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THE INFLUENCE OF BUSINESS TRAITS AND VALUE CHAIN MANAGEMENT ON THE BUSINESS COMPETITIVENESS IN THE NORTHEASTERN BORDER TRADE AREA OF THAILAND

Abstract:

The research examined the influence of business traits and value chain management on business competitiveness in Thailand's northeastern border trade area. A questionnaire with a reliability coefficient (0.95) at a very high level was used in this study. Area sampling collected 307 small and medium enterprises from Ubon Ratchathani and Mukdahan provinces. The statistics were analyzed using descriptive statistics and multiple regression. The results showed that thirteen sub-independent variables correlated with business competitiveness at a very high level ($r = 0.85$) and can explain or predict the variance of business competitiveness at a high level of 70.7% (Adjusted R-Squared). Six variables affected the business competitiveness with statistical significance at 0.01** and 0.05*, which were technology development ($\beta = 0.35$**), marketing and sale ($\beta = 0.29$**), procurement ($\beta = 0.16$**), province of business ($\beta = 0.15$**), human resource management ($\beta = 0.14$**), and service ($\beta = 0.14$) *, respectively. Therefore, entrepreneurs in the Northeastern border trade area of Thailand should (1) invest in technologies that streamline operations along the value chain, (2) develop targeted marketing campaigns that resonate with local and regional markets, (3) focus on building solid relationships with suppliers to secure better terms and reliable quality, (4) understand and capitalize on the unique characteristics of the local market, (5) implement comprehensive training programs to develop employee skills and knowledge, and (6) focus on providing exceptional customer service. Moreover, entrepreneurs should continuously evaluate the effectiveness of these strategies through performance metrics and adjust as needed to ensure ongoing competitiveness. Entrepreneurs can leverage the identified variables to enhance their competitiveness and drive regional growth by focusing on these critical areas.

Keywords:

Business Traits, Value Chain Management, Business Competitiveness, SMEs

JEL Classification: A10

1. Introduction

Small and medium-sized enterprises (SMEs) contribute a considerable part to Thailand's economy. According to the Office of SMEs Promotion (2025), in Q3 2024, SMEs contributed 1,615,829 million baht (or 35.14% of the country's GDP). In terms of employment, the number of employed people is 12,930,004 out of the national total of 18,362,241 (or 70.4% of all employment in the country). Therefore, improving SMEs' competitive advantage and performance leads to improvement in country's overall competitiveness. According to International Institute for Management Development (2025), Thailand ranks 25th among 67 countries in terms of competitiveness. The organization divides competitiveness into four sectors: economic performance, government efficiency, business efficiency, and infrastructure. As for business efficiency, the highest-scoring aspect is attitude and value with the score of 63.3 followed by management practices (58.0), labor market (56.8), finance (53.1), and productivity and effectiveness (41.5) respectively. Therefore, there is room for improvement in private sector, especially, in productivity and efficiency, and hence, in the overall competitiveness of private sector in Thailand.

Moreover, as Thailand is a country surrounded by Laos, Myanmar, Cambodia and Malaysia, Thailand has the potential to develop into an international trade and logistics hub. These would ease cross-border business, providing access to the markets of neighboring countries and continuously increasing the country's income. According to the Department of Foreign Trade, Ministry of Commerce (2025), export statistics in 2024, considering border trade and cross-border trade together, were value at 1,048,479 million baht - accounting for 5.71% of Total GDP - and Lao PDR has remained the country with the highest trade value. Furthermore, the main border trade between Thailand and Lao PDR is carried out in the northeastern region. Consequently, identifying factors contributing competitiveness in SMEs in the northeastern of Thailand is important to help increase overall economy of Thailand.

Certain business characteristics tend to impact on business competitiveness, such as business location (Porter, 1998) and business size. However, many strategies decided by business owners can also help gain competitive advantage. Porter (1985) introduced the value chain concept which analyzes the added value at each stage or activity. This concept of value chain analysis helps entrepreneurs take a comprehensive view of the business, clearly determine which activities need improvement, minimize non-value-adding activities, and focus on effective activities to reduce costs and enhance the value of products and services.

