



## Human Capital and SME Internationalization

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(2013)

### **Abstract**

*This study uses a structural equation modeling technique to predict the internationalization of small and medium-sized enterprises (SMEs) from the entrepreneur's human capital (dimensions: international business skills, international orientation, environmental perception, and management know-how). While international orientation and environmental risk perception predicted internationalization, international business skills and management know-how did not. The implications of these findings for research and practice are discussed.*

**Keywords:** human capital, internationalization, SMEs, entrepreneur, model

Small business internationalization is an important element of economic development and firm growth. Internationalization is beneficial for economic growth (Jaffe & Pasternak, 1994) and for a country's well-being and international reputation (Diehl, Leibold, Koeglmaier, & Muller, 1984). Internationalization is an essential strategic choice for small firm growth (Skrt & Antoncic, 2004). Various theories have been presented to explain why firms engage in international operations and the role and influence of the entrepreneur in this process. The entrepreneur is the key variable in SMEs' internationalization as the decision-maker of the firm (Glancey, 1998; Miesenbock, 1988; Prince & Van Dijken, 1998; Reid, 1981; Wkzvdhj lojgtd esthead, Binks, Ucbasaran, & Wright, 2002).

The entrepreneur is regarded as crucial for a firm's international strategies and the central factor explaining a firm's international behaviour (Andersson, 2000). Research into the internationalization of small and medium-sized enterprises (SMEs) has emphasized the role of entrepreneur-related elements that impact export performance, such as: strategy (Baird, Lyles, & Orris, 1994; Tyebjee, 1994); attitudes (Bijmolt & Zwart, 1994; Ogbuehi & Longfellow, 1994); commitment (Dhanaraj & Beamish, 2003); perceptions (Jaffe & Pasternak, 1994); orientations (Dichtl *et al.*, 1984); the international experience of managers (Qian, 2002; Reuber & Fischer, 1997); as well as more integrative human capital elements (Andersson, 2000; Bilkey & Tesar, 1977; Cavusgil, 1993; Herrmann & Datta, 2002; Manolova, Brush, Edelman, & Greene, 2002; McAuley, 1999; Moini, 1995; Trevino & Grosse, 2002). Our study extends this literature in analyzing several dimensions of the human capital of a firm's chief entrepreneur with respect to their relative importance and influence on an SME's internationalization.

The importance of human capital elements impacting organizational outcomes in international contexts has also been underscored for large companies, especially their top management teams (TMT) and CEOs. According to "upper echelon theory" (Hambrick & Mason, 1984), organizational outcomes, including strategic choices and performance levels, are partially predicted by managerial background characteristics. Other authors have expanded this theory to international contexts focusing on international orientation and international experience (Athanasios & Nigh, 2002; Reuber & Fischer, 1997; Sambharya, 1996; Vida, Reardon, & Fairhurst, 2000), international assignment (Carpenter, Sanders, & Gregersen, 2000), and the heterogeneity of TMTs (education and tenure) (Carpenter, 2002; Carpenter, Geletkanycz, Sanders, 2004).

Our study contributes to the literature in several key ways. First, we focus on entrepreneurs (the owner-managers of SMEs). Specifically, we assess the relative importance of various personal factors of the entrepreneur – individual dimensions of human capital – on the internationalization of SMEs. Second, we evaluate the degree to which a composite measure of human capital is predictive of the internationalization of SMEs. In short,

we develop and test a model that links the human capital dimensions of entrepreneurs of SMEs to SME internationalization.

Entrepreneurs have individual assets that help them recognize new opportunities and assemble resources for new ventures (Alvarez & Busenitz, 2001). Opportunities for growth and for generating rents can be recognized in foreign markets. Once engaged in exploiting the opportunity, or in the process of internationalization, entrepreneurs are responsible for many internationalization-related tasks such as: setting objectives, gathering foreign market information, collecting and organizing resources, and implementing internationalization strategies. The degree of export aggressiveness to some extent reflects the desire, willingness, and determination of the decision-maker to promote the export side of business in the organization and this can, in turn, be attributed to certain entrepreneurial characteristics (de Rocha, Christensen & da Cunha, 1990; Leonidou, Katsikeas, & Piercy, 1998). Barney (1991), among others, suggested that resources lead to a sustained competitive advantage when they possess certain characteristics: value, rarity, inimitability, and nonsubstitutability. These 'resources' may be modified as a firm's knowledge of markets, technologies, consumer needs, and attitudes are affected by external inputs (Penrose 1980: 79). The entrepreneur of an SME is one key and unique resource that can become especially influential on the organization as this person acquires new knowledge (Daily, Certo, & Dalton, 2000). In an SME, the personal resources of an entrepreneur become crucial since the internationalization process often centers around one such key person and their knowledge, experience, and network of relationships (Makovec Brencic, 2001; Ruzzier, Antoncic, & Konecnik, 2006). Applying the resource-based view to the organizational level, an internationalizing firm can be viewed as mobilizing unique and interdependent resource stocks that enable and contribute to a firm's internationalization activities within its natural context. This view thus implies that internationalization is "the process of mobilizing, accumulating, and developing resource stocks for international activities", regardless of the actual content of the international activities themselves (Ahokangas, 1998, p. 3.1). In our definition, SME internationalization is composed of multiple elements related to product, time, market, and degree of internationalization.

