Factors Influencing the Growth of Small and Medium Enterprises in the Northern Region of Thailand After the COVID-19 Outbreak

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ABSTRACT

This was mixed methods research to study the importance of internal and external variables on the growth of small and medium enterprises and factors influencing their growth in the northern region of Thailand after the COVID-19 outbreak. This mixed methods research consisted of quantitative research with a sample group of 392 small and medium-sized enterprise entrepreneurs in 8 northern provinces of Thailand and qualitative research with in-depth interviews among 36 entrepreneurs. The findings revealed that entrepreneurs prioritized the environment at a very high level (M=4.80), followed by business strategy at a very high level (M=4.71), government assistance at a high level (M=4.19), and competition at a moderate level (M=3.35). The results of the logistic regression analysis showed that both internal and external factors influenced the growth of small and medium enterprises in the northern region of Thailand, arranged in order of influence size, namely the manufacturing with the greatest influence, environment, business strategy, government assistance, and competition, respectively. Entrepreneurs can apply the findings by responding to business challenges from uncontrollable external environments. Entrepreneurs should make every situation an opportunity for growth by closely monitoring the environmental situation and developing the organization by combining strategies, namely products and services, customer and marketing, and innovation in business operations. In addition, government agencies and related partners could employ research results to develop proper policies for assistance, leading to business growth.

Keywords: Small and Medium Enterprise, The Northern Region of Thailand, COVID-19

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INTRODUCTION

From the beginning of 2020, COVID-19 had outstretched Thailand. Currently, the epidemic has passed a period that affects health, and it now affects the economy both large businesses and small and medium businesses as well in varying degrees of severity (Pantharak, 2020). Research has been reported on the impact of COVID-19 on SMEs after the large outbreak of COVID-19 from 2020 until the relaxation period in mid-2022, and it was found that the operations of SMEs stopped and were unable to operate normally due to government measures to stop the spread of the outbreak, namely the lockdown of cities and countries. Challenges from the crisis affected SMEs due to decreased demand for goods and services. Consumers were not confident in the policy of temporary business closure which affected income and consumer spending. There was a slowdown in business investment. The decrease in consumer demand caused a reverse effect on the production volume of goods and services. Business adjusted to reduce production capacity. Some sections of the business were shut down to reduce expenses to maintain liquidity and wait for the economy to recover (Pantharak, 2020). Regarding the impact on the operations of SMEs in the northern region of Thailand, a lack of liquidity was found due to a decrease in customers and income (Cheewakiatyingyong & Akartwipart, 2022).

In mid-2022, the crisis was settled. There was a government policy to extend the period of the Visit Thailand Year to 2022-2023 and from June 1, 2022, the country was opened without quarantine. The government hoped that tourism would be a key mechanism for economic recovery from COVID-19. The National News Bureau of Thailand (2022) announced the cancellation of the Emergency Decree on September 30, 2022, and declared COVID-19 as an endemic disease on Oct 1, 2022, onwards, revoking COVID-19 from being a dangerous contagious disease and designating it as a contagious disease that must be monitored (Ministry of Public Health, 2022). When considering annual revenue statistics reports from visitors in 8 northern provinces from 2019 to 2022, revenue was in a U shape in every province, as shown in Figure 3. Regarding the decrease in revenue from 2019 to 2022, the lowest point was in 2021, and the total revenue increased in every province in 2022 and 2023 (Ministry of Tourism and Sports, 2023). Therefore, the total revenue from visitors in the eight northern provinces changed in relation to the government's relaxation policy and the unfolding situation of COVID-19.

SMEs play a key role in sustaining economic stability. Thais are involved with SMEs both as business owners and employees, yet there were major problems for SMEs before the COVID-19 outbreak, namely high costs and intense competition in all areas (Phekanon, 2019). However, during the COVID-19 outbreak, an impact on the operations of SMEs in the northern region of Thailand was a lack of liquidity due to a decrease in customers and income (Cheewakiatyingyong & Akartwipart, 2022).

After SMEs in the northern region conquered difficult times during the COVID-19 outbreak, at the end of 2022, when the situation began to return to normal, it will be interesting to see how the business grew and what factors affected growth as no research had studied this matter. The researcher was motivated to study

the growth of SMEs business due to their business objectives to make a profit and for the stability of the business operations must not cease. In addition, they also want to grow since business growth is crucial to the long-term stability of the business. In addition, the research findings would be beneficial to entrepreneurs who can utilize the information to benefit operational planning and preparation for crises that may occur beyond the control of the business. Entrepreneurs should gain information to learn about business development by looking at examples of how other businesses have overcome difficult times (Bullough & Renko, 2013). Understanding growth factors would be essential for formulating policies for SME entrepreneurs (Pimpakorn, 2021). It is also beneficial to the public sector to promote factors that effectively facilitate business growth.

Research Objectives

1. To study the importance of internal and external variables on the growth of small and medium enterprises in the northern region of Thailand after the COVID-19 outbreak.
2. To study factors influencing the growth of small and medium enterprises in the northern region of Thailand after the COVID-19 outbreak.

LITERATURE REVIEW

Importance of Business Growth

Before starting the importance of business growth, an understanding of the processes of business organizations should be first achieved. Business means the activities of individuals or groups of people working together to produce and sell products or services to earn profits. The profits are the difference in income and expenses (or costs). Therefore, it is important to understand the processes of a business organization to reduce costs, increase the efficiency of the entire process, and increase income from creating value for various processes and products or services. Overall, the activities of all business processes consist of the basic structure of the business, human resources management, technology, procurement of raw materials, production, marketing, sales, and exporting products to the hands of consumers, called Value Chain. The ultimate goal is "Margin" or creating profit for the business (Porter, 2001). Business organizations want to develop and grow with good operating results and continuous profits (Maharatsakul, 2017).

Geroski (1995) stated that the growth and survival of the business depend on the ability to learn about the environment and link changes to strategies to achieve changes that are consistent with that environment. From past studies by Geroski (1995), Penrose (1959) and Thornhill (2006) the importance of business growth can be summarized as shown below:

1. Growth is related to survival. Growing businesses have a high chance of survival.
2. Growth can be obtained by hiring quality personnel. Growth is related to employment while lack of growth is also associated with layoffs.
3. The growth of a business is supported by the growth of the community's economy.
4. Business growth brings innovation.