Based on the importance of business competitiveness of Thai SMEs and possible traits and business practices within each activity of the value chain that can impact competitiveness, we have developed research objectives, as follow:

Research objectives

1) to study the level of SMEs' opinions on value chain management and business competitiveness in the northeastern border trade area of Thailand.

2) to examine the influence of business traits and value chain management on business competitiveness in the northeastern border trade area of Thailand.

Scope of Study

Our area of interest is SMEs in the northeastern border trade area of Thailand.

2. Literature review and development of hypotheses

Several studies on business competitiveness have sought to identify factors that affect competitiveness including both firm-specific attributes and controllable factors. The former relates to business size, location, industry, and age, while the latter concerns management choices in each activity of the value chain. Therefore, in this section, we will cover (i) the definition of competitiveness and its metrics (ii) types of business traits and their effects on business competitiveness and (iii) concept of value chain management.

2.1 The Concept of SME Competitiveness

According to Porter (1985), the competitive advantage refers to a firm's ability to outperform its rivals by offering superior value to customers. This can be achieved through cost leadership, differentiation, or focus strategies. Business competitiveness has an influence on business performance (Kharub, Mor, and Rana, 2022). Furthermore, in addition to these three strategies, a firm's ability to adapt to external shocks enhances its competitiveness. Some research includes the ability to respond quickly to customer needs and shifts in demand as fourth aspects of competitiveness. For example, Supaporn (2021) has studied the competitiveness of SMEs in Thailand by dividing business competitiveness into 4 areas cost leadership, differentiation, market focus and quick response.

Whether a cost leadership strategy is effective in increasing a firm's performance depends on other factors. Kharub, Mor, and Rana (2022) examined the mediating role of manufacturing strategies in the relationship between competitive strategies and firm performance (sale' growth and profitability), revealing that cost-leadership could be an appropriate choice and improved firms' performance especially when combined with excellent quality and rapid delivery. Quick-response or dynamic capability is an important competitive advantage studied by several researchers. Fainshmidt et al. (2019) discovered that dynamic capabilities lead to a competitive advantage in dynamic environments by enabling the combination of differentiation and low-cost orientations. In stable environments, dynamic capabilities are effective in support of a low-cost orientation. Argyres, Mahoney and Nickerson (2019) studied whether shocks derive from shifts in demand, supply, regulation, or innovation create the need for competitive repositioning by industry participants when they disrupt established sources of competitive advantage. Additionally, they discussed how leaders should reposition their firms in response to industry shocks. They proposed a framework to guide leaders of the firms facing an industry shock such as assessing the cost and time required for them to move to each new position, comparing that with rivals' costs and time, comparing the cost of delaying repositioning from remaining in its original position.

Therefore, creating a competitive advantage can help a business become more profitable in a sustainable manner and surpass its competitors, enabling businesses to operate in alignment with their goals.

2.2 Business Traits

The traits of SMEs can influence their competitiveness. Several studies have examined the effects of business age, type, size, and location on the competitiveness of SMEs.

First, there are varying perspectives on how business age affects competitiveness. On one hand, Erdogan (2023) explored the determinants of firm growth rate among SMEs across different levels of the conditional growth rate. Its results indicate that firm age is negatively associated with firm growth rate across the entire distribution, except in the lower tail. On the

other hand, Mihalcea, et al. (2020) suggested that start-ups regardless of their size have countless weaknesses, mainly due to lack of recognition, managerial experience.

Second, business types are commonly classified into three main sectors: trading, manufacturing, and services. This classification also adopted by Thailand's Office of SMEs Promotion. Even though there is limited research on the impact of business types on competitiveness, they also need to be considered. For example, manufacturing business requires higher capital investment than trading businesses; service business usually rely on human capital and customer relationships, which may affect business competitiveness.

