

# ENVIRONMENTAL IMPACTS ON SMALL AND MEDIUM ENTERPRISES EFFECTIVENESS (THE CASE OF FISHERIES SECTOR IN VIETNAM)

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*This paper analyzes factors that determine the competitiveness of countries, cities or regions in a global economy. To stimulate competitiveness authorities and business can use different policies at the different geographical levels (country, región, city, clusters).*

*The objective of this paper is to make countries, cities or regions more competitive in a global economy, by linking them up to global value chains. We will argue that clusters are one way of increasing global competitiveness. Also competitiveness of cluster will be discussed and policies to promote the competitiveness at different levels will be listed. Finally, the factors influencing competitiveness will be analyzed.*

**Keywords:** business performance, SMEs, managerial skills, policy, Vietnam

## Introduction

Worldwide value chains can help small and medium-sized enterprises in agriculture, forestry and fisheries to increase profits, take new opportunities from international economic integration, to increase the value of Vietnam's agricultural products. Government has to realize financial policies to support small and medium-sized enterprises in this sector in order



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to develop financial capability for enterprises to implement high-tech applications and help them to join the effective global chains.

According to the Chamber of Commerce and Industry of Vietnam (VCCI), the SME sector accounts for an important place in the economy. The statistics said, SMEs account for over 97% of all enterprises throughout the country, contributing 50% of GDP, 33% of state budget revenues (the state budget), 62% creating jobs for laborers, contributing 49% on creating added value for the economic organization... but this economic sectors still face difficulties in accessing credit.

Based on Institute of SMEs Management survey, currently only about 30% of SMEs have access to funding from banks and the remaining 70% should continue to use their own capital or borrow from informal sources with detailed very high cost.

During 2012 - 2016 the growth rate of Vietnam aquaculture enterprises reached 12.6% per year that is higher than rates of whole national business development (10.9% per year). The proportion of aquaculture enterprises tends to diminish (compared to businesses nationwide) from 1.61% in 2012 to 0.96% in 2016 (data was presented in seminar "Solution unsecured financing for small and medium enterprises", held in Ho Chi Minh City, on 13/1/2016).

Considering business efficiency we can use indices such as profitability on assets (POA), return on brand equity (ROE), profitability performance on sales (ROS) of aquaculture enterprises.

POA of aquaculture enterprises in 2012 reached 15.1% and 11.8% in 2016. ROE of fishery enterprises reached 19, 2% in 2012, 14.7% in 2015 compared to only 6.3% rate in 2012 and 6.65% in 2016 of business in general. ROS of aquaculture enterprises reached 10.6% (just over 4.5% for business in general). Along with higher profitability, performance and degree of safety capital ratio accounted for the aquatic seafood business losses (35.1% in 2016) lower than other industries (44.8 % year 2016). However, we have to notice that the proportion of the seafood business loss increased rapidly from 23.2% (2012) up to 35.1% (2016). This suggests that the seafood business enterprises in Vietnam are still facing many difficulties.

## **Theoretical Foundations and research models**

### ***Theoretical Foundations***

Typically, SMEs face higher transaction costs than big enterprises in obtaining bank credit (Saito & Villanueva, 1981) or financing for working capital (Peel & Wilson, 1996). The researchers also identified difficult access to external financing and weak capital base, lack of experience in the job sector, especially the lack of technical knowledge coupled with management skills (that indicate a lack of planning and market research) (Van Stel & Storey, 2004). A study by the World Bank proposes that 90% of surveyed small businesses said that credit is a major constraint in new investment (Parker et al., 1995). Many SMEs' owners or

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directors confirmed lack of the training and managerial experience, their acting based more on intuition than analyze, active involvement in personal experience than working with a long-term strategy (Hill, 1987).

Environmental regulations related to the storage and utilization of hazardous substances might have a greater impact on agricultural, manufacturing, transport and media business (Carter et al., 2004). Many SMEs operate in an environment of poor information and the lack of business funding services and complete information technology infrastructure (Oshikoya & Hussain, 2007).