Indicators of business growth include the number of employees, sales or income, production potential, and the value of output (Ardishvil et al., 1998). Although these indicators are highly related, not all of these indicators respond equally quickly to both internal and external changes in business. Therefore, sales are more volatile than production potential as businesses can improve their sales more often than they can improve their assets to increase their potential. Additionally, sales are the foundation to gain profits as the goal of the business. Therefore, in this research, sales were determined to be an indicator of business growth.

Moreover, the growth of the business is also the result of business operations decisions (Wagner, 1994). However, growth is diverse due to the disposition of the business as well as internal and external business factors affecting the operational results. Due to the importance mentioned above, much research has given importance to factors related to business growth.

Factors Related to Growth

Many factors related to business growth were mentioned. Storey (1994) stated that 3 factors affected business growth, namely, the entrepreneurs, the business, and the strategy. This is consistent with research related to factors affecting the success of SMEs by Kristiansen et al., (2003) who focused on the characteristics of SMEs. Research by Hitt and Ireland (2017) focused on products and services. The research of William et al. (2005) focused on customers and marketing, while the research of Swierczek and Ha (2003), and Kristiansen et al. (2003) focused on resources and finance. The study of McMahon (2001) focused on strategy, while Huggins (2000), and Indarti and Langenberg (2004) focused on strategies and the external environment while Islam et al. (2009) found that products and services, business operations, knowledge management and the external environment were the most important factors in determining the business success of SMEs. Recently, Piccio and Manigo (2022) revealed that the level of external and internal environmental factors on business performance of SMEs was very high and high, respectively.

In Thailand, the qualitative research of Poblete and Grimsholm (2010) studied the internal and external factors that inhibited the growth of SMEs in Thailand and the internal factors that inhibited the growth of SMEs included management potential, personnel skills, marketing strategy and modern technology while external factors included access to financial resources, competition, and economic conditions.

SMEs are an open system and are influenced by the environment, requiring interaction with people. Other organizations or agencies exchange benefits with each

other. Also, changing circumstances have an effect or influence on the work of the organization as well (Katz & Kahn, 1966). All business activities and operations are in line with changes in the world, economy, and social situations to survive. People must know how to adapt. Otherwise, the business may not be able to survive. According to Morrish and Jones (2020), entrepreneurs encountered problems at different levels based on the context and nature of the business. Therefore, this study prioritized internal and external factors that may influence business growth.

The theoretical framework was based on the Thai context. Revenue growth is easily accessible and can be applied to almost every type of business (Alese & Alimi, 2014). Therefore, this research employed revenue growth as a representative of business growth as the dependent variable while five independent variables included types of the business, strategies as an internal factor, environment, government assistance, and competition as an external factor. These variables were applied from the analysis of factors influencing the growth of SMEs (Phekanon, 2019), stating that comprehensive adaptation would significantly enhance growth opportunity.

SMES in the Northern Region and the Impact of COVID-19

SMEs were divided in size by the number of employees and income as criteria. Small enterprises in the production industry employed no more than 50 people or had an annual income of not more than 100 million baht, while businesses in the trade and service industry (wholesale or retail) had no more than 30 employees or an annual income of no more than 50 million baht. Medium enterprises in the production industry employed 50 to 200 people or had an annual income of 100–500 million baht, while businesses in the trade and service industry (wholesale or retail) employed 30 to 100 people or had an annual income of 50–300 million baht. If employment and income are different, income must be the main consideration (OSMEP, 2023).

SMEs are the foundation and important cog of the economy in terms of production value and the main source of employment for the country (OSMEP, 2023). In the northern region, most SMEs were engaged in agricultural production. There were also natural tourism destinations as it is the highest region in the country. Its topography consisted of complex mountain ranges. The weather in the northern region changed significantly with the seasons, especially the winter when the weather is cold on the mountain tops. Consequently, many tourism-related businesses were established, such as accommodation, restaurants, leisure activities, etc. In addition, having an area adjacent to neighboring countries such as Mae Sai District, Chiang Saen District, and Chiang Khong District, Chiang Rai, to Burma and Laos, allowed visitors to cross into neighboring countries. The northern cultures including Lanna, ethnic culture, folk culture, and Thai-Chinese culture allowed entrepreneurs to have different approaches to running a business (OSMEP, 2010). Based on the nature of the area, the topography is a valley. In addition to COVID-19, the upper northern region also encountered impacts from forest fires on the economy, society, and tourism. The forest fires and smoke caused poor visibility. It usually occurs severely between February and April every year. Damage to travel and tourism was unavoidable to aggravate and create an impact on SMEs. From the

statistics of forest fires during 2022-2023 in Thailand, it was found that the northern region had a higher number of forest fires and burned areas than any other region. Chiang Mai had a higher forest fire rate than other provinces (Chanbunna, 2023).

The Office of Small and Medium Enterprises Promotion divided the provinces in the northern region into 2 groups: The Upper Northern Group 1 consisting of 4 provinces: Chiang Mai, Mae Hong Son, Lampang, Lamphun and the Upper Northern Group 2, consisting of 4 provinces: Chiang Rai, Phrae, Nan, and Phayao (OSMEP, 2021). 17,532 small and medium businesses were legal entities at the end of 2022. The research areas in all 8 provinces were located consecutively as shown in Figure 1.

