is not supported. This implies that the main effect of cultural distance is not as critical as it is in traditional industries.

Model 3 includes the two two-way interaction variables among environmental munificence, international expansions, and cultural distance. As predicted, the coefficient of the interaction term between munificence and entry mode is positive and significant \((p < .05)\) and supports H4. This result indicates that market participants value international expansion utilizing collaborative modes when home-
country munificence is low and the value of international expansion using collaborative modes increases as resources become scarcer. However, Model 3 does support H5: there is no significant interaction effect between cultural distance and international expansion using collaborative mode. This result contradicts most previous international management research because cultural distance does not moderate the relationship between entry mode and its outcomes. Perhaps the effect of cultural distance becomes less significant in the e-commerce sector or its effect diminishes when home-country conditions are considered simultaneously.

Model 4 adds the three-way interactions among environmental munificence, international expansion using collaboration mode, and cultural distance. Including the last two-way interaction term between munificence and cultural distance is a prerequisite for testing the three-way interaction (Aiken & West, 1991). While the two-way interaction between munificence and cultural distance had no significant influence on abnormal returns, the three-way interaction term is significantly associated with abnormal returns ($p < .05$), supporting H6. Furthermore, R-square increases significantly, from 0.13 to 0.17 ($F (2, 199) = 2.09, p < .05$). This result implies that when munificence is low and cultural distance is high, e-commerce firms are better off choosing collaborative modes for international expansion.

**Robustness checks**

We conducted additional analyses to check the robustness of our findings. First, although the Hausman test results favored using random firm effect, we also conducted regression analyses with fixed firm effects. The coefficients and standard errors for main and interaction effects remained consistent in the fixed firm effect models. Including firm dummy variables significantly increased the model’s explanatory power, but we report the more conservative results from the random firm effects models.

Second, we conducted the same analyses excluding observations from February 2000 to April 2000 when the stock market experienced unusual market movements to ensure that these movements do not drive analysis outcomes. Although all indexes showed significant and sharp changes based on the March 2000 demarcation, we conducted additional analyses by lagging this turning point date by one and
two months. These additional analyses created no significant differences in results except for slight changes in coefficients and marginal increases in significance levels of environmental munificence.

Third, while there were only 35 joint ventures in our sample, we also checked whether the amount of equity exchanged between e-commerce partners significantly influenced our result. Including an additional variable of equity amount exchanged between partners, measured as either percentage of equity investment by partners or absolute dollar amount of equity invested by partners, did not alter our results. For the sake of efficiency and parsimonious results, we did not include this additional variable. We conducted additional analyses by assigning separate dummy variables for mergers and acquisitions. However, results were not significant for these additional variables maybe due to the small number of these events.

Lastly, we checked the sensitivity of the event window length. While the three-day event window is consistent with most event studies, results indicated a clear positive impact on announcement date (day 0) with minor impacts on day –1 and day +1. Conducting the analyses with event window lengths of just one day (day 0) and two days (day –1 to day 0 or day 0 to day +1) confirmed reported results except for slight differences in coefficients and standard errors of main and interaction variables.

**DISCUSSION AND CONCLUSIONS**

Our study bridges research on environmental munificence and international expansion. International management research has investigated effects of international expansions, cultural distance, previous international experience, host-country environmental conditions, but has largely ignored the role of home-country environmental conditions. Previous studies investigated how munificence affects outcomes of various strategic actions, such as decision-making process, new market entry, and structural change (e.g., Goll & Rasheed, 1997), but there is a paucity of research investigating international expansion strategies, especially of e-commerce firms. Our study unites these two research streams by examining how home-country munificence and entry mode affect stock market response to international
expansion of e-commerce firms. We also investigate how munificence, cultural distance, and entry mode interact to moderate the relationship between international expansion and stock market response.

Our study provides empirical support for the importance of home-country munificence and its moderating effects on stock market response to international expansion of e-commerce firms. It demonstrates that international expansion initiated when home-country munificence was low created higher abnormal stock returns than those initiated when munificence was high. While international expansion of e-commerce firms using collaborative modes usually received a more favorable stock market response, this response was further enhanced when the home-country environment is less munificent. While firms depend on their environment for resources and take cooperative actions to cope with dependency (Pfeffer & Salancik, 1978), munificence affects not only level of dependence, but also magnitude of benefits derived from international expansion. Indeed, Luo (2001b) found that MNCs decrease equity shares in international joint ventures when ventures face dynamic environmental conditions.

