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Human capital, social capital and organizational performance

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Abstract

Purpose – The aim of this paper is to evaluate the human capital and social capital of managers and the influence of these attributes on the performance of small and medium-sized Portuguese companies.

Design/methodology/approach – The structural modeling approach was applied to a sample of 199 small and medium-sized companies aged between 3 and 15 years, from five different sectors of activity.

Findings – It was found that human capital affects social capital, and that experience and cognitive ability influence personal relations and complicity. Organizational performance is strongly influenced by human capital through the cognitive ability of the manager.

Practical implications – Based on these findings managers can gain a better knowledge about how to improve the performance of their firms, for example through adjustments in communication methods or strategic decision capacities.

Originality/value – This work is innovative in the sense that it confirms the influence of human capital on social capital, and shows that it is cognitive ability that affects organizational performance.

Keywords Performance, Human capital, Social capital, Small to medium sized enterprises, Cognitive ability

Paper type Research paper

1. Introduction

Organizational performance depends on the personal characteristics of entrepreneurs and managers and their ability to interact socially (Hatch and Zweig, 2000; Hite, 2005). The literature implies that human capital (Gimeno *et al.*, 1997; Colombo and Grilli, 2005) and social capital (Palmer and Barber, 2001; WidenWidén-Wulff and Ginman, 2004) are fields open to further investigation. Several authors (Bates, 1995; Shane and Venkataraman, 2000) have shown that entrepreneurs with greater human capital are more likely to discover opportunities and trigger initiatives to create their own businesses because they have more self-confidence and feel less vulnerable when taking risks. Putnam (2000) and Adler and Kwon (2002) have noted that the social capital associated with the affective bond and connections between external players lead to positive effects in raising resources and building trust in the organization. Social capital provides links that facilitate the discovery of opportunities and the identification, collection and allocation of scarce resources within the organization (Greene and Brown, 1997; Uzzi, 1999).



Management Decision Vol. 52 No. 2, 2014 pp. 350-364 © Emerald Group Publishing Limited 0025-1747 DOI 10.1108/MD-04-2013-0260 Despite these findings, the literature provides insufficient results regarding the influence of social capital and human capital on the growth and performance of firms (Davidsson and Honig, 2003; Myint *et al.*, 2005; Liao and Welsch, 2005). Also, there are few studies that analyze the type of relationship that exists between the social structure and human capital factors (Bates, 1995; Bruderl and Preisendorfer, 1998). However, the importance of the interconnections within a social network and social status is not clear (Glaeser *et al.*, 2002).

The research is supported by human capital theory (Becker, 1964; Mincer, 1974) and social capital theory (Lin *et al.*, 1981; Portes, 1998). The focus of our research is to understand the relationship between the personal characteristics of managers and social factors, and effects on the performance of companies. The following objectives were established for our study: to analyze the relationship between the factors of human capital and social capital and to verify their influence on organizational performance.

The status of the individual in society, and his or her social relationships and social network are important to ensure conditions of influence and accentuate social differences, which are associated with personal characteristics including professional experience, level of knowledge and cognitive capabilities. This relationship allows us to gain a better understanding of the performance of organizations. We consider the following questions. Are cognitive capabilities more or less important than personal relationships in achieving organizational success? Do experience, professional capabilities or social status affect performance to a greater or lesser degree? To conduct this research we chose to analyze firms with 3 to 15 years of activity because this range corresponds to the emerging business stage and the stage that immediately follows.

After the introduction, we present the literature review and hypotheses, conceptual and empirical framework, and the statistical analysis and results. Following this, we present the discussion and the conclusions and contributions of the study. Finally, the possible lines of future research are presented.

2. Literature review and hypotheses

2.1 Human capital and social capital

Different studies find that the variables of human capital and social capital are consistently positively correlated with organizational performance (Dimov and Shepherd, 2005; Gimeno *et al.*, 1997). For Davidsson and Honig (2003), the tacit knowledge acquired from previous experience in new businesses is particularly influential for new entrepreneurs, but human capital alone is not enough to ensure success. The authors also report that the encouragement of friends and family is strongly associated with the gestation of entrepreneurial activity. The same authors indicate that human capital factors can explain the discovery of ideas that trigger entrepreneurial ventures and some of the progress in the operational process; however, only when applied in the context of a relevant social structure can these qualities help to achieve successful results. Social capital is about solidarity, confidence and facilitating the running of a business, which are factors derived from social relationships involving family, friends, workmates and others. Such relationships provide access to valuable resources such as information, influence and solidarity, which enable action (e.g. Burt, 2000; Adler and Kwon, 2002). Social capital refers to the

Human capital, social capital stock of relationships, context, trust and norms that encourage suitable behavior for knowledge sharing (Anklam, 2002). Knowledge sharing includes cognitive and communication skills in a specific context (Widén-Wulff and Ginman, 2004). Social capital seems to explain strategic behavior (Gulati, 1999), among other things. In turn, the emotional bonds of social capital provide additional information within activity groups, thus leading to efficiency gains arising from the reciprocity of commitments involving new opportunities, with lower opportunity costs (Shane and Venkataraman, 2000). Davidsson and Honig (2003) claim that affection relationships, and the diversified relationships that help to build bridges between agents, are sources of social capital.

