Hue University Journal of Science
ISSN 1859-1388
Vol. 113, No. 14, 2015, pp. 23-32

EFFECT OF LEADERS' PERSONAL CHARACTERISTICS ON OPERATIONAL EFFICIENCY OF ENTERPRISES: RESEARCH IN BINH DINH PROVINCE

Le Thi The Buu*
University QuangTrung

Abstract: The objective of this study is to determine how the individual characteristics of business leaders influence the effectiveness of business activities of enterprises in Binh Dinh province. Methods of descriptive statistics and analysis of multivariate linear regression were used in this study. Research results show that factors such as entreprise's time of operation; experience, gender, age of CEOs; degree, types of enterprises (manufacturing), and types of ownership are believed to have some levels of influences on the business performance of enterprises in Binh Dinh province.

Keywords: Impact, characteristics, operational efficiency, business leaders, Binh Dinh

1 Introduction

Enterprises play an important part in the development of an economy. They contribute significantly to the country's economic growth, create jobs and increase income for the residents and the society. During its operation, each enterprise is interested in improving its operational efficiency to boost the enterprise's growth which is considered as its first goal.

However, the volatile domestic and world economy has a negative effect on the operation of many enterprises. Therefore, the role of the business leaders becomes more important. Leaders are heads of enterprises, so their position significantly influence the development of enterprises. If they perform their role, they will promote the enterprise's development. In contrast, they will inhibit the enterprise's development. Actually, in Vietnam, many business leaders have not well carried out their role because they do not fully understand the role of a leader of an enterprise. They have to take responsibility to look for opportunities, implement strategic changes and bring the high competitiveness and sustainable development for businesses.

2 An overview of related studies

Previous studies showed that there are many factors affecting the efficiency of a business operation. Baard, V. C. and Van Den Berg, A. (2004), Ari Kokko and Fredrik Sjoholm (2004),and Henrik Hansen et al., (2002) showed that enterprise scale is one of the factors that affects business results of enterprises. According to studies of Panco, R. and Korn, H. (1999), Henrik Hansen et al. (2002), the annual number of enterprises' activities affected the existence and growth of a business. Henrik Hansen et al. (2002), Jan Willem de Coo (2012), and Phan Dinh

**Corresponding: lethithebuu@quangtrung.edu.vn*

Submitted: September 21, 2015; Revised: October 01, 2015; Accepted: February 25, 2016.

Khoi et al. (2008) also clarified that the educational level of business owners and the policy support from the government would have some influences on the efficiency in business and production of SMEs.

Besides, Nguyen Quoc Nghi and et al. (2011) demonstrated that the level of access to these support Government policies and the number of enterprises' activities affected business operation efficiency of enterprises. Apart from the education level of business owners and the enterprise scale, these social relationships of enterprises had an impact on the business's operational efficiency. Jan Willem de Coo (2012), Obiwuru Timothy C. et al. (2011); Isabel Gallego and et al. (2010) also confirmed that there are differences between gender, company size and activities regarding the operational efficiency of an enterprise.

In general, reviewing these studies revealed that there is limited research focusing on the characteristics of leadership impacting the operational efficiency of an enterprise. Therefore, this study will examine how those personal characteristics of a business leader influence the operational efficiency of an enterprise.

3 Objectives and research methods

3.1 Research objectives

This research aims to deal with two main tasks: (1) analyze some situations in the business and production activities of enterprises in Binh Dinh province; and (2) identify how personal characteristics factors of a leader affect the operational efficiency in business and production of enterprises in Binh Dinh province.

Research Subjects: Enterprises in Binh Dinh province have been established and started its operation more than 1 year at the time of this research.

3.2 Data Collection Methods

Duration of data collection: The survey was conducted during the period from 06/2014 to 09/2014 to collect data about the operation situation and operational efficiency of enterprises in 2014 in Binh Dinh province.

The article used sampling method in proportion to collect its primary data, sample size was 210 enterprises in Binh Dinh province as shown in table 1.

Table 1. Sample structure

district	Number enterprises	Percentage (%)	Sample selection
Quy Nhon City	396	30.39	64
An Nhon Town	223	17.11	36
Tuy Phuoc district	194	14.89	31
Hoai Nhon district	139	10.67	22
Phu Cat district	118	9.06	19
Phu My district	90	6.91	15
Tay Son district	89	6.83	14
Other districts	54	4.14	9
Total	**1,303**	**100**	**210**

Source: Author compiled

The survey information include basic information about enterprise, the indicators reflecting results of business activities and the characteristics of business leadership, etc.