Figure 1: 8 Provinces in The Northern Region as Research Sites
Source: *Researcher, 2023*

Since 2020, the operations of SMEs in all sectors had faced new impediments due to the emergence of a new disease called COVID-19, which was an epidemic that occurred suddenly. The spread of COVID-19 has had an impact on SMEs in the northern region in many ways. The economy had slowed and employment decreased. In 2020, 257,406 people were employed, but in 2021 employment decreased to 256,394 people, and in 2022, it increased to 260,346 people, while total income in 2019 was 307,416 million baht. In 2020, total income decreased to 302,736 million baht (OSMEP, 2023), as shown in Figure 2.
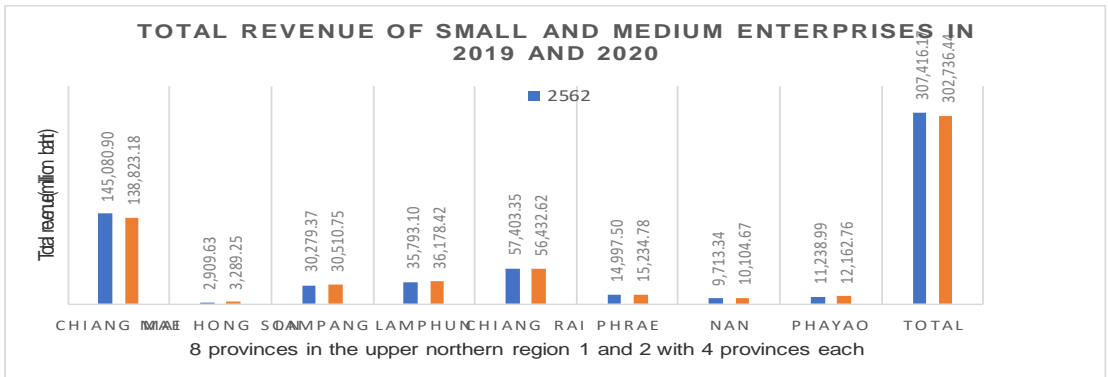
Figure 2: Total Revenue of Small and Medium Enterprises in 2019 and 2020
Source: *OSMEP, 2023*

Based on Figure 2, in 2019 before COVID-19 and 2020 when COVID-19 began in the country, compared to 2020, revenues in SMEs in the provinces had decreased. Chiang Mai had a decrease of 6,257.71 million baht and Chiang Rai had a decrease of 970.73 million baht. In other provinces, revenue did not decrease. However, when considering the total revenue of all 8 provinces, the total revenue decreased by 4,679.73 million baht. With limited data until 2020, no change was seen in 2021-2022.

When considering tourism through a report by the Ministry of Tourism and Sports (2023) on revenue statistics from annual visitors from 2019-2022, the revenue was a U shape in all 8 provinces, as shown in Figure 3. The lowest point was in 2021, and total revenue increased in every province in 2022 and 2023 (last updated on November 2023).
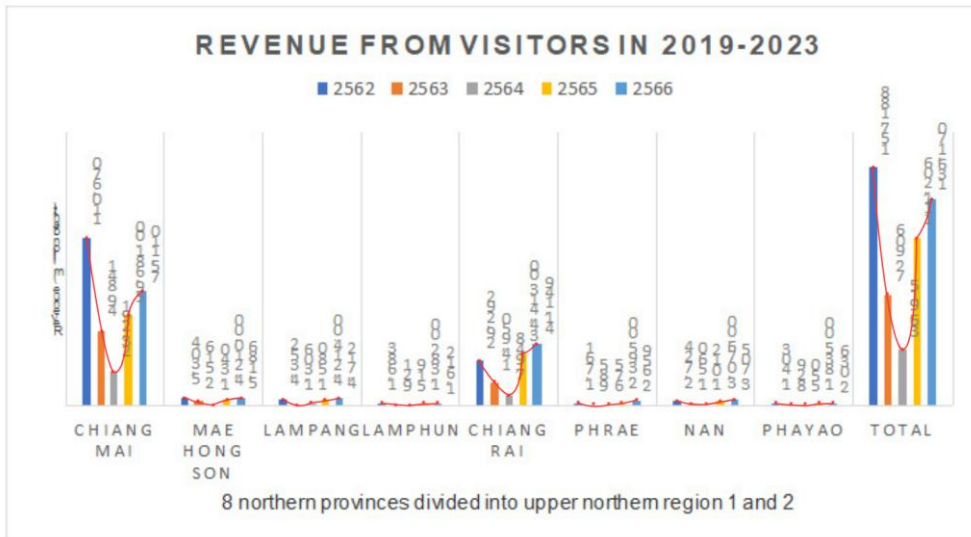

Figure 3: Revenue from Visitors in 2019-2023
Source: *Ministry of Tourism and Sports, 2023*

From the data shown in the graph, in 2022 the revenue from the visitors in each province increased from 2020-2021. Although revenues could not compare to 2019 before COVID-19, they increased from the period of COVID-19 in 2020-2021. It can be seen that the year, in which revenue dropped to its lowest in 2021 and returned to increase in 2022, correlated with government measures to prevent COVID-19 during 2020-2021 and has been relaxed since the end of 2022.

Related Research

In Thailand, Virit (2022) studied the factors influencing the success of SME operations during the COVID-19 outbreak of entrepreneurs in Pathum Thani Province and it was found that the social environment, work environment, and internal environment affected the success of SMEs. Factors related to the characteristics of the entrepreneurs affecting success included innovative thinking, management, and the need for success. For business strategies, making a difference, low cost, and building relationships with customers influenced the success of business operations. Charoennan and Embalzado (2021) studied the impact of COVID-19 and strategies in responding to the COVID-19 outbreak in small, medium, and large businesses in Thailand. It was found that leadership, crisis management experience, size of the business, type of business, and application of technology adjusted the level of relationship between COVID-19 disease and business performance.

Udomthanasansakul (2021) studied the influence of government policy and crisis management on the strategies of SMEs in the service sector in Chiang Mai during COVID-19 epidemic. It was found that government policies had a positive influence on the business strategies of SMEs in the service sector during the crisis (Halid et al., 2021). There was also an interesting study of the Bank of Thailand by Phekanon (2019) that studied factors affecting the growth of SMEs. It was found that internal factors affecting business operations included cost, marketing, and management within the organization while external factors included intense competition, changing customer behavior, and the difficulty in discovering labor. In addition, the activities of the government and financial institutions affected the growth and development of SMEs where entrepreneurs were affected by two main issues: difficulty in contacting the government sector and effectiveness in attending various trainings from the public sector.

