

HOW NEW VENTURE INITIAL PUBLIC OFFERINGS  
BENEFIT FROM INTERNATIONAL OPERATIONS:  
A STUDY OF HUMAN RESOURCE VALUE

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ABSTRACT

When internationalization goes beyond simply having international sales to having international operations, organizations can benefit from diversity of ideas and knowledge. Our study focuses on a special class of companies called new venture firms. As younger organizations, they may be well equipped to embrace the unique benefits of international diversity. However, new ventures may not be equal in this regard; therefore, our study also explores the moderating effect of human resource value for these firms.

The globalization of business affects firms of all sizes and extent of business experience, ranging from large well-established firms to small ventures seeking high growth (McDougall, Shane & Oviatt, 1994; Porter, 1985). As a result, internationalization appears to be a goal for increasing numbers of small as well as large firms. Given the importance and size of global markets in addition to the criticality of supporting new ventures for job growth and innovation, the implications of internationalization for performance of smaller organizations is of significant academic and practical concern (Admiraal, 1996; Braunerhjelm, 1993; McDougall & Oviatt, 1996).

The focus of our research is on the effects of one particular form of internationalization – having international operations (a separate business location with employees in a different country) on firm performance for a specific class of new ventures. Oviatt and McDougall (1994) and McDougall and Oviatt (1996) drew attention to international new ventures (firms that are 8 years old or less) by bringing together the literatures on international business and entrepreneurship. They defined an international new venture as: “a business organization that, from inception, seeks to derive significant competitive advantage from the use of resources and the sale of outputs in multiple countries” (Oviatt & McDougall, 1994: 49). We focus on a subset of new ventures (retaining their definition of less than 8 years in age) by studying new ventures going through the initial public offering (IPO) process. New venture IPOs should be particularly able to benefit from having international operations because they do not have the types of bureaucracy and well established routines that can hinder change and that are often evident in larger, older businesses (Acs & Preston, 1997; Braunerhjelm, 1993).

The benefits of international operations that we address rest on the assumption that the firm has an internal environment capable of quickly embracing and operationalizing new ideas and knowledge. While new venture firms with international operations may outperform their peers, we expect that within the group of new ventures, those firms that place high value on employees will be even more able to take advantage of the international operations. This is because firms that value their employees are willing to listen to workers, thus creating an environment where everyone shares knowledge and contributes to the overall mission, strategy, and vision of the firm (Pfeffer, 1998; Welbourne & Andrews, 1996). This concept is not new in the international literature. Oviatt and McDougall (1995) note the importance of shared vision and the ability of the leadership team to communicate vision to all employees.

Based on prior research on international new ventures, strategic human resource management, and the resource-based view of the firm, we propose that new ventures placing high value on employees are in a position to take the most advantage from international operations. As a result, we expect the highest longer-term performance gains (stock price growth) to accrue to new ventures that have both international operations and high levels of human resource value (they value their employees).

#### INTERNATIONAL OPERATIONS FOR NEW VENTURES

Even though internationalization is a phenomenon that affects both large and small firms, most of the international research conducted to date has addressed issues involving larger corporations (Bartlett & Ghoshal, 1992; Cavusgil & Das, 1997). The advantages of internationalization (for large firms, at least) have been well documented and include reduction

of factor/production costs, economies of scale and scope, innovation and knowledge transfers, and improved competitiveness (Bartlett & Ghoshal, 1992; Porter, 1986). Thus, within the international business literature, the bulk of empirical evidence provides support for a positive relationship between internationalization and performance.

Numerous studies have found support for the hypothesis that multinational enterprises will have better performance than domestic firms (e.g. Beamish, Craig & McLellan, 1993; Daniels & Bracker, 1989; Markides & Ittner, 1994). A broad range of performance measures has been used in these studies. For example, Markides and Ittner (1994) showed that, on average, international acquisitions create shareholder value for the acquiring firms. Further, the finance literature provides support for the benefits of internationalization. Assuming imperfect correlation between economic activity across countries and barriers to international capital flows, portfolio diversification into international markets should provide greater risk-return opportunities for investors (Atherton & Yap, 1979; Markides & Ittner, 1994).

