

Human Capital and its Impact on Small Firm Success

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Abstract

Entrepreneurship literature has identified number of factors that determine the growth or success of the small firms. Among those factors, Humane Capital has been identified as the most prominent factor. Especially in small firms owner manager plays the strategic role within the enterprise (Pennings, Lee, & Van Witteloostuijn, 1998). Gimeno, & et al., (1997). The general assumption is that human capital of the founder improves small firm's chances to survive. The one key factor to achieve higher level of success is investing in human capital. Owner manager's capability of running smoothly the business determines the level of success. Human capital makes the founder more efficient in managing and operating the business. Human capital acts as a resource and it is created by changes in persons that bring about skills and capabilities that make them able to act in new ways. Whether the Human Capital possessed by the owner manager is a strong determinant of the small business success is the main research question addressed in this research. This study focused on several objectives such as to categorize human capital attributes meaningfully based on the interrelationships among the human capital attributes; to reveal the effects of human capital on the business success and determine the strong human capital attribute which shows a strong impact on the business success; and finally suggest some recommendations based on the findings of the research. The sample includes 100 small scale manufacturing enterprises located in Southern Province of Sri Lanka. The Factor Analysis and Multiple Regression Analysis have been used for data analysis. The research founded that 11.9 percent of variation of the business success makes by human capital. Among the four factors of human capital variables resulted in factor analysis, Training and Education has a significant positive impact on business success. The other three human capital variables have no significant association with business success.

Key Words: General Human Capital, Entrepreneurial Human Capital, Small Business Success

1. Introduction

Entrepreneurial literature has identified number of factors that determine the success of the small firms such as individual – specific characteristics, Firm-specific characteristics, and industry-specific characteristics. Among those factors, individual – specific characteristics has been identified as the most prominent factor due to the very small size in small firms, the owner-founder is the manager of the firm who plays the strategic role within the enterprise (Pennings, Lee, & Van Witteloostuijn, 1998). Gimeno & et al., (1997). There is a general assumption that the human capital of the founder improves small firm's chances to survive (Bruederl et al., 1992). Human capital defined as “the knowledge, skills, competencies, and attributes embodied in individuals that facilitate the creation of personal, social and economic well being” (Organization for Economic Co-operation and Development-OECD, 2001, p18). The human

capital attributes such as: personal characteristics, age, years of education and training, work experience of the owner manager, industry specific experience etc determine the level of success of the business. Human capital acts as a resource and it is created by changes in persons that bring about skills and capabilities that make them able to act in new ways (Coleman, J.S., 1988). Owner manager's capability of running smoothly the business determines the level of success. Therefore, human capital makes the founder more efficient in organizing processes or in attracting customers and investors.

On the other hand, high level of human capital attributes can reduce outside stakeholder uncertainty. During the venture pre-growth stages, whether or not the stakeholders of a firm provide resources to a firm, such as inputs, credit and finance, information, etc will depend partly on how they view the credentials of founders or owner manager of the small firm. Therefore, it is believed that founder's human capital act as a surrogate indicator of competence and credibility of the founder (Pennings, Lee, & Van Witteloostuijn, 1998). However, most of the research focused to reveal how effect human capital on early business performance (Cooper & et al (1997); Bosma & et al, (2002); Isaksen, E.J., 2006; etc). The main claim of this study is human capital is not an immensely determine the performance at the start-up stage of the business. Continuous improvement in owner manager's human capital is essential beyond the start-up stage. The other claim of this study is, especially in developing countries like Sri Lanka, Pakistan, Bangladesh, India and etc have introduced numerous entrepreneurship development programmes for enhancing the human capital attributes of small scale entrepreneurs (SSEs). However, the survival rate even after the start-up stage of the SSEs is very low. In Sri Lanka, it has been estimated that from the business start-ups, about 90 percent have failed during its first three years from the origin. As such, studying the individual specific factors as the major determinant factor of small business success is very important. Researchers pertaining to individual specific factors are very rare in the Sri Lankan context. Especially it was hard to find research evidence on the effect of human capital on small business success. Therefore, the main focus of this study is owner managers' human capital and its impact on business success. The main research issue of this study includes: "Is the human capital a major determinant of small business success"? The other contradictory view of human capital and business success is not having a clear view about which type of human capital mostly affect on small business success. Previous researchers, for example, Bruederl et al. (1992); Cooper et al., (1997); Bosma et al, (2004); Isaksen, E.J., (2006) argued on different aspects of human capital namely: general human capital, entrepreneurial human capital, industry specific human capital etc. Therefore, the second research question of this study formulated as "which human capital attribute do affect mostly on small business success"?

The objectives of this study includes (i) to categorize human capital attributes meaningfully based on the interrelationships among the human capital attributes; (ii) to reveal the effects of human capital on the business success; (iii) to determine the human capital variable which has a strong impact on business success; and (iv) to help in deciding what extent does investment in each type of human capital could be worth to achieve business sustainability. Altogether the findings of the study may assist to individuals and business development service providers to determine how the SSEs can be promoted to achieve competitiveness and the survival of the business. .

2 Literature Review

The birth of human capital theory was announced in 1960 by Theodore Schultz (Mark Blaug, 1976). In the past, means of production constituted a major share of an organization's tangible assets. Today, human talent is concerned as a capital; talented persons carry within them, in their knowledge and expertise, important aspects of the means of production. Firms' capacity to compete is imbedded in founder's capability, education, and experience. Main focus of the human capital theory is the outcome of investments in education and work experience (Becker, 1993). Human capital encompasses both abilities, which are influenced in part by genetic factors (e.g., intelligence, health, personality, attractiveness) as well as acquired skills such as education, job training, tenure, work experience, and interpersonal relationships (Shanahan & Tuma, 1994 cited by Markman, & Baron 2003). Human capital theory is concerned with decisions with respect to investments in education and work experience (Becker, 1993). Since 1990s, many researchers in the fields of economic, human resource management, social sciences, and entrepreneurship apply human capital theory in different perspectives. With respect to Entrepreneurship, human capital theory focuses upon the business founder's acquired human capital attributes (Isaksen, 2006). There by, several researchers focus their research attention on human capital perspective as one of the determinant of the business success. This section describes definitions to human capital, human capital attributes revealed in research literature, and the nature and degree of relationship between the human capital and small businesses success. Empirical findings show that there is a positive relationship between human capital and business success. However, there is a contradictory view upon operationalization of human capital; the effect of human capital on the business success, and determination of a human capital attribute/s (Rauch & Frese. M., 2000).