Several authors (Phillips and Zuckerman, 2001; Westphal and Khanna, 2003) consider that the status of managers is sometimes defined in terms of a social ranking in relation to members of the business elite. However, for Podolny (2001), the position of the members of the business elite in the social class structure tends to become rigid and is a determinant of their interests and capabilities with regard to different company strategies. Whestpal and Khanna (2003) showed that individuals are less prone to sanctioning deviant behavior when they hold a high status. Therefore, members of high-status families enjoy great benefits from the social recognition this status brings.

Trust relationships based on strong and weak bonds lead to the creation of cognitive social capital, contributing to entrepreneurial learning and exploration of opportunities (Lechner and Dowling, 2003). Therefore, trust should be seen as an important intermediary factor for social capital (Kawachi et al., 1999; Lochner et al., 1999). Entrepreneurs often take decisions based on friendship, advice of friends and other relationships, which has strong implications for small firms (Bennett and Robson, 1999; Bruderl and Preisendorfer, 1998). Similarly, investment in the establishment of interweaving increases individual social capital (Baker, 2000; Adler and Kwon, 2002), allowing individuals and groups to benefit in terms of information, power and solidarity. This diversified entanglement of relationships is greater for individuals with a higher level of education, better jobs, from socially richer environments and who are more active in voluntary associations (Erickson, 2004), and simultaneously promotes cultural diversity and status (Lin, 1999). These interconnections are also an important source of self-evaluation for entrepreneurs, helping to identify, articulate and evaluate business opportunities (Aldrich and Zimmer, 1986). More recently, Hite (2005) highlighted their importance, particularly for the discovery of opportunities. Thus, we will test the following hypothesis:

H1. Different factors of human capital are related to different factors of social capital.

2.2 Human capital

In numerous studies, human capital is considered a critical factor for organizational performance (Colombo and Grilli, 2005; Gimeno *et al.*, 1997). The relevant characteristics of human capital are education, experience and knowledge (Writh *et al.*, 1995), allowing access to a broader range of opportunities (Davidsson and Honig, 2003; Gimeno *et al.*, 1997). A higher level of education is positively related to performance (Cooper *et al.*, 1994; Gimeno *et al.*, 1997). Work experience, management experience and prior entrepreneurial experience are related to firm activity (Dimov and

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Shepherd, 2005; Gimeno *et al.*, 1997). Hatch and Zweig (2000) consider that there is no clear pattern of cognitive orientation and behavior that ensures business success. The years of previous work experience have no significant impact on growth (Bruderl and Preisendorfer, 2000). However, previous management experience and entrepreneurial experience positively influence the economic performance of new firms (Gimeno *et al.*, 1997).

Human capital theory considers that knowledge brings greater cognitive skills to individuals, thus impelling their productivity and efficiency potential to develop activities (Becker, 1964; Mincer, 1974). Social capital theory refers to the ability of individuals to extract benefits from their social structure, interpersonal relationships and their membership in social organizations (Lin *et al.*, 1981; Portes, 1998).

Davidsson and Honig (2003) argue that formal education does not seem to be a determining factor of success throughout the business process or in terms of gestation of activities. The coordination of knowledge dispersed among different individuals is a distinctive capability of entrepreneurs that is related to their knowledge and skills learned through education and previous work experience. Moreover, perceptions of risk and opportunities are influenced by the ability to accumulate new knowledge, which depends on the existence of stocks of explicit knowledge acquired in education institutions and implicit knowledge acquired through experience in a certain field (Cohen and Levinthal, 1990). Consequently, we formulate the following hypothesis:

H2. Human capital factors influence organizational performance differently.

2.3 Social capital

It is generally acknowledged in the literature that the importance of social capital for entrepreneurs has been increasing (Anderson and Miller, 2003; Myint *et al.*, 2005; Ullhoi, 2005), and studies using models of structural and cognitive social capital that influence business growth are starting to appear (Liao and Welsch, 2005). We chose to study human capital in terms of social exchanges due to its influence on performance, considering business success as a social game (Schoonhoven and Romanelli, 2001). Lazega (1999) describes social capital as a product of multi-complex networks, namely through the combination of work and friendship relationships, because this confers cohesion and a range of effects on performance; strong in the case of work and weak in the case of friendship. Teece (2005) claims that the communication process is an important competency for the success of firms.