The personal factors of entrepreneurs can be strong influences on the internationalization of SMEs. Human capital refers to the range of valuable skills and knowledge a person has accumulated over time (Burt, 1992). The most important characteristic of human capital is its embodiment in people (Becker, 1993). Entrepreneurs draw upon their human capital (knowledge, skills, and values) to advance the interests of their organizations. The knowledge entrepreneurs accumulate has two complementary dimensions: tacit and explicit. The former cannot be clearly articulated and gives meaning to its complementary explicit dimensions, which represent a broader concept or skill that can be articulated (Polanyi, 1962). Such an example of the tacit dimension could be knowledge of a foreign market, while the explicit dimension could be exemplified by the ability to do business in that market. Tacit knowledge and its corresponding explicit dimensions are acquired over time and are inherently nontransferable and associated with increases in productivity and efficiency (Becker). Human capital represents an investment in education and skills and is created when a person's skills and capabilities are improved. Human capital is an important factor for economic growth (Novak & Bojnec, 2005). The acquisition of human capital improves the conditions for an individual to act in new ways (Coleman, 1990). When profitable opportunities for new economic activities exist, individuals with a higher level of human capital should be better in identifying and developing them. Once engaged in the internationalization process, such individuals should also have a superior ability to exploit these opportunities (Davidsson & Honig, 2003).

Manolova *et al.* (2002) identified personal factors as a common theme in their research on the internationalization of small firms, but no studies give much attention to the relative importance of the various dimensions of human capital embodied in the entrepreneur as they relate to the internationalization of SMEs. Premised on other studies that have analyzed different elements of human capital as they separately relate to SME internationalization (Bloodgood, Sapienza, & Almeida, 1996; Dichtl, Koeglmayr, & Mueller, 1990; Manolova *et al.*, 2002; Reuber & Fischer, 1997, 2002; Westhead, Wright, & Ucbasaran, 2001), we expect the four following dimensions of human capital of an SME's entrepreneur(s) to relate positively to its internationalization: international business skills, international orientation, perception of environmental risk, and management know-how.

#### *International Business Skills*

In an international business context, tacit knowledge of geographically dispersed markets within which a company is willing to operate is an asset. This knowledge can be acquired through personal experience of specific international markets (Athanasios & Nigh, 2000). Knowledge of foreign markets developed through experience is important to overcoming barriers associated with differences in language, culture, business practices, and legislation (Morosini & Shane, 1998). International business skills acquired through experience in foreign markets, especially through involvement in multinational corporations or international organizations, exposes entrepreneurs to information and contacts in foreign markets. Moreover, knowledge of foreign markets enhances the likelihood of export engagement and expansion (Reid, 1983), increases the propensity to use investment entry modes with full ownership (full control entry modes) (Herrmann & Datta, 2002), and has a positive impact on the degree of internationalization (Reuber & Fischer, 1997). Knowledge obtained in international assignments is likely to bring a deeper understanding of international trade policies, exchange rate risks, an appreciation for other national cultures, and an international network of professional colleagues outside the firm, all of which will yield skills and capabilities with broad international applicability (Carpenter *et al.*, 2000). Further, international personal networks and relationships in international markets are important especially for the internationalization of service companies (O'Farrell, Wood, & Zheng, 1998). Service companies need to appreciate the importance of the client-supplier interaction because a variety of demand-side factors influence the reason for foreign market entry; while supply-side factors can influence a business firm's ability to internationalize (O'Farrell *et al.*). Such observations underscore the role of social capital nurtured through supporting relationships with other economic actors, especially potential clients (Pennings, Lee, & Witteloostuijn, 1998).

The international experience of managers and entrepreneurs is also an inimitable and irreplaceable resource for their firms. Resources resulting from international experience lead to specific knowledge that is difficult to imitate; once competitors have come to understand the knowledge-based resources of a firm, that same firm has already further developed and refined this knowledge and has begun applying it differently (Athanasios & Nigh, 2000). Bloodgood *et al.* (1996) found only partial support for the influence of international business skills (international experience, international schooling) on internationalization. Specifically, they reported that internationalization was positively related to the international experience of the firm's top management team(s) but unrelated to the top management team's international schooling. We propose that SMEs will be more internationalized the more the entrepreneurs of these firms possess international business skills. More formally, we hypothesize:

Hypothesis 1a: The international business skills of an SME's chief entrepreneur are related positively with the SME's internationalization with respect to product, time, market, operation mode, and degree.