Researchers have suggested, however, that the benefits of internationalization should be weighed against the risks. Werner, Brouthers and Brouthers (1996) argue that international business opportunities (for firms of any size or age) are inherently more risky than are domestic activities. Werner et al. (1996) show that there are numerous international risk variables that may influence firm performance. International expansion often introduces firms to new risks and costs which they would not incur in their domestic setting. International risks include foreign currency exchange-rate fluctuations (Luehrmann, 1990), host government actions such as nationalization or expropriation (Howell & Chaddick, 1994; Miller, 1992), legislation such as

import or export restrictions (Miller, 1992), and physical security risks such as terrorism, sabotage or kidnapping (Harvey, 1993). The assumption that larger firms have less exposure to international risk was tested in a recent paper by Reeb, Kwok and Young Baek (1998). These researchers found that international firms have higher returns (i.e., better performance) *and* more systematic risk than domestic firms, but they found no size effect amongst the international firms.

Although a substantial body of research has examined the relationship between internationalization and performance, results from empirical studies of smaller and younger organizations have been mixed (Buckley, 1997; Kohn, 1997; McDougall & Oviatt, 1996). And, as noted in the Reeb et al. (1998) study on risk, results have also been somewhat unexpected. In order to explain those mixed results, researchers have focused on the process of internationalization. This emphasis led many scholars to conclude that smaller firms were likely to be less successful than larger firms when embarking on international business because internationalization is a process that requires factors such as the experience that comes with being more established, larger in size, and older (Andersen, 1993; Stopford & Wells, 1972). Theoretical explanations of internationalization have been the subject of considerable debate (Andersen, 1993; Turnbull, 1987).

The 'conventional' theory of internationalization is the incremental, or evolutionary model of the internationalization process developed by Johanson and Vahlne (1977, 1990). This has become known as the 'U-model', named after the researchers' base at Uppsala University, Sweden. The U-model assumes that the internationalization of a firm develops in a sequence of

stages, according to a chain of establishment, from pre-exporting, to exporting, followed by establishment of an overseas sales subsidiary, and finally to overseas production/manufacturing units (Eriksson, Johanson, Majkgård, & Sharma, 1997; Johanson & Vahlne, 1977). Johanson & Vahlne (1990) refined the initial model into a dynamic model in which market knowledge and market commitment affect investment decisions and the manner in which decisions are acted upon. In turn, these decisions bring changes in market knowledge and market commitment. Following this theory, additional market commitment will be usually made in incremental steps. The U-model is assumed to be valid for firms of any size (Andersen, 1993; Eriksson et al., 1997), although large size is often thought to be a requirement of international dispersion (Stopford & Wells, 1972).

Bilkey and Tesar (1977) questioned the relevance of the U-model for smaller firms, and developed the Innovation internationalization model (I-model) to address this gap. The I-model assumes that there are 'push' (external change agent) or 'pull' (internal change agent) mechanisms which initiate the firm's decision to move into the next stage of internationalization (see Andersen, 1993 or Turnbull, 1987, for more detail). However, much of the extant research applying these models to internationalization has focused to some extent on exporting, as this has been shown to be the primary starting point for many firms (Korhonen, Luostarinen & Welch, 1996).

There is increasing evidence that neither the U-model nor the I-model explain entrepreneurial firms such as international new ventures (McDougall et al., 1994; Oviatt & McDougall, 1994; Welch & Luostarinen, 1988). Empirical studies of international new ventures

have found results that are inconsistent with the notion of incrementalism inherent to the U-model and I-model. Oviatt and McDougall (1994) show that many new ventures with limited resources compete successfully in international markets. Welch and Luostarinen (1988) report on English, Australian and Swedish firms that omitted some expected stages of internationalization. Further, McDougall and Oviatt's (1996) study of international new ventures found that over a two-year period, many of the firms altered their degree of internationalization (either increasing or reducing). When focusing on performance effects of international new ventures, Oviatt and McDougall (1994) have suggested that they should outperform firms with only domestic presence. Research on international IPOs is scarce, but not inconsistent with these findings (Bloodgood, Sapienza & Almeida, 1996).