Unlike previous studies, we find that cultural distance does not directly affect outcomes of international expansion in the new e-commerce sector. This finding may imply that cultural distance may not be as critical as it is in traditional bricks-and-mortar industries. However, our research clearly shows that when munificence is low and cultural distance is large, e-commerce firms are better off choosing collaborative modes for international expansion. The significant effects of the interaction terms between cultural distance and munificence suggest that researchers may need to incorporate a moderating or mediating term to understand detailed effects of cultural distance in future studies. Unlike most international management studies investigating effects of host country conditions, our study clearly illustrates that home-country conditions affect outcomes of international expansion. This finding is meaningful for researchers investigating MNCs operating in markets with fundamentally different environmental conditions (e.g., Delios & Beamish, 2001).

Our study also extends empirical work on international expansion beyond traditional bricks-and-mortar sectors, which helps assess generalizability and contingencies of existing theories. Our findings
suggest that predominant findings from studies in bricks-and-mortar industries with respect to international expansion, environmental munificence, cultural distance, and international experience may require slight modification. One modification is that previous experience was not positively associated with higher abnormal returns. Our results shed light on performance implications of strategic actions by entrepreneurial firms. Perhaps when foreign resource acquisition motivates internationalization, having existing foreign operations reduces the marginal value of new initiatives designed to attract foreign resources. Another modification may be about the role of cultural distance. While most previous studies find a significant influence of cultural distance (e.g., Brouthers & Brouthers, 2001; Shenkar, 2001), this variable may have less impact in the new e-commerce sector. However, the role of cultural distance became significant when it interacted with munificence and entry mode. This interaction effect, coupled with a significant direct effect of munificence, suggests that although international management researchers largely ignored home-country environmental conditions, such measures should be included in models of international expansion. Further research could help determine if our results are driven by sector differences or by factors specific to early stages of an emerging sector’s life cycle.

From a managerial standpoint, this research indicates that environmental conditions matter to firms expanding internationally. Miles & Snow (1978) articulated how managers make strategic decisions that simultaneously involve technology, structure, and process. Our results suggest that managers must also account for environmental conditions when dealing with critical strategic issues. Although managers in emerging sectors may obtain resources, business knowledge, and legitimacy from international expansions, such benefits depend on environmental conditions in both host and home countries. In particular, environmental jolts like the technology sector crash in the U.S. can create distinctively different environmental conditions that subsequently change outcomes of strategic actions. Sectors with limited resources increase the need for firms to coordinate strategic actions beyond the firm level. However, international expansion is more complicated and the level of environmental munificence strongly affects outcomes. In this regard, we think our study provides some practical guidance for e-
commerce firms about the relationship among home-country environmental conditions, international expansion, entry modes, and their outcomes.

**Future Research**

Our study generates a number of potentially meaningful directions for future research. The newness of the e-commerce sector limited the ability to use continuous variables to measure changes in environmental munificence since reliable sector-level data are not yet available. However, this sector’s unique pattern of munificence: a period of extremely optimistic attitudes followed by an environmental jolt that suddenly changed resource availability is ideal to operationalize munificence parsimoniously. Despite sector differences, other studies could benefit from replicating this study in traditional industries using industry-level data and continuous variables to measure environmental munificence. Such investigations would expand and refine our knowledge of the impact of home-country conditions on international expansion.

Researchers may classify business environments into various dimensions, such as munificence, dynamism, complexity, and uncertainty (Dess & Beard, 1984), and some dimensions are sub-divided (Castrogiovanni, 1991; Sutcliffe & Zaheer, 1998). Each may constitute a critical environmental condition that affects or moderates strategic actions. For example, Simerly & Li (2000) found that environmental dynamism significantly affects corporate capital structures and the fit between dynamism and capital structure is associated with superior economic performance. Although this research focuses on munificence, our results suggest that international management research incorporate other environmental dimensions.

We assessed stock market response to international expansion announcements, which limits analyses to publicly held firms in post IPO periods. This limitation applies to all event studies. However, future studies may examine other aspects of corporate performance in entrepreneurial sectors, such as growth, profitability, business survival, and wealth creation. Future studies may also investigate the
impact of munificence on other well-developed international expansion issues including governance choice, host country selection, and subsidiary performance.

Our time period is at the dawn of e-commerce and our sample firms are among the first to develop Internet-based business. Entrepreneurial firms continually experiment with different networks and configurations. As e-commerce continues to evolve, these networks and configurations may become institutionalized, but new configurations or organizational forms may emerge (Rindova & Kotha 2001). In addition, our strict definition of e-commerce firms may reduce generalizability, but it provides a rigorous test of international expansion theory in a distinctly different setting. Thus, using a more loose definition of e-commerce firms, future research must identify links between competitive processes and configurations in the e-commerce domain and empirically assess performance implications and generalizability. We hope our study guides these challenges.