2.1 Human Capital Attributes

As revealed by the literature, there are two or three types of human capital: general human capital, industry-specific human capital, and entrepreneurial human capital. Bruederl et al. (1992) distinguished between general human capital as years of schooling and years of work experience; and specific human capital as industry specific experience, self-employment experience, leadership experience, and self-employed father. According to Cooper et al. (1997), general human capital relates to factors expected to increase the individual's productivity for a wide range of job alternatives where as specific human capital factors are related to the factors which applicable to a specific domain. Bosma et al, (2002), distinguish between three types of investment in both human and social capital: general, industry-specific and entrepreneurship-specific investment. Cooper et al., (1994) suggested three categories namely, (1) general background; (2) management know-how; and (3) specific industry know-how. Bosma et al, (2004) discussed again three categories namely, (1) entrepreneurship specific; (2) industry specific; and (3) general. Isaksen, E.J., (2006) applied in his research of early business performance, two categories of human capital such as (1) general human capital; and (2) entrepreneurial human capital.

Cooper *et al.* (1994) specify initial conditions in terms of four groups of initial capital. The first, *general human capital* concerns knowledge that could lead to higher productivity and access to network resources due to the general background of the entrepreneur. The second, *management*

know-how, focuses on the entrepreneur's previous experience with general management tasks. This is mainly a question of tacit knowledge acquired through vicarious learning or by actually performing management tasks. The third factor, *industry-specific know-how*, may play an important role in the understanding of "how business is done" in a specific context of suppliers, competitors and customers. This knowledge is mostly tacit and costly to build up if the entrepreneur has no previous experience from the industry where the new business is established. The fourth group, *financial capital*, is probably the most tangible form of capital, acting as a buffer and giving greater freedom in exploring different strategies. These four categorization of human capital have been examined again in 1997 by Cooper & et al: *General Human Capital*, represented by the entrepreneur's education, gender and race, that may reflect the extent to which the entrepreneur has had opportunity to develop relevant skills and contacts; *management know-how*, embodied in the entrepreneur or available through advisors or partners, reflecting management-specific skills and knowledge without regard to the kind of business; *Industry-specific know-how* reflecting specific experience in similar business; and *financial capital* one of the most visible resources; it can create a buffer against random shocks and allow for the pursuit of more capital-intensive strategies that are better protected from imitation.

Dahlqvist, J., P. Davidsson & J. Wiklund, (2000) also extend their study by adding a fifth category, which Cooper *et al.* (1994) did not capture, *access to market and resources*. In their original study, Cooper *et al.* (1994) included education, gender and ethnic minority to represent this category. To test the factor *Management know-how*, Cooper *et al.* (1994) included presence of a parental role model, entering from outside the workforce or from non-profit organization background, level of management experience, use of professional advisors, and the presence of partners. Dahlqvist, J., P. Davidsson & J. Wiklund, (2000) also have introduced two other strong indicators, i.e. variables that clearly belong conceptually to this category. These are previous start-up experience and participation in start-up training prior to start-up. Start-up courses are aimed at providing management know-how for the startup phase and should therefore be expected to improve performance. Experience from previous start-ups provides the entrepreneur with tacit knowledge about the processes involved in getting a business up and running. This is not necessarily specific to the actual industry but rather to the managerial situation of start-ups. This knowledge should improve the odds of "getting things right. The personal characteristics such as risk taking and innovator function are often thought to be included in the entrepreneurial function. The innovator function is, of course, essential in the entrepreneurship theory of Schumpeter (Bosma & et al, 2000).

Several researchers have categorized human capital into three similar aspects as: (1) Firm – specific human capital; (2) industry – specific human capital; and (3) individual – specific human capital. Individual-specific human capital refers to knowledge that is applicable to a broad range of firms and industries; it includes general managerial and entrepreneurial experience (Pennings et al. 1998), the level of academic education and vocational training and the individuals' age (Kilkenny et al. 1999).

By integrating the literature of human capital, Ucbasaran et al. (2003) explored human capital profile of entrepreneurs with regard to: family background, industry specific know-how, and competencies. Isaksen, E.J., (2006) have integrated in his study the attributes have been discussed by previous researchers under the label of general human capital and specific human

capital. Accordingly he listed (i) age of the entrepreneur (Bates, 1995), (ii) years of work experience (Bates, 1995), (iii) management experience (Bosma et al., 2004), (iv) supervisory experience (Cooper et al., 1997), and (v) level of education/years of education (Bruderl et al., 1992) under the label of general human capital. Specific human capital includes (i) business start-up experience, (ii) business ownership experience, (iii) parental business ownership, (iv) industry specific experience, and (v) business similarity.

2.2 Impact of Human Capital on Business Success

Prior studies evidenced that intellectual capital and talented owner manager is now central to success of many business enterprises (Rivette & Kline, 2000). Several arguments support the view that a high level of human capital is related to firm survival and growth (Pennings, Lee, & Van Witteloostuijn, 1998; Bruderl et al., 1992; Cooper et al., 1994; Pennings et al., 1998; Bosma et al., 2004; Isaksen, E.J., 2006). Gimeno, Folta, Cooper, and Woo (1997) found that even among firms of equal economic strength, survival was a function of variability in human capital.

According to the Neo-classical economist Alfred Marshall (1890-1930), the successful entrepreneur has command over general abilities, specialized abilities, capital and good fortune. General ability depends on family background, education and talent. Specialized ability involves as vast knowledge of a specific industry as well as of leadership qualities. Additionally, a businessman with own capital surely has an advantage in running business. Finally good fortune is also important for the Marshallian entrepreneur.