One difficulty in interpreting this research arises from the fact that research on international new ventures and IPO firms has not been consistent in the measurement of internationalization. McDougall and Oviatt (1996) defined firms as international if sales in foreign countries comprised 5% or more of total sales. Bloodgood et al. (1996) measured internationalization using 5 items of 'activities on foreign soil', based on Porter's (1985) value chain of the firm. Reuber and Fischer (1997) modified Sullivan's (1994) 'degree of internationalization' scale, acknowledging that this measure has been the subject of some conjecture (Ramaswamy, Kroeck & Renforth, 1996; Sullivan, 1996). Our approach is closest to that taken by Reuber and Fischer (1997) in using a robust yet parsimonious measure: We define an organization as international if it has both international sales and operations. We do this because our merging of theories results in our addressing the way employees are valued as key to



successful performance when a firm is international. Therefore, we think it is critical that our definition of 'being international' includes a requirement that the organization has employees in at least one foreign country.

The presence of employees in another country allows us to draw on a body of literature that focuses on the benefits of a diverse employee population. The international business literature tells us that internationalization can endow the firm with relevant knowledge and permit the development of "paths of learning" which will enhance firm performance (Barkema, Bell & Pennings, 1996). This suggests that international firms must "learn" quickly if they are to survive.

We suggest that newer ventures are more able to do this because they are not burdened with bureaucracy and systems that can defray learning. We argue that a major advantage of having international operations is that it offers the opportunity to enhance the diversity and knowledge base of an organization (Kamoche, 1996). Although workforce diversity, or demographic heterogeneity, brings some management challenges (Ng & Tung, 1998), it has been argued to increase diversity in information sources, individual effectiveness and productivity, expertise, and creativity (Ng & Tung, 1998; Wiersema & Bantel, 1992). Workforce diversity and concomitant diversity of knowledge can provide the firm with longer-term competitive advantage. Further, this skill is particularly important for new ventures, as diversity of knowledge should compensate for any deficiencies in experiential knowledge held by the 'parent country' managers of the new venture (Bloodgood et al., 1996; Kamoche, 1996).

Hypothesis 1: New venture IPO firms with international operations will outperform their peers.

Our logic in associating new ventures with higher performance when they are international can be tied to the concept of human resource value (Welbourne and Andrews, 1996). We utilize a variable developed by Welbourne and Andrews (1996) that measures variance in the degree to which firms consider their employees to be important resources. This variable, *human resource value*, affects organizational performance because it increases structural cohesion, “an employee generated synergy that propels the company forward” (Welbourne & Andrews, 1996: 896). In a firm with high human resource value, employees are considered to be a source of competitive advantage, and this will be reflected in the firm’s strategy, mission statement, and operating practices. Valuing human resources will enable the firm to take advantage of the benefits of diversity brought by internationalization.

The need for a strong focus on employees is also echoed by work done in the strategic international human resource management (SIHRM) literature. There is an emergent body of work that highlights the benefits of strategic and proactive approaches to SIHRM throughout the internationalization process (Schuler, Dowling & De Cieri, 1993; Stroh & Caligiuri, 1998; Taylor, Beechler & Napier, 1996). Relationships between human resources and firm performance have been highlighted by recent research taking a resource-based perspective (Kamoche, 1996), which views human resources as capable of providing sustained competitive advantage, as they are valuable, rare, inimitable, and non-substitutable resources (Barney, 1991; Kamoche, 1996; Taylor et al., 1996). Using the resource-based view, Kamoche (1996) suggested that knowledge

held by a diverse and geographically dispersed workforce in an international new venture is created and diffused through the firm via networks of interaction and movement of employees across international operations.

Thus, there is evidence from numerous literatures that a focus on employees can aid in the internationalization process. We suggest that it is particularly important for international new ventures because, in their unique position of being young and quickly able to take advantage of the opportunities of internationalization, human resource value can be an important asset in mobilizing resources.

Hypothesis 2: New venture IPOs with international operations will maximize longer-term firm performance when they have higher levels of human resource value.

## METHOD

Our study was conducted with a cohort of firms that went public in 1993. The year 1993 was chosen in order to examine longer-term performance (thus, we measure performance from 1993 to years ending 1996). The data for this study come from several different sources, including the firm's prospectus, The IPO Reporter, the Security Data Corporation database, and COMPUSTAT.

Although 706 firms went public in 1993, only 585 firms produced a good or service (others were real estate trusts or other organizational forms that had no employees, therefore, we excluded them from the study). We were able to obtain prospectuses for 535 of those firms. Given the interest of this study was new ventures, we limited our sample to only those firms that

were 8 years old or less. One additional restriction was an exclusion of firms based outside of the United States. As a result, the final sample consists of 277 firms.