Third, business size can also be a determinant of competitiveness. On one hand, Erdogan (2023), who examined the factors influencing firm growth rate in SMEs, found that firm size has a negative effect on the company with a high growth rate. According to Herciu and Ogrean (2018), the number of employees is directly related to revenues and net income, indicating that more employees can contribute to increased productivity and profitability. However, the degree of this correlation varies across industries. A firm's size and age can strengthen the relationship between innovative climate and organizational learning, which in turn boosting competitiveness (Bibi et al., 2020).

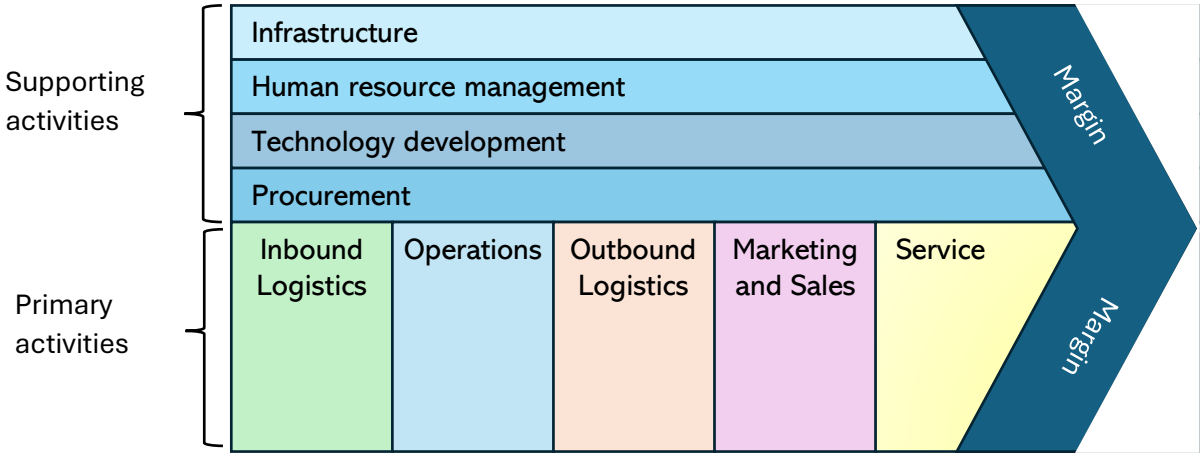
Finally, business location can also significantly impact competitiveness. Geographic concentrations of interconnected companies and institutions, such as Silicon Valley, enhance competitiveness by increasing productivity, driving innovation, and stimulating new business formation. These clusters provide access to specialized resources, relationships, and information that are difficult to access to distant competitors (Porter, 1998). In addition, geographic location affects export competitiveness through factors, such as market accessibility, infrastructure, skilled labor and institutional support (Nege and Abegaz, 2024). In case of Thailand, location can be represented by regions or provinces. As our scope of study is in northeastern border trading area of Thailand, we use business age, business types, number of employees representing the size of business, and province, representing the business location in our model.

Business traits can influence business competitiveness, but other factors can also play a significant role in business competitiveness. Effective value chain management, which incorporates a thorough analysis of a firm's activities to enhance the firm's value, can significantly enhance competitiveness.

2.3 The Concept of Value Chain Management

Value chain management, as introduced by Porter (1985), explains the organization's processes by dividing business activities into primary and supporting activities. The goal of this management approach is to deliver the best goods and services to customers with the lowest cost, therefore helping organization gain comparative advantages. Primary activities are crucial for creating a competitive advantage and adding value, and they consist of five key activities. On the other hand, support activities are essential for enabling primary activities to function more efficiently. The activities in value chain management can be detailed in The Figure 1 as follows:

Figure 1: Activities in value chain management



Porter (1985) suggested that value chain analysis is a useful approach for developing strategy. Value chain analysis can be used to understand sources of competitive advantage and formulate competitive strategies. Business strategies are based on integration of activities in the value chain. For example, within Michelin, there is an interconnectedness of R&D, production, marketing, and information systems. Competitive strategies should focus on activities designed to increase the value of a product or service.

