Founder human capital and small firm performance: an empirical study of founder-managed natural food stores

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ABSTRACT

The authors investigated the effect of founders' human capital on the performance of their small firms. In our model, founder human capital had two dimensions: (1) level of education and (2) industry managerial experience. The authors hypothesized that higher levels of founder education and more years of founder industry managerial experience led to better firm performance. A survey of founder-managed natural food stores validated our hypotheses.

Keywords: human capital, education level, managerial experience, firm performance, natural food stores.

INTRODUCTION

This research uses a resource-based perspective to examine the role of founder human capital in determining small firm performance. Resources are defined as "all assets, capabilities, organizational processes, firm attributes, information, knowledge, etc. controlled by a firm that enable [it to] improve its efficiency and effectiveness" (Barney, 1991, p. 101). Barney categorized firm resources as: (1) physical capital resources, such as physical technology used, equipment, and geographic location; (2) human capital resources, such as experience and training; and (3) organizational capital resources, such as internal and external relationships and firm planning. Because these resources are valuable, rare and not easily imitated, they lead to competitive advantage and better firm performance (Barney 1991).

Viewed from a resource-based theory perspective, entrepreneurship is a process of identifying and acquiring resources to exploit opportunities (Bergmann-Lichtenstein & Brush, 2001). It is also believed that a small firm is an extension of its founder (Chandler & Jansen, 1992; Dyke, Fischer, & Reuber, 1992). As Mintzberg (1988) wrote: "All revolves around the entrepreneur. Its goals are his (sic) goals, its strategy his (sic) vision of its place in the world" (p. 534). The human capital of the founder may therefore be a critical component of a small business firm's success.

There are some indications that founder human capital is an important resource for gaining competitive advantage and consequently financial success. Habar and Reichel (2007) studied the role of physical, human, and organizational capital in the performance of small tourism ventures and found that the human capital of the entrepreneur, particularly managerial skills, were the greatest contributing factor.

Success as an entrepreneur is based in part on being able to perceive an opportunity based on an individual's knowledge and having an entrepreneurial propensity (intention to act). Education has long been used as a measure of future career success with the assumption being that there is a direct relationship between academic achievement and vocational success (Judge, et al., 1995; Melamed, 1996). Individuals with advanced educational backgrounds develop more intellectual capability and knowledge that can aid them in making strategic choices which can lead to firm performance in any business environment (Becker, 1993; Hitt, Bierman, Shimizu and Kochhar, 2001).

Focusing on start-up firms in Korea, Jo & Lee (1996) found founder's level of education related to firm profitability. Similarly, Mengistae (2006) found founder's years of schooling related to small firm survival and growth. Sapienza and Grimm (1997) found founders' general educational level positively related to firm performance.

Research has shown that much of an entrepreneurs knowledge is experientially based (Rae and Carswell, 2000). A review of the literature shows the importance of learning by doing, with various scholars giving a slightly different emphasis to an essentially similar process. Young and Sexton (1997) explicate trial and error; Deakins (1996) emphasizes problem solving; Deakins and Freel (1998) examine discovery; Gibb (1997) focuses on experimentation and copying; Reuber and Fischer (1993) link development to facing successes and setbacks, which Gibb (1997) terms learning from mistakes. In researching entrepreneurial activity, many of these writers have incorporated into their investigations critical learning events, i.e. learning processes associated with experiencing opportunities and problems in their past (Cope and Watts, 2000; Deakins and Freel, 1998; Sullivan, 2000). Steiner and Solem (1988) demonstrated that managerial background and experience of the owner/entrepreneur or lack thereof as a cause or

contributing cause for the success or failure of a small business. Furthermore, prior experience as an entrepreneur has been found to be a good predictor of re-venturing and can contribute to future success (Ronstadt, 1988 and Vesper, 1980).

Batjargal (2005), in his research interviewing Russian entrepreneurs, found that industry experience positively impacted firm revenue growth. Colombo and Grilli (2005) found that prior experience in the same industry of the new firm was positively associated with growth while prior experience in other industries was not.

THE FOUNDER HUMAN CAPITAL MODEL

In the present study the authors explore the impact of founders' human capital on the performance of their small firms. In our model, founder human capital has two dimensions: level of education and industry managerial experience.

Figure 1 illustrates the specific interrelatedness of the three main variables of the Founder Human Capital Model. These core variables are Founder Level of Education, Founder Industry Managerial Experience, and Firm Performance.

Insert Figure 1 here

Based on this model, the authors hypothesize as follows:

Hypothesis 1: Founder Level of Education has a positive influence on Firm Performance.

Hypothesis 2: Founder Industry Managerial Experience has a positive influence on Firm Performance.

METHODOLOGY

This section examines the sample date and variables employed in this study.