In summary, bridging the environmental munificence and international expansion literatures, we hypothesized and confirmed that home-country munificence significantly affected outcomes of international expansion, and that munificence and cultural distance significantly moderate the relationship between international expansion and outcomes. We hope our study encourages scholars to incorporate home-country environmental conditions into future international management research. Further theoretical and empirical efforts replicating this approach have potential to make meaningful contributions.
REFERENCES

Hofsteede, 1980


Table 1. Tests of mean differences between high and low environmental munificence

<table>
<thead>
<tr>
<th>Factors</th>
<th>High Environmental Munificence Before March 2000</th>
<th>Low Environmental Munificence After February 2000</th>
<th>t-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Average Number of Firms Filing Bankruptcy per Month on NASDAQ</td>
<td>2.25</td>
<td>5.30</td>
<td>2.37**</td>
</tr>
<tr>
<td>Average Number of Firms Filing IPO per Month on NASDAQ</td>
<td>5.41</td>
<td>2.56</td>
<td>2.21**</td>
</tr>
<tr>
<td>Average Monthly Returns of Bloomberg IPO Index</td>
<td>7.01%</td>
<td>-5.93%</td>
<td>2.14**</td>
</tr>
<tr>
<td>Average Monthly Returns of NASDAQ Market</td>
<td>3.37%</td>
<td>-5.89%</td>
<td>1.99**</td>
</tr>
<tr>
<td>Average Monthly Returns of Morgan Stanley E-commerce Index</td>
<td>12.9%</td>
<td>-12.2%</td>
<td>3.29***</td>
</tr>
<tr>
<td>Average Monthly Returns of GSTI E-commerce Index</td>
<td>7.51%</td>
<td>-11.9%</td>
<td>2.41**</td>
</tr>
</tbody>
</table>

** p < .05; *** p < .01; Two-tailed tests.
## Table 2. Descriptive statistics and Pearson correlations

| Variable                                      | Mean  | S.D.   | 1   | 2   | 3   | 4   | 5   | 6   | 7   | 8   | 9   | 10  |
|-----------------------------------------------|-------|--------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 1. Change in Firm Value                       | 1.46  | 11.99  |     |     |     |     |     |     |     |     |     |     |     |
| 2. Environmental Munificence                  | 0.49  | 0.50   | -0.35 ** |     |     |     |     |     |     |     |     |     |     |
| 3. I.E. Using Collaborative Mode\(^a\)       | 0.76  | 0.43   | 0.15 ** | -0.14 ** |     |     |     |     |     |     |     |     |     |
| 4. Cultural Distance                          | 0.43  | 0.50   | 0.04 | -0.02 | 0.14 ** |     |     |     |     |     |     |     |     |
| 5. Previous International Expansions         | 7.03  | 7.60   | -0.12 * | -0.22 *** | 0.04 | 0.15 ** |     |     |     |     |     |     |     |
| 6. Firm Age                                   | 651.28 | 551.50 | -0.06 | -0.16 ** | 0.02 | 0.01 | 0.40 *** |     |     |     |     |     |     |
| 7. Firm Size                                  | 14.43 | 2.03   | -0.21 *** | 0.07 | -0.15 ** | -0.11 * | 0.33 *** | 0.54 *** |     |     |     |     |     |
| 8. R&D Spending/Total Assets                  | 0.02  | 0.03   | -0.02 | 0.05 | -0.10 | 0.05 | 0.12 ** | -0.14 ** | 0.05 |     |     |     |     |
| 9. Advertising Spending/Total Assets          | 0.02  | 0.03   | 0.02 | 0.21 *** | -0.02 | -0.02 | -0.14 ** | -0.02 | 0.02 | 0.26 *** |     |     |     |
| 10. I.E. of B2C E-commerce Firms             | 0.36  | 0.48   | 0.24 ** | -0.12 | 0.09 | 0.11 | -0.06 | 0.11 | -0.32 ** | -0.31 ** | -0.26 *** |     |     |
| 11. Number of Target Countries               | 3.26  | 3.92   | 0.06 | -0.01 | 0.05 | 0.07 | -0.08 | -0.08 | -0.24 *** | 0.03 | 0.02 | 0.01 |     |

\(^a\) I.E. respresents International Expansion

N = 214

* p < .10; ** p < .05; *** p < .01
Table 3. Results from multiple regressions with random firm effects