Several studies have related value chain management to business competitiveness. For example, Al-Mudimigh, Zairi, and Ahmed (2004) suggested that supply chain management, which is part of value chain management, is a major issue in many industries as organizations try to create an integrated relationship with their suppliers and customers, as well as all other stakeholders. Managing the supply chain has become a way of improving competitiveness by reducing uncertainty and enhancing customer service. Sroufe and Bozan (2022), through a structured and systematic review, identified strategic initiatives impacting the redesign of the firm's value chain, including logistics capabilities, marketing, sales, and service. The findings are as follows: First, firms must reorganize their business models to align with their value chain activities. Second, embracing Industry 4.0 and the circular economy is necessary for internalizing knowledge flows among participants in the value chain participants. Third, value chains and evolving business models are crucial in a global economy. Moreover, De Moura and Saroli (2020) analyzed sustainable value chain management in SMEs based on dynamic capabilities using interview and content analysis. The study has shown that breaking down barriers in processes is important for establishing sustainable value chain and generating dynamic capabilities. One important element that is mentioned in much research is innovation, which relates to technology development activity. Adaptability in strategies and technologies is critical for competitiveness (Gunasekaran, Rai, and Griffin, 2011). Farida and Setiawan (2022) found that innovation acts as a mediator, improving the relationship between business strategies and competitiveness, especially in SMEs. The finding is consistent with Hermundsdottir and Aspelund (2021), which demonstrated that sustainability innovation generally has a positive impact on firm competitiveness. However, this relationship is moderated by factors at the national, market, industry, and firm levels, indicating that the context in which a business operates can influence its competitive advantage.

As mentioned in all studies above, strategies incorporating value chain management approach can impact business competitiveness and growth. Therefore, each activity within the value chain management is essential for business success.

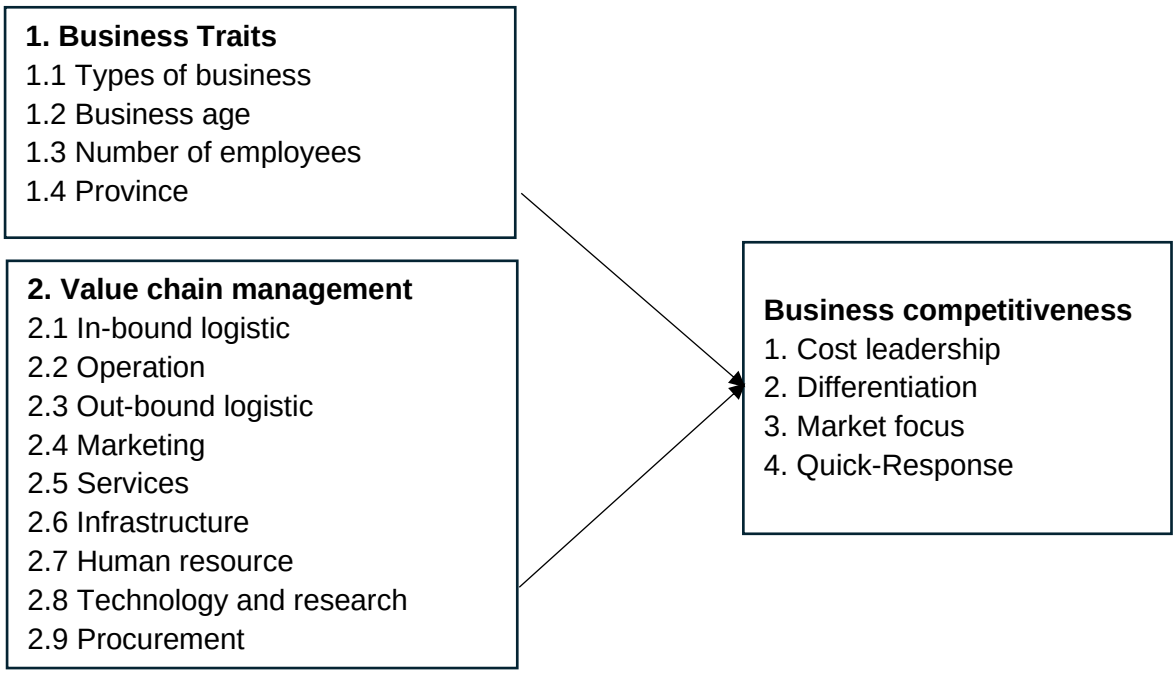
Conceptual Framework and Research Hypothesis Development