Sample Data

The authors obtained the sample data for this study from a random sampling of members of the Natural Products Association (NPA), a trade association for the U.S. natural food industry. From our mailing of 500 surveys, the Postal Service returned thirty-seven surveys as undeliverable, leaving a working sample size of 463. Respondents returned 103 questionnaires, for a 22.2 percent response rate. For this study, the authors focused on the sixty-three of the 103 firms that were founder-managed. These sixty-three firms represented 13.6 percent of our mailing.

To detect non-response bias, the authors contacted a random sample of founders that did not respond to the mailing by telephone to record their level of education, years of industry managerial experience, and firm performance. The authors contacted 26 firms to obtain complete data for ten founder-managed firms.

The authors established a 95 percent prediction interval for performance as a function of level of education and years of industry managerial experience from the 63 respondents. The authors entered level of education and years of industry managerial experience measures obtained from the ten telephone interviews of non-respondents into the prediction model. In every case, performance measures fell within the ±2 standard deviation prediction intervals, indicating that the relationships for the non-response group did not differ from the response group.

Variables

This research measured the dependent variable founder firm performance using the criteria Chandler and Hanks (1993) found relevant to entrepreneurs: growth in: (1) earnings, (2) net worth, (3) cash flow, (4) market share, and (5) sales volume. The authors asked respondents to provide this data for their firm's most current fiscal year using Chandler and Hanks' method of asking for data in broad categories. Our survey instrument used the following 7-category scale: (1) decreased, (2) held constant, (3) increased less than 2%, (4) increased 2% to 5%, (5) increased 5% to 10%, (6) increased 10% to 25%, and (7) increased over 25%. The authors summed the responses to each of these questions to create an index the authors used as our firm performance variable. The authors used Cronbach's Alpha to assess the reliability of this combination and obtained an Alpha coefficient of 0.90. Crano and Brewer (1986) suggest that the degree of internal consistency is considered acceptable if the Alpha coefficient is 0.75 or better.

As shown previously in Figure 1, founder industry managerial experience functioned as an independent variable in terms of its relationship with firm performance. The values for this variable were obtained simply by asking respondents to provide an answer to the following question: "How many years of full-time managerial work experience did you have in this industry before founding this business?"

Our final variable, founder level of education functioned as an independent variable in terms of its relationship with firm performance. A founder's level of education was determined by asking the question "What was your highest level of formal education before starting this firm?" Responses were coded from 1 to 7 where a response of 1 corresponded to elementary school and 7 corresponded to a terminal degree such as a Ph.D, M.D., or J.D.

Research Design

After identifying and computing variables necessary for evaluating the usefulness of the model, the authors tested the model as previously described in Figure 1. The authors used regression analysis to assess the ability of the model to explain firm performance, the dependent variable. The model predicted that both founder industry managerial experience and founder level of education were positively and significantly related to firm performance.

Model Results

The Founder Human Capital Model results are presented in Figure 2 and Table 1. Figure 2 shows significant and complete support for the Model. The adjusted R^2 for the regression was 0.138. A discussion of the findings of each of our two model hypotheses follows.

Insert Figure 2 here

Insert Table 1 here

Hypothesis 1: Founder Level of Education had a positive influence on Firm Performance.

Firm performance was significantly positively correlated with the independent variable founder level of education. Achieving a higher level of education was associated with higher firm performance with a significant Pearson correlation coefficient of 0.281 ($p < 0.05$). In addition, the model's link between founder education and firm performance possessed significant explanatory power [$t(63) = 2.158$, $p = 0.035$ (one-tailed)], demonstrating that being better educated led to higher firm performance in terms of market share, sales revenue, sales volume growth, net worth and profitability.

Hypothesis 2: Founder Industry Managerial Experience had a positive influence on Firm Performance.

Firm performance also was significantly positively correlated with the level of founder managerial experience. Greater founder experience in a managerial role was associated with greater firm performance with a significant Pearson correlation coefficient of 0.318 ($p < .01$). In addition, the model's link between founder managerial experience and firm performance possessed significant explanatory power ($t(63) = 2.501$, $p = 0.015$ (one-tailed)), demonstrating that greater managerial experience led to greater firm performance.

DISCUSSION

The current study demonstrates that the human capital of entrepreneurs figures significantly in the performance of their firms. Entrepreneurs who possess the potent, synergistic combination of education with industry managerial experience have the competencies and capabilities to manifest better results. This research demonstrated the empirical significance of the founder human capital model. While the explanatory power of the model (adjusted $R^2 = 0.138$) was relatively small, this is still meaningful, given the myriad of controllable and uncontrollable factors that impact the performance of a small firm.

Both education and industry managerial experience were found to positively impact firm performance, with firm performance more highly correlated to industry managerial experience than to level of education. It seems logical that the human capital needed to enhance firm performance would be more likely to arise from years of managerial experience in the same industry than from level of education – the former is more directly and specifically relevant to the capabilities required while the latter is more general. However, as this study demonstrates, a focus on education does play a positive role on firm performance.