#### *International Orientation*

A potentially important factor that could differentiate firms in relation to their export propensity, aggressiveness, development, and performance is the amount of time the entrepreneur has spent abroad. The entrepreneur's exposure to foreign cultures through living, working, or traveling abroad should increase their international orientation to foreign cultures and countries. The acquisition of first-hand experiences through a personal presence in foreign markets where a company operates or is seeking to operate is the primary means by which managers acquire and maintain tacit knowledge of the firm's international activities (Athanassiou & Nigh, 2000). Foreign markets can be perceived as having particular distinguishing attributes. To the extent that entrepreneurs have information on specific markets, they become more capable of discriminating among them. The perceived ambiguity and complexity of these markets is lessened the more the entrepreneur has spent abroad. Moreover, entrepreneurs who have lived abroad are more likely than their counterparts without this experience to respond favourably to export market opportunities as they arise, and to pay more serious attention to export expansion to these markets.

By traveling abroad, entrepreneurs are more likely to learn about foreign business practices, meet prospective clients, and identify market opportunities (Leonidou *et al.*, 1998; Reid, 1981). Such travels are likely to be associated with seeing specific foreign market opportunities as a means of overcoming the problems or limitations of domestic markets (Rao, 1977). Entrepreneurs whose firms are most active in exporting tend to have traveled most broadly (Simmonds & Smith, 1968). Leonidou *et al.* identified seventeen studies of the association of time spent abroad and degree of firm involvement with export markets. In six of these studies, entrepreneurs in exporting firms had spent more time abroad than entrepreneurs in nonexporting firms (e.g. Dichtl *et al.*, 1990; Holzmüller & Kaspar, 1990). Four other studies examined the influence of the entrepreneur's exposure to foreign cultures on export performance; two of which showed a significant positive relationship (e.g. Czinkota & Ursic, 1983). Accordingly, we hypothesize:

Hypothesis 1b: The time spent abroad by an SME's chief entrepreneur is related positively to that SME's degree of internationalization as measured with respect to product, time, market, operation mode, and degree.

#### *Perceptions of the Environment (Risk Perception)*

There is strong empirical support for an association between characteristics of an SME's entrepreneur and internationalization, yet the impact of environmental perception remains relatively under explored (Manolova *et al.*, 2002). A firm's propensity to internationalize is positively related to its entrepreneur's level of risk tolerance (Wiedersheim-Paul, Olson, & Welch, 1978). International operations often entail greater risk than selling at home and may therefore constrain firms from initiating, developing, and sustaining international operations (Wiedersheim-Paul *et al.*). When entrepreneurs are willing to assume risk the degree of risk that they attach to export situations is reduced. Consequently, risk-taking entrepreneurs are more likely to respond favourably to export opportunities and become exporters compared to those who are risk-averse (Leonidou *et al.*, 1998). Once a firm enters overseas markets, a variety of risks (physical, social, political, and financial) can obstruct its progress towards internationalization.

Simpson and Kujawa (1974) found that the perception of risk between entrepreneurs of companies that export and those that do not was significantly different, but both groups indicated that the risk of exporting was greater than the risk of operating in domestic markets. Others have reported that entrepreneurs of exporting companies have a greater tendency to accept risk than their nonexporting counterparts (Dichtl *et al.*, 1990; Simmonds & Smith, 1968). Leonidou *et al.* (1998) found 10 studies investigating this issue, 8 of which found support for the positive association between degree of exports and risk tolerance. Gomez-Mejia (1988) and Cavusgil (1993) likewise showed that an entrepreneur's attitude to risk-taking was positively related to the success of export attempts and export performance.

Mehran and Moini (1999) measured managements' attitudes on risks and profits in exporting. They argued that the degree of contribution that managers of exporting firms can make to profit and growth is limited until they explore the feasibility of exporting or gain export experience. Manolova *et al.* (2002) found that the entrepreneurs of internationalized firms had more positive perceptions of the environment than did entrepreneurs of

noninternationalized firms. Specifically, the former perceived domestic and international business environments more positively, and the regulatory environment less negatively. Accordingly:

Hypothesis 1c: An SME's chief entrepreneur's perception of the risk of operating in international markets is negatively related to SME internationalization with respect to product, time, market, operation mode, and degree.