From 2020 to the end of 2022, businesses had to overcome the COVID-19 situation, but the situation of COVID-19 had eased. So, businesses continued. Therefore, the researcher was interested in studying the factors influencing the growth of SMEs in the northern region of Thailand after the COVID-19 outbreak. There has been no research on this matter before. From the above literature review, the importance of both business growth and SMEs in the northern region, including internal and external factors that influenced business growth was highlighted. Therefore, the researcher had considered selecting factors from various studies to use in this research framework. Concepts and variables were used from the research of Phekanon (2019) Piccio and Manigo (2022) with assumptions and the research concept framework as shown below:

Hypothesis 1:   *The type of business influenced the growth of SMEs in the northern region of Thailand after the COVID-19 outbreak.*

Hypothesis 2: *Business strategy influenced the growth of SMEs in the northern region of Thailand after the COVID-19 outbreak.*

Hypothesis 3: *The environment influenced the growth of SMEs in the northern region of Thailand after the COVID-19 outbreak.*

Hypothesis 4: *Government assistance influenced the growth of SMEs in the northern region of Thailand after the COVID-19 outbreak.*

Hypothesis 5: *Competition influenced the growth of SMEs in the northern region of Thailand after the COVID-19 outbreak.*

Figure 4 below illustrates the research conceptual framework for the study.
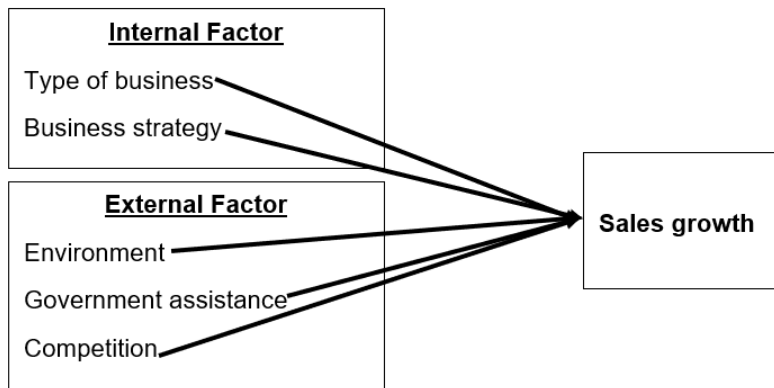
Figure 4: Research Conceptual Framework
Source: *Researcher, 2023*

METHODOLOGY

This was mixed-method research. The main quantitative research collected data from 8 northern provinces, including Chiang Mai, Mae Hong Son, Lampang, Lamphun, Chiang Rai, Phrae, Nan, and Phayao while qualitative research supported the quantitative research results. For the qualitative research, the researcher went to the site to conduct in-depth interviews with SME entrepreneurs in 3 provinces, consisting of Chiang Mai, Chiang Rai, and Lampang.

Population, Sample and Key Informants

The population was 17,532 SME entrepreneurs in 8 northern provinces (OSMEP, 2023). The sample size was calculated for distributing questionnaires using the equation $\frac{N}{1+Ne^2}$, leading to 392 using stratified sampling and the representative of entrepreneurs in each province was calculated and divided into 4 business sectors: trade, manufacturing, agribusiness, and service.

Key informants in the qualitative research included 36 people from 3 provinces with 12 people from each province (Yin, 2015). The province with the highest number of SMEs in the upper northern region was Chiang Mai, followed by Chiang Rai and Lampang (OSMEP, 2023). Each province was divided into 4 industries according to the Office of Small and Medium Enterprise Promotion's classification of business groups: trade, manufacturing, agriculture, and service. Each industry had 3 key informants per province by requesting cooperation with business organizations for interviews. The number of informants was 3 people in 1 business group in each province and was decided based on Triangulation to confirm the credibility and validity of data or findings. In this case, it was a comparison of data on the same issue from different participants in the same group. Informants were selected by the following criteria:

1. A person working in an establishment in the position of owner or executive.
2. A person with knowledge and understanding of business possibilities.
3. A person who had time for the interview.

Due to the limitations of the individuals involved in the interviews regarding their willingness to disclose information in the course of business operations, the researcher selected a sample group using purposive random sampling, leading to 36 samples.

Research Instrument

The research instrument in the quantitative research was a questionnaire with 6 parts and questions were applied from the work of Phekanon (2019). The details are as follows:

Part 1: General information on factors regarding the type of business and sales growth consisted of 6 questions: the position of the key informant; industry; business age, location, number of employees, and sales growth as a closed-ended question with a choice of answers.

Part 2 to Part 5 employed a Likert scale with 5 levels: most important, very important, moderately important, low important, and least important.

Part 2: Business strategy consisted of 6 questions from three areas: product and service strategies; customer and marketing strategies; and strategies for innovation in business operations.

Part 3: Environment consisted of 8 questions on the issues of economy, society, technology, and government regulations.

Part 4: Government assistance consisted of 4 questions: participation in government projects as closed-ended questions with a choice of answers and open-ended questions, for the name of projects participated. The other two questions were about opinions on government assistance as a Likert scale.

Part 5: Competition consisted of 4 questions: main competitors as a closed-ended question with a choice of answers and opinions on the competition models, divided into price, product and service quality, and promotion using a Likert scale.

Part 6: Open-ended questions for the sample to fill out their opinions on the factors influencing sales growth.

This research employed a questionnaire using a Likert scale for giving opinions in a closed-ended question based on a level of opinion which is well-known and has been widely used in social science research studies (Yurarat, 2022).

For qualitative research, data were collected using a semi-structured interview on factors influencing revenue growth by questions to reflect in-depth opinions on every issue studied to grow business sales, totaling 20 questions with content based on questionnaires used for quantitative research.

Validity and Reliability of Research Instrument

For quantitative research, the accuracy of the instrument was tested by 3 experts. The IOC from every question was over .80 and reliability by trying out the questionnaire with 30 SME business entrepreneurs in Tak in the lower northern region of Thailand to measure reliability with the Cronbach's alpha value for the entire questionnaire for a value of 0.95, greater than the acceptance criteria of 0.70 (Cronbach, 1951).

This study examined bias from the use of Common Method Bias (CMB) using the method of Kock (2015), which considers a VIF value of not more than 3.0 that will not cause a CMB and Bagozzi and Phillips (1991) stated that it can be determined from the correlation values of the main variables. With more than .90, there will be CMB problems. In this research, the VIF value was between 1.189 to 1.626 and the correlation was less than .90, so there was bias from using CMB.

