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Identify the role of financial leverage in the relationship between entrepreneurship orientation and the performance of SMEs

Bui Thi Thu Loan
Hanoi University of Industry
{loanbtt, sontt}@haui.edu.vn

Nguyễn Ngọc Phương Anh
Vinschool the Harmony
nguyenngocphuonganh2606@gmail.com

Nguyen Xuan Thang
National Economic University
thangnx@neu.edu.vn

***Abstract*—The paper examines the impact mechanism of entrepreneurship orientation on the business performance of enterprises through the role of financial resources. The analysis results are based on data including 113 observations collected from small and medium enterprises according to the linear structural model. The findings suggest that financial leverage acts as a mediator for the relationship between entrepreneurship orientation and business performance. On that basis, some implications and future research directions are proposed.**

***Index Terms*—Financial leverage, entrepreneurship orientation, mediating**

I. Introduction

ENTREPRENEURSHIP is an important strategy orientation at corporate level. Entrepreneurship practices demonstrate the dynamic capabilities of the organization in searching for new business opportunities and adapting with the current competitive market. Business pursues opportunities through growth and innovation. Innovation activities also help businesses adapt better to the current competitive market, based on the supply of products, new services, or change in the production process and management. Entrepreneurship displays business philosophy through pioneering and taking on risks in seeking opportunities; increasing the advantage over competitors in creating new product segments or expanding the market share of the company's product. Having pioneering skills and the will to take risks are the features of the entrepreneurship concept [7], [18]. Depending on the research, the concept of entrepreneurship can be expanded beyond the three factors above. For example, some researchers [15], [6] proposed the concept of EO with two additional factors including aggressiveness and Competitive energy.

However, the additional aspects are mainly context specific rather than representative. Therefore, assessing the level of entrepreneurship practices of business still depends on consistent actions and the behaviour of the three aforementioned aspects [8].

Entrepreneurship orientation is a key strategic factor, and the business philosophy of the enterprise is based on dynamic capabilities. Therefore, this trend is expected to experience a deep connection with corporate performance. Thus, since the initial research was done by Covin [7], studies related to relationships between entrepreneurship orientation and business efficiency have contributed to quite a volume of documents and data. However, the results of experimental studies haven't managed to come to an agreement on the direction of influence in this relationship. The majority of studies indicate the positive relationship between entrepreneurship and performance [27], [23], [25] while some other studies show evidence of a negative relationship or in significant [21], [8]. These arguments not only originate from different methods of measurement or research context, but are also related to the mechanism forming the relationship between entrepreneurship and business performance. With the same approach, several studies have examined the mediating variables of organized learning techniques [8] or the regulatory role of adaptability [14]. Although these approaches have clarified the transmission mechanism of the influence of entrepreneurship orientation on business performance, it is not possible to help clarify which resources of the enterprise are really necessary to implement the orientation of entrepreneurship and thereby help improve business performance. Based on this argument, and on [8], [24], [25] about how entrepreneurship orientation increases access to finance and the argument regarding the effects of entrepreneurship orientation on business efficiency not being simply a direct connection, our research seeks to examine whether the availability or non availability of financial resources is a factor in explaining the impact of entrepreneurship orientation on business performance. Therefore, our study researches the mediating relationship of the level of debt that the business can access (financial leverage) in the relationship between entrepreneurship orientation and business efficiency of small and medium enterprises based on analysis of survey results of a sample of 113 enterprises.

II. Literature Review And Theory Framework

Entrepreneurship orientation is known as a multidimensional concept and a strategic direction at the corporate level designed to meet current market requirements through innovative activities (products, services and management process), the will to take risks in investments and enter new markets with uncertainty to be more proactive than competitors in targeting new market opportunities (e.g., [6], [7], [15], [19], [19], [27] [28], [27] to create growth opportunities and outstanding business results.

Innovation is a strategic direction of development associated with the goals of survival and growth of an enterprise. The concept of innovation within the framework of entrepreneurship orientation refers to not only investment or technological change to further improve the quality of products and services, but also to support creative ideas and inventions. Innovation orientation originates from practical market requirements in order to meet the increasingly demanding needs of the current market. Businesses can supply

the competitive markets with unique products and services; or use new technology and processes to create outstanding performance in manufacturing, which will help fast, sustainable growth [23], [3]. This is also supported by many studies examining the relationship between innovation implementation and business performance [7], [29], [2].