Social capital encompasses the context, stock of relationships, interpersonal trust and norms that allow certain behaviors and relationships between individuals, and that ensure conditions for the development of organizations and knowledge sharing (Anklam, 2002). Social capital is thus considered an activity with multiple dimensions of which we highlight the cognitive ability and communication aptitude influenced by context (Widén-Wulff and Ginman, 2004). Woolcock and Narayan (2000) and Putnam (2000) state that it is the nature of the social interconnections that hold, bind or unite individuals. According to Reagans and Zuckerman (2001), teams with greater diversity of social interconnections improve organizational performance. The entanglement resulting from repeated and frequent social interaction is essential for accomplishing a competitive and efficient organization (Ghoshal and Bartlett, 1990). Schoonhoven and Romanelli (2001) claim that Human capital, social capital

entrepreneurial success is the result of a social game, given that the widespread use of social capital, from the perspective of social exchanges, influences the performance of organizations. The working hypothesis is the following:

H3. Social capital factors influence organizational performance differently.

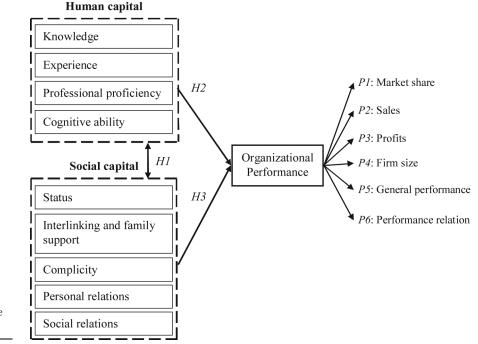
3. Conceptual and empirical agenda

3.1 Research model and variables

The research model establishes the relationship between human capital and social capital and its effect on organizational performance (Figure 1).

Human capital is made up of four constructs.

- [n list]knowledge, composed of the variables academic level of the chairman (HC1), academic level of the director/manager (HC2), specific training of the chairman (HC3) and specific training of the director/manager (HC4);
- (2) experience, composed of the variables business experience (HC5), management/leadership experience (HC6), technical/technological work experience (HC7), commercial work experience (HC8), industry experience (HC9) and diversified experience (HC10);
- (3) professional proficiency, composed of the variables professional proficiency in the technical/technological area (HC11), professional proficiency in company management (HC12), widespread knowledge (HC17) and communication skills (HC18); and





Hypothesized model of causal structure linking human capital, social capital and performance constructs

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(4) cognitive ability, composed of the variables strategic decision-making regarding risk-taking propensity (HC13), ability to innovate (HC14), perception of risk and threats (HC15) and discovery and exploitation of opportunities (HC16).

Social capital is made up of five constructs.

- (1) [n list]status, composed of the variables economic status (SC1), cultural status (SC2), popular status (SC3) and political status (SC4);
- (2) interlinking and family support, composed of the variables family interlinking (SC5), work interlinking (SC6), sporting interlinking (SC7), associative interlinking (SC8), political interlinking (SC9), family encouragement for challenges (SC18) and family support to overcome difficulties (SC19);
- (3) complicity, composed of the variables interpersonal solidarity (SC10), interpersonal confidence (SC11) and understanding of weaknesses (SC12);
- (4) personal relations, composed of the variables personal relations with financial entities (SC13), personal relations with the government (SC14), personal relations with business associations (SC15), personal relations with sports associations (SC16) and personal relations with cultural institutions (SC17); and
- (5) social relations, composed of the variables informal relations with bank/insurance managers (SC20), informal relations with the government (SC21), informal relations with association managers (SC22) and informal relations with cultural institutions (SC23).

A single construct was used in the performance (P) measurement model. This model includes the variables market share (P1), sales (P2), profits (P3), firm size (P4), general performance (P5), and performance relation (P6). These variables were measured on a five-point Likert scale, ranging from less important (1) to more important (5).

3.2 Data

This research focuses on Portuguese small- and medium-sized firms (SME) across various business sectors with the exception of the financial sector. The selected firms were those employing between 10 and 250 persons (SME definition adopted by the European Commission, 2003/361/EC).

The data were collected using a questionnaire sent to the general manager of a group of firms randomly selected from the Informa D&B database. The chosen firms had between 3 and 15 years of business history. This range was chosen specifically because such a duration best captures the evolutionary stages of business projects. A total of 199 useable responses were received. Of those, 59 (29.7 percent) were from manufacturing firms, 33 (16.6 percent) were from construction and public works firms, 45 (22.6 percent) were from wholesale and retail trade firms, and 62 (31.1 percent) were from service firms.