The business performance of SMEs is complex issues connected to the elements of the entire business process (Tab. 1).

Table 1 - Overview of theories on factors affecting SMEs efficiency  
(compiled by co-authors)

Authors	Scale of SMEs performance
Anne Ngima Kinyua (2014)	Access to finance, macroeconomic environment, infrastructure and management sciences
Mbugua Stephen Kamunge, Agnes Njeru, Ondabu Ibrahim Tirimba (2014)	Access to finance, access to information services business, management experience, infrastructure and government regulation
Atsede Woldie, Patricia Leighton, Adebimpe Adesua (2008)	Years of business activity, job size, business sector, legal form, experience in industry, business motivation and the age of the manager.
Levy et al., (2001)	Degree holders, Access to finance, access to information services business, experience management, infrastructure and policies and government rules
Ben Malesi Mugodo (2014)	Business access to information services, management training and experience, policy and government regulation, technical change, investment approach

### ***Research Methods***

Theoretical model has 5 independent variables measured by 28 observed variables and dependent variable measured by 3 observed variables. The questions related to the impact of information access, business services, access to financial resources, skills, management experience, policies and regulations of government and access to infrastructure (Tab. 2).

The survey was run out in the period from from September, 2015 to December, 2015, brought directly through a paper questionnaire or by email to SMEs in Vietnam. 350 direct questionnaires were sent, 284 questionnaires were collected. 21 questionnaires were eliminated because the information is not fully provided; the last 263 questionnaires were used for conducted analysis. Stratified sampling method was applied to randomly collect primary data (Amman et al, 2012). The concept of reflection is measured on a scale of 7 point Likert (1: strongly disagree to 7: completely agree). To ensure that content and

intention of questionnaire are clear and understandable for respondents, it was checked before by seven experts in the fields of business and international economy.

The scale reliability was assessed through Cronbach's alpha coefficient. If observed variables have a correlation coefficient of total variation (item-total correlation) less than 0.4 they will be disqualified. Scale is accepted as Cronbach's coefficient alpha reliability of 0.6 or higher (Schmitz-Justen & Wilhelm, 2007) Coefficient of KMO (Kaiser-Mayer-Olkin)  $\geq 0.5$  and a significance level of Bartlett test  $\leq 0.05$ . KMO is a criteria to consider the appropriateness of the EFA, suitable is  $0.5 \leq KMO \leq 1$ . (J. Pallant, 2001).

Table 2 - The scale of the variables in the model proposed  
(compiled by co-authors)

Original Scale	Original author scale
Access to information services business	Oshikoya & Hussain, (2007), Levy, (2000)
Management skills	King& McGrath, (2002), Cant and Lightelm (2003)
Access to finance	Dia (1996), Kallon (1990)
Access infrastructure development	(Rozee, 2003), Ombura (1997)
Policies and government regulations	Mintzberg (2009), Wanjohi, 2009) Mussnig, (2007)
Business performance of SMEs	Ntakobajira (2013), Kazooba (2006)

Table 3 - Features of SME's involved in conducted survey  
(compiled by co-authors)

Number of years in operation	Frequency	Frequency Rate (%)	(%) Cumulative
1 – <5 years	36	13,69	13,69
5 – <10 years	124	47,15	60,84
10 - <15 years	89	33,84	94,68
>15 years	14	5,32	100,0
Total	263	100,00	

5 hypotheses were set:

H1: There is a positive relationship between access to financial resources and business efficiency

H2: There is a positive relationship between management skills and business performance.

H3: There is a positive relationship between government policy and regulations and business efficiency.

H4: There is a positive relationship between access infrastructure development and business efficiency.

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H5: There is a positive relationship between accesses to information services business to business efficiency.

### **Results and Discussion**

#### *Descriptive statistics*

Survey results showed that 47.15% were active SMEs from 5 - <10 years, 33.84% have been operating since 10 - <15 years, 13.69% have been operating since 1 <5 years, while 5.32% were active > 15 years (Tab. 3). These respondents included 74.9% owner, 18.7% supervisors / employees and 6.4% are partners.