For the qualitative research, the interviews were conducted with 12 SME entrepreneurs in Tak, divided into 3 people in the trade industry, 3 people in the manufacturing industry, 3 people in the agricultural industry, and 3 people in the service industry. While the researcher was interviewing, the researcher learned to improve the questions to suit the interview situation, such as the development of research tools before being used for interviews with key informants. To make the data accurate and reliable, this research employed an approach to confirm reliability by triangulation with Data Triangulation which compared and checked the certainty of the data. The data obtained from interviews were compared until the data were saturated (Denzin & Lincoln, 1994).

Data Collection

Data collection was conducted during December 2023. For the quantitative research, the questionnaire was sent via Google form, and the questionnaire was distributed through the provincial chamber of commerce, the Provincial Commercial Office and the Office of SMEs in each province. After weeks, the questionnaire was returned. The number of questionnaires received was 392 responses, accounting for 100 percent in good condition (Baruch,1999).

For the qualitative research, interview drafts were sent to business organizations for consideration in advance. With a response, an appointment was made for an in-depth

interview and asked for permission for audio recording so that the interviews could be transcribed to check the accuracy of the content by using pseudonyms instead of the names of small and medium enterprises entrepreneurs.

Data Analysis Technique

This was a mixed method, using both quantitative and qualitative data to process and obtain answers according to the research objectives.

For quantitative data analysis, descriptive and inferential statistics were employed. The details are as follows:

Descriptive statistics in the preliminary data analysis of variables described the basic characteristics of the variables in the model with descriptive statistics, including percentage, mean, and standard deviation.

Inferential statistics were used to analyze factors influencing the growth of SMEs using logistic regression analysis and maximum likelihood in estimating the regression coefficient. The use of logistic regression analysis was to analyze which independent variables can explain the dependent variable, which is a binary variable with only 2 values: an event happened (y=1) and an event did not happen (y=0) with a relationship with the predictor (x) that is not in a linear form (kaiyawan,2012).

For binary logistic regression in the analysis of this research, there were only 2 dependent variables for analysis. They are qualitative data, namely the current sales growth increasing from the 2.5-year average, set to be equal to 1, and the current sales growth decreasing or remaining unchanged from the 2.5-year average, defined as 0, which were denoted 1 and 0, respectively. In other words, the data on sales growth were divided into 2 groups: a group with increased growth from the average of 2.5 years ago and a group without sales growth.

Based on the relationship between the predictor and the criterion variables in the logistic regression analysis that is not linear, the relationship must be adjusted to be linear in the form of odds, which means the ratio between the chance that the event of interest will occur (y=1) and the chance that the event of interest will not occur (y=0). Logistic models are written in the form of the log of odds, called logit (Kaiyawan, 2012). The form of the criterion variable can be predicted with a set of linear predictor variables. An equation for prediction was as follows:

$$\text{logit} \quad = \quad \beta 0 + \beta_1 x_1 + \beta_2 x_2 + \beta_3 x_3 + \ldots \beta_p x_p$$

The independent variables in this study included type of business, strategy, environment, government assistance, and competition arranged in the form of equations to make predictions as follows:

$$\text{SALE} \quad = \quad \beta 0 + \beta_1 \text{SPEC} + \beta_2 \text{STAR} + \beta_6 \text{ENVI} + \beta_7 \text{GOV} + \beta_5 \text{COMP}$$

When,

SALE	=	Sales growth
SPEC	=	Type of business
STAR	=	Business strategy
ENVI	=	Environment
GOV	=	Government assistance
COMP	=	Competition

For the qualitative data analysis, content analysis was used, obtained from the interviews. Drawing mind maps was used for classification, processed with a ready-made program to link and describe the relationships of the content together.

RESULTS AND DISCUSSION

As for descriptive data of the key informants, they were business owners 64.6% and executives 35.4%. The type of business was trading 24.5%, manufacturing 26.3%, agriculture 24.2%, and service 25%. The age of the business was 0-5 years 40.5%, 5-10 years 37.1%, and more than 10 years 22.4%. Sales growth increased was 65.1%, and remained unchanged was 34.9%. Receiving help from the government was 85.4% and never received help from the government 14.6%. A proportion of respondents per province included Chiang Mai 16.3%, Chiang Rai 14%, Phrae 9.4%, Nan 10.2%, Phayao 16.3%, Lampang 12.5%, Lamphun 10.2%, and Mae Hong Son 11%.

Table 1: Basic Statistics of the Primary Variables in the Logistic Analysis Model

Factors	Mean	SD	Interpretation
Internal Factor			
Business strategy	4.71	0.44	Very high
External Factors			
Environment	4.80	0.89	Very high
Government Assistance	4.19	1.21	High
Competition	3.35	1.63	Moderate

Table 1 shows that the internal factor that entrepreneurs considered important to business growth was business strategy at a very high level while the external factors were the environment and government assistance at a very high level and a high level respectively, followed by competition at a moderate level based on the 5-level rating scale according to the concept of Best and Kahn (1993).

Table 2: Results of the Correlation Analysis between the Independent Variable and the Dependent Variable

Variable	Type of Business	Business Strategy	Environment	Government Assistance	Competition	Growth
Type of Business	1.00					
Business Strategy	0.561**	1.00				
Environment	0.387**	0.667**	1.00			
Government Assistance	0.161*	0.665*	0.558*	1.00		
Competition	0.233**	0.521**	0.652**	0.553**	1.00	
Growth	0.162*	0.654**	0.661**	0.557**	0.551**	1.00

**Significance at 0.01,*Significance at 0.05

The results of the correlation analysis between the independent variable and the dependent variable are as follows:

The firm's strategy was related to growth at a relatively moderate level (r=0.654). The environment was related to growth at a relatively moderate level (r=0.661). Government assistance was related to growth at a moderate level (r=0.557). Competition was moderately related to growth (r=0.551) at a statistically significance level of 0.01. (Best, 1977) When considering the independent variables that were all statistically significantly related to each other, no pair was highly related to each other more than 0.80, so there was no problem of variables being related to each other (Steven, 1996). Therefore, the independent variables could be further analyzed in the logistic regression model.