#### Coding New Venture Status

Researchers studying new ventures have noted that obtaining new venture status is not easy because founding date, which is in most cases used to define whether a firm is a new venture, is not as easily accessible as incorporation date, which is required in SEC documentation (Shrader, 1996). We also found this to be a problem for our study, and we addressed it by doing two things. First, we made phone calls to all of the organizations in our sample (however, we only reached 109) to verify founding date (see Appendix A for detailed discussion of the process and results). Second, we ran our analyses using company age calculated by using both founding date (n=214) and incorporation date (n=277). The results indicate no difference in the pattern of results; therefore, in this paper we do not report the results of both analyses. However, the results are available from the authors.

#### Prospectus Data Collection and Coding

Several variables used in the analysis (primarily the control variables) were obtained from the prospectus. The prospectus is the document provided to the Securities and Exchange Commission (SEC) prior to the public offering, and it is also the document circulated by the underwriter to assess demand for the firm's stock. The SEC requires that firms follow strict guidelines in the format. In fact, the firm is legally liable for any information that might mislead investors (O'Flaherty, 1984). As noted by Beatty and Zajac (1994), top management is accountable to the SEC and to stockholders regarding the contents of the prospectus. The

Securities Act of 1933 sets the requirements for the prospectus, thus assuring consistency in the type of information that is included in the document.

A team of four coders read the prospectuses and coded the data used for the study. Detailed coding rules were developed based on prior research that gathered similar data (Welbourne & Andrews, 1996). A random sample of the prospectuses was cross-coded, and agreement on all the variables used in this study was over 90%.

#### Independent Variables

**International operations.** We coded the prospectus to determine if a firm had a location or operation in another country (other than the United States). Although we could not verify the number of employees at each site, we only coded this variable 'yes' if the firm had a location (building or specific business operation) in the other country. We were able to obtain data on number of employees at the site for only 15 of the companies. Of those, the mean number of employees was 184 (s.d. = 184), with a median of 20 and a range from 4 to 1,538. Our coding involved a careful reading of the business section of the prospectus. Each variable was coded as a dummy variable (0/1), with 0 meaning that there were no international operations mentioned and 1 indicating there was an international location. The international operation may be a manufacturing facility or a regional office of the company (with management, sales, and customer support staff for example). Of the 277 organizations in our sample, 70 (25%) had international operations at the time of their IPO.

## Human Resource Value

The measure of human resource value was obtained in the same way that Welbourne and Andrews (1996) measured the construct. The following items were coded (most are dichotomous variables), and the construct was created by summing scores on each of the following: (1) whether the firm's strategy statements cited employees as a source of competitive advantage, (2) whether the organization had a training program for employees (indicating resource allocation for firm-specific education), (3) if the management list contains a vice president of human resources, (4) utilizing full-time ( vs. part-time, temporary, or contract) employees (firms reporting temporary workers were coded as 0, lowering their overall human resource value score), and (5) their score on employee relations climate, which is reported by all firms (we coded poor or satisfactory as 0, 1 for good relations, 2 for excellent employee relations). The summed human resource value variable has a value range from 0 to 6, with a mean of 4.50 and standard deviation of 1.45. We calculated the natural log of the variable (mean=1.14, s.d. = .42), and we used this term for the third step in our regression equation. We calculated the interaction term by multiplying international status (the 0/1 dichotomous variable) and the non-transformed human resource value term (in order to minimize problems with multicollinearity).

## Dependent Variables

**Firm Performance.** We used two different measures of firm performance, two of which represent measures of shareholder return. The first is a measure of percent change in stock price (adjusted for splits, buybacks, dividends, and any other changes that affect unit price of the

stock) from the time of the IPO through year ending 1996. The average stock price change from IPO to year-end 1996 is .74 (s.d. = 2.64). Given that the prime reason investors choose to put money into an IPO is to make money when the firm's stock price increases over time, stock price growth is a reasonable measure of performance for the IPO sample. Further, market-based measures represent the most prevalent and relevant firm performance measures in the IPO literature (see Ibbotson and Ritter, 1995 for a review).