The general trend indicates a small positive relationship between human capital and business survival. Bruderl et al., (1992) expressed that there is a general believe of entrepreneurs with human capital endowments will be more likely to own surviving firms. Even economists suggest that firm performance and personal success are determined to an important extent by human variability rather than mere exogenous factors such as product differentiation, barriers to entry, or economies of scale. By addressing the views of Bruderl et al., (1992), Isaksen, E.J., (2006) pointed out that entrepreneurs with more diverse skills and competencies are able to organize and manage the production process more efficiently and thereby increasing the productivity and profits, and to have more diversified financial bases, and finally to be able to own more successful ventures. Individuals with higher human capital may benefit from preferential treatments and hence may have better access to critical resources such as financial capital, market information and other networks. (Bosma et al (2002) revealed to what extent does investment in human and social capital, besides the widely believed determining effect of “talent”, enhance entrepreneurial performance? In this regard they distinguish between three types of investment in both human and social capital: general, industry-specific and entrepreneurship-specific investment.

Husman, (2005) conducted a series of depth interviews with small, family-owned firms in the US and Spain to understand how small businesses develop and use innovations. Results suggest several factors affect innovativeness, including industry-specific, firm-specific, and innovation-specific factors. This implies that different facets of human capital attributes possessed with the entrepreneur assist for innovativeness which is considered as very important to achieve competitive advantage and also to achieve business success.

Relatively, different studies identified business owner's level of education, his industrial specific experience, and his management experience to be related with success (Cooper, et al 1997; Bruederl et al., 1992). Bosma & et al (2000) suggested that human capital, financial capital, and social capital as the factors that determine the success. By their research they concluded that human capital is especially important for determining duration and profit. Age of the entrepreneur, experience in the relevant industry, have been considered as the strong factors of the human capital (Bosma & et al, 2000). (Bosma & et al, 2000) pointed out that experience is also important in determining business success. Having had experience in the same industrial sector as the newly founded business increases the probabilities of success in making profits and in surviving. According to the results of Bosma & et al, (2000), possessing human capital appears to be important for the duration of the business also.

The main finding of the study of Bosma & et al, (2002) is that the endowed level of talent of a small business founder is not the unique determinant of performance. Rather, investment in industry-specific and entrepreneurship-specific human and social capital contributes significantly to the explanation of the cross-sectional variance of the performance of small firm founders. More precisely: industry-specific investments in human capital such as experience in the specific industry enhance performance, irrespective of the performance measure used. In addition, human and social entrepreneurship-specific capital investments, such as earlier experience in starting up a business and the membership of an association for small business founders generate more promising start-ups. Investments in human and social capital are widely believed to improve the entrepreneurial performance as well as performance of employees (Arthur, 1994; Boselie, Paauwe and Jansen, 2001; Van Praag and Cramer, 2001; Van Praag, 2002;).

According to the findings of Gimeno & et al (1997), human capital influenced both survival & growth (except for gender, with women owned ventures being less likely to grow but just as likely to survive). Management know-how variables had more limited impact on business success. Having parents who had owned a business contributed to marginal survival but not to growth. Industry specific know-how contributes to both survival and growth.

As evidenced by Gimeno and et al., (1997) specific human capital compared with general human capital is more likely to contribute to entrepreneurial success and to superior business performance (e.g. business survival and employment growth). Furthermore, entrepreneurs with high levels of general human capital attributes such as high level of education, management experience, as compared with individuals with lower levels, are more likely to have higher expectations regarding the firm's economic performance. A research carried out by Barringer, B.R and et al in 2005 revealed that the founders of the rapid-growth firms in the sample are better educated, have a more compelling 'entrepreneurial story', and have a higher incidence of prior industry experience than the founders of the slow-growth firms.

Several researchers, for example Timothy Bates (1990), pointed out there are some important human capital variables that may measure a combination of other capital such as social capital and financial capital which may require for entrepreneurial success as well as firm longevity. The well educated and competent entrepreneur has the ability to create a credential with financial institutions, suppliers, customers etc. The ability of owners to raise debt capital is related to the values of other explanatory variables, the financial capital structure of the small business.

Specifically, the level of owner education is a major determinant of the loan amounts that commercial banks extend to small business promotion. Timothy Bates (1990), found that owner education as a key determinant of business survival. He expressed that there is a strong correlation between the level of education of the owner and access to debts.

Some researchers have found no significant relationship between the owner's age and small business growth (Abouzeedan & Busler, 2004; Macrae, 1992; Wyncarczyk, Watson, Storey, Short, & Keasey, 1993). The results of other research suggest an inverse relationship between age and small business growth. The older owner managers are less successful than their younger counterparts (Dunkelberg & Cooper, 1982; Kalleberg & Leicht, 1991). The authors have suggested older owner-managers are less able to handle the routine problems encountered by small businesses. Certain other studies have found a positive relationship between age and small business growth (Andersson, Gabrielsson, & Wictor, 2004; McGee & Sawyerr, 2003; Westhead, Wright, Ucbasaran, & Martin, 2001). Kinsella et al. (1993) and Storey (1994) found that middle aged entrepreneurs are more likely to grow their small businesses than either their older or younger counterparts.

Past research has found a positive relationship between higher educational qualifications and business growth (Dunkelberg & Cooper, 1982; Johnson, 1993; Kozan, Oksoy, & Ozsoy, 2006; Storey, 1994). Education affects owner-managers' motivation (Smallbone & Wyr, 2000), enhances exploratory skills, communication skills and foresight (Dobbs & Hamilton, 2007) which influence the performance of small businesses. There are other studies that have found no clear relationship between educational attainment and employment growth (Walsh, 1994; Wyncarczyk, et al., 1993).