<table>
<thead>
<tr>
<th>Variable</th>
<th>Model 1</th>
<th>Model 2</th>
<th>Model 3</th>
<th>Model 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Constant</td>
<td>15.5591 ***</td>
<td>14.0796 **</td>
<td>16.7182 ***</td>
<td>13.0287 **</td>
</tr>
<tr>
<td></td>
<td>(5.8431)</td>
<td>(6.2313)</td>
<td>(5.4231)</td>
<td>(6.2341)</td>
</tr>
<tr>
<td>Environmental Munificence (EM)</td>
<td>1.9611 **</td>
<td>0.8810 **</td>
<td>1.0633 **</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(0.8516)</td>
<td>(0.4388)</td>
<td>(0.4761)</td>
<td></td>
</tr>
<tr>
<td>I. E. Using Collaborative Mode (IECM)</td>
<td>0.7622 **</td>
<td>0.3154 **</td>
<td>0.4271 **</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(0.3743)</td>
<td>(0.1487)</td>
<td>(0.2039)</td>
<td></td>
</tr>
<tr>
<td>Cultural Distance (CD)</td>
<td>0.0659</td>
<td>0.2167</td>
<td>0.4195</td>
<td></td>
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<tr>
<td></td>
<td>(1.0832)</td>
<td>(0.6824)</td>
<td>(0.7334)</td>
<td></td>
</tr>
<tr>
<td>EM*IECM</td>
<td></td>
<td>1.2109 **</td>
<td>1.3327 **</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>(0.5714)</td>
<td>(0.5108)</td>
<td></td>
</tr>
<tr>
<td>CD*IECM</td>
<td></td>
<td>0.5147</td>
<td>0.8007</td>
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<td></td>
<td></td>
<td>(0.8443)</td>
<td>(0.6218)</td>
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<tr>
<td>EM*CD</td>
<td></td>
<td>-1.4563</td>
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<td></td>
<td></td>
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<td>(0.9817)</td>
<td></td>
</tr>
<tr>
<td>EM<em>IECM</em>CD</td>
<td></td>
<td>0.3310 **</td>
<td></td>
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<tr>
<td></td>
<td></td>
<td>(0.1402)</td>
<td></td>
<td></td>
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<tr>
<td>Previous International Expansion</td>
<td>-0.3844 **</td>
<td>-0.4108 **</td>
<td>-0.3544 **</td>
<td>-0.2409 **</td>
</tr>
<tr>
<td></td>
<td>(0.1821)</td>
<td>(0.1809)</td>
<td>(0.1625)</td>
<td>(0.1135)</td>
</tr>
<tr>
<td>Firm Age</td>
<td>-0.0207</td>
<td>0.0604</td>
<td>0.1109</td>
<td>0.1004</td>
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<tr>
<td></td>
<td>(0.0538)</td>
<td>(0.0753)</td>
<td>(0.0914)</td>
<td>(0.1493)</td>
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<tr>
<td>Firm Size</td>
<td>-1.8287 ***</td>
<td>-1.6117 **</td>
<td>-1.8013 **</td>
<td>-1.9001 ***</td>
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<tr>
<td></td>
<td>(0.5942)</td>
<td>(0.8104)</td>
<td>(0.7209)</td>
<td>(0.5833)</td>
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<tr>
<td>R&amp;D Spending/Total Assets</td>
<td>9.1625</td>
<td>11.4751</td>
<td>17.3145</td>
<td>22.0006</td>
</tr>
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<td></td>
<td>(17.5428)</td>
<td>(11.3056)</td>
<td>(15.1069)</td>
<td>(26.1584)</td>
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<tr>
<td>I.E. of B2C E-commerce Firms</td>
<td>1.3124</td>
<td>1.4521</td>
<td>1.3217</td>
<td>0.9436</td>
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<td>(0.6711)</td>
<td>(0.7635)</td>
<td>(0.6774)</td>
<td>(0.8611)</td>
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<td>Number of Target Country</td>
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<td>0.1108</td>
<td>0.1205</td>
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<tr>
<td></td>
<td>(0.1750)</td>
<td>(0.2123)</td>
<td>(0.2105)</td>
<td>(0.1833)</td>
</tr>
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<td>R-Square</td>
<td>0.0483</td>
<td>0.0897</td>
<td>0.1326</td>
<td>0.1672</td>
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<tr>
<td>F-Value</td>
<td>2.01 **</td>
<td>2.14 **</td>
<td>2.49 **</td>
<td>2.09 **</td>
</tr>
</tbody>
</table>

N=214, ** p < .05; *** p < .01; (standard deviations)