#### *Management Know-How*

The entrepreneur of a firm acquires resources using management know-how (skills and expertise developed over time by managing the enterprise) and by using their ability to identify appropriate partners, investors, and advisors who can be nurtured to supply the firm with what it requires. Firms with diverse management know-how may be able to introduce better human resources practices, undertake more promising competitive strategies, and identify more promising opportunities in foreign markets (Westhead *et al.*, 2001). An entrepreneur's management know-how capabilities are likely to positively influence a firm's ability to identify and acquire external resources and its ability to use resources for product development, production, and promotion (Vatne, 1995).

Some researchers suggest that a high level of management quality, measured in terms of capabilities and skills, is more common among exporting than nonexporting firms (Wiedersheim-Paul *et al.*, 1978). This variable was also used to explain differences among companies in various export stages: firms with more capable managers were usually at more advanced stages of export development (Bilkey & Tesar, 1977). Cavusgil and Nevin (1981) reported a significant relationship between management know-how and the propensity to export. Moreover, Westhead *et al.* (2001) found that the more management know-how entrepreneurs have the more likely they are to be exporters. Therefore, we hypothesize:

Hypothesis 1d: The management know-how of the chief entrepreneur of an SME is positively related to SME internationalization with respect to product, time, market, operation mode, and degree.

#### *The Combined Impact of Human Capital on Internationalization*

We developed hypotheses 1a to 1d to analyze the relative importance of the individual dimensions of human capital as influences on the internationalization of SMEs. The studies summarized in Table 1 separately analyzed the influence of specific human capital dimensions (international business skills, international orientation, environmental perceptions, and management know-how) on SME internationalization. None of these studies, however, reported the relative strength of the dimensions of human capital in predicting SME internationalization.

In our final hypothesis, we depart from the dimension-specific influence of human capital on internationalization and follow a holistic approach. The strength of a prediction yielded by a combination of predictors may be even more important than any single predictor. We expect that the combination of predictors will be significantly associated with SME internationalization, regardless of their association as individual predictors. Dimensions of human capital tend to be interrelated as they are embodied and form an integral part of an entrepreneur. This holism can be considered the most important characteristic of human capital (Becker, 1993). Therefore, we expect that a combination of an entrepreneur's personal factors (or human capital dimensions) will have an influence on the internationalization of SMEs. A combination of human capital characteristics is likely to wield a particularly strong influence over an entrepreneur's behaviour and activities, including those activities instrumental to internationalizing a firm. Accordingly:

Hypothesis 2: The human capital of an SME's chief entrepreneur as measured by a combination of two or more of its defining components relates positively to SME internationalization with respect to product, time, market, operation mode, and degree.

## Methods

### *Data Collection*

We collected data using a postal survey of Slovenian firms. The questionnaire was addressed to the top executive of each firm and anonymity was guaranteed. Top executives (called a 'direktor' in Slovenian) were chosen as the key informants since they are likely to be the most knowledgeable with respect to the overall situation, activities, and

orientations of the firm. Firms in the sample were selected using a three-step process from the most recent IPIS database of secondary data (the IPIS, or Poslovni register Slovenije database, is mainly based on annual reporting of Profit and Loss Accounts and Balance Sheets), which includes all businesses in Slove-

nia. First, since many Slovenian firms are dormant firms or have few employees, these firms were excluded from the population leaving only SMEs with 10 to 250 employees. In order to meet the criteria of the Slovenian Companies Law (1993, 2001), the second step involved excluding those firms with annual turnover exceeding SIT 4 billion (about 19.3 million USD). Third, a questionnaire was mailed to a random sample of 1,006 companies with international sales from the firms identified in the first two steps (4,050 companies).

### *The Sample*

The postal survey resulted in 165 responses from internationalized companies. After analyzing the extent and pattern of missing data, the sample of 161 usable responses was preserved by using the combined method of imputation (following the procedure from Antoncic & Hisrich, 2001). Nonresponse bias for the whole sample of respondents was assessed based on the notion that later respondents would be more like nonrespondents than earlier respondents (Armstrong & Overton, 1977). A nonparametric test (Kolmogorov-Smirnov test) was done to compare the responses of later respondents (those firms that responded beyond two weeks of mailing,  $N = 27$ , 16.7%) to the responses of earlier participants (within two weeks of the mailing,  $N = 134$ , 82.3%). The results showed that the nonresponse bias was minimal with respect to all questionnaire items (a nonparametric test was used because it compensates for the slight nonnormality that was found for some items; minimal differences in comparisons between the early and the later respondents were found for much less than 5% of items). All respondents were executives (about 75 percent held the function of 'direktor'; the other respondents were marketing and financial managers or managers performing other key functions). Over three-quarters of the respondents owned some share of their business (43 percent of the respondents owned more than 30 percent of their business). The gender split between respondents was 20 percent women and 80 percent men. The entrepreneur's profile of the survey respondents gives reasonable confidence as to the external validity of the findings. Since about 75% of the respondents held the function of director of an SME, which is similar to a CEO, the findings pertain mostly to SME CEOs and partly to their top management teams.