Some researchers have found positive relationships between previous management experience and business growth (Dahlquist, Davidsson, & Wiklund, 1999; Hambrick & Mason, 1984; Locke, 2004; Macrae, 1992; Siegel, Siegel, & Macmillan, 1993; Storey, 1994) and growth in employment (Dunkelberg & Cooper, 1982). Other studies have found no relationship between these variables (Birley & Westhead, 1990; Kalleberg & Leicht, 1991; Siegel et al., 1993). This suggests that previous experience does not always have a positive effect on small business growth. T.N. Sinha, (1996) expressed that managerial skills are a more important factor in entrepreneurial success. Stressing that it is human factors that make the difference between success and failure. Gill (1985) stated that the market knowledge acquired while in past managerial positions or through prior business ownership becomes useful to achieve high growth rates. Storey (1994) found a positive relationship between previous management experience and high growth rates. Dobbs and Hamilton (2007) emphasized the positive effect of past experience on small business growth by proposing that owner-managers with previous experience are more likely to avoid costly mistakes than those with no prior experience.

Owners starting firms in fields where they have specific work experience are expected to outperform those lacking such industry-specific work experience (Bruderl et al., 1992). Entrepreneurs who came from similar businesses may bring with them directly relevant knowledge bases, experience, and relationships that significantly reduce the liability of newness (Cooper et al., 1994, p. 379). Bringing industry-specific experience to one's new business venture enhances performance; operating one's own firm is hypothesized to enhance further

one's industry-specific experience. (Mirjam van Praag.C., 2003) commented that success requires knowledge of the industry and the experience gathered through occupation. By arguing the resource based view of firms in achieving competitive advantages, many researchers pointed out that the importance of non-imitable human capital i.e. industry specific human capital (for example, Barney, 1991; Bosma et al., 2004).

3. Business Success and Measures of Business Success

Past research on growth of Small Scale Enterprises (SSEs) used several measures like number of employees, sales turnover, capital investment, expansion of product line, product diversification, market diversification etc in defining the firm growth (Nicher and Goldmark, 2005; Kickul and et al, 2002). Nicher and Goldmark (2005) define the firm growth of SMEs as an increase in the number of employees over time. As they argued that this metric is frequently employed in research on SMEs primarily because using employment levels is believed to yield the most accurate and comparable data. SME owners are typically able to remember their number of employees over time, even if they fail to maintain reliable written records. In addition, using the number of employees circumvents the need to deflate or otherwise adjust currency figures, which is necessary when using revenue and other monetary metrics. Employing other measures of growth may influence findings. For example, using revenues as a metric for firm growth would likely yield results with higher volatility.

O'Gorman (2001) pointed out that the SME growth can be measured in terms of sales, number of employees, value added, and complexity of the product line, production technology or the number of locations. Bosma & et al (2000) proposed three measures of success of the entrepreneur, such as: profits of the entrepreneur, employment created by the entrepreneur, and the survival period of the firm. Cooper & et al (1997) introduced three possible outcomes of business success namely: Failure; marginal survival; high growth and three different indicators reflecting growth and economic performance were chosen: sales growth, employment growth and profitability. Long-term profitability derives from the relations between cost and revenue; it is a necessary but not sufficient condition for growth. Revenues may be held up by entry barriers and costs pushed down by management ingenuity. A low-profit firm will lack the finance for expansion, but a high-profit business may conclude the risk and rewards of expansion are inadequate. In a 'life style' SME, an owner may trade profitability today against profitability tomorrow. Although there are many ways to measure SME growth and performance, such as market share, productivity and return on capital, three important indicators are particularly useful for policy makers: 1) employment growth; 2) sales growth; and 3) increase in profitability.

4. Methodology

As this study is a quantitative research, survey method has been applied for data collection. 120 of Small Scale manufacturing enterprises which locate in the Southern Province of Sri Lanka have been selected for this study. Sample includes 7 industrial sectors which are considered as major industrial activities in Southern Province, namely: Food & Beverages; Garments; Shoe & Leather Products; Coir related products; Jewelry; Steel & Metal Products; and Handicrafts. Table 1 shows the cross tabulation of the sample. Structured questionnaire has been distributed among 120 SSEs and 100 SSEs of the sample had responded the questionnaire sufficiently.

Table 1 **Cross Tabulation of the Sample**

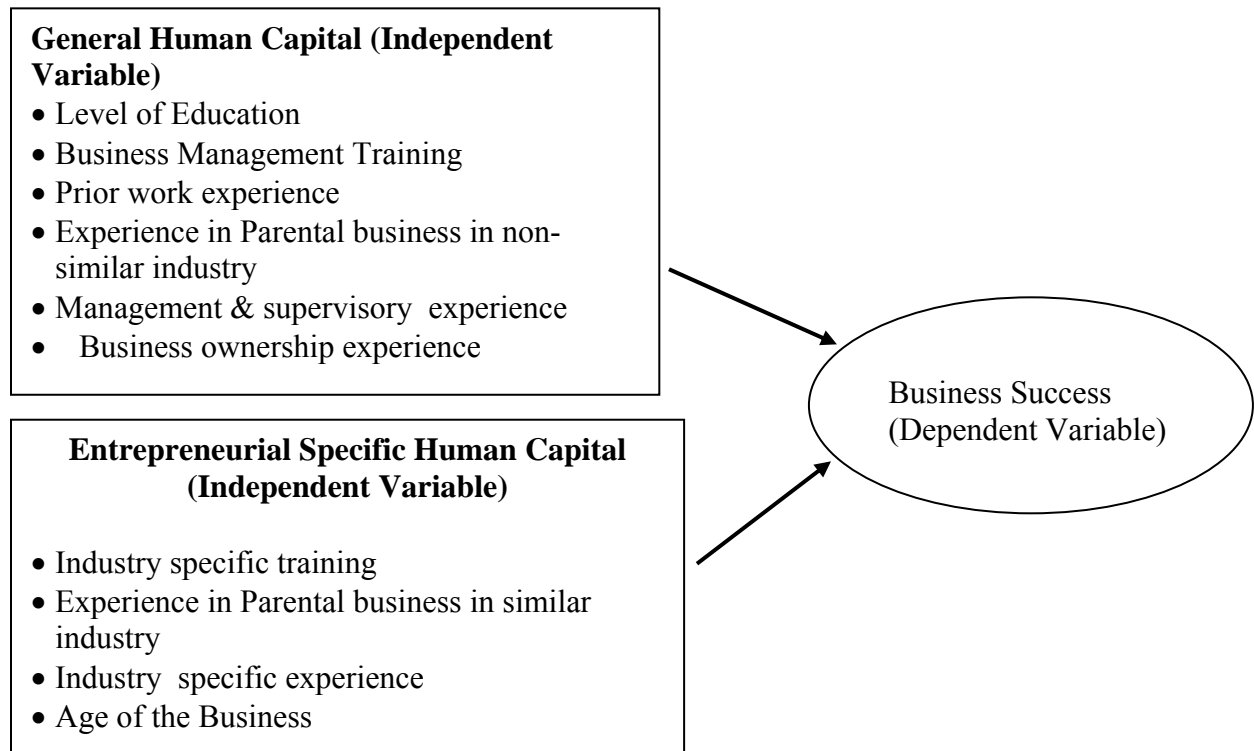
<i>Business Type</i>	<i>Gender</i>		Total
	Male	Female	
Food & Beverages	14	2	16
Jewelry	9	0	9
Brass & Metal Products	5	0	5
Coir related products	10	6	16
Handicrafts	6	5	11
Garments	2	12	14
Shoe & Leather products	16	0	16
Clay related products	11	2	13
Total	73	27	100