In addition to stock price performance measure, we examined our hypotheses with productivity in 1996 as a dependent variable. Productivity is measured as sales per employee (reported in millions, mean = .22; s.d. = .25). We supplemented our analysis with a measure of productivity because our hypotheses focus on employees, and productivity is an internal measure of performance takes number of employees into account. Although not reported in the tables, we ran the same analysis with stock price change and productivity data through year-end 1997, and the results were the same.

#### Control Variables

Several control variables were used in the analyses. Total number of employees in addition to total sales are included as measures of firm size. The mean number of employees is 895 (median is 150) and standard deviation is 2,984. Average sales at the time of the IPO (in thousands) is \$12,339 (s.d. = \$36,293). Net profit per share at the time of the IPO is added as a performance measure (mean is .07, s.d. = .54). Dichotomous variables for industry are used, and we utilize the 9 categories recommended by the Small Business Administration and used in prior IPO research (Welbourne & Andrews, 1996). Firms within the sample, however, fall into the

following categories: mining (4), construction (1), manufacturing (143), transportation, communication, electric and gas (19), wholesale trade (16), retail trade (23), finance, insurance, and real estate (8), and services (54). There were 9 firms coded as missing, and no firms were in the agriculture category (which was the 9<sup>th</sup> category used by the SBA).

Although our sample of IPO firms consists of higher risk ventures, we expect that each firm will be subject to varying degrees of risk. Therefore, an additional control variable indicates the level of risk faced by each firm at the time of the IPO. Each prospectus contains a section listing all risk factors faced by the firm, which must be disclosed to meet the requirements of the Securities and Exchange Commission. Prior research on initial public offering firms found that this measure was a useful way to code risk (Beatty & Zajac, 1994; Rasheed & Datta, 1994). The presence of the following risk factors were included in this measure: new product, few or limited products, limited number of years in operation, inexperienced management, technical risk, seasonality, customer dependence, supplier dependence, inexperienced underwriters, competition, legal proceedings against company, liability, and government regulation. The summated risk measure ranged from 1 to 11, with a mean of 4.05 and a standard deviation of 1.58.

## RESULTS

Table 1 includes the means, standard deviations, and correlation matrix for the terms included in the regression analyses predicting stock price performance.

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Insert Table 1 about here

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Table 2 shows the results of two different ordinary least square regression equations that test hypothesis 1, the effect of having international sales and operations on firm performance. The analysis was done in two steps, with the first step including only the control variables and the second step including the international term (dichotomous variable). In both equations, predicting stock price change and productivity, the results indicate that firms benefit from having international operations.

The unstandardized beta coefficient for the first equation, predicting percent change in stock price from IPO to 1996 is 1.18 ( $p \leq .001$ ). It appears that the positive effect is even more pronounced given the longer period of time. The analysis for productivity shows the same pattern (beta = .07,  $p \leq .05$ ), that international operations has a positive effect on performance for new ventures.

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Insert Table 2 about here

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Table 3 shows the results for tests of hypothesis 2, which suggests an interaction effect of human resource value and international status. These analyses were also done in steps, with the first step including the control variables only, the second step entering the international operations term, the third step adding human resource value, and lastly, the interaction term was added. In the analyses, the change in  $R^2$  for the interaction term is significant, and the same pattern of results is seen. In each case, the international operations term is negative, the human resource value term is negative, but the interaction term is positive. The beta coefficient for the interaction term in the first equation (predicting change in stock price from IPO to 1996) is .64 ( $p \leq .01$ ) and for productivity .05 ( $p \leq .05$ ).

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Insert Table 3 about here

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Figure 1 includes a graph that depicts the relationship between human resource value and international status for the both analyses. Numbers on the graph were derived by using the constant and beta coefficients associated with the relevant terms from the regression equation (Cohen & Cohen, 1983). Results show that firms that are international at the time of their IPO and that place higher value in their employees outperform their peers.

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Insert Figure 1 about here

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## DISCUSSION

Our analyses for both shareholder return (percent change in stock price) and productivity support both hypotheses one and two. The key result, however, is support for hypothesis two, which suggests that the reason new venture IPOs benefit from international operations may be linked to the 'people side' of the business. If the interaction term were not significant, then we could assume the benefits to new ventures accrue simply through their expansion to new markets. However, our results suggest that internationalization may bring benefits derived from having a diverse workforce. Companies that place higher value on their employees seem to be better able to reap the benefits of having international operations, at least when we study the effects on long-term shareholder return. Our results confirm Oviatt and McDougall's (1994) notions about the importance of unique resources. As they suggested, international status and valuing unique resources (such as employees) have positive impacts on the firm's performance. In addition, this finding is consistent with prior work on human resource value in IPO firms (Welbourne, 1997; Welbourne & Andrews, 1996).