3.3 Data Analysis Methods

This study uses SPSS 20 software to support data analysis. The method of descriptive statistics with indicators such as medium number, rate, frequency, standard deviation was used to analyze the current situations of business and production activities at some enterprises in Binh Dinh province. The method of analysis multivariate linear regression was also used to identify factors affecting the operational efficiency in business and production of enterprises.

3.4 Building a model study

According to domestic and foreign researchers mentioned previously, there are many factors that have impacts on the operational efficiency of enterprises such as characteristics of leaders and the general characteristics of businesses. In particular, the role of leadership has great influence on the operational efficiency of enterprises. If they perform their role well, they will promote enterprise development. In contrast, they will inhibit the development of enterprises. The personal characteristics of leadership have many examples as personalities, style, hobby, gender, age, etc. However, the implementation of quantitative research requires input variables that must be measurable. Qualitative variables can use dummy variables to quantify them. So, this research conducts the selection of individual characteristics such as gender, age, education level and experience as variables for the research models. Moreover, this article aims to reflect the current status of production and business activities in enterprises. Therefore, more variables such as types of enterprises, number of years in the operation of enterprises are added. The research model is expected as follows:

$$ROS = \beta 0 + \beta 1D1 + \beta 2.X1 + \beta 3.X2 + \beta 4.X3 + \beta 5.X4 + \beta .X5 + \beta 7.X6$$

In this regression model, dependent variables are the operational efficiency of enterprises measured by return on sales (ROS) of each enterprise. In addition, in this research model, there are other independent variables to estimate their effects on dependent variables (i.e., age of a leader, gender dummy variable of leadership, education level of leaders, management experience, established years of enterprises, types of businesses ownerships, types of enterprises by manufacturing sector).

Table 2. The variables in multivariate regression model

Variable	Significance of variables	Unit	Expectation minus	Source
ROS	Return on sales	%		Nguyen Quoc Nghi and et al. (2011)
X1	Enterprises by type of ownership *(1: Company Limited, 2: Joint Stock Company, 3: Private Enterprise, 4: Others)*		+	Trinh QuocTrung, Nguyen Van Sang (2013)
X2	Enterprises by type of production *(1: trade and service enterprises, 2: industrial and construction enterprises, 3: agriculture, forestry and fisheries enterprises)*		-	Jan Willem de Coo (2012)
X3	Years of enterprises' operation	Year	+	Panco, R. and Korn, H. (1999), Henrik Hansen and et al (2002), Nguyen Quoc Nghi and et al., (2011)
D1	CEO's gender = 1 if male leaders = 2 if female leaders		-	Obiwuru Timothy C. and et al (2011); Isabel Gallegoand et al. (2010)
X4	CEO's age	Year	+	Author propose
X5	CEO's degree		+	Henrik Hansen and et al. (2002), Phan Dinh Khoi and et al. (2008), Jan Willem de Coo (2012
X6	CEO's experience is the number of years CEO is in his management positions in enterprises	Year	+	Obiwuru Timothy C. and et al. (2011)

Note: *Chief Executive Officer (CEO)*

4 Research results and discussion

4.1 Situations on the production and business activities in enterprises in Binh Dinh province

Situations on the operational efficiency of enterprises in accordance to types of ownerships

As can be seen from Table 3, Return on sales of limited liability companies is the highest one with 0.23 Return on Sales. Next, the type of enterprises with other forms of ownership accounts for 0.204 Return on Sales. Joint stock companies (JSC) also have high return on sales with 1 VND revenues creating 0.202 VND profit. Private enterprises have the lowest return on sales (1 VND) revenues enterprises and it only creates 0.18 VND profit. But generally, return on sales of all kinds of enterprises in Binh Dinh province is relatively high. On average, 1 VND revenue businesses creates 0.21 VND profit.

Return on assets also is an indicator to assess the effectiveness of business activities in enterprises. Limited Companies have the highest return on assets with a value of 0.191. In other words, 1 VND asset enterprises creates 0.191 VND profit. Other forms of ownerships have 0.147 return on assets and 1 VND asset enterprises creates 0.147 VND profit. JSCs also experience a relatively high return on assets with 1 VND for 0.145 VND profit. Private enterprises have the lowest return on assets with 1 VND creating only 0.13 VND profit. Overall, return on assets average of these types of enterprises in Binh Dinh province is relatively high. 1 VND asset enterprises in Binh Dinh province creates 0.156 VND profit.

