

Assessing the Influence of Education Attainment on the Performance of Small Business Entrepreneurs in Thailand and New Zealand

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ABSTRACT

The influence of education on the performance of entrepreneurs has been the focus of much discussion and debate amongst entrepreneurship researchers. Most of the formal studies on this topic have been undertaken in the USA and overall they find that the anecdotal stories of the successful poorly educated entrepreneur are the exception rather than the rule. In fact these studies find that education has been an important determinant of entrepreneurial success. Due to the recognition of the importance of entrepreneurship to a country's development by policy makers throughout the world, and the consequent desire to create education programs and economic conditions that promote entrepreneurship, an international comparison of the contribution of entrepreneur education to business success is worthwhile. This paper compares the importance of entrepreneur education in the performance of New Zealand and Thailand small businesses. The findings suggest that in these two countries entrepreneur education may be negatively correlated with

small business performance. A number of explanations for the result are proposed and suggestions for further research outlined.

Keywords: *entrepreneur education, performance, New Zealand, Thailand*

Introduction

The contribution of the level of education of an entrepreneur to the success of his / her small business has been, and continues to be, an important issue for researchers and policy makers alike. This is due to the general acceptance that small enterprises are highly significant in the employment and economic growth of a country. While the relationship between entrepreneur education and small business success has been evaluated in the developed world, and in the US in particular, as yet there has been only limited investigation of this issue in developing countries. Further, there is a growing awareness among entrepreneurship researchers (Thomas and Mueller, 2000) of the need to undertake international comparative research in the field. The objective of this paper is to make first steps toward filling this gap by presenting preliminary results on the effect of entrepreneur education on small enterprise performance in Thailand and New Zealand. The paper has the following structure: firstly, the literature on the relationship between education and business success is reviewed; secondly, details of the data from the two countries are outlined; thirdly, the comparative analysis is provided; and fourthly, a conclusion and recommendations for further research are suggested.

Literature Review

There is a long standing finding in the research literature that the entrepreneur is important to the success of small enterprises (Schumpeter, 1934, Baumol, 1968; Ibrahim and Goodwin, 1986; Chrisman, Bauerschmidt and Hofer, 1998; Wijewardena and Tibbits, 1999). As the founder and key decision maker in small businesses, the entrepreneur has a critical influence on most business decisions. The characteristics of the entrepreneur, therefore, can be important determinants of the entrepreneur's decisions. These characteristics include family background, age, education, work history and motivation (Hisrich and

Peters, 1998; Sarachek, 1978; Van de Ven, Hudson and Schroeder, 1984; Tan and Tay, 1994; Duchesneau and Gartner, 1990; Chrisman, Bauerschmidt and Hofer, 1998). The influence of entrepreneur education on business success is of considerable significance as due to the policy implications. If entrepreneur education were positively associated with small business success, then this information would be of value to policy makers and entrepreneurs alike.

The case for the contribution of entrepreneurial education to the success of small enterprises rests on the central role of the entrepreneur in that enterprise. In small businesses, the entrepreneur has responsibility for most of the tasks associated with running the business. Education can contribute to the entrepreneurs' business capabilities in a number of ways. Firstly, depending on the course of study, education can build the entrepreneurs' business skills. Secondly, education aids the entrepreneurs' discipline of identifying options, evaluating options and making decisions (Robinson and Sexton, 1994). Thirdly, education can improve the information set the entrepreneurs use when running their businesses. The information includes knowledge of finance sources, relevant data and where "help" can be sought.

There are a number of recent studies that have focused on evaluating the influence of entrepreneurial education on entrepreneur success. Robinson and Sexton (1994) used US Census of population data for 1980 choosing 23 to 64 year old non-student workers who were either working for wages or were self employed. They used self-employed as a proxy for entrepreneurs and excluded farmers and professionals. Education was measured as years of formal education.

They tested a number of specific hypotheses, but that of relevance to this study was hypothesis three; that the relationship between years formal education and success of the self employed increase significantly with each year of education.

A further study focussing on the influence of entrepreneurial education on business success is that of Christopher (1998). Using 1987 and 1992 data from US Bureau on the Characteristics of Minority Owned Businesses, Christopher analyses whether or not business success was based on the characteristics of individual business owners. He includes education, ie a college degree or higher, as one of the characteristics in his model. He finds from his sample of 26,514 responses from self-employed minority business owners that education did have a positive effect on business success.

Goodhuys and Sleuwaegen (2000) undertook a study on the role of entrepreneurial education on business success in developing countries. They analysed the determinants of entrepreneurial success in the Ivory Coast using 1995 and 1996 data gathered from interviews of 230 manufacturing firms as part of a World Bank project. The results of their study indicated that formal education influences are positively a firm's performance, but are gradual in the time distribution of their effects.