Source: Survey Data, 2010

Data were collected relating to both general human capital and entrepreneurial human capital. According to the conceptual model of this study as depicted in Figure 1, the attributes discussed relating to general human capital include: Level of education of the founder; Years of prior work and managerial experience; Years of business management training; years of experience in parental business in non-similar industry, and Prior business ownership. Entrepreneurship-specific Human Capital attributes includes years of skill training (technical skills and industry skill); years of Experience in the similar industry; years of experience in the Parental business in the similar industry; and age of the present business. All the human capital attributes, except level of education of the owner, are measured in terms of years. Level of education of the owner is revealed by using several interval scales such as: 5 = Up to Grade 5; 8 = Up to Grade 8; 11 = GCE O/L; 13 = GCE A/L; and 17 = University Education or equivalent. Success of the business is measured by using several criteria such as: Employment growth; Growth in investment; Sales Turnover growth; Profit Growth; Product developments; and Market developments. The perception of the entrepreneurs about their growth relating to said dimensions are collected by using ratio scale from 0 to 7 (0 = Extremely insufficient; and 7 = Extremely sufficient).

Factor analysis has been applied for reduction the human capital attributes included in the conceptual model and categorize the human capital variables meaningfully according to the cross-variations among the identified human capital attributes. This study includes one dependent variable, and four independent variables (as resulted in factor analysis). Business success is the dependent variable and human capital is the independent variable. Because one dependent variable represented as metric data (ratio scale) and several independent variables also represented as metric data, the multiple regression analysis has been used to determine the relationship between the human capital and business success as well as the degree of effect of human capital on business success (Hair, 1998). Multiple regression analysis usually applied to investigate the effect of two or more independent variables on a single, interval scaled or ratio scaled dependent variable (Hair, 1998). This study satisfies those rules of thumb and the multiple regression analysis has been used for investigating the effect of human capital on business success.

Figure 1 Conceptual Model of the Study



4. Discussion

As seen in Table 1, of the sample, 73 percent of the sample is male entrepreneurs and 27 percent is female entrepreneurs. One of the objectives of this study is to categorize the identified human capital variables into meaningful groups. It has been measured the sampling adequacy by using Kaiser-Meyer-Olkin (KMO) statistic. Overall KMO should be 0.50 or higher to proceed with factor analysis. As seen in Table 2, the sample is significant because the received KMO value is 0.598. Multicollinearity among the human capital variables tested from this study is shown in Table 3. It has been asked to suppress absolute values less than 0.6.

Table 2 Kaiser-Meyer-Olkin (KMO) statistic

KMO and Bartlett's Test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.598
Bartlett's Test of Sphericity	Approx. Chi-Square	164.319
	df	45.000
	Sig.	.000

Source: Survey Data, 2010

According to the factor analysis results depicted in Table 3, all the human capital variables inputted for the study can be regrouped into four categories. Figure 2 elaborates the revised

conceptual model of the study according to the multicollinearity of each of the human capital variable. Accordingly, three human capital variables namely: industry experience, experience in parental business in similar industry, and age of the business have been labeled under the factor 1, “Industry Specific Human Capital”. Business management training, industrial training, and education level of the owner are the variables grouped under the factor 2, “Training and Education”. The next three human capital variables tested in this study such as: managerial experience, experience in parental business in non-similar industry, and prior work experience can be labeled under the factor 3, “work and managerial experience”. The variable of Prior business ownership can be relabeled as factor 4, “Business Ownership”. These newly labeled four factors of human capital have been used to find the effect of human capital on the business success by using multiple regression analysis.

Table 3 Factor Analysis Output Table -Rotated Component Matrix

Human Capital Variables	Component			
	1	2	3	4
Industry Experience	.798			
Experience in Parental Business in Similar Industry	.791			
Age of the Business	.769			
Business Management Training		.823		
Industrial Training		.719		
Education level of the Owner		.601		
Managerial Experience			.800	
Experience in Parental Business in Non-Similar Industry			.698	
Prior Work Experience			.608	
Prior Business Ownership				.923

Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization, and

a. Rotation converged in 5 iterations.