The average firm in the sample had 20–49 employees, sales between SIT 100 million (about 483,000 USD) to SIT 500 million (about 2.41 million USD), was 17.5

years old, operated in the manufacturing industry, and was located in the central geographical area of the country (the Slovenian capital Ljubljana and its surroundings). This reflected the characteristics of the database population in terms of firm size, industry, and geographical location.

### *Measures*

*Internationalization.* Research has tried to determine a firm's internationalization by examining the evolution, structure, and processes of relationships among the firm's demographic, strategic, market, organizational, product, and attitudinal characteristics of internationalization (Forsgren, 1989; Johanson & Vahlne, 1977; Zagorsek & Marc, 2005). Following others (Daily *et al.*, 2000; Manolova *et al.*, 2002; Reuber & Fischer, 1997; Sullivan, 1994), a combination of existing and developed measures to capture the multidimensionality of internationalization were used. The dimensions of internationalization, operation mode, market, time, product, and degree were measured with Likert and binary scales.

To measure internationalization, respondents were asked to go back several years when completing the survey. Two aspects of internationalization were measured: international orientation (days per year on business and all trips out of Slovenia) and international business skills (international work experience, international business education). Internationalization also included the dimension of time, which referred to the length of time within a year it typically takes for the company to reach different thresholds of foreign sales to total sales. This retrospective approach to gathering data in a cross-sectional study could result in biases and measurement errors. Accordingly, we compared the results of our study with those of a longitudinal study of similar dimensions of human capital (Westhead *et al.*, 2001). Westhead *et al.* reported that founders of SMEs with denser information networks (operating in business environments characterized by abundant information sources and by the high degree of interconnectedness between operators in the network) and management know-how were significantly more likely to be exporters. In another longitudinal study, Gomez-Mejia (1988) found that higher risk tolerance positively influenced export performance. Because of the similarity of their findings to our own, we believe any retrospective biases associated with our cross-sectional design are minimal.

To assess 'operation mode' we adopted a measure from Manolova *et al.* (2002). It indicates whether a firm was engaged in any of the following activities: (a) importing; (b) direct exporting; (c) exporting through an intermediary; (d) solo venture direct investment; (e) joint-venture direct investment; (f) licensing of a product or service; (g) contracting; (h) franchising; or (i) any other international activity. Each measure was dichotomous and summed to form a single measure ranging from 1 to 9.

We used two scales to measure 'market'. The first asked respondents within how many countries their products or services are sold. As used by Manolova *et al.* (2002) within a broader assessment of 'internationalization', we used the measure more specifically to determine the market dimension of internationalization. The second scale was taken from Reuber and Fischer (1997) and modified for the Slovenian environment. It measures the geographical scope of foreign sales by asking to which of the five regions (each increasingly 'distant' from the domestic market) the company sells. The market 'distance' from the domestic market was classified into five groups based on cultural and geographic distance from the domestic market, consistent with the concept of 'business' distance (Luostarinen, 1979) or 'psychic' distance (Johanson & Vahlne, 1990). The first group consisted of Italy and Austria (both bordering Slovenia) as well as Germany. The three countries were selected due to: their close cultural similarities with people living near the borders; the relatively common knowledge of the Italian and German languages by Slovenians; and the high proportion of counter trade. Croatia was excluded because different free-trade agreements apply between Slovenia and these three countries as compared to those between Slovenia and Croatia.

The second group consisted of former Yugoslav countries (Croatia, Bosnia and Herzegovina, Serbia, Macedonia, and Montenegro) and Russia. All former Yugoslav countries, especially Croatia, are similar to the Slovenian business sector since people lived and operated in a single common country for many years. Russia was added due to its cultural similarities with the former socialist system and old business networks and contacts resulting from the very intense international trade in the times of former Yugoslavia.

The third group consisted of other EU countries and associate EU member countries. This group was formed due to EU trade policies that stimulate within-EU trade without any regulations. While the fourth group included the USA and Canada, the fifth and last group included all other countries. While the above categorization of countries is relevant for Slovenia, for other countries a different grouping or even a different number of groups would be appropriate. Sometimes the grouping of countries on the scale of psychic distance is hardly explainable by rational logic (e.g. physic distance or bordering criteria) because it also includes some historic or perception-based factors.