There are many other studies that indicate a positive relationship between education and entrepreneurial success (Robinson and Sexton, 1994; Ramachandran and Shah, 1999; Honig, 1998; Hustedde and Pulver, 1992; Ronstadt, 1985; Sexton and Upton, 1987; Chusimir, 1988; Hoad and Rosco, 1964; Vesper 1990 and Wood, 1989). This is in contrast, however, with the "folklore" of entrepreneurs being dropouts from school who succeed in the business world. As well as this "folklore" view there is also some empirical work which finds that entrepreneur education is negatively related to entrepreneur success. Lussier (1995) obtained a sample from five New England States (Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island and Vermont) of 108 matched failed and successful businesses. The matching was based on size, age, location and industry. Using non-financial - entrepreneurial characteristics and managerial practices- measures to evaluate factors predicting success or failure he finds that higher education was associated with failed rather than successful firms. Reynolds and Miller (1989), Baker and Baker (1998), Cooper and Cascon (1992) and Stuart and Abetti (1990) support this negative relationship.

Although the majority of studies find a positive relationship between entrepreneur education and business success, the result is not conclusive. Further, most of the research reported is for the US. Therefore, the question remains – what is the influence of entrepreneur education on small business success in other counties? This study analyses this question by comparing small businesses in New Zealand and Thailand. These countries were chosen as case studies with New Zealand representing a developed, though still agriculturally based economy, and Thailand a developing country with a strong agricultural base, a thriving tourism and manufacturing sector, and a growing computer and electronics industry. In both economies small businesses are an important component (Phongpaichit and Baker, 1998; Bollard, 1988).

Data

The data for this study was gathered using the same survey instrument in New Zealand and Thailand. Firms in both countries with 50 or fewer employees were surveyed. The New Zealand survey, undertaken in late 1999, consisted of a random sample of entrepreneurs drawn for the Auckland Chamber of Commerce database. An introductory letter was sent to each entrepreneur stating that the study's purpose was to learn about entrepreneurship and to evaluate the current conditions for entrepreneurship in New Zealand. Entrepreneurs were informed that the results of this study would be used to better understand the cultural, social, political and financial conditions affecting small business. There were 104 responses, of which 96 contributed the data for the New Zealand section of this study.

The Thai data for this study was gathered in Bangkok and Chonburi in 1998. Students from the University of the Thai Chamber of Commerce, Bangkok distributed the questionnaires to the entrepreneurs who had been identified from a database provided by the Thai Ministry of Industry. In total 169 questionnaires were completed by firms who met the small enterprise criteria: fewer than fifty employees. Of these 64 contributed the data for the Thai section of this study.

A number of variables have been used by researchers to measure success including sales growth, assets, turnover, profit and return on investment (Wikland, 1998). Consequently, there is no agreed measure of success. In this study turnover is the variable chosen, as this is a measure of the overall size of the firm, which is a useful proxy for success. Turnover was gathered as categorical variables: (1) up to NZ\$50,000, (2) NZ\$50,001 to NZ\$100,000, (3) NZ\$100,001 to NZ\$150,000, (4) NZ\$150,000 to \$200,000, (5) NZ\$200,001 to NZ\$500,000, (6) NZ\$500,001 to NZ\$1,000,000, (7) NZ\$1,000,001 to NZ\$2,000,000 and (8) over NZ\$2,000,000. Education achievement variables are also categorical and represent a continuum in education experience from primary school to doctorate qualifications. All categorical variables were converted to Likert scales to facilitate ordinary least squares regression analysis.

Analysis

In order to formally test the relationship between entrepreneur education and firm success, turnover, a model of the firm is required. The model

utilised here is derived from the Cobb- Douglas production fraction, which has been extensively used in firm studies. The model is derived as follows:

$$\begin{aligned} 1. & \quad Y = AL \sim K \\ 2a. & \quad \ln Y_i = \ln A + \beta_1 \ln L_i + \beta_2 K_i + u_i \\ 2b. & \quad \ln Y_i = \beta_0 + \beta_1 \ln L_i + \beta_2 K_i + u_i \\ 3. & \quad \ln Y_i = \beta_0 + \beta_1 \ln L_i + \beta_2 K_i + \beta_3 \ln Ed_i + \beta_4 \ln E_i + \beta_5 \ln E_i^2 + u_i \end{aligned}$$

Equation (1) is the standard Cobb-Douglas model and Equation (3) is the empirical model to be estimated using OLS. Business Experience is often included in these models in quadratic formulation, due to its positive relationship with firm success (Van de Ven, Hudson and Schroeder 1984; Tan and Tay, 1994).