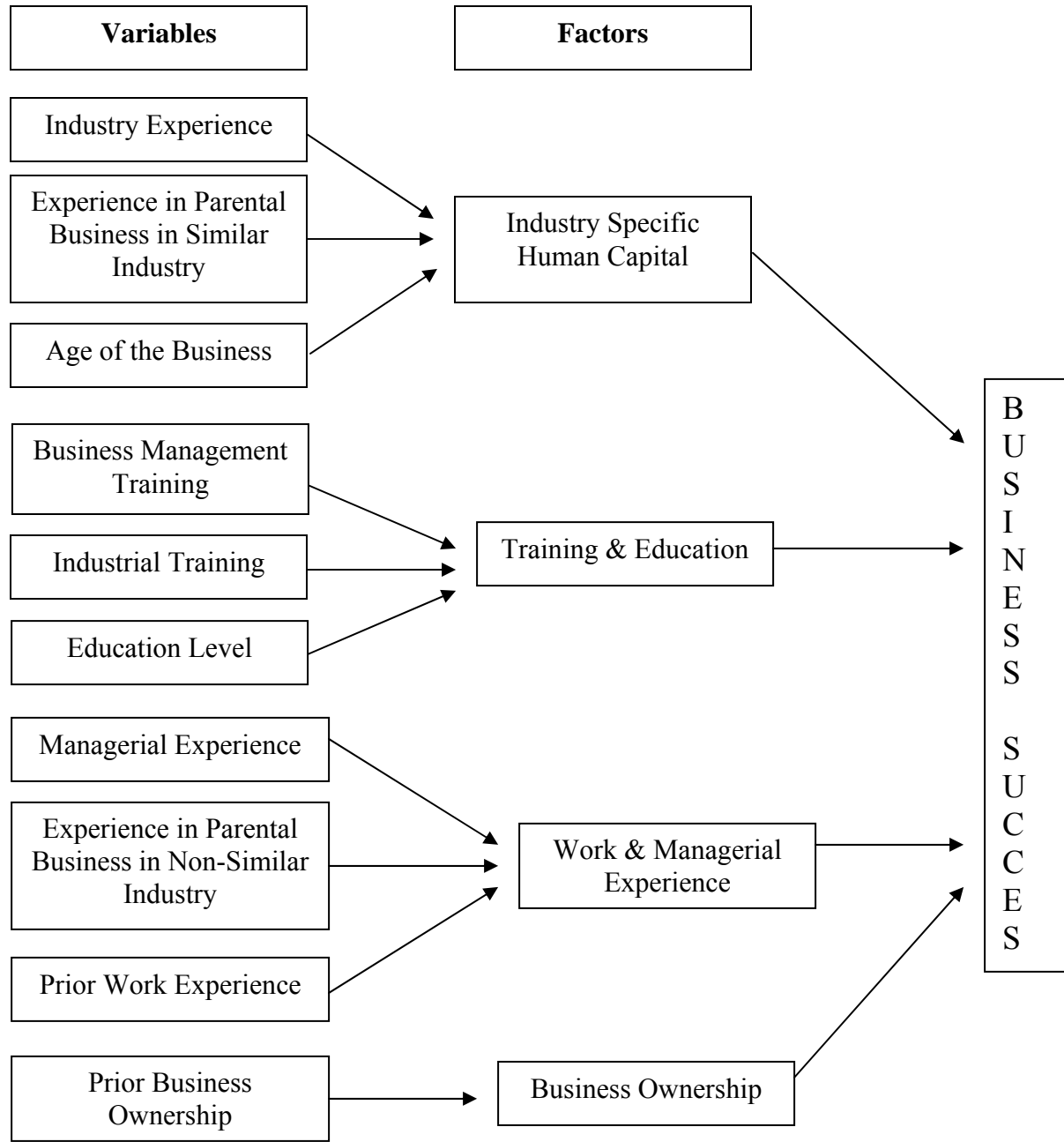
Source: Survey Data -2010

After applying the results of multiple regression static, the Multiple Regression Model can be shown as follows. The significant of the model is tested as instructed by Web Book of UCLA Academic Technology Service, relating to Regression with SPSS. Level of Significance at 0.05 ($\alpha = 0.05$), the critical value for the F-Distribution $F(4, 95) = 2.48$, which suggest that regression model of this study is highly significant ($F=4.350 > 2.48$). As mentioned by SPSS multiple regression interpretation - .Pdf & Word Free E-books, if the P-value is less than 0.05 at 95% significant level, at least one independent variable is a significant predictor of the dependent. The P value of the regression output of this study is 0.003. It tells that at least one independent variable is a significant predictor of the dependent and the model is significant.

$$\text{Business Success} = 4.248 + 0.149 * (\text{Industry Specific Human Capital}) + 0.325 * (\text{Training \& Education}) + 0.047 * (\text{Work \& Managerial Experience}) + 0.158 * (\text{Business Ownership}) + \text{Error}$$

* = Factor Loadings

Figure 2 Revised Conceptual Model of the Study



Source: Survey Data -2010

The results of the multiple regression analysis, depicted in Table 4, shows that adjusted $R^2 = 0.119$. It tells that the variation in the human capital variables accounted for 11.9 percent of the variance in business success. Multiple Regression table shows that Training and Education factor demonstrates high impact on small business success ($\beta = 0.325$, $\alpha = 0.00$). As seen in Coefficients table is attached to Table 4, coefficient is large compared to its standard error, then it is probably different from 0. So the independent variables (Human Capital variables) are having a genuine effect on the dependent variable of this study.

Table 4: Regression Results of Business Success with Factors of Human Capital

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.393 ^a	.155	.119	1.37903

a. Predictors: (Constant), REGR factor score 4 for analysis 1, REGR factor score 3 for analysis 1, REGR factor score 2 for analysis 1, REGR factor score 1 for analysis 1

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	33.088	4	8.272	4.350	.003 ^a
	Residual	180.663	95	1.902		
	Total	213.751	99			

a. Predictors: (Constant), REGR factor score 4 for analysis 1, REGR factor score 3 for analysis 1, REGR factor score 2 for analysis 1, REGR factor score 1 for analysis 1

b. Dependent Variable: Success of the Business

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	4.248	.138		30.801	.000
	REGR factor score 1 for analysis 1	.219	.139	.149	1.578	.118
	REGR factor score 2 for analysis 1	.477	.139	.325	3.441	.001
	REGR factor score 3 for analysis 1	.069	.139	.047	.498	.620
	REGR factor score 4 for analysis 1	.233	.139	.158	1.678	.097

a. Dependent Variable: Success of the Business

As interpreted the regression results in the Web Book of UCLA Academic Technology Service, relating to Regression with SPSS, this study has determined whether the independent variables

(four predictors) are statistically significant and, if so the direction of the relationship. The Factor Score 1, i.e. Industry specific experience, ($b=.219$) is not significant because P value ($p=0.118$) is greater than 0.05, but only just so, and the coefficient is positive which would indicate that increasing the industry specific experience will increase the business success. Eventhough experience in the relevant industry has been considered as the strong factor of the human capital according to Gimeno & et al (1997); Bosma & et al, (2000); and Bosma & et al, (2002), the present study reveals that industry specific experience does not have a significant impact on business success. As detected by Cooper et al., (1994); Duchesnean & Gartner, (1990), the business success was associated with having parents owned a business in similar industry. As such, the present study also shows an association with business success however, this association is insignificant. .