Based on the above-mentioned discussion on the important factors that have influences on SME competitiveness, two hypotheses and conceptual framework were developed as follows:

Hypotheses:

H_1: There is a significant influence of business trait on SME competitiveness.
H_2: There is a significant influence of value chain management on SME competitiveness.

Conceptual Framework:



Research methodology

This research is quantitative research, and the research tool is the 5-point Likert scale (strongly disagree to strongly agree) questionnaire. The population consists of 166,982 SMEs in provinces of northeastern Thailand with share a border with Laos PDR. The sample size of over 100,000 in the population is calculated based on Kanchanawasri et al. (2008), with a 95% confidence level and the 10% tolerance level of the standard deviation resulting in a sample size of 272. However, we distributed an additional 35 samples, making the total sample of 307. Cluster sampling was used in this study. The Northeastern region is divided into higher and lower subregions. Mukdahan and Ubon Ratchathani provinces are chosen to represent higher and lower Northeastern regions respectively. In fact, the provinces with borders between Thailand and Lao PDR and located in the Northeastern region are : Ubon Ratchathani, Amnatcharoen, Mukdahan, Nakhon Phanom, Nong Khai, Bueng Kan and Loei. Considering the value of border trade with Lao PDR in 2024, proportion of trade through the Mukdahan checkpoint, in the higher Northeastern region, accounted for 45% of the country's total border trade with Lao PDR as showed in Table 1. Furthermore, considering the number

of SMEs in the six provinces mentioned above, Ubon Ratchathani, in the lower Northeastern region, has the highest number of SMEs, accounting for 42.9% of the total SMEs in the seven provinces mentioned above as shown in Table 2. This fact illustrates the importance of Ubon Ratchathani province in terms of potential to drive SMEs.

Table 1: Border trade value with Lao PDR by customs checkpoint in 2024 (unit: million baht)

Checkpoint	Region	Export	Import	Total	Proportion (%)
Mukdahan	Upper Northeastern	140,106	221,940	362,046	45%
Nakhon Phanom	Upper Northeastern	82,349	42,394	124,743	16%
Nong Khai	Upper Northeastern	90,583	30,894	121,477	15%
Chiang Khong	North	55,079	20,648	75,727	9%
Others		50,914	66,063	116,977	15%

Table 2: Number of SMEs in Northeastern provinces with border area with Lao PDR

Provinces	Number of SMEs	Proportion	Subdivisions in Lao PDR
Loei	17,554	10.5%	Vientiane
Nakhon Phanom	24,998	15.0%	Khammouane
Bueng Kan	12,056	7.2%	Bolikhamsai
Mukdahan	15,239	9.1%	Savannakhet
Nong Khai	17,139	10.3%	Vientiane
Amnatcharoen	14,058	8.4%	Savannakhet
Ubon Ratchathani	65,938	39.5%	Champasak
Total	**166,982**	**100.0%**	

Source: Office of SMEs Promotion (2025)

The questionnaires to a total of 307 samples were distributed in Ubon Ratchathani and Mukdahan provinces as shown in Table 3 and the data were collected from the sample group between March-May 2024.