Strong competition, together with constant innovation and increasing market demands have shortened the business and product life cycle (Hamel, 2000). This leads to situations where businesses have to face the uncertainty of cash flow and current profit, as well as the future, which may cause a decrease in business performance and risk of bankruptcy. One of the ways normal businesses use to cope with that risk is to diversify business activities. Entrepreneurship orientation approaches this in a way that proactively confronts threats through seeking new opportunities. Proactiveness is expected to help improve business results by gaining the advantage of being first compared to competitors [28], [21].

Although in one of the studies, the relationship between risk-taking ability and business performance seems to be less clear, this aspect of entrepreneurship is still a representative that is expected to help improve business performance. The concept of willingness to take risks in entrepreneurship doesn't mean carelessly deciding without taking the situation into account, but rather a direction for businesses to show off their boldness in decision-making and little hesitation to seize opportunities. Businesses going in the direction of avoiding taking risks can seek profits from projects that are assessed as safe instead of those with less certainty about profitability as well as future cash flows. However, the principle of trade-off between risks and returns is a widely known issue in corporate financial management. Research from studies [17], [18] shows that tried and true strategies can lead to high average returns, as risky strategies lead to fluctuations in earnings. Therefore, it is inevitable that some projects fail while others succeed with more profit in the long run. We expect that if the enterprise applies management on the basis of strategic risk taking orientation thoughtfully, this will lead to higher business performance.

Based on this argument, these hypotheses H1, H2 and H3 are proposed. Specifically:

- Innovation has a positive relationship with business performance
- Proactive pioneering has a positive effect on business performance
- Risk - taking has a positive effect on business performance

Considering the direct influence in the relationship between entrepreneurship orientation and firm performance, although studies support a positive relationship based on empirical evidence, the overall conclusions are not really consistent. Some studies indicate that this relationship is not statistically significant, while there are studies that indicate that exercising entrepreneurship beyond a certain level can have a negative effect on the business performance of the enterprise. These issues raise a debate as to whether this relationship is a direct effect or must be through a transmission mechanism from the effects of entrepreneurship on business performance. Based on this suggestion, subsequent studies conducted tests on organizational capacity because human capital management is core to the success of small businesses, or the ability to learn and adapt as well as the ability to improvise [14].

This approach shows that the relationship between EO and business performance is better explained if factors concerning the resources to assist strategies are examined. However, this will only be considering the internal resources of the business, while external financial resources are also crucial for business activity and the successful execution of strategies, including innovation and pioneering. In a few studies on capital structure, empirical results have indicated that businesses with better access to official financial resources obtain higher performance [1]. The hypothesis on the mediating role of financial resources is hereby proposed.
H4: Financial leverage mediates the relationship between entrepreneurship orientation and performance.

III. Methodology

A. Variables and variable measure

- Business performance

Business performance is measured through statements related to growth, profit and market share compared to competitors. These indicators are measured on a 5-point Likert scale, in which, the scales include 04 indicators compared to competitors and 01 indicator to evaluate the satisfaction of enterprises with business results. The questions are based on statements such as: from "much less than competitors" to "much more than competitors", these scales are quite commonly used in most of the relevant studies [4], [5].

- Entrepreneurship orientation and financial resources.

Basically, the aspects of entrepreneurship orientation are measured based on the original scale proposed by Miller [19] with 8 measurement indicators. These scales have been used in many studies and have been validated for reliability and relevance [14], [26]. However, in order to be more certain about the relevance of the study in the context of Vietnam, we use the scales in accordance with the approach in the study by Nguyen [21]. Accordingly, each aspect of entrepreneurship is measured by 03 indicators. In other words, the study uses 09 indicators for innovation, proactive pioneering and risk taking.

Similar to the business performance scale, these indicators are measured based on the statements on 5 levels, from "strongly disagree" to "strongly agree". In order for the answers to be reliable, we also set up a reverse question. For example, on the one hand, we designed the statement 'Our company has pursued strategies that enable the discovery of opportunities in the external environment' to measure the risk-taking dimension. On the other hand, we also propose an opposing statement for this indicator, which is: "When it comes to making business decisions under conditions of uncertainty, my business is usually cautious, "wait and see". The questionnaires are considered reliable if the response re-

sults do not show inconsistencies between the opposing questions.

Regarding the assessment of financial accessibility, we use the variable financial leverage representing the ability of enterprises to use debt according to the 5 levels, from "Company has almost no access to debt" to " Businesses can fully access debt on demand" corresponding to debt levels shown on capital structure of firms including: less than 15%; from over 15% to 35%; over 35% - 50%; over 50% - 70% and over 70%.