62.1% of respondents said that it's very difficult for SME to get financial resources (Tab. 4).

64.4% of respondents alleged that high interest rate; high cost of services limit SMEs abilities to access bank loans.

Table 4 - Effect of loans on SMEs' business performance  
(compiled by co-authors)

Content	The response rate (%)			
	Nothing	Low level	Medium level	High level
Lack of financial records makes it difficult to access enterprise credit	1.7	5.0	30.3	62.1
Most financial institutions are reluctant to provide long-term credit for SMEs	0.0	1.3	25.3	73.4
High interest rates, monetary values and expenses incurred in processing the dossiers for SME loans make difficult access to funding from banks	0.0	0.9	34.7	64.4

65.2% of respondents sure those SMEs intangible assets are undervalued and it also causes many difficulties to access bank loans (Tab. 5).

66.7% of respondents said that SMEs does not own the assets with great value.

Table 5 - Effect of requirements on collateral for SMEs' business performance  
(compiled by co-authors)

Content	The response rate (%)			
	Nothing	Low level	Medium level	High level
Intangible assets are underestimated by banks	0.7	3.6	30.5	65.2
Small and medium enterprises are not enough collateral	0.9	1.2	36.3	61.6
SMEs do not have valuable assets	2.4	1.4	29.5	66.7

59.4% of respondents said that SMEs need strict cash management to consider net income using (Tab. 6).

36.0% of respondents said that SMEs need to keep good corporate financial indicators.

32.4% of respondents said that SMEs differ in terms of capital and income.

Table 6 - Effect of financial management for the business performance of SMEs  
(compiled by co-authors)

Content	The response rate (%)			
	Nothing	Low level	Medium level	High level
Cash must be managed well and the owners are not drawn without consideration to net income	25.4	12.8	59.4	2.4
SME maintains good financial indicators	58.2	5.8	31.5	4.5
SMEs differ in terms of capital and income.	58.3	9.3	29.5	2.9

Majority of surveyed SMEs are less likely to comply with the standards of urban planning, trading standards and the client's interests and property rights (Tab. 7).

Table 7 - Influence policies and regulations applicable of SMEs business performance  
(compiled by co-authors)

Content	The response rate (%)			
	Nothing	Low level	Medium level	High level
Companies are required to comply with the property rights	77.3	3.6	17.2	1.9
Companies are required to comply with tax laws and financial reporting	26.4	4.2	24.6	44.8
Companies are required to comply with labor standards and health and safety	52.3	6.2	24.2	17.3
Companies are required to adhere to environmental protection	21.4	9.2	38.1	31.3
Companies are required to comply with urban planning	80.6	1.8	13.4	4.2
Companies are required to comply with trading standards and the interests of customers	87.7	3.4	6.4	2.5

Most of interviewed proprietors or managers said that they did not receive any business skills trainings such as business planning, network programming, and partnership. Generally speaking skills for line management of SMEs should be improved further (Tab. 8).

Most of the proprietors or SMEs' managers answered that infrastructure (electricity, water and sugar) has high impact on business performance (respectively 69.8%, 68.2% and 54.1%), while land use is much less important (37.5%)(Tab. 9).

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Table 8 - Business skills effects on SMEs' business performance  
(compiled by co-authors)

Content	The response rate (%)			
	Nothing	Low level	Medium level	High level
Received training in business skills	61.4	3.1	23.1	12.4
Trained on the draft of the business plan	74.2	3.6	17.5	4.7
Trained in productivity and environmental awareness	87.4	3.4	7.2	2.0
Received training in network programming, partnerships and joint ventures	78.5	5.4	6.7	9.1

Table 9 - Influence of infrastructure on SMEs business performance  
(compiled by co-authors)

Content	The response rate (%)			
	Nothing	Low level	Medium level	High level
Electricity and water prices	1.6	23.0	68.2	5.7
Have full power. the country's business sector enterprises	0.0	26.8	69.8	3.4
Convenient transportation for business enterprises	2.0	35.3	54.1	8.6
Premises (land use) suitable for business	36.6	24.3	37.5	1.6

### ***Explore factor analysis (EFA)***

EFA analysis results showed that 5 extracted factors have individual value 1.397, the Total variance extracted is 76.176% > 50%. KMO = 0.885 > 0.5, the statistical significance test 6132.370 Bartlett with Sig = 0.000 < 0.05. Therefore, the observed variables satisfy the conditions and used to analyze the Confirming factor analysis (CFA).

