THE EFFECT OF THE BUSINESSMAN'S EDUCATION LEVEL ON STRATEGIC DECISIONS

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Abstract
The businessman (Entrepreneurship) many studies focusing of entrepreneurial behavior and performance, but a specific focus education as an antecedent has been minimal. This study of 184 small businesses specifically tests the relationship between two variables: 1) the owner/manager's level of formal education and 2) his or her choice of entrepreneurial strategies for the business. To measure strategy, the Entrepreneurial Strategy Matrix, a situational model which suggests appropriate entrepreneurial strategies for both new and ongoing ventures, was utilized. As discussed below, certain limited relationships between these two variables were found. The implications of these findings and the opportunities for future research are presented. This study and its conclusions advance the literature of entrepreneurship and offer implications for those who study and/or assist small business owners and managers.
Keywords : education level, businessman (entrepreneurs), strategic decisions, strategy

INTRODUCTION AND LITERATURE

In 1970s, as the study of entrepreneurship has developed, many researchers have focused of entrepreneurial behavior and performance. What external variables are related to, and perhaps impact, entrepreneurs and their business strategies, performance, etc.? One category of these variables has been the background and experiences of the entrepreneur (Brush & Hisrich, 1991; Gibson, 2011; Griese et al., 2012; Harris et al.; Hult et al., 2004; Klein & Maher, 1966; Menon et al., 1999).

An earlier research focused education as an variable. For example, Vesper (1990) found the education level of the new venture entrepreneur strongly related to the venture's performance. Cooper et al. (1988), studying business survival factors, found that survivors were more often college graduates than were non-survivors. On the other hand, Lorrain and Dussault (1988) found a negative relationship between the entrepreneur's education level and the performance of new technology firms. In a study of "deliberate practice" (individualized self-regulated and effortful entrepreneurial activities aimed at improving performance), Unger et al. (2009) identified education level as an antecedent of such behavior. Boeker (1987), focusing specifically education and strategy, found a significant relationship between the level of formal education and the degree to which the entrepreneur followed a "first mover" marketing strategy.

Focusing specifically on women entrepreneurs, Pathak et al. (2013) found that education level was a statistically significant predictor of becoming an entrepreneur. Cope and Watts (2000) found education less important as an antecedent to entrepreneurship than were entrepreneurially-related "critical incidents" in one's past experience.

However, most of the studies that considered "education" as a possible antecedent to entrepreneurial behavior and performance looked specifically at a narrow subset of education: namely entrepreneurial workshops, courses, and similar training pedagogies,

rather than formal education at the broader level   university degrees, etc. and the overall level of educational attainment. For example, Hansemark (1998), Jack and Anderson (1999), Mazzarol et al. (1999), Schayek and Dvir (2012), and Wilbanks (2013) each focused on government-sponsored entrepreneurial skills training programs or university-based student field-work programs (often their own programs), concluding that such programs are of benefit in fostering self- employment, small business, and entrepreneurship in the economy. As Jack and Anderson concluded, "the intended outcomes are reflective practitioners, fit for an entrepreneurial career."

Yet these prior studies are generally limited in focus or in clear conclusions, and some are quite dated. Only a few of these prior investigations of antecedents to entrepreneurial activity focused on formal and broad education as an antecedent, and in more recent years, research focuses on antecedents have been targeted largely in other directions rather than education. Thus, the existing body of literature is insufficient to allow for a general consensus, let alone for the development of entrepreneurship theory. Thus, there is a need for and a value in the current study.

RESEARCH OBJECTIVES

As previously noted, this study of 184 small businesses specifically tests the relationship between two variables: 1) the owner/manager's level of formal education and 2) his or her choice of entrepreneurial strategies for the business. The Entrepreneurial Strategy Matrix (Lussier et al., 2001; Sonfield & Lussier, 1997; Sonfield & Lussier, 2000; Sonfield et al., 2001) was utilized as the basis for this current study. This matrix is a situational model, which suggests appropriate entrepreneurial strategies for both new and ongoing ventures, in response to the identification of different levels of venture innovation and venture risk. Such inclusion in a wide variety of textbooks, trade books, and entrepreneurship web sites.

Figure 1: The Entrepreneurial Strategy Matrix

High	**I-r** High Innovation	**I-R** High Innovation High Risk
Innovation	**i-r** Low	**i-R** Low innovation
Low		

The Entrepreneurial Strategy Matrix (ESM) was developed by Sonfield and Lussier to provide an alternative to more complex contingency models then available, such as Lumpkin and Dess' (1996) "entrepreneurial orientation- performance" model or to models more appropriate for large non-entrepreneurial organizations, such as the Boston Consulting Group Matrix (Hambrick et al., 1982). The four cells in the ESM derive from the two axes: innovation (the creation of something new and different) and risk (the probability of major financial loss). Thus, the top left cell of the matrix ("I-r") is the most desirable cell for an entrepreneurial venture, with high innovation and low risk, the top right cell ("I-R"), being more risky, is less desirable, and so forth. The ESM suggests to both new and ongoing entrepreneurs that some ventures are more desirable than others, in terms of likely outcome success and rewards. Furthermore, it suggests strategy modification so as to move within the matrix from a less desirable cell to a more desirable cell (as indicated in Figure 2.).