Research Results to Test Hypotheses

In the study on factors influencing the growth of SMEs in the northern region of Thailand after the COVID-19 outbreak, logistic regression analysis was employed to analyze to predict whether an event occurred or not or how likely it was to happen. It was determined that there was one or more variables that affected the occurrence of that event and to know the reason for the occurrence of that event or the fact that the event did not occur. The results of the logistic regression analysis using the ENTER method to test the hypotheses are shown in Table 3.

Table 3: Statistics of the Logistic Regression Equation

Independent Variable	B	S.E.	Wald	Df	Sig.	Exp(B)
Constant	0.798	0.861	1.244	1	0.354	2.220
SPEC	1.065**	0.336	10.077	1	0.002	2.902
STAR	0.864**	0.238	13.103	1	0.000	0.785
ENVI	0.896**	0.201	13.922	1	0.000	1.101
GOV	0.839**	0.335	14.036	1	0.012	2.314
COMP	0.351**	0.180	12.512	1	0.041	1.421
Method	Enter					
-2Loglikehood	450.665					
Cox & Snell R Square	0.611					
Nagelkerke R Square	0.695					
Percentage Correct	71.7					
N	392					

Note * $P < 0.05$, **$P < 0.01$

Table 3 shows the regression coefficient (B) to show the influence of values arranged according to the size of the key influence in predicting growth (Cohen, 1988). The environment influenced the growth of SMEs in northern Thailand after the COVID-19 situation with a statistical significance of 0.05 ,the effect size was large (B=0.896, p=0.000 <0.01), followed by business strategy, the effect size was large (B=0.864, p=0.000 <0.01), for government assistance, the effect size was large (B=0.839, p=0.012 <0.01), and for competition, the effect size was medium (B=0.351, p=0.041 <0.01),). Enterprises in the manufacturing industry also influenced business growth with a statistical significance of 0.05 (B=1.065, p=0.002 <0.01), but other types of businesses did not have a significant influence on growth. This supported Hypotheses 1, 2, 3, 4 and 5.

When considering the odd ratio from the Exp(B), it was found that the manufacturing industry had a chance of sales growth approximately 2.9 times greater than other industries. When the business adjusted to 1 unit, sales grew 1.421 times, and when government assistance was given 1 unit, it increased sales growth by 2.314 times, while a 1 unit increase in the strategy increased sales by 0.785 times, and a 1 unit increase in the environment led to 1.101 times increase in sales growth.

For the results of testing the suitability of the model of factors influencing the growth of SMEs in the northern region of Thailand after the COVID-19 outbreak, it was appropriate with a percentage correct of 71.7% and a Nagelkerke R Square of 0.695 or 69.5%, meaning that the five independent variables, including the type of business (SPEC), business strategy (STAR), environment (ENVI), government assistance (GOV) and competition (COMP) could explain the dependent variable which was the growth of SMEs (SALE) by 69.5%, while the remaining 30.5% was attributable to other variables that were not included for examination.

Moreover, the analysis results from Table 2 were used to create an equation model of factors influencing the growth of SMEs in the northern region of Thailand after the COVID-19 outbreak as follows:

$$SALE = 0.798 + 1.065SPEC + 0.896ENVI + 0.864STAR + 0.896ENVI + 0.839GOV + 0.351COM$$

Qualitative Research Results

Interviews were conducted with 36 KIs from 3 provinces: Chiang Mai, Chiang Rai, and Lampang, totaling 1 2 people per province, divided into 3 people in the trade sector, 3 people in the manufacturing sector, 3 people in the service sector, and 3 people in the agricultural sector.

The data was analyzed with a computer program based on data from the interviews. The researcher coded the issues from the interviews to show the factors that led to an increase in income after the COVID-19 outbreak in terms of income growth and issues influencing growth. The data was presented in order of the issues studied according to the analysis in the quantitative research shown below:

Sales growth: All sectors had increased sales and customers. As an interview with KI-10 from the trade sector, "sales had increased more than during the COVID-19, customers were both old and new. Online customers were coming in as well." This was in line with an interview with KI-2 from the manufacturing sector that showed that "sales had improved." There were many factors involved" while KI-19 from the agricultural sector said, "sales improved better than in the past". This was in line with KI-28 from the service sector that "… travel and overnight stays since the end of 2022. were better and it got worse during pm 2.5 dust for three months. Then, there were more customers and income. It can be said that the situation was better."

Environment: The industry sector agreed that after COVID-19, the economic condition improved due to the relaxation of COVID-19 prevention measures by the government, and consumer behavior had shifted with more caution in spending. Also, pm 2.5 dust affected income growth. As remarked by KI -12 from the trade sector, "the environment was a big issue. The economy was worsening. Customers were not spending as much as they did before COVID-19. It's all related to pm 2.5 dust from February to April. People rarely travelled. So our sales increased, but not that much." This was in line with KI-3 from the manufacturing sector "In the past, it was like a storm hit. Now that it has passed, we must return to recover quickly." Meanwhile, KI-20 from the agricultural sector stated that "it's all related. When the government did not have measures to prevent COVID, people started living normal lives. It inevitably affected the sales of our products." This was in line with KI-32 from the service industry "Tourists were starting to increase. They purchased both food and supplies. Sales also increased. Some foreign tourists came in. Most of them were domestic customers. Then, there was dust for a while. But accommodation bookings were better than during COVID-19."

Business strategy: All sectors employed various strategies related to products and services, customers and marketing along with innovation in business operations, as KI-15 from the trade sector stated, "We had adjusted the most in marketing as we could not just sell in stores, but we had to sell online as well to boost sales. Content was created to attract customers. Then, a network was built with partners to deliver products to customers, both online and on-site, and good partners were chosen for online sales." KI-16 from the manufacturing sector stated "We stroved to develop the product to a higher level and then add more product types to meet the customers' needs. Then, we expanded the market by online platforms." This was in line with KI-35 from the agricultural sector, "We emphasized the strategy of products and services. Then, I focussed on management with the use of organic agriculture with a smart farm. We also added channels to increase customers by services for visiting the farm and taking photos. In addition, it increased sales channels through online marketing." This was in line with KI-30 from the service sector, "We had to greatly adapt our services to meet customers' needs such as health and well-being. We also organized yoga activities and provided healthy food. As for marketing, technology was utilized. Facebook's account and website were updated for interesting public relations to enhance sales."