Does “being international” matter for new venture IPOs?

It appears, from our results, that the benefits of being international outweigh the risks for new venture IPO firms. Given our results for long-term performance and the theoretical work that has been done to date on internationalization of new ventures, our results are suggestive that higher performing firms may have management teams that understand the importance of human resource value to successful internationalization. This is particularly important because our study measures internationalization as requiring both international sales and operations. Starting any kind of operation overseas may require an investment in people and an understanding of the human resource issues associated with managing an international workforce.

Welbourne and Andrews (1996) suggested that human resource value was particularly important for firms that are undergoing change, such as going through the initial public offering process. International new venture IPOs could be experiencing even greater challenges in terms of change because they are growing, experiencing the ‘being public’ process for the first time (which means quarterly reporting, being scrutinized by the public), and managing their international businesses. High levels of human resource value may be a key contributing factor in holding the employees together as they face multiple challenges. According to Welbourne and Andrews (1996: 896), human resource value leads to something they term ‘structural cohesion.’ Structural cohesion is defined as “an employee-generated synergy that propels the company forward... this quality enables firms to respond to their environment while still moving forward.” The international firm has a more complex environment simply because it is more diverse, and human resource value may allow these firms to retain their shared vision, which in many of these firms will be a global vision, as they continue to grow.

In fact, it is this insight that allows us to interpret what may seem like a counterintuitive finding shown in Figure 1. Although our hypothesis about high levels of human resource value and international status is supported, the results also indicate that domestic firms do NOT benefit

from higher levels of human resource value. In a study that follows up on the Welbourne and Andrews (1996) work, Welbourne and Cyr (1999) found support for their hypothesis that factors enhancing structural cohesion (such as human resource value) positively affect firm performance when they are enacted in organizations that are in some way “moving forward.” However, when human resource value is increased in firms that are “standing still,” it actually has a negative effect on firm performance.

Their ideas are tied to concepts of inertia, and they note that inertia is good when a firm is moving forward, but it can be harmful when a firm is “standing still.” In their research, they operationalized “inertial status” by measuring change in sales and change in number of employees. Our results support their findings (in the 1999 paper) if we can conclude that domestic new ventures are more likely to be “standing still” than moving forward. As such, higher levels of human resource value can act to support the status quo, resulting in lower firm performance.

The logic supports our notions about organizational learning. In today’s fast-paced environment, and particularly for new venture firms in a dynamic environment, such as an IPO, they need to continue to move forward. Moving forward should be associated with organizational learning, which we suggest is enhanced by the diversity that comes with having international operations at such an early stage (young age). Certainly more in-depth work is needed to follow up on our findings.

#### Beyond Initial Public Offerings

Our study is limited in that we focus only on initial public offerings; however, we suggest that our results are likely generalizable beyond this sample. IPO firms vary considerably in industry, age, size, and location (although we limited our sample to only firms located in the USA, we are working with a separate sample of firms located around the world that go public in

the USA). Thus, we think our results may be applicable to new ventures that choose other forms of financing.

Additionally, with today's merger and acquisition activity, larger firms are composed of smaller (and often IPO) firms. Thus, our findings should be of considerable interest to larger organizations, although the results may be most directly applicable to divisions of these organizations.

#### Limitations

This study has several limitations that should be taken into consideration when interpreting the findings. First, international status is defined as a dichotomous variable. Further research is needed to develop a consistent measure of degree of internationalization, preferably by considering the percentage of firms in the international location and perhaps gathering data on management style and more traditional human resource management measures (e.g. Sullivan, 1996). In addition, there is a very good chance that existence of international operations changed from the time of the IPO through year-end 1996.

Additionally, we suggest that stock price and productivity are measures that are important given our context (newly public firms). But these are only two measures of firm performance. Additional studies that address multiple measures of performance, including measures that focus directly on assessments of the success of the international venture, would be useful. Researchers may also want to examine performance of international new venture IPOs versus larger, more established firms (perhaps in ways more similar to those done by researchers in finance and accounting, e.g. Ritter, 1991).