This is relevant for our measure of market dimension because entrepreneurs perceive such countries not only as geographically closer but also as easier within which to enter and operate because of the cultural and environmental understanding. Countries without such psychological closeness are usually approached much later. Although entrepreneurs are usually in a position of possessing scarce resources, because of this psychological closeness, they can enter countries relying only on past contacts and networks and begin international activities with little investment in marketing research. All items were dichotomous and summed to form a single score ranging from 1 to 5.

Table 1

The time dimension of internationalization was measured using three items evaluating the time after start-up for obtaining different ratios of foreign sales as used by Reuber and Fischer (1997). Since there is a question of what constitutes the cut-off point for classifying firms on whether they are to be considered internationalized, three items with different cut-off points were included. In previous research, different thresholds of export intensity such as 5% (McDougall & Oviatt, 1996) and 10% (Dichtl *et al.*, 1990) were used for classifying a firm as international or domestic. In this research the following three thresholds were used: (a) time of starting international activities, which arises when a company starts selling its products in foreign markets by buying products from abroad or cooperating in some area with a foreign firm. (Korhonen, 1999); (b) 10% and, (c) 20% ratios of foreign sales. The time dimension of internationalization is an especially important strategic dimension when the window of opportunity is narrow or when there are first-mover advantages. The speed of entering foreign markets may be particularly beneficial to small firms compared with large ones because of their greater agility and flexibility (Acs, Morck, & Yeung, 1999), even without large foreign market resource commitments (Mascarenhas, 1997).

Another strategic issue that companies face when entering foreign markets concerns products, the adaptation of promotion in differing product-market contexts, and product standardization (Cavusgil, Zou, & Naidau, 1993). The product dimension of internationalization was measured by four 5-point Likert-type scales developed by Manolova *et al.* (2002). Four items measured the degree of standardization/customization (from highly standardized to highly customized), with respect to: (a) product/services; (b) marketing/advertising; (c) branding; and (d) employee training for different country markets.

Lastly, the degree of internationalization was measured using three items. The first, percentage of foreign sales, is the most commonly used measure within SMEs' internationalization research (e.g. Aaby & Slater, 1989; Cooper & Kleinschmidt, 1985; Gankema, Snuif & Zwart, 2000; Riahi-Belkaoui, 1998). The second item assessed the amount of time employees dedicate to international operations, similar to a measure used by Reuber and Fischer (1997) that looked at the percentage of a firm's employees that spend over 50% of their time on international activities. The last item we used to assess the degree of internationalization was the percentage of all products/services sold abroad.

*Human capital.* The entrepreneur's human capital was measured with respect to the four categories discussed in the previous sections: international business skills; environmental risk perception; international orientation; and management know-how. International business skills were assessed using a three-item scale asking respondents to indicate the amount of: their international work experience; personal networks and relationships abroad; and international business education (Bloodgood *et al.*, 1996; Manolova *et al.*, 2002; Reuber & Fischer, 1997). Environmental risk perception was assessed by two five-point Likert-type scales for which respondents had to indicate the degree of risk they associated with various international operations. International orientation was assessed by two-items asking about number of days spent on business trips outside Slovenia and number of days on all trips out of Slovenia. This operationalization of the entrepreneur's international orientation is very common within internationalization research (for a review, see Leonidou *et al.*, 1998). Management know-how was assessed by a five-item scale measuring different management skills (negotiation, oral presentation, team-building and management, motivating employees, and developing personal business relationships). The last item is similar to our measure of international business skill (personal networks and relationships abroad) with the difference being that here we were interested in the capability of developing personal relationships in all markets whereas in measuring international businesses skills we were only interested in the capability of developing relationships in foreign markets.

### *Data Analysis*

All scales were examined for their convergent and discriminant validity by using exploratory and confirmatory factor analyses. For each construct, exploratory factor analyses were conducted by using the maximum likelihood extraction method and oblimin rotation (Hair, Anderson, Tatham, & Black, 1998).

Items were grouped together in the expected grouping by dimension construct. Poorly fitting items were excluded or, in exceptional cases, moved to another dimension. The convergence and divergence of the dimensions was checked by assessing the fit of confirmatory models and interdimensional correlations.

Finally, the human capital-internationalization model was estimated and re-estimated as a path model (structural equation model) by using the EQS software and ML (Maximum Likelihood) estimation methods, controlling for size and age of the firm. Companies were further divided into two groups based on their age and size. Firm age reflected the year in which the firm was established. For the age criteria, we classified firms into younger firms (12 years old or less, N = 72) and older firms (13 years old or more, N = 89). This particular cut-off divides pre- versus post-independence of Slovenia from former Yugoslavia. Firm size reflected the total number of full-time employees in the firm. We divided the sample into two groups of companies using the firm size threshold of the European Union law, which has the same thresholds as the Slovenian Companies Law. We identified companies with 50 employees or less as small companies (N = 118) and companies with 51–250 employees as medium sized companies (N = 43)

#### *Human Capital Construct Development*

In developing the human capital construct an exploratory factor analysis of all items used to measure the human capital construct was conducted on the data collected from the 161 internationalized companies that comprised our sample. Four factors were extracted through use of a scree plot and eigenvalues ( $>1$ ) representing the four categories of human capital that we set out to measure (international orientation, international business skills, management know-how, and environmental risk perception). Item loadings for these four factors are presented in Table 2.