Table 3: Sample size of SMEs categorized by province

Provinces	Sample Size
1. Ubon Ratchathani	131
2. Mukdahan	172
Total	**307**

4. Validity and reliability tests

For questionnaire's validity, three experts in marketing, business administration, and research methods have verified the structure and content of each variable. The index of item-objective congruence (IOC) value of each item was between 0.667-1.000, which pass the criteria of 0.50. The results of the pilot study with 30 SMEs, are shown in Table 4. The overall value of Cronbach's alpha equals 0.952 indicating the very high internal consistency in the questionnaire's set of data. Based on Gliem and Gliem (2003), the reliability level is excellent if the Cronbach's alpha value is higher than 0.90. Therefore, it is reliable to be tested and the set question of business traits, value chain management and business competitiveness are suited for continuing this study.

Table 4: Cronbach's Alpha Coefficient Results

Variables	Cronbach's Alpha
Value chain management (33 items)	0.934
SME competitiveness (11 items)	0.900
Total (44 items)	0.952

5. Research Results

In this section, we will first describe the traits of SMEs in the samples. Second, the opinion level of SMEs to their value chain management and business competitiveness will be explored. Finally, the influence of business traits and value chain management on business competitiveness will be examined.

The characteristics of SMEs in the sample can be described as follows:

- Types of business: 152 samples are in trading business, which account for 49.5% followed by service businesses (41.4%) and manufacturing businesses (9.1%) respectively.
- Business age: 85 samples are aged 1-5 years, which accounts for 27.7%, followed by 6-10 years (25.4%) and over 21 years (20.8%) respectively.
- Number of employees: 241 samples employed 1-10 employees, which accounts for 78.5%, followed by 11-20 employees (11.7%) and 31-40 employees (3.3%) respectively.
- Province: 156 samples are in Mukdahan and 151 samples are in Ubon Ratchathani, which account for 50.8% and 49.2% respectively.

Objective 1 : To study the opinion level of SMEs to value chain management and business competitiveness in the northeastern border trade area of Thailand, with the following research results:

Based on a 5-Likert scale questionnaire, the average score for overall SME competitiveness is at a high level (average = 3.77, S.D. = 0.77). This number indicates entrepreneurs' positive opinion on their competitiveness. Opinion levels for each aspect of competitiveness in descending order are as follows: quick response (average = 4.17, S.D. = 0.80), differentiation (average = 3.98, S.D. = 0.89), market focus (average = 3.61, S.D. = 0.99), and the cost leadership (average = 3.33, S.D. = 1.04), see Table 5.

Table 5: The results of the competitiveness level of SMEs

Competitiveness	Mean	S.D.	The Opinion Level
Cost leadership	3.33	1.04	medium
Differentiation	3.98	0.89	high
Market focus	3.61	0.99	high
Quick response	4.17	0.80	high
Total	**3.77**	**0.77**	**high**

Regarding value chain management, the results are shown in Table 6. The results revealed a high level, with the overall opinion level averaging at 4.02 and a standard deviation (S.D.) of 0.75. This number indicates entrepreneurs' positive opinion on their value chain management. Considering each activity of value chain management, the highest average scores are in service, procurement and operation, with average scores of 4.28, 4.18, and 4.14

respectively. However, the SMEs' opinion toward their technology development is the lowest among all aspects and the only one at a medium level.

Table 6: The results of the value chain management level of SMEs

Value chain management	Mean	S.D.	The Opinion Level
Inbound Logistics	4.07	0.85	high
Operations	4.14	0.88	high
Outbound Logistics	4.12	0.80	high
Services	4.28	0.73	high
Marketing and Sales	4.04	0.76	high
Infrastructure	4.03	0.89	high
Human resource	3.94	0.97	high
Technological development	3.40	1.21	medium
Procurement	4.18	0.82	high
Total	**4.02**	**0.75**	**high**

Objective 2: to examine the influence of business traits and value chain management on the business competitiveness in the northeastern border trade area of Thailand.

We conducted a multiple linear regression analysis, and the results are shown in Table 7, revealing the independent variables are related to competitiveness at a very high level (R = 0.848). The model adjusted R-squared equals to 0.707, meaning that the independent variables can explain 70.7% of the variance of change in competitiveness. In contrast, the other 29.3% is influenced by other variables not included in the model.