Government assistance: All industry sectors participated in government projects. The participating projects included the Half-Half Project, Chim Shop Chai Project, We Travel Together Project, Agricultural Product Support Project, and a project to help finance SMEs. As the interviewee of KI-11 from the trade sector said, "The Half-Half Project helped a lot and stimulated sales a lot. The Chim Shop Chai Project also helped. I wanted more projects like these." This was in line with KI-17 from the manufacturing industry group that "we had joined the bank's loan program. It helped to increase our liquidity, giving us funds to produce new products launched in the market." Meanwhile, KI-22 from the agricultural sector stated "We had a government project that supported agricultural products. It helped to greatly increase sales." This was in line with KI-34 from the service sector, "The government revenue stimulant was the We Travel Together Project, which helped a lot. I want the government to continue stimulating tourism like this."

Competitiveness: All sectors had key competitors, namely SMEs. They competed both in terms of price and strategies, as witnessed in KI-14 from the trade sector, "Mostly, our businesses competed with each other. We used the same old methods, competing on price like we always do. An increase in service provision and product quality selection was seen and we also had to compete with each other to organize discounts, exchanges, and giveaways to boost sales." This was consistent with KI-8 from the manufacturing sector, "We competed with each other in terms of price followed by the competition to meet consumer needs by upgrading product quality and launching new products that responded to modern consumers." This was in line with KI-2 5 from the agricultural industry, "Agricultural products were all competing with each other as there were not many large businesses in the area. We competed in price and then competed in quality and service." The KI-29 from the service sector stated that, "Customer behavior changed to book cheap accommodation. We used a price competition strategy to satisfy customers who preferred to travel on their own and not in group tours."

In conclusion, based on observations while interviewing key informants in business operations, it was found that the business atmosphere was lively and the interviewees were enthusiastic and hopeful. From the opinions of all sectors, it was seen that factors influencing sales growth consisted of external factors that the business organization could not control, environmental issues, which referred to economic conditions and purchasing power, social conditions in which consumers' behavior had changed, government regulations, including natural disasters such as pm 2.5 dust and government assistance and competitiveness as well as internal factors that a business could control, namely the use of strategies for products and services, customers and marketing, and innovation in business operations.

DISCUSSION

Based on the results, the environment, government assistance, competition, business strategy, and type of business influenced the growth of SMEs in the northern region of Thailand after the COVID-19 outbreak. The manufacturing industry had the

opportunity to create significant growth from such factors. The results are discussed below:

Environment

Environment as an external factor including economics, society, technology, and government regulations, influencing growth can be explained as follows:

For economics, it could be observed from the purchasing power of consumers during the relaxation period after the stressful situation of the COVID-19 outbreak. This is consistent with the report on the situation of SMEs in November, indicating that the economy in the area grew from the tourism sector and related businesses, especially the trade sector, including production in clothing, perfumery, and herbal medicine. The agricultural sector had also improved, especially winter agricultural products, such as salad vegetables, strawberries, and avocados (OSMEP, 2023).

For society, consumers have changed their behaviors. They considered health, health safety, and a selection of consumer goods that have standards and quality. Therefore, focusing on product quality can enhance sales. Moreover, the popular method of purchasing products was online channels as another factor to boost sales.

For the technology for increased sales, the entrepreneurs employed machines to increase production efficiency, leading to fast production to keep up with customer needs. In addition, information technology was used to create speed and fewer errors in contacting customers.

For government regulations, a policy on opening the country and canceling measures to prevent COVID-19 disease generated more tourist travel. Therefore, spending occurred in a chain with related businesses, including accommodation, restaurants, souvenirs, and the agricultural sector that is upstream of food production. This was consistent with a report that indicates secondary provinces in the northern region, such as Phrae, Lampang, and Chiang Rai, had quick domestic revenue recovery from the trend of tourism. This responded to the need to avoid crowding during the outbreak. In addition, the provinces still retained the charm of natural tourist attractions (Bank of Thailand, 2023).

It can be seen that entrepreneurs prioritized the environment first. This may be because they recently went through a situation that was affected by severe environmental impacts. This result was consistent with the work of Sarwoko and Frisdiantara (2016) who stated that the environment was a key influence on the growth of SMEs.

Government Assistance

Government assistance is an external factor that influenced business growth, including projects related to credit and projects to stimulate the economy, such as the Half/Half or We-Travel-Together projects. This resulted in growth as consumers could buy products at cheaper prices. For financial assistance, measures were issued to help restructure debt and liquidity to move forward amid various negative factors. Low-interest loan measures including debt suspension measures create liquidity. This is in

line with the business management concept that the government should support people through a monetary policy. This was consistent with the research of Udomthanasansakul (2021) showing that government policy positively influenced the operational strategies of SMEs in the service sector during the crisis of the COVID-19 outbreak through financial assistance with debt moratoriums and low-interest loans. Entrepreneurs would have cash flow to use in operations for a longer time, affecting the operations of SMEs.

Competition

Competition was an external factor that influenced business growth. It was found that the entrepreneurs had old and new competitors among SMEs themselves, as well as competitors who sold substitute products using both setting a lower price and making a difference to products and services as well as competition in sales promotion and advertising. This was in line with Satyopas et al. (2014) who found that SME entrepreneurs in the Lanna Thai group prioritized competition. This was consistent with Sarwoko and Frisdiantara (2016) who stated that the competition led to the growth of SMEs.

Overall, external factors influenced the growth of SMEs. This was consistent with Chittithaworn et al., (2011) studying factors affecting the business success of SMEs in Thailand, and it was found that the external environment was related to the success of SMEs.

Type of Business

The type of business is an internal factor that consists of the trade sector, manufacturing sector, agricultural sector, and service sector.