### ***Confirming factor analysis (CFA)***

We considered the relationship between observed and unobserved variables (Podsakoff et al., 2003). According to J. Ford, R. MacCallum and M. Tait (1986), the value of the load points for each component standards the minimum threshold of 0.40 at the 5% significance. In Tab. 10, all values presented.

Table 10 - Test results worth distinguishing between the components of the scale  
(compiled by co-authors)

	Correlate		R	S.E.	C.R.	Value P
AISB	<-->	MS	0.098	0.025	3.850	***
AISB	<-->	PGR	0.111	0.026	4.304	***
AISB	<-->	AC	0.112	0.025	4.516	***
AISB	<-->	AID	0.078	0.025	3.082	0.002
MS	<-->	PGR	0.136	0.026	5.258	***
MS	<-->	AC	0.173	0.028	6.230	***
MS	<-->	ID	0.044	0.023	1.927	0.050
PGR	<-->	AC	0.088	0.023	3.823	***
PGR	<-->	AID	0.047	0.024	1.994	0.046
AC	<-->	AID	0.074	0.023	3.263	0.001

CR: Critical values; SE: Standard error

Linear structural analysis indicates that the model chi-squared value statistics is 259.310 with 139 degrees of freedom and the value of  $P = 0.000$ , chi-squared relative freedom under  $C_{min}/df$  is 1,866 ( $< 2$ ). Other indicators such as  $GFI = 0.909$  ( $> 0.9$ ),  $TLI = 0.962$  ( $> 0.9$ ),  $CFI = 0.969$  ( $> 0.9$ ) and  $RMSEA = 0.057$  ( $< 0.08$ ). Therefore, this model fits the gathered data. This also permits a separate assessment of the observed variables development. On the convergence value, standard scales must be  $> 0.5$  and statistically significant with  $p < 0.05$ , so the scale achieved convergence value.

**Result structural model**

Structure model (SEM) was carried out to find relationship between the structure of business information services, management skills, infrastructure (infrastructure), capacity financial resources and policies and government regulations. Results showed that the model value after calibration with chi-squared statistic is 115.791, with 81 degrees of freedom ( $P = 0.007$ ), chi-squared relative freedom under  $C_{min}/df$  is 1,430 ( $< 2$ ). Other indicators such as  $GFI = 0.946$  ( $> 0.9$ ),  $TLI = 0.986$  ( $> 0.9$ ),  $CFI = 0.989$  ( $> 0.9$ ) and  $RMSEA = 0.040$  ( $< 0.08$ ). Therefore, this model has achieved compatibility with collected data.

Table 11 - Results of estimation relationships between the elements of business performance  
(compiled by co-authors)

	Relations		Estimate	S.E.	C.R.	P	Label
BE	<---	AISB	0.136	0.050	2.718	0.007	Accept
BE	<---	MS	0.440	0.061	7.200	***	Accept
BE	<---	AID	0.357	0.162	2.203	0.028	Accept