A confirmatory factor analysis of the items of the human capital construct was also undertaken to confirm the findings of the exploratory factor analysis and to examine the convergence of the construct dimensions. As shown in Table 3, all four scales of our human capital construct showed acceptable Cronbach reliabilities (0.72 or higher), except for ‘international business skills’ ( $\alpha = 0.60$ ).

#### Table 2

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## Table 3

## Figure 1

The four dimensions were tested together in the human capital construct measurement model, where dimensions were modeled as first-order latent constructs and correlated with each other. The model showed a good fit (NFI 0.92, NNFI 0.98, CFI 0.98; SRMR 0.053, RMSEA 0.034). All coefficients between the four dimensions and the latent construct factor were positive (except for 'risk perception' which was expected to be negative), high, and significant.

The interfactor correlations among the human capital dimensions were all significant and ranged from  $-0.16$  (environmental risk perception–international business skills correlation) to  $0.39$  (management know-how–international business skills), demonstrating convergence but not redundancy (other correlations: management know-how–international orientation:  $0.31$ , management know-how–environmental risk perception:  $-0.15$ , international orientation–environmental risk perception:  $-0.13$ , and international orientation–international business skills:  $0.33$ ). The negative correlations of environmental risk perception were expected to be negative.

### *Structural Equation Models*

*The construct-level model.* We tested a structural model linking our human capital construct and its indicators with our construct of internationalization and its indicators. As shown in Figure 1, our structural model provided a good fit with our data (NNFI 1.03, CFI 1.00, NFI 0.88, RMSEA 0.000, SRMR 0.051).

In support of H2, human capital characteristics (a compound of international orientation, management know-how, international business skills and environmental perception of risk) were highly, positively, and significantly related to internationalization (standardized coefficient  $0.41$ , R-squared  $0.17$ ). We then randomly split our overall sample in half and recomputed the structural coefficients for these two samples. There were no statistically significant differences, providing evidence of their stability.

The influence of firm age and firm size (our control variables) was also examined by comparing the structural coefficients obtained on samples derived by splitting our overall sample separately by each of these two variables. In both cases these submodels showed stability, with the construct of human capital characteristics being positively associated with internationalization.

*The determinant-dimensional model.* We also analyzed a model linking the dimensions of human capital with internationalization, which we refer to as our 'determinant-dimensional model'. Here, the four dimensions of human capital were depicted as directly determining internationalization, a latent first-order factor expressed in terms of its four indicators. As shown in Figure 2, this model showed a very good fit (NFI 0.95, NNFI 1.10, CFI 1.00, SRMR 0.029, RMSEA 0.000). Consistent with H1b, the structural coefficient between international orientation and internationalization

(0.22) was statistically significant and positive. Likewise, the path between risk perception and internationalization (−0.25) was statistically significant and negative, supporting H1c. However, hypotheses 1a and 1d were not supported in that neither of the paths from 'management know-how' or 'international business skills' to 'internationalization' were statistically significant (0.02 and 0.10, respectively).

The variance in internationalization explained by the four human capital dimensions (R-square 0.16) was similar as in the construct-level model. Similar results concerning the intensity and expected directions of specific human capital dimensions were obtained by controlling the findings along both control variables of firm size and age.

## Conclusions

Our results provide support for conceptualizing the human capital of a firm's entrepreneur in terms of the four dimensions of international orientation, management know-how, risk perception, and international business skills. Further, we have shown that the entrepreneur's human capital relates positively and directly to the degree of internationalization of the firm, as reflected in time spent in international activities, mode of market, degree, and product. In addition, while we observed direct effects between *individual* dimensions of human capital of the firm's entrepreneur and firm internationalization (Figure 2), it appears that firm internationalization is best explained by the latent construct of human capital comprising its four indicators (Figure 1). Only 2 of the 4 hypothesized direct paths from the individual indicators of an entrepreneur's human capital and firm internationalization were supported.