3.3 Structural equation modeling

Structural equation modeling (SEM) was used to analyze human capital, social capital and performance data using a two stage procedure (Hair *et al.*, 2006).

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In the first stage, we performed confirmatory factor analysis to separately test how well the observed variables represent the underlying latent constructs. We computed the factor loading estimates and their associated communalities using the maximum likelihood method. Standardized loading estimates should be 0.5 or higher to suggest convergent validity. We then computed the Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy.

In the second stage, we performed the analysis of the data using the structural model, by specifying the relationships between the human capital, social capital and performance constructs. We computed two goodness-of-fit indices for the structural model using the software AMOS.

In our empirical study, the criterion for goodness of fit between the hypothesized model and the structural model was twofold. We required a relative Chi-squared (χ^2 /df) of 5 or less, and we required one of the goodness-of-fit measures (GFI, CFI, TLI) to be equal to or greater than 0.9 to accept the model.

4. Statistical analysis and results

4.1 The measurement models

The survey items and descriptive statistics are provided in Table I.

We used the principal component factor analysis method in the estimation of the factor loadings and communalities. Using a threshold of ± 0.5 for identifying significant loadings (Hair *et al.*, 2006), we observed that all but five (SC1, SC5, SC6, SC18 and SC19) variables in the social capital measurement models have significant loadings (Table II).

In the human capital measurement models, HC7, HC9, HC11, H13 and HC16 exhibit non-significant loadings (Table III).

All the variables have highly significant loadings on the performance measurement model (Table IV).

4.2 The structural model

From the confirmatory factor analysis, the items SC1, SC5, SC6, SC18, SC19, HC7, HC9, HC11, H13 and HC16 were deleted from the underlying measurement models, as they have loadings of less than 0.5 (in absolute value) and low communality estimates (< 0.25).

Following this confirmatory factor analysis, we constructed the structural model by specifying the relationships between the latent variables (human capital, social capital and performance) and the remaining items in each latent variable in line with the confirmatory factor analysis. We used modification indices to add paths one at a time in order to achieve a better fit to the data. The path diagram of the final model is shown in Figure 2.

All parameter estimates were revealed to be statistically significant at conventional levels in the final model of SEM estimation (Table V). The fit measures indicate an acceptable model fit, with relative Chi-squared of less than 5 (2.43) and CFI and TLI greater than 0.9.

The following causal paths specified in the hypothesized model were found to be statistically significant: from cognitive ability to complicity ($\beta = 0.545$), experience to personal relations ($\beta = 0.231$), experience to professional proficiency ($\beta = 0.880$), personal relations to status ($\beta = 0.835$), professional proficiency to cognitive ability

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Constructs		Variables	Mean	SD	Human capital, social capital
Human capital					oociai capitai
Knowledge	HC1	Academic level of the chairman	4.11	1.50	
	HC2	Academic level of the director/manager	3.79	1.43	
	HC3	Specific training of the chairman	2.21	0.81	
	HC4	Specific training of the director/manager	2.13	0.85	357
Experience	HC5	Business experience	4.14	0.67	
	HC6	Management/leadership experience	4.04	0.76	
	HC7	Technical/technological work experience	4.09	0.76	
	HC8	Commercial work experience	4.02	0.77	
	HC9	Industry experience	3.79	1.09	
		Diversified experience	3.86	0.84	
Professional proficiency		Professional proficiency in a technological area	3.99	0.83	
	HC12	Professional proficiency in company			
		management	4.07	0.77	
		Widespread knowledge	3.45	0.73	
0 1111		Communication skills	3.70	0.86	
Cognitive ability	HC13	Strategic decision-making regarding risk-taking	0.07	0.00	
	11014	propensity	2.97	0.86	
		Ability to innovate	3.71	0.77	
		Perception of risks and threats	3.53	0.69	
	HC16	Discovery and exploitation of opportunities	3.33	0.89	
Social capital					
Status	SC1	Economic status	3.55	0.76	
	SC2	Cultural status	3.52	0.75	
	SC3	Popularity status	2.96	1.00	
	SC4	Political status	2.39	1.05	
Interlinking and family	SC5	Family interlinking	3.49	0.90	
support	SC6	Work interlinking	3.47	0.80	
	SC7	Sporting interlinking	2.70	1.10	
	SC8	Associative interlinking	2.69	1.04	
	SC9	Political interlinking	2.28	1.04	
	SC18	Family encouragement regarding challenges	3.48	0.88	
	SC19	Family support to overcome difficulties	3.25	0.95	
Complicity	SC10	Interpersonal solidarity	3.79	0.87	
	SCII	Interpersonal confidence	3.93	0.88	
D 1 1 4		Understanding of weaknesses	3.71	0.87	
Personal relations		Personal relations with financial entities	3.41	0.94	
		Personal relations with the government	2.27	1.06	
		Personal relations with business associations	3.02	1.05	
		Personal relations with sports associations Personal relations with cultural institutions	2.58 2.67	$1.11 \\ 1.06$	
Social relations		Informal relations with bank/insurance managers	2.67 3.14	1.06 1.04	
Social relations		Informal relations with the government	1.99	$1.04 \\ 1.02$	
		Informal relations with business managers	2.53	1.02	
	SC22 SC23	Informal relations with outsidess managers	2.33	1.00	
	5625	mormai relations with cultural institutions	4.43	1.01	
Organizational performance	Di		0		
	P1	Growth in market share	3.51	1.07	
	P2	Sales growth	3.54	1.12	Table I.
	P3	Profits growth	2.71	1.15	Human capital, social
	P4	Growth of firm size	3.42	1.11	capital and performance
	Р5 Р6	General performance Performance in the previous year	3.65 3.69	0.91 0.97	survey items and descriptive statistics
	DG	Portormonoo in the providio voor			