As discussed below, a sample of 184 s mall businesses was generated and investigated, with the objective of determining whether significant relationships existed between the formal education level of the business owner/manager and the cellof the Entrepreneurial Strategy Matrix, which identified his or her entrepreneurial strategy. Although for many years the literature has often highlighted differences between "entrepreneurship" and "small business" and between "entrepreneurs" and "small businesspersons," the two concepts are generally still highly interwoven and the terminologies are used interchangeably in this, article (Carland et al.,1988; Longenecker & Petty, 2010).

Figure 2: The Entrepreneurial Strategy
Matrix : Examples of Appropriate Strategies

I-r ▪ Move quickly ▪ Protect innovation ▪ Lock in investment and operating costs via control systems, contracts, etc operating costs via control systems, contracts, etc.	**I-R** ▪ Reduce risk by lowering investment and operating costs ▪ Maintain innovation ▪ Outsource high investment operations ▪ Joint venture options
i-r ▪ Defend present position ▪ Accept limited payback ▪ Accept limited growth potential	**i-R** ▪ Increase Innovation; develop a competitive advantage ▪ Reduce risk ▪ Use business plan and objective analysis ▪ Minimize investment ▪ Reduce financing costs ▪ Franchise option ▪ Abandon venture?

HYPOTHESES
There is a relationship between an entrepreneur's level of education and that entrepreneur's chosen business strategies.

METHODS
Design and Sample
As explained above, this study focused on the Entrepreneurial Strategy Matrix (ESM), developed by Sonfield and Lussier (1997).

Addressing Non-response Bias
To address non-response bias, a test of differences was run between the original mail responses and the follow-up telephone responses from mail non-respondents. No significant differences (p < .05) were found between responses of the mail and telephone surveys on any of the questions were found. Thus, non-response bias should not be problematic.

Measures and Statistical Analysis
To test the hypothesis, the measurement dependent variable was the number of years of education (on a scale of 1 = grade school, 2 = high school. 3 = some college, 4 = two years of college, 5 = four year college degree, 6 = graduate university, 7 = doctorate). The independent variable was the cell in the four-cell ESM, which best defined the overall strategy of the entrepreneur and his or her business, as shown in Figure 2 and Table 2. Respondents were asked to identify their business strategies from a listing of

various possible strategies, and this self-identification then allowed the researchers to place each respondent into one of the four ESM cells. A copy of the survey instrument is available upon request from either of this article's authors. The one-way ANOVA was used to test the hypothesis, followed by the Tukey HSD Post Hoc Tests. For this statistical testing, the terms "independent variable" and "dependent variable" do not imply causality or the direction of the relationship, but are used as the established terminology for the testing methodology, comparing the mean level of education by the strategy group selected. This research treats education level as a potential antecedent to entrepreneurial strategic decision-making.

RESULTS
Descriptive Statistics
See Table 1 for descriptive statistics of the sample. As noted, the sample size was large (N = 184) and well balanced with approximately a 70/30 split between retail/services and manufacturing, a 60/40 split of men to women, and 34 were represented in the sample. The means for the sample were approximately 15 years in business, 10 years in the present business venture, and 20 employees. Based on the descriptive statistic means, see Table 2, the strategy used most frequently by the small business owner/managers with the highest level of education was the High Innovation/Low Risk ("Ir") strategy (m = 5.54, 5 = co llege degree), followed by the High Innovation/High Risk ("IR") strategy (m = 5.14), the Low Innovation/Low Risk ("ir") strategy (m = 4.52, and the Low Innovation/High Risk ("iR") strategy (m = 4.35).

Hypothesis Testing
See Table 2 for the results of hypothesis test. As a model of the relationship between education and the strategy used by the small business owner/managers, the model ANOVA was significant (F = 3.194, p = .025) at the .05 level; there were significant differences among the four strategy groups by education. However, when comparing the four strategies selected using the Tukey HSD Post Hoc Tests, none of the four individual t-tests of differences were significant at the .05 level. Nevertheless, two of the strategies selected were significantly different at the .10 level of significance. The High Innovation/Low Risk strategy ("Ir") was significantly different than the Low Innovation/High Risk ("iR") strategy (p = .09) and the Low Innovative/Low Risk ("ir") strategy (p =.08).

The reason for the discrepancy in the level of significance going from .05 down to .10 was based primarily on the level of the statistical testing. The one-way ANOVA compares differences among all four strategies by level of education, whereas the post hoc test essentially runs the simple comparisons between each group of two (or one-on-one) with the t-test. This commonly happens with regression models. Thus, the entire model can be significant, while none of the individual independent variables is significant (Lussier, 2011).