Return on equity is also an indicator to evaluate the effectiveness of business activities in enterprises. By classifying enterprises in accordance with the types of property, it reveals that the limited companies have the highest return on equity (margin is 0.376). In other words, 1 VND equity creates 0.376 VND profit. Next, other forms of ownership, with 0.317 return on equity bring 0.317 VND profit with 1 VND equity enterprises. JSCs also have a relatively high return on equity, 0.311 VND profit created from 1 VND equity enterprises. The return on equity in private enterprises is the lowest, with 1 VND equity enterprises for 0.311 VND profit. Generally, return on equity average of types of enterprises in Binh Dinh province is relatively high. Just 1 VND equity enterprises creates 0.328 VND profit.

Table 3. Situation on the operational efficiency of enterprises in accordance to types of ownerships

Type of enterprise	ROS	ROA	ROE
Private enterprises	0.181876	0.137031	0.271046
Limited liability companies	0.232615	0.191750	0.375965
Joint stock companies	0.202013	0.145403	0.311034
Others	0.204401	0.147107	0.316884
Total	**0.210256**	**0.156523**	**0.32800**

Note: Return on sales (ROS), Return on assets (ROA), Return on equity (ROE)

Source: Survey data

A review on the operational efficiency of enterprises by business sectors

From Table 3, return on sales of trade and services enterprises is the highest, with 0.22 return on sales or 1 VND revenue enterprises creates 0.22 VND in profit. Next, the construction and industrial enterprises reach return on sales is 0.203. Put it in another way, 1 VND revenue of this enterprises area creates 0.203 VND profit. The enterprises in the field agriculture- forestry – fisheries account for the lowest return on sales with 1 VND revenue enterprises for 0.14 VND profit.

Return on assets as well as an indicator to assess the efficiency of enterprises' operation. According to these criteria, the service trade enterprises figure up the highest return on assets with 0.177 return on assets. It can be seen that each 1 VDN assets creates 0.177 VND profit. The industrial and construction enterprises follow with 0.146 return on assets. With 1 VND assets, the industry and construction enterprises create 0.146 VND profit. Agriculture - forestry – fishery enterprises have the lowest return on assets with 1 VND assets enterprises for 0.103 VND profit.

Return on equity as well as an indicator is used to assess effectiveness business activities of enterprises. The results show that the service trade enterprise has return on the highest equity, with 0.359 return on equity. In other words, 1 VND equity creates 0.359 VND profit. The type of industrial and construction enterprises follow with 0.314 return on equity or 1 VND equity of this enterprise creates 0.314 VND profit. The agriculture, forestry and fisheries enterprise counts up a relatively high return on equity with 1 VND equity enterprises for 0.201 VND profit.

Table 4. Review on the operational efficiency of enterprises by business sectors

Enterprise	ROS	ROA	ROE
Trade and service enterprises	0.224878	0.177620	0.358997
Industrial and construction enterprises	0.203198	0.146630	0.314232
Agriculture, forestry and fisheries enterprises	0.143727	0.103152	0.201681
Total	**0.210256**	**0.156523**	**0.328000**

Source: Survey data

Status of the efficiency of enterprises' operation by capital size

From Table 4, it can be seen that return on sales of enterprises having investment capital from 10 to 100 billion is the highest status, with return on sales is 0.21, in other words, just 1 VND revenue creates 0.21 in profit. Next, the enterprise having investment capital more than 100 billion, with return on sales is 0.201, or otherwise just 1 VND revenue, enterprises of this group creates 0.201 VND profit. These enterprises with the investment capital less than 10 billion have the lowest return on sales, with 1 VND revenues in this group enterprise for 0.179 VND profit.

Return on assets is used as an indicator to assess effectiveness business activities of enterprises. For this kind of enterprises having investment capital between 10 and 100 billion with return on assets is seen as the highest one with 0.158 return on assets and 0.158 VND profit

for 1 VND. Next, the enterprises possessing its capital over 100 billion have 0.144 return on assets similar to 1 VND assets enterprises of this group. And finally, the enterprises with the capital less than 10 billion have the lowest return on assets with 1 VND assets for 0.136 VND profit.

Return on equity is used as an indicator to assess effectiveness business activities of enterprises. The enterprises with investment capital from 10 to 100 billion have the highest return on equity with ratio of 0.328 or 1 VND for 0.328 VND profit. Next, the enterprises with investment of over 100 billion have return on equity of0.309; or in other words, just with 1 VND equity this enterprises group creates 0.309 VND profit. And eventually, the enterprise investing less than 10 billion have relatively high return on equity with 1 VND equity this enterprises group for 0.266 VND profit.