Another limitation concerns our measure of human resource value. Although used in prior research on IPOs (Welbourne & Andrews, 1996), this measure is fairly new. Future research that focuses on the construct validity of this measure in addition to the process of creating human resource value within the firm would be useful. Specifically, studies that address

the relationship between human resource value and more traditional measures of strategic HRM can contribute to the study of international new ventures.

Lastly, we do not yet know the degree to which the results from our study can be generalized to other samples, such as non-IPO new ventures, mid-size firms, or larger organizations. Additional research is needed to answer that question.

## Conclusion

This study was designed to merge literature in international business, entrepreneurship and human resource management in order to improve our understanding of the role that internationalization plays in the performance of new venture IPO firms. We contribute to the international business literature by extending work on international new ventures in two ways. First, we study a unique sub sample of new ventures, initial public offering firms. These companies are important because they are creating jobs, wealth, and innovation. By understanding the conditions under which these firms can be more successful, academics and practitioners can assist smaller, growth-oriented firms. At the same time, we contribute to the literature on initial public offering firms. As noted earlier, there is very little work that focuses on internal management issues within international new venture IPOs. Therefore, our research contributes to what we hope is a growing body of work designed to understand how internationalization and other growth strategies affect new venture IPOs. By contributing to the international business, new venture, and IPO literatures, we also provide additional research to the growing body of entrepreneurship research that encompasses all of these areas of study. We have also augmented the literature by building understanding of the role of human resource value in firm performance, using a performance measure that is different from prior work on this topic, which examined firm survival (Welbourne & Andrews, 1996).

Lastly, we think that our study makes several contributions to the growing body of research in strategic international human resource management (SIHRM) (Schuler et al., 1993;

Taylor et al., 1996). We propose that future research could explore the question of whether human resource value does the same for large firms or for medium-sized firms. This may provide evidence for the emergent espousal of SIHRM as a source of competitive advantage in multinational enterprises (Stroh & Caligiuri, 1998; Taylor et al., 1996).

Overall, it seems that our study, which is at the intersection of several literatures, is a fairly new area of research, and we hope that our conceptual work and findings (with limitations recognized) spur future studies in all the fields that we have attempted to incorporate into our work. Future research can benefit from our multi-disciplinary approach to theoretical advancement.

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## APPENDIX A

### FOUNDING DATE VERIFICATION

Because these firms went public in 1993, many had changed names or addresses since 1993, and we were unable to reach all of them. However, we did talk to representatives from 109 organizations (e.g. investor relations executive, chief executive officer, or legal counsel). Of those, we found that the incorporation date was correct in all but four organizations. When incorporation date was disputed, the difference between the date reported in the prospectus and the one suggested by the person on the phone was between one and three years. The founding date was correct in 83% of the firms for which we had a founding date. Of the firms for which the founding date was incorrect, only 23% of the organizations had dates that were off by more than four years. Of those, the person with whom we talked was not certain the date they were giving us was correct.

Unfortunately, phone calls presented us with yet another problem. The person answering the phone may or may not have been accurate in their assessment of founding. We quickly found that definitions of founding date varied. For instance, is the date of founding the time when the 'entrepreneur' first created the product (this may have been as part of his/her own consulting or while he/she was still with an old employer)? Or was it the date that the company moved into its building? Or is founding the date when the firm hired its first 'real' employee? Or is founding considered to be the date when the company was incorporated? We also ran into the dilemma that a firm may have been run a certain way for many years (let's say as a family owned small business), but then it was sold and incorporated in preparation for the IPO. When the firm was sold, the organization's goals and objectives may have changed. Obviously, the topic of founding date is one that warrants further study; however, for the purposes of our study, we attempted to minimize the problems associated with the multiple definitions of 'new venture' by running our data analyses in two different ways.

We ran our analyses using both founding and incorporation date. With incorporation date, we know that it is accurate, and we can equalize all firms in terms of knowing that at this date each company filed papers to be an incorporated business. This may, perhaps, be the best way to operationalize new venture for the purpose of our study of IPO firms. Since we are focused on what the firm does after the IPO, it may be more useful to consider its age in terms of the age of the 'institution' that is engaging in the IPO and planning to grow. The firm, in its form prior to the incorporation date, may be a very different business from the one that is entering into the IPO process. The total sample when using founding date is 214, and the total sample when using incorporation date is 277.