The importance of a founder entrepreneur's education is informative. University programs can and should recognize the important role they play in the future business success of their students. Our finding on the role of experience has strong "face validity" – it is a common perception that previous industry experience plays a significant role in determining entrepreneurial success. Timmons and Spinelli's (2007) widely-used entrepreneurship textbook emphasizing the importance of "apprenticeship" also fits well with the findings of the current study. According to Timmons and Spinelli, successful entrepreneurs are likely to have 8-10 years of substantial experience during which they "acquire the 50,000 chunks" (p. 17) of relevant experience.

LIMITATIONS

This study was conducted in an applied setting to enhance external validity and generalizability of the findings. However, determining the external validity is largely an inductive process and it will ultimately be left to replication of this study in different settings to ascertain if the stated findings found in this study generalize to other settings. In addition, characteristics of the sample, founders of small natural food stores, utilized in this study may not be representative of the greater population (Mitchell, 1985).

This research study was cross-sectional -- in the future a longitudinal study should be conducted. Although the hypotheses on which this research is based imply causal relationships, the data analysis employed is not suited for estimating cause-effect relationships. As such, inferences of causality must be interpreted carefully.

While acknowledging these limitations, it is felt that this study provides interesting and worthwhile results that fills a void in the literature. As much of the business environment relies on the achievements of entrepreneurs, greater understanding of the importance of a founder's human capital can be a worthwhile facet of our understanding of entrepreneurship.

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APPENDIX

Figure 1
Founder Human Capital Model

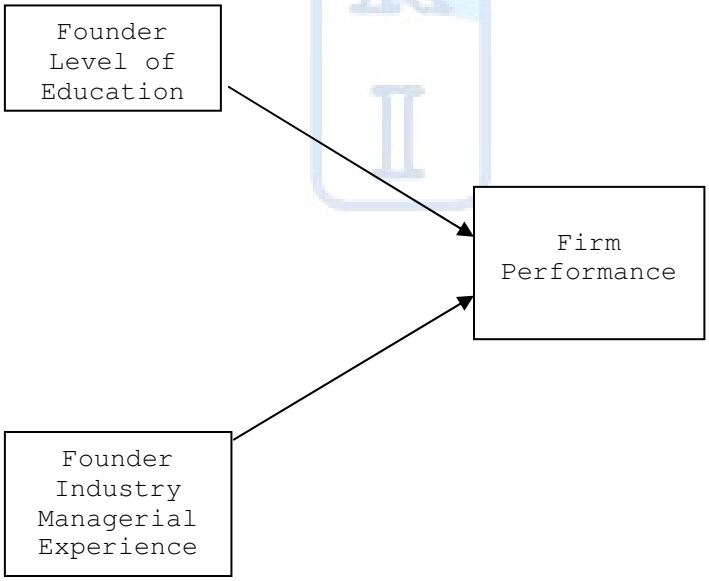

Figure 2
Results for the Founder Human Capital Model

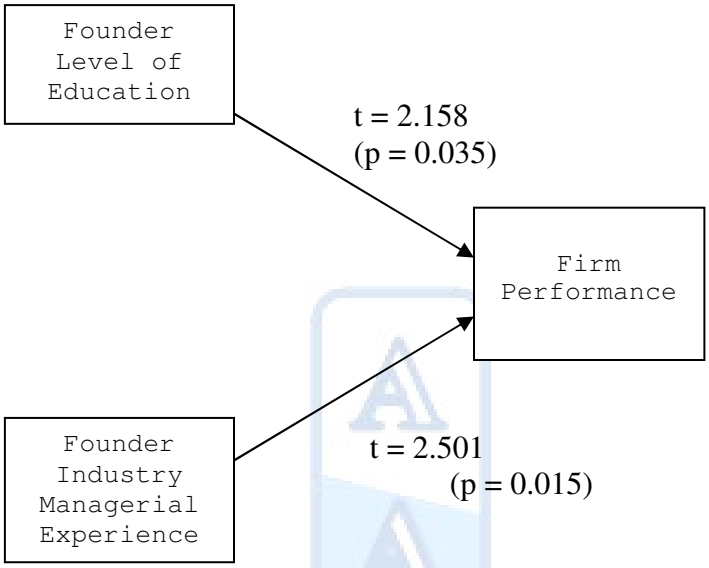

Table 1
Descriptive Statistics and Correlation Matrix
for the Founder Human Capital Model

Variable	Mean	Standard Deviation	Correlation Matrix: Level of Educational Attainment	Correlation Matrix: Level of Managerial Experience
Firm Performance	25.51	8.72	0.281[(a)]	0.318[(b)]
Level of Educational Attainment	4.65	0.79		0.085
Level of Managerial Experience	3.13	3.84		

(a) $p < 0.05$

(b) $p < 0.01$

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