MD 52,2	Construct	Variable	Factor loadings	Communality	KMO
02,2	Status	SC1	0.479	0.229	0.684
		SC2	0.564	0.318	0.707
		SC3	0.802	0.644	0.656
		SC4	0.611	0.373	0.639
358					0.670
	Interlinking and family support	SC5	0.474	0.225	0.741
		SC6	0.476	0.227	0.747
		SC7	0.776	0.603	0.760
		SC8	0.827	0.685	0.702
		SC9	0.629	0.396	0.773
		SC18	0.393	0.154	0.663
		SC19	0.393	0.159	0.678
					0.721
	Complicity	SC10	0.871	0.758	0.786
		SC11	0.934	0.872	0.714
		SC12	0.879	0.773	0.774
					0.756
	Personal relations	SC13	0.518	0.268	0.841
		SC14	0.750	0.562	0.830
		SC15	0.758	0.575	0.800
		SC16	0.767	0.575	0.801
		SC17	0.840	0.706	0.790
Table II.					0.808
Confirmatory factor	Social relations	SC20	0.587	0.345	0.893
analysis results for social		SC21	0.752	0.565	0.859
capital measurement		SC22	0.895	0.801	0.744
models		SC23	0.587	0.752	0.750

 $(\beta = 0.804)$, personal relations to social relations ($\beta = 0.866$), status to interlinking ($\beta = 0.956$), and personal relations to complicity ($\beta = -0.156$), thus supporting *H1*. The effect of cognitive ability on performance ($\beta = 0.395$) is positive and significant at the 0.05 level, thereby supporting *H2* for the construct cognitive ability. There is no evidence to support *H3*. Figure 2 presents the squared multiple correlations.

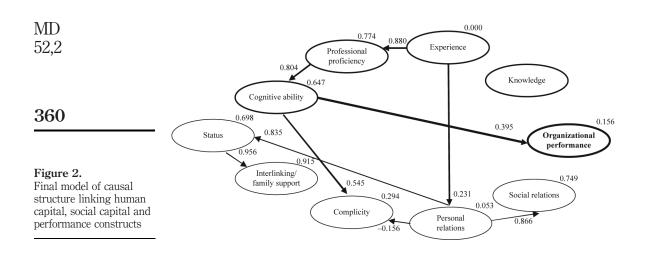
5. Discussion

Some human capital factors only relate directly to social capital factors. The formal knowledge acquired by managers, despite its importance at an individual level, does not seem to bear any relation with human capital factors. This is not the case for professional proficiency, which is associated with management capacities and risk perception of managers, and that is strongly influenced by the diversity of leadership and business experiences, thus contributing to the cognitive ability of managers. Our findings verify that cognitive ability and experience are factors that relate directly to other social capital factors, namely complicity and personal relations. The other factors that constitute social capital only relate to each other. In this case, personal relations strongly influence the status of the manager and his or her social relations. In turn, the situation of the manager's social status strongly

Construct	Variable	Factor loadings	Communality	KMO	Human capital, social capital
Knowledge	HC1	0.696	0.485	0.588	social capital
line (riedge	HC2	0.849	0.720	0.599	
	HC3	0.550	0.303	0.667	
	HC4	0.637	0.406	0.591	
				0.607	359
Experience	HC5	0.800	0.640	0.706	505
	HC6	0.838	0.702	0.685	
	HC7	0.381	0.145	0.746	
	HC8	0.560	0.314	0.867	
	HC9	0.397	0.158	0.748	
	H10	0.567	0.322	0.854	
				0.752	
Professional proficiency	HC11	0.381	0.145	0.594	
	HC12	0.580	0.337	0.638	
	HC17	0.650	0.422	0.633	
	HC18	0.652	0.425	0.637	
				0.628	
Cognitive ability	HC13	0.152	0.023	0.570	Table III.
5	HC14	0.572	0.327	0.533	Confirmatory factor
	HC15	0.668	0.446	0.545	analysis results for
	HC16	0.314	0.098	0.650	human capital
				0.564	measurement models
Construct	Variable	Factor loadings	Communality	KMO	
Organizational performance	P1	0.730	0.532	0.879	
	P2	0.825	0.680	0.830	
	P3	0.781	0.610	0.903	Table IV.
	P4	0.711	0.505	0.936	Confirmatory factor
	P5	0.874	0.764	0.783	analysis results for
	P6	0.885	0.783	0.781	performance
				0.844	measurement model