TABLE 1  
 DESCRIPTIVE STATISTICS AND CORRELATIONS FOR VARIABLES USED IN THE ANALYSES

	Mean	St. Dev	1	2	3	4	5	6	7	8	9	10	11
1. International operations (0/1)	.26	.44	1.00										
2. Human resource value (log)	1.43	.42	-.02	1.00									
3. Interaction term (HR value x International ops)	1.14	2.07	.94	.14	1.00								
4. Company age	3.62	2.63	.04	.004	.03	1.00							
5. Net profit per share	.07	.54	.12	.13	.12	-.001	1.00						
6. Number of employees	895	2984	.02	.10	.02	.14	.20	1.00					
7. Sales (log)	3.12	1.94	.29	.06	.29	-.01	.41	.51	1.00				
8. Total risk factors	4.05	1.58	-.02	-.02	.003	.15	-.35	.20	-.35	1.00			
9. Stock price growth (IPO to 1996)	.72	2.64	.26	-.02	.29	-.01	.20	.12	.21	-.05	1.00		
10. Stock price growth (IPO to 1997)	1.46	3.45	.29	-.02	.32	-.09	.16	.04	.14	.02	.88	1.00	
11. Productivity, 96 (in millions)	.22	.25	.19	-.08	.21	-.03	.25	.15	.36	-.07	.05	.03	1.00

Correlations above .12 are significant at the  $p \leq .05$  level; correlations above .15 are significant at  $p \leq .01$ , and correlations above .21 are significant at  $p \leq .001$ .



TABLE 2  
RESULTS OF REGRESSION ANALYSES OF INTERNATIONAL SALES AND INTERNATIONAL OPERATIONS  
EFFECTS ON FIRM PERFORMANCE

<u>Factors</u>	<u>% Change IPO to 1996</u>	<u>Productivity, 1996</u>
	beta	beta
<u>Control variables</u>		
Constant	-.21	.11
Company age	-.05	-.00
Number of emps (log)	.11	-.03**
Sales (log)	.06	.05***
Net income per share	.54	.04
Total risk factors (log)	.10	.007
R <sup>2</sup> for Step 1	.07+	.17***
<u>Independent variables</u>		
International operations	1.18***	.07*
Change in R <sup>2</sup>	.04***	.014*
R <sup>2</sup>	.11	.18
F	2.23**	4.15***

\*\*\* p ≤ .001; \*\* p ≤ .01; \* p ≤ .05; + p ≤ .10  
Industry codes included in all analyses although not shown. Unstandardized beta coefficients are reported.

TABLE 3  
RESULTS OF REGRESSION ANALYSES WITH INTERACTION TERMS

<u>Factors</u>	<u>% Stock Price Change (93 to 96)</u> beta	<u>Productivity (1996) Sales per employee</u> beta
<u>Step 1: Controls</u>		
Constant	.88	.23*
Company age	-.05	.00
Number of emps (log)	.14	-.02*
Sales (log)	.03	.04***
Net income per share	.53	.05
Total risk factors (log)	.07	.006
<b>R<sup>2</sup> for Step 1</b>	<b>.07+</b>	<b>.17***</b>
<u>Step 2: International status</u>		
International operations	-1.65	-.14
<b>Change in R<sup>2</sup></b>	<b>.04***</b>	<b>.014*</b>
<u>Step 3: Human resource value</u>		
Human resource value (log)	-.68+	-.08*
<b>Change in R<sup>2</sup></b>	<b>.001</b>	<b>.007</b>
<u>Step 4: Interaction term</u>		
Interaction term (international * HRV)	.64**	.05*
<b>Change in R<sup>2</sup></b>	<b>.024**</b>	<b>.02*</b>

R<sup>2</sup> .13  
F 2.47\*\*  
\*\*\* p ≤ .001; \*\* p ≤ .01; \* p ≤ .05; + p ≤ .10  
Industry codes included in all analyses although not shown. Unstandardized beta coefficients are reported.

**FIGURE 1**

Interaction between HR value and International Status in predicting percentage change in stock price (1993 to 1996) and productivity, 1996