B. Research model and data

The research model is presented in Figure 1, in which the factors of innovation, proactive pioneering and dare to take risks are the representatives of entrepreneurship orientation at the enterprise level. The financial leverage factor is examined as an intermediate variable in the relationship between entrepreneurship and performance.

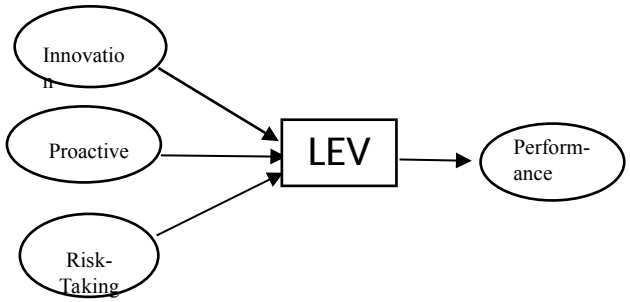

Fig 1: Research Model

The research data used for analysis is collected from survey results through questionnaires sent to 150 SMEs operating in Hanoi. Directors and owners are selected subjects to answer the questionnaires. These are suitable subjects to respond to assessing levels of entrepreneurship orientation at the enterprise level. The returned questionnaires were tested initially. Some responses deemed invalid due to incomplete information are excluded from the sample. The final sample size used for analysis is 113 obvious.

The study uses Structural Equation Modeling (SEM) to analyze the data and examine the research hypotheses. The results are presented in section 4.

IV. Results

A. Exploratory factor analysis and confirmatory factor analysis

Scale reliability: The results of scale reliability evaluation are presented in Table 1. The Cronbach Alpha coefficients of the variables of innovation, proactive initiative and risk-taking are all equal greater 0.7, respectively 0.76; 0.74 and 0.73. According to Hair [13] these scales can be used for analysis.

Corrected Item - Total Correlation coefficient of the observed variables is greater than 0.3. The lowest coefficient is the indicator of the risk-taking variable, reaching 0.44. The observed variables are therefore satisfactory and are used in analysis for the next steps.

- Exploratory factor analysis (EFA)

Table 2: Scale reliability evaluation results

Variables	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item – Total Correlation)	Cronbach's Alpha if Item Deleted
Innovation- Cronbach's Alpha = 0.76				
INV1	8.04	1.97	.58	.69
INV2	8.02	1.66	.69	.56
INV3	7.99	2.12	.51	.76
Proactive pioneering- Cronbach's Alpha = 0.74				
PRO1	6.06	1.59	.74	.44
PRO2	6.18	1.72	.58	.65
PRO3	6.33	2.35	.41	.81
Risk- Taking - Cronbach's Alpha = 0.73				
TRIS1	6.28	1.85	.61	.56
TRIS2	5.89	2.20	.60	.56
TRIS3	6.60	2.71	.44	.75
Performance- Cronbach's Alpha = 0.85				
PF1	13.73	5.70	.65	.83
PF2	12.73	5.31	.68	.82
PF3	12.71	5.23	.73	.81
PF4	13.56	5.21	.77	.79
PF	13.50	5.93	.52	.86

The results of KMO and Bartlett's test show that the data used for factor analysis is appropriate. Specifically, Kaiser – Meyer – Olkin Measure of Sampling Adequacy = .79 and Chi – Square of Bartlett's test = 629.269 with p_value = 0.000.

The study uses the promax rotation and Principal Axis Factoring extraction methods. The results showed that 4 factors were extracted at the Eigenvalue > 1.00 (the lowest value of Eigenvalue = 1,097) with a satisfactory total variance explained (67.7%). In addition, the observed variables all have high loading coefficients (factor weights) on the measured concept. The results of the EFA analysis show that the factors are loaded according to the groups of concepts originally proposed with a loading factor of over 0.5 as presented in the factor rotation matrix (Table 3).

Table 3: Factor rotation matrix

Variables	Loading factor			
	1	2	3	4
INV1	.882			
INV2	.806			
INV3	.758			
PRO1		.822		
PRO2		.809		
PRO3		.652		
TRIS1			.840	
TRIS2			.810	
TRIS3			.648	
PF1				.822
PF2				.794
PF3				.789
PF4				.709
PF5				.685

- Confirmatory factor analysis (CFA)

The results of the CFA confirmatory factor analysis of the measurement model show that the model meets the testing requirements at the significance level of 0.05 (5%).0.05 (5%): $\chi 2$ (68) =100.82, $\chi 2/df$ = 1.28, $p < .05$, RMSEA = .050, GFI = .902, CFI = .965. The values TLI = 0.955 and CFI = 0.967 are greater than 0.9. In addition, the examina-

tion of the correlation coefficients together with the standard errors between different observed variables being different from 1 shows that the concepts all have discriminant value. Thus, the indicators ensure that the measurement model is reliable and suitable for measuring and studying the relationship between structures.