influences his or her social entanglement arising especially from family support. *H1* is supported, as in the literature, which establishes the importance of the relationship between human capital and social capital (Dimov and Shepherd, 2005; Gimeno *et al.*, 1997). Mincer (1974) emphasizes the role of cognitive skills. Similarly, Gulati (1999) and Whestpal and Khanna (2003) highlight that the fact that strategic behavior depends on social capital.

An assessment of how organizational performance is formed is of the utmost importance to understanding how to ensure the success of companies, acknowledging the fundamental role of the cognitive ability of the manager. All other factors of human capital and social capital are important in building conditions for success but do not directly determine organizational performance. This finding is of major importance and impact for management. At the center of the conditions for the success of



	Path	Estimate	Standard error	Critical ratio	Standardized regression weights
Table V. Estimated coefficients in	Professional proficiency \leftarrow Experience Personal relations \leftarrow Experience Status \leftarrow Personal relations Cognitive ability \leftarrow Professional proficiency Social relations \leftarrow Personal relations Interlinking \leftarrow Status Performance \leftarrow Cognitive ability Complicity \leftarrow Cognitive ability Complicity \leftarrow Personal relations Notes: $\chi^2/df = 2.43$; GFI = 0.831; CFI = 0.924;	$\begin{array}{c} 1.202\\ 0.234\\ 1.383\\ 0.611\\ 1.834\\ 1.106\\ 0.763\\ 0.831\\ - 0.284\\ TL = 0.0\\ \end{array}$	0.162 0.083 0.234 0.085 0.277 0.114 0.161 0.153 0.130	7.434 * 2.815 * 5.905 * 7.203 * 6.629 * 9.684 * 4.727 * 5.423 * - 2.183 *	$\begin{array}{c} 0.880\\ 0.231\\ 0.835\\ 0.804\\ 0.866\\ 0.956\\ 0.395\\ 0.545\\ -\ 0.156\end{array}$
the final model	Notes: χ /df = 2.43; GF1 = 0.831; CF1 = 0.924; ** significant at the 5% level	1 L1 = 0.9	09. Signi	ncant at t	ine 1% level;

organizations are the strategic decision capabilities and communication relationships with employees and with stakeholders (i.e. cognitive abilities). Therefore, it is human capital in all its complexity that determines organizational performance and not social capital because this latter attribute is found to depend on the former. The results support H2 but do not support H3. This research follows in the footsteps of Colombo and Grilli (2005) and Gimeno *et al.* (1997), who refer to human capital as a key to organizational performance. On the other hand, Hatch and Zweig (2000) indicate that there is no clear pattern of cognitive orientation and behavior that ensures business success. The failure to confirm the third hypothesis contradicts the literature, which opens up an opportunity to pursue further research in this field. For instance, Schoonhoven and Romanelli (2001), Liao and Welsch (2005) and Reagans and Zuckerman (2001) support the effect of social capital on performance.

6. Conclusions and contributions

This study proves that the greater experience of managers in leadership and conducting businesses contributes to the development of improved personal relationships with organizations and institutions. In turn, better aptitudes of strategic decision and communication results from management capacity, perception of risk and seizing opportunities, and is reflected in the ability to develop personal complicities of solidarity, trust and understanding of weaknesses. The study also provides evidence that organizational performance is strongly influenced by better communication and strategic decision capacities of the manager. Additionally, it is the formal personal relationships that provide conditions of social status for managers who develop strong bonds of informality in social relationships. Finally, we conclude that greater professional experience of managers offers exceptionally strong support to successfully face up to professional challenges.

This research presents a major contribution to the literature by confirming the interrelationship and influence of human capital on social capital. Moreover, it helps us to form a better understanding of the influence of cognitive skills on business success. It also makes significant contributions to the field of management by providing evidence of the effect of the professional aptitudes of managers, their experience in the development of formal social relations, and complicity.

7. Future research

Future studies should assess the relationship between human capital and social capital, and their influence on organizational performance by comparing SMEs in the growth stage with other companies in the maturity stage. It would also be of interest to analyze the same model applied to microenterprises to understand the prevalent factors of human capital and social capital.