Table 5. Status of the efficiency of enterprises' operation by capital size

Enterprise	ROS	ROA	ROE
<10 billion	0.179819	0.136186	0.266755
from 10 to 100 billion	0.210231	0.158021	0.328531
> 100 billion	0.201616	0.143901	0.309980
Total	**0.210256**	**0.156523**	**0.328000**

Source: Survey data

4.2 Analysis on factors of CEO affecting operation efficiency of enterprises in Binh Dinh province

Survey on sample characteristics

The survey's results show that businesses in Binh Dinh province have an average of 4.48 years of operation with 1 year, the lowest, and 17 years, the highest. This proves that enterprises in Binh Dinh province are quite young. This is understandable because in the past few years, Binh Dinh province was upgraded both in terms of infrastructure, position and many other conditions that create a favorable foundation for economic development, so much enterprises emerging industry. However, relatively large standard deviation (3.887) proved a large gap in the age of enterprises in Binh Dinh province.

The survey's results about CEO's age show that the average age of business leaders is 42.64 years old. This proves that, the age of business leaders in Binh Dinh province is relatively low; in this age men are mature enough in making business decisions. However, a large standard deviation (8.185), in particular, the youngest CEO is 28 years old and the oldest one is 65 years old shows that the uniformity in the assessment of age is not high.

According to the survey's results about educational level, it is obvious that there are more than two thirds of CEO have been trained, including 63% CEO own a university – college degree. Overall, the educational level of CEO in the sample is high. This is a favorable foundation to help business owners achieve better management efficiency as well as be

receptive to scientific and technical progress and access to information a better way. The experience of business leaders in Binh Dinh province is too low with an average of4.37 years.

This reason makes it difficult for the business operation process to run. However, the difference between number of years experience of enterprises leaders is large, with difference is 3.65 years; it proves that the uniformity about leadership experience is not high.

Table 6.A description of characteristics survey sample

Criteria	Minimum	Maximum	Average	Standard deviation
Number of years activity of enterprise (years)	1	17	4.48	3.887
CEO's age (years)	28	65	42.64	8.185
CEO's degree (grades or levels)	1	3	1.70	1.461
CEO's experience (years)	1	17	4.37	3.652

Source: Survey data

Factors affecting operation efficiency of enterprises

The analysis on the research results from linear regression model reveals: (1) the level significance observed Sig. is very small (Sig. = 0.00). It shows that the safety level to disprove the hypothesis H_0, which exists a linear relationship between the efficiency of the enterprises' business operation (ROS) with at least one of the factors is an independent variable. Therefore, the linear regression model is fit the data; (2) value of adjusted R^2 is smaller than R^2. So, using it to evaluate that model is consistent because it does not exaggerate the appropriate level of this model with 1.948 Durbin-Watson coefficients. It indicates that the model with no autocorrelation phenomenon (Mai Van Nam, 2008). Besides, a magnification variance (VIF) of variables in the model is much smaller than 10, so we can conclude that variables included in the model have no multi-collinearity phenomenon (Mai Van Nam, 2008).

The regression result in Table 5 shows that seven variables included in that regression model are all independent, affecting the operational efficiency of enterprises. It is explained that all seven independent variables have coefficients Sig. less than 5%.

The statistics show that independent variables have a significant impact level (importance) on dependent variable when using standardized beta to compare. Based on results in Table 5, it is evident that there are seven factors affecting the operational efficiency of enterprises (ROS). They are arranged by a descending order of importance as follows: Year number of enterprises operation ($\beta3 = 0.610$); CEO's experience ($\beta7 = 0.407$); CEO's age ($\beta5 = 0.361$); Leadership degree ($\beta = 0.273$); Enterprises by production type ($\beta = 0.207$); Enterprises by ownership type ($\beta1 = 0.13$) and CEO's gender ($\beta = 0.106$). The number of enterprises operation year is an important factor, and it has positive affects to the enterprises' operational efficiency. It is believed that if businesses have a long operation time, they can accumulate a lot of capital to sponsor for business activities as well as new investment projects of enterprises. Moreover, when enterprises have operated in a long time, they often have more experience. They have

made a reputation and deep relationships to the society with other firms or with commercial banks. Therefore, it is easy for them to access capital sources and information sources related to the operation of their enterprises. It makes the operational efficiency higher.