Table 1: Descriptive Statistics

Variable (N=184)	Mean / sd	Frequency / Percentage
Years in Business	14.72 / 14.29	
Years in Venture	9.66 / 8.27	
No. of Employees	19.71 / 51.51	
Satisfaction with business	4.96 / 1.57	
Education	4.86 / 1.24	
Industry		
Retail / Service		130 / 71%
Manufacturing		54 / 29%
Product Offering		
Product		27 / 15%
Both		81 / 44%
Gender		
Men		109 / 59%
Women		75 / 41%
Very Satisfied 7-1 Very Dissatisfied		
1 = grade 7 = doctorService		
75 / 41%		

DISCUSSION AND IMPLICATIONS

This empirical analysis indicates some possible relationships between the formal education level of the entrepreneur and the strategies chosen by that entrepreneur. Furthermore, since the Entrepreneurial Strategy Matrix is based the levels of innovation and of risk in the business venture, these relationships to education level are also relevant to the type of venture that the entrepreneur has chosen.

More specifically, there appears to be a positive relationship between an entrepreneur's greater level of education and a higher level of innovation in the entrepreneur's venture, with a stronger relationship with higher innovation but lower risk than higher innovation and higher risk. Thus, this might indicate that a greater level of education tends to move an entrepreneur toward ventures involving greater innovation, but preferably with lower risk. Since the "High Innovation/Low Risk" cell is the most desirable cell in the Entrepreneurial Strategy Matrix (see a full discussion of this in Sonfield & Lussier, 1997), this implies that a greater level of education lead to choosing "better" entrepreneurial innovation/risk situations and their appropriate entrepreneurial strategies.

Table 2: Level of Education Used by Strategy

F	P-value
3.194	**.025**

Tukey HSD Post Hoc Tests

Strategy *One strategy group selected as the major strategy*	Mean/sd **Level of Education** Frequency/ **Strategy Selected**	%	*Strate gy Selec ted Comparison*
			P-Value
High Innovation / Low Risk (I-r)			
Move Quickly	5.54 / 1.50		
Lock in Investment			
High Innovation / High Risk (I-R)			
Lower Investment Costs Protect Innovation	5.14 / 1.83		
Joint Venture			
Low Innovation / High Risk (i-R)			
Increase Innovation	4.35 / 1.92		
Lower Costs I-R = .79 i-R = **.09**		26 / 15%	
Franchise Option i-r = **.08**			
Abandon Venture			
Low Innovation / Low Risk (i-r)			

Maintain Innovation

63 / 35%

I-R -   I-r = .79 i-R = .23
              i-r = .20

         i-R -   I-r = **.09** I-R = .23 i-r = .98

Defend Present Position Accept Limited Payback Accept Limited Growth

4.52 / 1.81
66 / 37%

i-r   I-r = **.08**
              I-R = .20

              i-R = .98

Bold significant at the .10 level

Of course, this study's statistical analysis cannot test causality but only relationship, and thus the above implication is only that.

Still, if one is observing, studying, or assisting an entrepreneur and his or her venture, this study's findings might lead one to expect that entrepreneurs with greater levels of education might be engaged in ventures involving higher levels of innovation and also lower levels of risk. Conversely, a lower level of education might be associated with less innovation and/or higher risk. This might enable the observer or consultant to

better understand the entrepreneurial situation and, if needed, provide better assistance. The more one understands the individual characteristics and situation of a business's owner/manager, the better one can tailor both analysis and assistance.

For example, a business consultant or team of consultants might be wise to know the level of the client's education prior to investigating the client's entrepreneurial venture or ventures. Knowledge of the education level might allow the consultant(s) to focus more or less on the choice of venture, as opposed to the implementation of the venture. How viable is the client's venture, and are the levels of innovation and risk appropriate and acceptable? Thus, knowledge of the client's level of education might facilitate and improve the consulting process and effectiveness.

Yet as the levels of statistical significance are not strong, when looking at the individual strategy cells (Tukey HSD Post Hoc Tests), there is clearly an eed for further investigation of this issue. Does a higher level of education indeed lead to, or relate to, an entrepreneur choosing better and more preferable innovation/risk situations and, in turn, the appropriate strategies for those situations? Seven levels of education were used as the measure in this study – would a greater number of measured levels in a future research study provide more refined conclusions?

Certainly, future, more in-depth research is needed before any clear conclusions can be reached and any meaningful models developed. Researchers are encouraged to move beyond this first-stage investigation. What other entrepreneurial outcomes besides choice of entrepreneurial strategy might be related to the entrepreneur's level of education? What other antecedents are worthy of investigation? And the Entrepreneurial Strategy Matrix is but one of many ways to obtain the strategy measurements necessary for such future research. What other strategy measures might be utilized in future research studies?

In the meantime, this current research study indicates that there is some level of relationship between an entrepreneur's level of formal education and his or her choices of business venture and strategy, and this finding is important and of value in our overall objective of theory development in the field of entrepreneurship.

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