References

- Adler, P. and Kwon, S. (2002), "Social capital: prospects for a new concept", Academy of Management Review, Vol. 27, pp. 17-40.
- Aldrich, H. and Zimmer, C. (1986), "Entrepreneurship through social networks", in Sexton, D. and Smilor, R. (Eds), *The Art and Science of Entrepreneurship*, Balinger, Cambridge, MA.
- Anderson, A. and Miller, C. (2003), "Class matters: human and social capital in the entrepreneurial process", *Journal of Socio-Economics*, Vol. 32, pp. 17-36.
- Anklam, P. (2002), "Knowledge management: the collaboration thread", Bulletin of the American Society for Information Science and Technology, Vol. 28 No. 6, pp. 1-8.
- Baker, W. (2000), Achieving Success Through Social Capital: Tapping Hidden Resources in Your Personal and Business Networks, Jossey Bass, San Francisco, CA.
- Bates, T. (1995), "Self-employment entry across industry groups", *Journal of Business Venturing*, Vol. 10, pp. 143-156.
- Becker, G. (1964), Human Capital, University of Chicago Press, Chicago, IL.
- Bennett, R. and Robson, P. (1999), "The use of external business advice by SME's in Britain", *Entrepreneurship and Regional Development*, Vol. 11, pp. 155-180.
- Bruderl, J. and Preisendorfer, P. (1998), "Network support and the success of newly founded businesses", *Small Business Economics*, Vol. 10, pp. 213-225.
- Bruderl, J. and Preisendorfer, P. (2000), "Fast growing businesses: empirical evidence from a German study", *International Journal of Sociology*, Vol. 30, pp. 45-70.

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MD	Burt, R. (2000), "The network structure of social capital", in Sutton, R. and Staw, B. (Eds), <i>Research in Organizational Behavior</i> , Vol. 22, JAI Press, Greenwich, CT.
52,2	Cohen, W. and Levinthal, D. (1990), "Absorptive capacity: a new perspective on learning and innovation", <i>Administrative Science Quarterly</i> , Vol. 35, pp. 128-152.
	Colombo, M. and Grilli, L. (2005), "Founder's human capital and the growth of new technology-based firms: a competence-based view", <i>Research Policy</i> , Vol. 34, pp. 795-816.
362	Cooper, A.C., Gimeno-Gascon, F.J. and Woo, C.Y. (1994), "Initial human and financial capital as predictors of new venture performance", <i>Journal of Business Venturing</i> , Vol. 9, pp. 371-395.
	Davidsson, P. and Honig, B. (2003), "The role of social and human capital among nascent entrepreneurs", <i>Journal of Business Venturing</i> , Vol. 18, pp. 301-331.
	Dimov, D. and Shepherd, D. (2005), "Human capital theory and venture capital firms: exploring "home runs" and "strike outs", <i>Journal of Business Venturing</i> , Vol. 20, pp. 1-21.
	Erickson, B. (2004), "The distribution of gendered social capital in Canada", in Flap, H. and Volker, B. (Eds), <i>Creation and Returns of Social Capital: A New Research Program</i> , Routledge, London, pp. 27-50.
	Ghoshal, S. and Bartlett, A. (1990), "The multinational corporation as an interorganizational network", Academy of Management Review, Vol. 15, pp. 603-625.
	Gimeno, J., Folta, T., Cooper, A. and Woo, C. (1997), "Survival of the fittest? Entrepreneurial human capital and the persistence of underperforming firms", <i>Administrative Science</i> <i>Quarterly</i> , Vol. 42, pp. 750-783.
	Glaeser, E., Laibson, D. and Sacerdote, B. (2002), "An economic approach to social capital", <i>The Economic Journal</i> , Vol. 112, pp. 437-458.
	Greene, P. and Brown, T. (1997), "Resource needs and the dynamic capitalism typology", <i>Journal of Business Venturing</i> , Vol. 12, pp. 161-173.
	Gulati, R. (1999), "Network location and learning: the influences of network resources and firm capabilities on alliance formation", <i>Strategic Management Journal</i> , Vol. 20, pp. 397-420.
	Hair, J.F., Black, W., Babin, B.J., Anderson, R.E. and Tatham, R.L. (2006), <i>Multivariate Data</i> Analysis, 6th ed., Prentice Hall, Upper Saddle River, NJ.
	Hatch, J. and Zweig, J. (2000), "What is the stuff of an entrepreneur", <i>Ivey Business Journal</i> , Vol. 65 No. 2, pp. 68-72.
	Hite, J. (2005), "Evolutionary processes and paths of relationally embedded network ties in emerging entrepreneurial firms", <i>Entrepreneurship Theory and Practice</i> , Vol. 29, pp. 113-144.
	Kawachi, I., Kennedy, B. and Glass, R. (1999), "Social capital and self-rated health: a contextual analysis", <i>American Journal of Public Health</i> , Vol. 89, pp. 1187-1193.
	Lazega, E. (1999), "Generalized exchange and economic performance", in Leenders, R. and Gabbay, S. (Eds), Corporate Social Capital and Liabilities, Kluwer, Boston, MA.
	Lechner, C. and Dowling, M. (2003), "Firm networks: external relations as sources for the growth and competitiveness of entrepreneurial firms", <i>Entrepreneurship and Regional</i> <i>Development</i> , Vol. 15, pp. 1-26.
	Liao, J. and Welsch, H. (2005), "Roles of social capital in venture creation: key dimensions and research implications", <i>Journal of Small Business Management</i> , Vol. 43, pp. 345-362.
	Lin, N. (1999), "Social networks and status attainment", Annual Review of Sociology, Vol. 25, pp. 467-487.
	Lin, N., Ensel, W. and Vaughn, J. (1981), "Social resources and strength of ties: structural factors in occupational status attainment", <i>American Social Review</i> , Vol. 46, pp. 393-405.