CEO's experience also has a positive impact on the efficiency of enterprises' operation. CEO's experience will help them have good social relationships, and ability to make many options to address for a better business operation of enterprises.

The more experience and higher CEO's age lead to higher business's results. Therefore, the CEO's age is also an important factor positively affecting the efficiency of production and business operation. Enterprises by types of production have a negative relationship to operating results of enterprises.

The survey's results show that private enterprises have the lowest outcomes, coming after the joint stock companies and finally the limited liability companies. The results show that men leaders operate better than women.

Table 7. An analysis on results of linear regression model

Criteria		coefficient B	Std. Error	coefficient β	.Sig	VIF
Constant	C	-3.031	0.765		0.000	
Enterprises by ownership type	X1	0.388	0.130	0.130	0.003	
Enterprises by production type	X2	-0.730	0.137	-0.207	0.000	1.621
Year number of enterprises operation	X3	0.359	0.057	0.610	0.000	1.284
CEO's gender (1: male; 2: female)	D	-0,558	0.195	-0.106	0.005	7.879
CEO's age	X3	0.101	0.014	0.361	0.000	1.169
CEO's degree	X5	1.355	0.195	0.273	0.000	2.044
CEO's experience	X6	0.255	0.059	0.407	0.000	1.317
Dependent variable: ROS						
Sig. F: 0.000						
Adjusted R square: 0.754						
Durbin - Watson: 1.948						

Notes: *1 Co., 2 JSC, 3 PTE, 4 other*

Source: Survey data

1: trade and service enterprises, 2: industrial construction enterprises, 3: agriculture forestry fisheries enterprise

5 Conclusion

The operational efficiency of enterprises is a vital factor of a business in a competitive environment as present. The operation of enterprises is effective, that will not only help business survive and develop, but also contribute actively to development of the local economy. The development of enterprises in Binh Dinh province currently does not fully meet requirements for the province's economic and social needs. Enterprises often operate within small spaces, and the competitiveness is weak. Because of this situation, the environmental

factors and factors about individual characteristics of business leaders have great influences. The study results show that these individual characteristics count up 75.4% of these changes for the business efficiency. Moreover, the study's results also determine an extent influencing factors such as number of enterprises' foundation years, CEO's experience, CEO's age, CEO's degree, enterprises by types of production, types of ownership and CEO's gender that impact the operational efficiency of enterprises. Through the study's results, these business leaders are expected to be more aware of the roles of individual characteristics in the operational efficiency of enterprises. Then, they will try to improve their capabilities to help enterprises grow.

References

1. Nguyen Quoc Nghi and Mai Van Nam(2011), Factors affecting the business performance of small and medium-sized enterprises in Can Tho City, *Journal of Science Can Tho University*, 19b, 122- 129
2. Mai Van Nam (2008), *Econometrics (Econometrics),* Culture and Information Publisher.
3. Phan Dinh Khoi, Zhang Dong Loc, Thanh Danh Vo (2008), *"Overview of private sector in the Mekong Delta."* education publisher.
4. Jan Willem de Coo (2012), The relationship between gender quotas in board of directors and firm performance: Does a gender quota increase firm performance?; Bachelor Thesis, Tilburg University.
5. Isaelgallego –Asvarez, Isael Maria Garcia-Sanchez,Luis Rodriguez-dominguez(2010),The influence of gender diversity on corporate performance; *Revista de Contabilidad-Spanish Accounting Review* Vol. 13 - Nº 1; Pag. 53-88 ISSN: 1138-4891 Dep. Legal: MA-1436/97
6. Lussier, R. N. and C. F. Achua(2001),*Leadership: Theory, Application, Skill Development.* Cincinnati, OH: South-Western College Publishing.
7. Ari Kokko and Fredrik Sjoholm (2004), The internationalization of Vietnamese SMEs, Stockholm School of Economics, Asian Economic Papers, Vol. 4, No. l.
8. Baard, V.C. and Van den Berg, A. (2004), "Interactive Information Consulting System for South African Small Businesses", South African Journal of Information Management, Vol. 6, No. 2
9. Henrik Hansen, John Rand and Finn Tar (2002), SME Growth and Survival in Vietnam: Did Direct Government Support Matter?
10. Panco, R., and Korn, H (1999), "Understanding Factors of Organizational Mortality: Considering Alternatives to Firm Failure", http://www.eaom.org.