In this model:

- In Y_i = natural log of turnover
- In L_i = log of the labour inputs (ie number of workers hired by the firm)
- In K_i = log of capital inputs (ie value of assets)
- In Ed = log of education
- In E = log of business experience
- In E^2 = log of business experience squared

The coefficient of interest is 03 as this will indicate the elasticity between education and turnover.

The results are outlined in Table One. For both countries the model performs fairly well with a highly significant F statistic and r^2 of around 0.40. Since the variables are in log form the coefficients are elasticities. For example, a one percent increase in capital input in New Zealand would cause a 0.36% increase in turnover.

In both countries the capital input is positive and significant, while labour is positive but only significant for New Zealand. The experience coefficients for both countries have the same pattern. The coefficient on experience is positive, but on experience squared is negative. In this quadratic form the squared value becomes dominant as experience increases. A possible interpretation is that business experience is important, but if, on average, entrepreneurs have much business experience, then the quality of this experience is low. In other words, successful entrepreneurs may have grown beyond the small business category and those left in this sector are not as successful. This does not necessarily follow for all entrepreneurs as some may choose to remain small for lifestyle and other reasons.

The key variable of interest is that of education. In both countries, although the variable is not statistically significant, it is interesting to note that the coefficient is negative. This means that, on average, an increase in the level of educational attainment by the entrepreneur is associated with lower turnover, or business success. In New Zealand this negative effect is greater than in Thailand, but in both cases they are opposite to the main findings from the United States.

Table One: Regression Model Outcomes

Using Heteroskedasticity–Consistent Covariance Matrix (White, 1993)				
R-Square = 0.4112		R-Square adjusted = 0.3785		
R-Square = 0.4076		R -Square Adjusted = 0.3566		
Variable Name	Estimated Coefficient	Standard Error	T-Ratio 90 / 59 df	P-Value
LnL	0.19297	0.05828	3.311	0.001
LnL	0.034466	0.06387	0.5396	0.592
LnK	0.36981	0.06851	5.398	0.000
LnK	0.60319	0.1092	5.522	0.000
LnEd	-0.075584	0.1052	-0.7184	0.474
LnEd	-0.11985	0.1546	-0.7755	0.441
LnE	0.73742	0.7246	1.018	0.312
LnE	0.16910	0.2714	0.6230	0.536
LnE ²	-0.13813	0.1177	-1.173	0.244
LnE ²	-0.040810	0.07609	-0.5364	0.594
CONSTANT	0.14856	1.124	0.1321	0.895
CONSTANT	0.49317	0.3806	1.296	0.200

Note: Bold face type = New Zealand model
Standard face type = Thailand model

There are a number of possible explanations for this result. The first is that this result may be a reflection of reality. There are other studies, mentioned above, which find a negative relationship between entrepreneur education and business success. For Thailand, this may result from the important role of family firms, in which historically a child, or children in the family joined the firm on completion of school. Anecdotal evidence is that this pattern is starting to change in Thailand.

A second possible explanation for the result may lie in the variables used. The measure of success, turnover, may not be optimal. A better measure of success may be sales growth. A further issue with the variables used is that the success measure in the OLS estimation is a

Likert scale. A more effective way to measure success would be with a continuous variable. A similar issue arises with the education variable; which is also a Likert scale. Use of a continuous variable, for example, years of education, may be more effective.

A third possible reason for these results is the approach used in this paper, which does not control for other variables which many influence small business success. An example of other variables that could be incorporated are entrepreneurial orientation, strategies, the industry a firm is in and characteristics of the business environment. Controlling for these variables would, perhaps, give a better evaluation of the role of education in small enterprise success.

A fourth possible reason for the result is that the education variable used in this study is not specific enough. The education variable in this study measures level of educational achievement. A more appropriate measure may disaggregate education experience into the type of education as well as level. For example, education in specific business or entrepreneurial subjects may be more relevant and useful to an entrepreneur than a general arts degree.

Conclusion

Using comparable data sets for New Zealand and Thailand small businesses this study finds that education has a negative or negligible impact upon business performance, a finding which is contrary to the majority of research findings in this area. The significance of the study is that it raises questions about the usefulness of government education policies as a method to promote entrepreneurship and improve entrepreneurial performance. A number of explanations have been outlined to explain this result, including some issues associated with the dependent and independent variables in the study. There is a need, therefore, for further research on the role of entrepreneur education which takes into account these issues and which expands the sample to include a wider range of countries.

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