*Figure 2.*

Determinant-dimensional model

Of the four indicators of the human capital of an SME's chief entrepreneur, international orientation and risk perception are the most predictive of an SME's internationalization. Entrepreneurs most exposed to foreign cultures through travel or residence likely accumulate experiential knowledge of international market characteristics which benefits them when internationalizing their firms. Qian (2002) proposed that entrepreneurs with little previous foreign involvement and international experience (international orientation) could compensate for these weaknesses when competing in the international arena by focusing on few product diversifications and markets. Moreover, entrepreneurs who see less risk when competing in international markets appear more likely to respond to export opportunities and to internationalize. These findings with respect to the influence of the entrepreneur's international orientation and environmental perception (e.g., perceived risk) on firm internationalization are consistent with other similar published findings (Manolova *et al.*, 2002).

When the dimensions of human capital were analyzed separately in a determinant-dimensional model of internationalization, we found no evidence of a positive causal relationship between international business skills and internationalization (Figure 2), contrary to what Manolova *et al.* (2002) found with American entrepreneurs. Nor did we find evidence for a positive relationship between management know-how and internationalization. International business skills and management know-how, when analyzed in the construct-level model (Figure 1) were both positively and significantly related to internationalization. Perhaps this is due to the short entrepreneurial history and historical environmental specifics in Slovenia. Before Slovenia became independent, few entrepreneurs spent time studying or working abroad. They were mostly oriented to other republics of the former Yugoslav state. Living and working in other countries was strictly controlled and limited. International business skills and management know-how of the entrepreneur, when analyzed in the construct-level model, were both positively and significantly related to internationalization.

Our findings regarding the entrepreneurs' human capital suggest that the owner/founder acquires a broader international perspective through experience, which reduces their perceptions of risk associated with selling in foreign markets and increases knowledge of how best to sell in these markets. While supporting previously published findings that the international perspective and attitudes of the founding entrepreneur distinguish exporters from nonexporters (Bijmolt & Zwart, 1994), our results move beyond this by showing that the entrepreneurs of internationalized firms hold distinguishing 'international competencies'. Such entrepreneurial competencies are a composite of knowledge, skills, and experiences, and it is therefore reasonable to expect that human resource assets are important for selling more products abroad.

Our results, while supporting the notion that the personal attributes of an SME's chief entrepreneur are associated with SME internationalization, also show that some attributes are more important in this regard than others. The literature has tended to group all human capital dimensions together.

### *Applied Implications*

Our results suggest that Slovenian entrepreneurs need not follow a slow, sequenced pattern to enter international markets effectively. Slovenian companies should be more ambitious and self-confident when they start their international activities. Indeed, it may be that the rapid globalization of markets requires that certain firms compete internationally, virtually from the outset. Slovenian SMEs with more internationally experienced entrepreneurs, a positive perception of the international environment, and a bigger international orientation realize international aspirations more readily than do entrepreneurs without these attributes. In addition, our results provide policy-makers and practitioners with additional insights into the key resource-based factors associated with SMEs' internationalization. Specifically, policy-makers and practitioners should attempt to develop among the entrepreneurs of SMEs a broader international orientation and greater confidence in succeeding in foreign markets (reduce perceived risks). For example, government- or consortium-sponsored trips into foreign markets could facilitate contacts with companies of potential cooperation. Also, advertising best practices of benchmark firms that are succeeding in foreign markets might be helpful. Such suggestions are particularly relevant for economies in the process of integrating with larger unions or groups of countries, such as when Slovenia entered the European Union in 2004.

### *Limitations*

Our findings are limited insofar as the data were collected from the Slovenian environment. However, research in other contexts (predominantly the USA; Manolova *et al.*, 2002) served as the conceptual basis for our study. Also,

previous findings from Slovenia samples are comparable to those found in other cross-national comparative studies of corporate entrepreneurship (Antoncic & Hisrich, 2001) and in business ethics (Bucar, Glas, & Hisrich, 2003). This suggests some degree of likely generalization in our findings. Another possible limitation is that data were collected for firms employing from 10 to 250 employees. Since the smallest firms (with less than 10 employees) were excluded from the analyses, future studies should include this segment of firms. Further, the measures we used could be further refined and developed and additional measures of general human capital used, such as education, tenure, or ethnic minority. The cross-sectional nature of our study also precludes us from making causal statements. Other limitations to our study include the high interrelatedness of the human capital dimensions we measured (e.g. international business skills and international orientation) and possible informant bias. Whereas our data were collected from only one person from each respondent company, often the decision-making unit consists of more than one individual (Leonidou, 1998). Moreover, the person having responded to our survey may well have joined the company after critical decisions were made. Finally, bias may result from the diverse ways of defining and operationalizing an entrepreneur's attributes (e.g. supranational outlook, foreign market orientation, international outlook, or international orientation) resulting in semantic confusion (Leonidou *et al.*, 1998) or from the subjectivity of self-reported managerial characteristics. Notwithstanding these limitations, we have linked human capital of an SME's entrepreneur with SME internationalization within a model that we believe advances the development of international entrepreneurship theory.

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