Table 7: The Results of multiple linear regression analysis of the predictor variables and business competitiveness

Model	R	R^2	Adjusted R^2
1	.848[a]	.719	.707

For each independent variable, the results in Table 8 show that (1) The tolerance and the VIF values of all variables pass the criteria, i.e., Tolerance > 0 and VIF < 5.53, so there is no problem of a very high level of correlation between independent variables. All predictors are suitable for further analysis in the multiple regression model. (2) Six variables have a statistically significant effect on business competitiveness. We can explain the influence of each variable in descending order as follows:

The regression coefficient (Beta) for technology development equals 0.350, which means that if the business increases its technology development by one standard unit, business competitiveness increases by 0.350 standard units, assuming all other independent variables remain constant.

The Beta for marketing and sales equals 0.294, which means that if the business increases its marketing and sales by one standard unit, business competitiveness increases by 0.294 standard units, assuming all other independent variables remain constant.

The Beta for procurement equals 0.158, which means that if the business increases its procurement by one standard unit, business competitiveness increases by 0.158 standard units, assuming all other independent variables remain constant.

The Beta for province equals -0.147, which means that business in Mukdahan is predicted to be 0.147 standard units lower than that in Ubon Ratchathani, assuming all other independent variables remain constant.

The Beta for human resources development equals 0.143, which means that if the business increases its human resources development by one standard unit, business competitiveness increases by 0.143 standard unit, assuming all other independent variables remain constant.

The Beta for services equals 0.140, which means that if the business increases its services by one standard unit, business competitiveness increases by 0.140 standard unit, assuming all other independent variables remain constant.

Other independent variables do not significantly influence business competitiveness, as shown in Table 8.

Table 8: Results of the multiple linear regression analysis

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
	B	S.E.	Beta			Tolernce	VIF
(Constant)	0.771	0.187		4.133	0.000		
Type	0.020	0.039	0.016	0.516	0.607	0.955	1.048
Age	-0.005	0.018	-0.010	-0.287	0.775	0.757	1.321
Number of employees	-0.009	0.026	-0.013	-0.348	0.728	0.737	1.356
Province	**-0.226**	0.055	**-0.147**	-4.141	**0.000**	0.765	1.308
Inbound	0.081	0.055	0.088	1.453	0.147	0.263	3.801
Operation	-0.040	0.060	-0.043	-0.665	0.506	0.230	4.351
Outbound	-0.076	0.054	-0.079	-1.417	0.158	0.309	3.241
Service	**0.147**	0.050	**0.140**	2.944	**0.004**	0.426	2.350
Marketing	**0.298**	0.058	**0.294**	5.095	**0.000**	0.288	3.476
Infrastructure	-0.048	0.054	-0.055	-0.887	0.376	0.249	4.022
Human	**0.115**	0.050	**0.143**	2.317	**0.021**	0.250	3.999
Technology	**0.224**	0.033	**0.350**	6.783	**0.000**	0.359	2.786
Procurement	**0.149**	0.051	**0.158**	2.940	**0.004**	0.333	3.004

From Table 8 of multiple regression analysis, an equation to predict business competitiveness can be created as follows:

Raw Score Equation (B)

Business Competitiveness = 0.771 - 0.226*(Province) + 0.147*(Service) + 0.298*(Marketing) + 0.115*(Human) + 0.224*(Technology) + 0.149*(Procurement)

Standardized Score Equation (Beta or β)

Business Competitiveness = -0.147*(Province) + 0.140*(Service) + 0.294*(Marketing) + 0.143*(Human) + 0.350*(Technology) + 0.158*(Procurement)

6. Conclusion

Based on the results of hypothesis testing in this study, we found that all hypotheses were accepted. In other words, the two independent variables, business traits and value chain management, significantly affect business competitiveness, a crucial insight for decision-makers in SMEs, as shown in Table 9.