Next, the effect of Factor 2, i.e. Training and Education ($b=-0.477$, $p=.001$) has a significant effect significant because P value is less than 0.05, and its coefficient is positive indicating that the greater the training and education of the owner cause to increase the business success. As interpreted by Hair (1998), the independent variable which carries the highest β value effects mostly on the variation of the dependent variable. The coefficient table is attached to Table 4 shows that Training and Education factor has the highest beta value ($\beta = 0.325$, $\alpha = 0.05$) and this implies that Training and Education is the most influencing factor on business success of all the four human capital variables. This finding is consistent with many of the past research such as Cooper et al, (1997); Johnson, (1993); Kangasharju & Pekkala (2002); and Storey, (1994) which have found a positive relationship between higher educational qualifications and business success. Among the four human capital variables, Training and Education has a considerable impact on business success because its P value is less than 0.05 (significance level of 5%). It tells that there is a significant impact of Training and Education of the owner on business success comparatively with other tested human capital variables. Main focus of the human capital theory is the outcome of investments in education and work experience (Becker, 1993). This result is consistent with the argument of Peng (2001) who reveal training of entrepreneurs has a significant impact on business success. Also, the result is reliable with Cooper and Gascon (1992) who detected that 10 out of 17 studies reported positive relationship between prior level of education and superior firm performance. This finding is also consistent with the conclusions of many previous researchers such as: Coopr et al (1994) who revealed that level of education contributed both to marginal survival and achiving high employment growth; Pena (2004) who found that entrepreneurs at higher education level were more likely to have reports sales and employment growth; Bosma et al (2004) found that entrepreneurs with higher education owned more profitable firms. However, Isaksen (2006) shows an inconsistent idea that, though three is a positive relationship, the impact of education level on business performance is not significant.

The Factor Score 3, work and managerial experience ($b= 0.69$) seems to be unrelated to business success because the P value of multiple regression is very large (0.620). This finding is reliable with the research conclusions of Isaksen (2006); Cooper et al (1994); Cooper & et al (1997), who revealed that, work and managerial experience of the owner haven't have an significant impact on business performance. The finding is also consistent with Pena (2004) who revealed that years of managerial experience had a significant positive impact on employment growth but did not have a significant impact on sales growth.

Finally, the Factor Score 4, Business ownership, ($b=0.233$) is also not significant ($p=0.097$), however, there is a positive relationship between the business ownership and business success. This finding is not support with the finding of Isaksen (2006) who found entrepreneur's prior business ownership experience is significantly impact on business performance and findings of Birley and Westhead, (1993); Bosma et al., (2004) who have failed to detect evidence that entrepreneurs with prior business ownership experience reported superior level of business success.

5. Conclusions

The main research question of this study is that whether the human capital a major determinant of small business success. The findings revealed that multiple regression model explains only 11.9 percent of variance of the business success. Therefore, it can be concluded that remaining 88.1 percent of the variance determine by other factors affected on business success. This study focused on four objectives. The first objective is to categorize meaningfully the human capital variables revealed through literature. According to the factor analysis results, the researcher has categorized all the tested human capital variables of this study into four factors namely; Industrial Specific Human Capital, Training and Education, Work and Managerial Experience, and Business Ownership. The second and third objectives of this study are to examine the effect of human capital attributes on business success and thereby determine which one has a strong association with the business success. The findings concluded that Training and Education factor is significantly impact on business success and it has high level of positive association with the dependent variable. Eventhough, all other three human capital factors (Industrial Specific Human Capital, Work and Managerial Experience, and Business Ownership) have a positive association with the dependent variable, none of them have significant impact on business success. Eventhough, many of the findings of this study is consistent with the findings of the previous research, the most of the research cited in this study focused on the association between the human capital attributes on early business performance. According to the findings of this study, the remarkable implication for the entrepreneurship theory is that investment in entrepreneur training and education will ensure the competitiveness and survival of small scale businesses.

References

- Andreas Rauch & Michael Frese (2000), Psychological approaches to entrepreneurial success.
- Bates, T., (1995). Self-employment entry across industry groups. *Journal of Business Venturing*, 10, 143-156.
- Baum, J.R., Locke, E.A., 2000 (A MULTI-DIMENSIONAL MODEL OF VENTURE GROWTH, In Press - *Academy of Management Journal*).
- Becker, G. S. (1993). Human capital: A theoretical and empirical analysis with special reference to education. 3rd. Chicago: University of Chicago Press
- Birley, S., & Westhead, P., (1993). A comparison of new business established by "novice" and "habitual" founders in Great Britain. *International Small Business Journal*, 12(1), 38-60.