For types of businesses affecting sales growth, the manufacturing sector affected sales growth based on empirical evidence from quantitative research while the trade sector, the agricultural sector, and the service sector did not affect sales growth. This may be due to the nature of the operations of the businesses. The manufacturing sector involved transforming raw materials into products, so there were processes and steps involved that were more complicated than businesses in other sectors. Therefore, various factors in this study may be very sensitive to the effect on sales growth. This was in line with Kristiansen et al. (2003) who found that the characteristics of SMEs related to factors affecting success. However, when considering the qualitative data, all sectors had increased sales growth after the COVID-19 outbreak. They were influenced by the environment, government assistance, competitiveness, and the use of strategies based on the context to develop the business.

Business Strategy

Business strategy is an internal factor that consists of product and service strategy, customer and marketing strategy, and innovation in business operations that influence the growth of that business. It can be discussed as follows:

Product and service strategy influenced business growth by creating value for products (Virit, 2022). This was in line with Chittithaworn et al. (2011) who researched factors affecting the business success of SMEs in Thailand and it was found that products and services were related to the success of SMEs. This research found that businesses produced products that promoted health, created added value for products, provided service with attention to detail, made a difference, and services to meet customer needs promptly. There were always an analysis of customer needs to create new products and develop the product's appearance, and aesthetics, or change the brand, use, or name a new product. A new brand was a strategy to increase sales. This is consistent with the work of Sarwoko and Frisdiantara (2016) who stated that product diversity led to the growth of SMEs and Kalayanamit (2021) found that firms in the new normal era must use technology to develop products and services.

Customers and marketing strategy influenced business growth. This was consistent with Lekmat et al., (2018) who found that SMEs in Thailand's marketing capacity was related to financial performance by adjusting the model on how to sell products, adding marketing channels (Kalayanamit, 2021), finding new markets, expanding new customer bases. Online marketing was used in many channels, such as advertising content through TikTok, Facebook, and Line to meet consumer needs. This was consistent with Chittithaworn et al., (2011) who studied factors affecting business success of SMEs in Thailand and found that customers and marketing were related to the success of SMEs.

Business innovation strategy influenced business growth by taking advantage of the internet. For purchasing, transporting goods, making payments, and building a business network required technology in the management process, production, product design, and communication This was consistent with Charoennan and Embalzado (2021), who found that technological adaptation influenced the relationship between strategic planning and performance. This was in line with Hossain et al. (2022), who said that businesses with digital transformation and innovation led to profits for businesses in the new normal.

Before an entrepreneur decides to use strategy in running the business, the environment must be considered first (Chewatakulkit, 2016) This was consistent with the research results that entrepreneurs stated that they had to look at the government's stance on what policies will be issued and then strategies will be planned. The government policy positively influenced strategy (Udomthanasansakul, 2021). The concept of strategic management aimed to focus on change, initiative, and the creation of new things (Maharatsakul, 2017). Recent research showed that the business strategies affected the competitive advantage of SMEs in the Lanna group of Thailand. Satyopas et al., (2014) discovered that competitive advantage led to sales growth (Sarwoko & Frisdiantara, 2016).

Business growth depends on payment from customers. However, customer behavior changes according to external environmental factors. Understanding the external environment that influences customer behavior helps to understand customer behavior correctly and respond to customer needs appropriately. Entrepreneurs must look at their business systematically in a dynamic way as products or services can cause changes in business processes and inputs. The change in the external environment influenced business

operations in terms of business concepts and processes (Maharatsakul, 2017). The concept of achieving goals using the minimum resources should be used without adherence to any one approach and methods can be changed at any time. Integrated knowledge leads to a sharp and practical strategy. Western strategic planning concepts start with analyzing the environment and then setting goals to study cause variables with the belief that it will achieve the goals that are the outcome variables (Maharatsakul, 2017). Therefore, entrepreneurs should understand external and internal factors that will lead to growth by seeking opportunities after severe events, such as the emergence of the COVID-19 outbreak with government assistance or support from relevant partners that meet the needs of the business.

CONCLUSION

The study on factors influencing the growth of SMEs in the northern region of Thailand after the COVID-19 outbreak aimed to study the importance of internal and external variables on the growth of SMEs in the northern region of Thailand after the COVID-19 outbreak and to study factors influencing their growth in the northern region of Thailand after the COVID-19 outbreak.

The results based on research objectives can be summarized as follows:

1. The importance of internal factors in business growth included business strategy at a very high level while external factors included the environment at a very high level and government assistance at a high level, followed by the competition at a moderate level.

2. From the results of both quantitative and qualitative research, factors influencing the growth of SMEs in the northern region of Thailand after the COVID-19 outbreak, arranged in order of size of influence, included environment, business strategy, government assistance, and competition. The manufacturing industry had the opportunity to create significant growth from such factors. This supported Hypotheses 1, 2, 3, 4, and 5.

Even in quantitative research, statistics showed that only the manufacturing industry was influenced by the environment, business strategy, government assistance, and competition to create growth, but in the qualitative research, the environment and business strategy, government assistance, and competition influenced the growth of the trade industry, agricultural industry, and the service industry.

RECOMMENDATION FOR APPLICATION

Recommendation for Application

This study provides data on factors influencing the growth of small and medium enterprises in the northern region of Thailand after the COVID-19 outbreak. Some practical suggestions from the results of the study are:

1. Entrepreneurs can apply the results by responding to business challenges from external environments that cannot be controlled by monitoring and analyzing the environmental situation clearly and promptly. In addition, entrepreneurs should make every situation an opportunity for growth by searching for new opportunities and utilizing existing resources creatively to develop the organization by combining product and service, customer and marketing, and innovation in business operations to achieve the goals of business operations in terms of growth and constant existence.

2. Government agencies and relevant partners can utilize data from the results to consider developing policies to assist SME operators to meet the needs of the business.

Suggestions for Future Studies

Future study should be conducted in other regions of Thailand to understand the context of SMEs entrepreneurs in each area more clearly in determining government policy in supporting and providing assistance in the future. Secondary data should be taken from the Department of Business, Provincial Commercial Office, and Provincial Chamber of Commerce to make the research results more accurate and clearer. This research should also be repeated using other variables and other data analysis methods to find causal factors in enhancing growth for all business groups.

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