Lochner, K., Kawachi, I. and Kennedy, B. (1999), "Social capital: a guide to its measurement", *Health and Place*, Vol. 5, pp. 259-270.

Mincer, J. (1974), Schooling, Experience and Earnings, Columbia University Press, New York, NY.

- Myint, Y.M., Vyakarnam, S. and New, M.J. (2005), "The effect of social capital in new venture creation: the Cambridge high-technology cluster", *Strategic Change*, Vol. 14 No. 3, pp. 165-178.
- Palmer, D.A. and Barber, B.M. (2001), "Challengers, elites, and owning families: a social class theory of corporate acquisitions in the 1960s", *Administrative Science Quarterly*, Vol. 46 No. 1, pp. 87-120.
- Phillips, D. and Zuckerman, E. (2001), "Middle-status conformity: theoretical restatement and empirical demonstrations in two markets", *American Journal of Sociology*, Vol. 107, pp. 379-429.
- Podolny, J.M. (2001), "Networks as the pipes and prisms of the market: a look at investment decisions in the venture capital industry", *American Journal of Sociology*, Vol. 107 No. 1, pp. 33-60.
- Portes, A. (1998), "Social capital: its origins and applications in modern sociology", *Annual Review of Sociology*, Vol. 24, pp. 1-24.
- Putnam, R. (2000), *Bowling Alone: The Collapse and Revival of American Community*, Simon & Schuster, New York, NY.
- Reagans, R. and Zuckerman, E. (2001), "Networks, diversity, and productivity: the social capital of corporate R&D teams", *Organization Science*, Vol. 12 No. 4, pp. 502-517.
- Schoonhoven, C. and Romanelli, E. (2001), The Entrepreneurship Dynamic: Origins of Entrepreneurship and the Evolution of Industries, Stanford University Press, Stanford, CA.
- Shane, S. and Venkataraman, S. (2000), "The promise of entrepreneurship as a field of research", Academy of Management Review, Vol. 25, pp. 217-226.
- Teece, D.J. (2005), "Technological know-how, property rights, and enterprise boundaries: the contribution of arora and merges", *Industrial & Corporate Change*, Vol. 14 No. 6, pp. 1237-1240.
- Ulhoi, J. (2005), "The social dimensions of entrepreneurship", Technovation, Vol. 25, pp. 939-950.
- Uzzi, B. (1999), "Embeddedness in the making of financial capital: how social relations and networks benefit firms seeking financing", *American Sociological Review*, Vol. 64, pp. 481-505.
- Westphal, J. and Khanna, P. (2003), "Keeping directors in line: social distancing as a control mechanism in the corporate elite", Administrative Science Quarterly, Vol. 48, pp. 361-398.
- Widén-Wulff, G. and Ginman, M. (2004), "Explaining knowledge sharing in organizations through the dimensions of social capital", *Journal of Information Science*, Vol. 30 No. 5, pp. 448-458.
- Woolcock, M. and Narayan, D. (2000), "Social capital: implications for development theory, research, and policy", World Bank Research Observer, Vol. 15 No. 2, pp. 225-250.
- Writh, P., Smart, D. and McMahan, G. (1995), "Matches between human resources and strategy among NCAA basketball teams", Academy Management Journal, Vol. 39, pp. 441-463.

Further reading

Hite, J. (2003), "Patterns of multidimensionality among embedded network ties: a typology of relational embeddedness in emerging entrepreneurial firms", *Strategic Organization*, Vol. 1, pp. 9-49. Human capital, social capital

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