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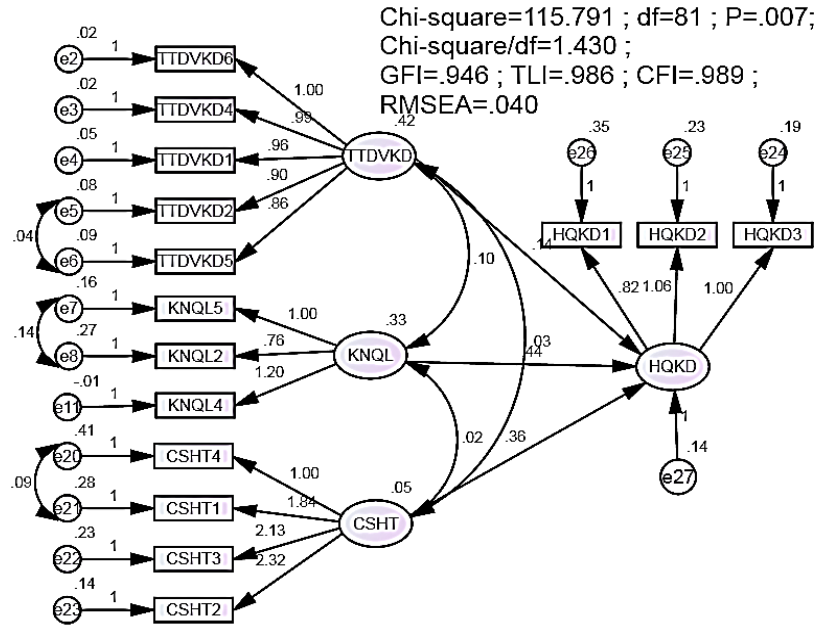


Figure 3 - Result from the relational structure in the final model (SEM)  
 (created by co-authors)

### Check the reliability of the estimates by Bootstrap

Bootstrap method was used to test the model estimates the final model with repetition pattern is N = 1000. The estimation results from 1000 samples are averaged together with the deviation is shown in Tab. 12, CR absolute value is less than 2, it can be said that deviation is very small; while no statistically significant at the 95% confidence level. Thus, we can conclude that the model can be trusted. There are three valuable relationships theoretically.

Table 13 - The results estimated by bootstrap with N = 1000  
 (compiled by co-authors)

Parameter			Estimate normal			Estimate Bootstrap N=1000			
			Estimate	SE	SE-SE	Mean	Bias	SE-Bias	CR
BE	<---	AISB	0.136	0.057	0.001	0.133	-0.003	0.002	-1.500
BE	<---	MS	0.440	0.086	0.002	0.435	-0.004	0.003	-1.333
BE	<---	ID	0.357	0.207	0.005	0.377	-0.019	0.007	-2.714

### Results

The answers showed that factors of management skills (finance, marketing and leadership skills) affect the SMEs' business performance (ES = 0.440, P = 0.000, P < 0.05). Access elements of infrastructure (water, roads, electricity and land) affect the SMEs' job performance (ES = 0.357, P = 0.028, P < 0.05). Factors access business information services (infrastructure, information technology and information technology costs) also affect the job

performance of SMEs ( $ES = 0.136$ ,  $P = 0.007$ ,  $P < 0.05$ ). Finally, elements of access to financial resources ( $ES = 0.019$ ,  $P = 0.742$ ,  $P > 0.05$ ), and policies and government regulations ( $ES = 0.013$ ,  $P = 0.344$ ,  $P > 0.05$ ) do not impact on the business performance of SMEs.

### **Conclusions and recommendations**

SME sector has an important role in economic development, poverty reduction and job creation. The sector faces a number of difficulties, especially in access to finance and markets; training and technology which greatly affect the efficiency of the business. The objective of this study was to determine the factors affecting the SMEs' performance in Vietnam. The study results showed that factors of financial resources and government regulations can affect business performance improvement. The important factors that affect the business performance of SMEs of fisheries sector in Vietnam are also information access business services, skills management experience and access to infrastructure.

Based on the research findings few recommendations can be suggested:

- need to provide information for the SMEs business in Vietnam. The government should organize seminars to support SMEs. Other development partners such as banks and credit organizations should guide the better using of loans for SMEs.

- government should help SMEs organizing training courses for job skills and basic financial management. This will enhance the business skills to help them to identify and exploit business opportunities and establish good business decisions.

- develop better infrastructure, particularly road traffic systems and wharf. In addition, government should have policies to promote companies to move their plants by providing tax incentives and financial support.

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<i>Paper submitted</i>	<i>14 February 2017</i>
<i>Paper accepted for publishing</i>	<i>21 March 2017</i>
<i>Paper published on-line</i>	<i>24 March 2017</i>