Table 9: Results of hypotheses testing

Hypothesis	Beta Coef.	P-value	Decision
H1: There is a significant business trait influence on SME Competitiveness.			**Accepted**
Business type	0.016	0.607	
Business age	-0.010	0.775	
Number of employees	-0.013	0.728	
Province	-0.147	0.000 **	
H2: There is a significant value chain management influence on SME Competitiveness			**Accepted**
Inbound logistics	0.088	0.147	
Operations	-0.043	0.506	
Outbound logistics	-0.079	0.158	
Services	0.140	0.004 **	
Marketing and sales	0.294	0.000 **	
Infrastructure	-0.055	0.376	
Human resource	0.143	0.021 *	
Technological development	0.350	0.000 **	
Procurement	0.158	0.004 **	

(Note * $p<0.05$, ** $p<0.01$)

The multiple linear regression analysis results in a multiple R of 0.848. The independent variables are related to the dependent variable at a very high level. An adjusted R^2 of 0.707 indicates that the change in independent variables - business traits and value chain management - accounts for 70.7% of the variance in business competitiveness. In the multiple regression model, the significant variables are ordered by their influence in descending order as follows: technological development, marketing and sales, procurement, province, human resources, and services.

The analysis of the impact of business traits on competitiveness illustrates that only the province variable significantly impacts business competitiveness. As a result, the province where a business operates, or its location in general terms, is still important to its competitiveness. Business in Ubon Ratchathani was predicted to be more competitive than those in Mukdahan. As other variables for business traits (its types, size, and age) were not found to have a significant impact on business competitiveness, SMEs can increase their competitiveness regardless of their types, size, or age.

The analysis of the impact of value chain management on business competitiveness identified five variables, which were technology development, marketing and sales, procurement, human resources, and services, significantly affecting business competitiveness. Moreover, technology development, which has the greatest impact on

business competitiveness, receives the lowest score from the perspective of SMEs regarding their business. Therefore, there is room for improvement for SMEs to enhance their competitiveness by adopting technology and innovation in their business. This suggestion is also aligned with several studies on the importance of technology adoption and innovation for business competitiveness.

7. Discussion

7.1 Provinces, or location in general terms, where business operate, are important for a business to create competitive advantage. The result aligns with the findings of Nege and Abegaz (2024) and Porter (1998). Geographic location affects export competitiveness through market accessibility, infrastructure, and institutional support (Nege and Abegaz, 2024). Clusters and skilled labor availability play a crucial role in creating competitive edge (Porter, 1998). As a result, SMEs should choose the favorable location by considering resource availability, infrastructure, potentials customers, to create competitive advantage.

7.2 Value chain management can enhance business competitiveness. The result aligns with the findings of Al-Mudimigh, Zairi, and Ahmed (2004); Awan, Sroufe and Bozan (2022); De Moura and Saroli (2020). The most significant factor impacting business competitiveness is technology development, including research and innovation. This result conforms with many previous studies illustrating importance of technology adoption and innovation in enhancing firm competitiveness (Farida and Setiawan, 2022; Hermundsdottir and Aspelund, 2021). In addition to technology development, marketing, procurement, human resources and service are also significant contributors to SMEs competitiveness. Marketing, procurement, service and human resources are activities that relate to many stakeholders, including customers, suppliers, and employees. This result aligns the findings of Al-Mudimigh, Zairi, and Ahmed (2004), which suggested that managing the supply chain became a way of improving competitiveness by reducing uncertainty and enhancing customer service. The significant impacts of these activities on business competitiveness imply that SMEs should manage relationships with stakeholders. In terms of marking and sales, targeted marketing campaigns should be developed. For procurement, relationships with suppliers should be managed to secure better supplies. Regarding human resources, companies should implement comprehensive training programs to develop employees' skills and knowledge. Customer service should be maintained at an exceptional level. Finally, SMEs should continuously evaluate the effectiveness of these strategies and adjust as needed to ensure ongoing competitiveness in the long run.

Suggestion for future research:

Further studies can be conducted by expanding areas of study to include all regions in Thailand and capture the specific factors of each region of Thailand

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