B. The results of the structural model

- The analysis of the structural relationship between entrepreneurship orientation, financial leverage and performance.

The main results of testing the hypothesis on the structural relationship between latent variables based on SEM analysis show that the fit of the model reaches an acceptable level with $\chi 2$ (84) = 109.663, $\chi 2/df$ = 1.306, p < .05, RMSEA = .043, GFI = .936, CFI = .975, và TLI = .968. All t-tests reached the 5% significance level, in which most of the hypotheses are accepted. However, unexpectedly, although the innovation aspect of entrepreneurship orientation shows a consensus on the (+) sign of the influence direction in relation to business performance, this relationship is not statistically significant. The results are reported in detail in Table 4.

TABLE 4: THE RESULTS OF TESTING HYPOTHESES ON THE RELATIONSHIP BETWEEN THE ENTREPRENEURSHIP, FINANCIAL LEVERAGE AND BUSINESS PERFORMANCE OF SMES

Structural relationship	Standard Coefficient	P-value	Hypothesis
Proactive - Financial leverage	.540	***	Accepted
Risk taking - Financial leverage	.435	***	Accepted
Innovation - Financial leverage	.050	.482	-
Financial leverage-Performance	.784	***	Accepted

- Analysis of direct impact, indirect impact and overall impact

The model achieved a good fit with p value > 0.05. Values GFI = 0.936 > 0.9, TLI = 0.966 > 0.9; CFI = 0.975 > 0.9 and RMSEA = 0.044 < 0.8 show that research data is in agreement with market data. When comparing the regression coefficients obtained from the partial estimation of the relationship between entrepreneurship and business performance, the results show that these coefficients decrease in the indirect relationships model. The coefficients of innovation, risk-taking and initiative for performance are (-017); 0.141 and 0.228 compared with 0.08, 1.54 and 0.56 when implementing a direct relationship without the participation of intermediate variables.

With this result, the mediating role of the level of debt is confirmed by satisfying the conditions for the intermediate variable as proposed by Baron & Kenney (1986), specifically: 1) The entrepreneurship orientation variable explains the variation of the financial leverage variable, in which the levels of different aspects of entrepreneurship orientation have a positive relationship with the financial leverage of the enterprises; (2) The financial leverage variable explains the variation of the business performance variable. The Beta coefficient in this case is non-zero, and (3) The presence of the financial leverage variable reduces the relationship between the variable entrepreneurship and business performance, which is specified by the level of leverage. This statement is shown by the value of the lower Beta coefficient in the reinforcement test model of the indirect relationship.

V. CONCLUSION AND IMPLICATIONS

The results of the regression analysis show that EO is basically a strategic configuration that has a positive influence on business performance. These findings highlight the role of proactive initiative and risk-taking (but not arbitrariness) for new opportunities with higher business performance. In addition, our study contributes initial evidence on the mediating role of financial leverage, which represents the firm's ability to access finance.

In the context of emerging countries' economies, underdeveloped financial markets, and difficult access to finance by enterprises, especially small and medium-sized ones, the results of this research provides policy implications for encouraging the creation of opportunities to access capital more easily to meet business needs and grow. On the other hand, this also implies that businesses need to consider setting up the optimal capital structure to realize the strategic orientation of entrepreneurship, in order to improve business efficiency.

Although our research has arrived at certain results, this study has not provided evidence of a positive relationship between innovation and business performance, while this relationship has been confirmed in quite a few studies [7], [29], [2], [11]. This is an issue that needs further work. In addition, we also acknowledge some limitations related to the sample size or the tested enterprises are still mainly commercial enterprises instead of manufacturing enterprises. This issue may be one of the reasons why the relationship between innovation and business performance has not been satisfactorily concluded. In addition, the scale of financial resources based solely on the accounting scale may also be a limitation. The following studies may consider how to divide the interval more asymptotically with the Likert scale, for example. These issues are also implications for future research, which is crucial for the SME sector in Vietnam as of today.

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