- Bosma, N., Van Praag, M., & Gerrit de W. (2000). Determinants of Successful Entrepreneurship. SCALES (SCientific AnaLysis of Entrepreneurship and SMEs).
- Bosma, N., M. van Prag., R. Thurik, & G. de Wit (2002). SCALES-paper N200204
- Bosma, N., M. van Prag., R. Thurik, & G. de Wit (2004). The Value of Human and Social Capital Investments for the Business Performance of Startups. *Small Business Economics* 23(3), 227-236
- Bruederl, J., Preisendoerfer, P., & Ziegler, R. (1992). Survival chances of newly founded business organizations. *American Sociological Review*, 57, 227-242.
- Coleman, J.S., (1988), Social capital in the creation of Human capital, *The American Journal of Sociology*, Vol.94, 95-120
- Cooper, A. F., Javier Gimeno-Gascón Carolyn Y . Woo, (1997). Financial Capital as Predictors of New Venture Performance, *The Journal of Private Equity*, Winter, Vol. 1, No. 2: pp. 13-30
- Cooper, Arnold C., F. Javier Gimeno Gascon, and Carolyn Y. Woo (1994). "Initial human and financial capital as predictors of new venture performances." *Journal of Business Venturing*, 9: 371-395.
- Cooper, A.C., & Gascon, F., (1992). Entrepreneurs, processes of founding, and new firm performance. In D.L. Sexton and J.L. Kasarda (eds). *The State of the Art of Entrepreneurship*. Boston: PWS-Kent Publishing.
- Dahlqvist, J., P. Davidsson & J. Wiklund, (2000). Initial conditions as predictors of new venture performance: A replication and extension of the Cooper *et al.* study. *Enterprise and Innovation Management Studies*, 1, 1-17.
- Dakhli, M., and Clerco, D.de, (2004). Human and Social Capital and Innovation: A Multi-Country Study, *Entrepreneurship & Regional Development*, 16, March, 107-128.
- Foreman-Peck J; Gerry M.; Morgan, B. (2006). Growth and profitability of small and medium-sized enterprises: Some Welsh evidence, *Regional Studies*, Vol. 40.4, pp. 307-319, June).
- Friar, J., & Meyer, M. (2003). Entrepreneurship and start-ups in the Boston region: Factors differentiating high-growth ventures from micro-ventures. *Small Business Economics*, 21, 145-152.
- Gideon D. Markmana*, Robert A. Baron, (2003) Person-entrepreneurship fit: why some people are more successful as entrepreneurs than others, *Human Resource Management Review* 13 (2003) 281-301
- Gimeno, J., Folto, T.B., Cooper, A.C., & Woo, C.Y. (1997). Survival of the Fittest? Human Capital and the persistence of underperforming firms. *Administrative Science Quarterly*, 42(4), 750-783

- Gunaratne, N., (2007), Footwear industry seeks higher profile, *The Sunday*, August 27, 2007, Volume 42, No. 13
- Hair, J.F. jr., Anderson, R.E., Tatham, R.L., & Black, W.C. (1998). *Multivariate Data Analysis*. 5th ed. Upper Saddle River, New Jersey: Prentice Hall
- Hausman, (2005). *Industrial Marketing Management* Volume 34, Issue 8, November 2005, Pages 773-782
- Isaksen, E.J., (2006). Early Business Performance: Initial factors effecting new business outcomes, PhD Series, No.6, Bodo Graduate School of Business, Norway
- Kangasharju, A., & Pekkala, S., (2002). The role of education in self-employment success in Finland. *Growth and Change*. 33(2), 216-237.
- Mark Blaug, (1976). The Empirical Status of Human Capital Theory: A Slightly Jaundiced Survey, American Economic Association.
- Markman, G.D., Baron R.A., (2003). Person-entrepreneurship fit: why some people are more successful as entrepreneurs than others, *Human Resource Management Review* 13, 281-301
- Mason, C. M. (1985), The geography of 'successful' small firms in the United Kingdom, *Environment and Planning A*, 17, 1499-1513.
- Mirjam van Praag, N.B., Thurik, R., Zoetermeer, G.W., (2002). The Value of Human and Social Capital Investments for the Business Performance of Startups, July, EIM Business Policy Research
- Pena, I. (2004). Business Incubation Centers and New firm Growth in the Basque Country. *Small Business Economics*, 22, 223-236.
- Organization for Economic Co-operation and Development (OECD). (2001). The Well-being of nations: The role of human and social capital. Paris: Healey, T., & Cote, S P 18
- Pages, E. R., Freedman, D., & Von Bargen, P. (2003). Entrepreneurship as a state and local economic development strategy. In Hart, D. (Ed.), *Entrepreneurship Policy* (pp. 240-259). Cambridge: Cambridge University Press.
- Peng, M.W., (2001). How entrepreneurs create wealth in transition economies. *Academy of Management Executive*, 15(4), 24-38
- Pennings, J.M., Lee, K., & Witteloostuin, J.A. (1998). Human capital, social capital, and firm dissolution. *Academy of Management Journal*, 41(4), 425-440
- Rauch, A. & Frese, M. (2000). Psychological approaches to entrepreneurial success: A general model and an overview of findings. In C.L. Cooper & I.T. Robertson (Eds), *International Review of Industrial and Organizational Psychology*, Vol. 15, 100-135

Rivette, K.G., & Kline, D., (2000). Discovering new value in intellectual property.
Harvard Business Review

Sánchez, M.P., Chaminade, C., Olea, M. (2000), *Journal of Intellectual Capital*, Vol. 1, nº 4,
pp.312-327

Sinha, T.N. 1996), Human Factors in Entrepreneurship Effectiveness, *Journal of Entrepreneurship*, Vol. 5, No. 1, 23-39 (1996)

[SPSS multiple regression interpretation - .Pdf & Word Free E-books](#)

Storey, D.J.,(1994). *Understanding the small business sector*, London: Thomson Learning.

Bates, (1990), Entrepreneur Human Capital Inputs and Small Business Longevity, *The Review of Economics and Statistics*, Vol. LXXII, No.4, November

Timothy Bates, 2002, Analysis of Young Small Firms that have closed: Delineating Successful from Unsuccessful Closers, Center for Economic Studies (CES) 02-24 October,

Ucbasaran, D., Westhead, P., & Wright, M. (2003). Human capital based determinants of opportunity identification. In W.D. Bygrave, C.G. Brush, P. Davidson, J. Fiet, P.G. Greene, R.T. Harrison, M. Lerner G.D. Meyer, J. Sohl, & A. Zacharakis (eds). *Frontiers of Entrepreneurship Research*, Wellesly, Mass: Babson College.

UCLA Academic Technology Service Web Book, Regression with SPSS, by Xiao Chen, Phil Ender, Michael Mitchell and Christine Wells

Web Book of UCLA Academic Technology Service, relating to Regression with SPSS. Interpreting SPSS regression output.pdf

Wong, B., Ho Y., & Autio, E. (2005). Entrepreneurship, innovation and economic growth: Evidence from GEM data. *Small Business Economics*, 24(3), 335–350.