

โมเดลสมการเชิงโครงสร้างการประยุกต์ใช้ปรัชญาเศรษฐกิจพอเพียงเพื่อสร้างความยั่งยืนแก่วิสาหกิจขนาดกลางและขนาดย่อมในเขตภาคเหนือตอนบน ประเทศไทย

The Structural Equation Modeling of Applying Sufficiency Economy Philosophy to Sustain SMEs in the Upper North of Thailand

ศิริพรรณ จีนะบุญเรือง¹ และอภิสม อินทรลาวัลย์²¹

Siripan Jeenaboonrueang¹ Apisom Intralawan²

บทคัดย่อ

การวิจัยครั้งนี้มีวัตถุประสงค์เพื่อศึกษาการประยุกต์ใช้ปรัชญาเศรษฐกิจพอเพียงเพื่อสร้างความยั่งยืนแก่วิสาหกิจขนาดกลางและขนาดย่อมในเขตภาคเหนือตอนบน ประเทศไทย

การวิจัยนี้ใช้วิธีการวิจัยแบบผสมผสาน (mixed methods research) ซึ่งเป็นการวิจัยแบบคุณภาพและ การวิจัยเชิงปริมาณ โดยการวิจัยเชิงคุณภาพ เป็นการวิจัยที่ใช้ในช่วงแรกของการวิจัย โดยเครื่องมือที่ใช้ในการวิจัย คือแบบสัมภาษณ์กึ่งโครงสร้าง ทำการสัมภาษณ์ผู้ประกอบการวิสาหกิจขนาดกลางและขนาดย่อม จำนวน 5 ราย และนำผลจากการสัมภาษณ์ไปสร้างแบบสอบถามเพื่อใช้ในการวิจัยระยะที่สอง ซึ่งเป็นการวิจัยเชิงปริมาณ โดยมีกลุ่มตัวอย่างจำนวน 518 กิจการ และใช้โปรแกรม AMOS ในการวิเคราะห์สมการเชิงโครงสร้าง

ผลการวิจัยพบว่า จากการเชิงโครงสร้างของการประยุกต์ใช้ปรัชญาเศรษฐกิจพอเพียงเพื่อสร้างความยั่งยืนให้แก่วิสาหกิจขนาดกลางและขนาดย่อมในเขตภาคเหนือตอนบน ประเทศไทยนั้น ปรัชญาเศรษฐกิจพอเพียง และกลยุทธ์ธุรกิจ ต่างส่งผลต่อความยั่งยืนของวิสาหกิจขนาดกลางและขนาดย่อม แต่กลยุทธ์ธุรกิจจะส่งผลต่อความยั่งยืนของวิสาหกิจขนาดกลางและขนาดย่อมมากกว่าการประยุกต์ใช้ปรัชญาเศรษฐกิจพอเพียงแต่เพียงอย่างเดียว ซึ่งหมายความว่าการจะทำให้วิสาหกิจขนาดกลางและขนาดย่อมยั่งยืนได้นั้น ต้องมีการนำปรัชญาเศรษฐกิจพอเพียงมาเป็นส่วนหนึ่งในการกำหนดกลยุทธ์ธุรกิจเพื่อให้เกิดความยั่งยืนในอนาคต

คำสำคัญ : ปรัชญาเศรษฐกิจพอเพียง กลยุทธ์ธุรกิจ ความยั่งยืน สมการเชิงโครงสร้าง

Abstract

The research was aimed to investigate the application of Sufficiency Economy Philosophy to sustain SMEs in the upper north of Thailand.

¹ปรัชญาดุษฎีบัณฑิต สาขาวิชาบริหารธุรกิจ มหาวิทยาลัยแม่ฟ้าหลวง
(Doctor of Philosophy in Business Administration, Mae Fah Luang University)
ที่ปรึกษาดุษฎีบัณฑิต
(Dissertation Advisor, School of Management, Mae Fah Luang University)
* email: jiamwijak@yahoo.com

The methodology used in this study was a mixed method approach, qualitative and quantitative research. The first phase was qualitative research which used a semi-structured interview to gather data from the SMEs. There were five participants from SMEs in the service sector providing information. Data obtained from the interview was used to construct a questionnaire in the second phase which was quantitative research. The questionnaire composed of four parts; 1) demographic data 2) application of Sufficiency Economy Philosophy 3) business strategy of SMEs in the upper north of Thailand and 4) business sustainability of SMEs in the upper north of Thailand. The 850 questionnaires were distributed both by E-mail and by post. The number of 518 questionnaires were returned and structural equation modeling was used to generate the model, it showed a good fit with the value of $\chi^2/df = 2.874$, $p = 0.54$, $CFI = .981$, $TLI = .967$, $RMSEA = .060$ and $HOELTER = 262$.

The findings of the study showed the Structural Equation Modeling of applying Sufficiency Economy Philosophy to sustain SMEs in the upper north of Thailand indicated that both SEP and business strategy had a direct effect on business sustainability, but business strategy had a stronger direct effect than SEP. Firms that applied Sufficiency Economy Philosophy practices in the business and used it as part of business strategy formulation would lead to business sustainability better than applying SEP itself.

Keywords: Sufficiency Economy Philosophy, Business Sustainability, Business Strategy, Structural Equation Modeling

Introduction

Sufficiency Economy Philosophy (SEP) has been proposed by King Bhumibhol Adulyadej to people of Thailand in guiding people to live their lives according to the middle path. The philosophy was actually introduced around 1972 but formalized acknowledge by Thai people in 1997 (Oxford Business Group, 2016) after the “Tom Yam Koong Crisis”. It emphasizes living a middle path as a principle for Thai people’s conduct at all level. The philosophical framework is to set up strategies for a balanced development of the nation that is surrounded by the forces of globalization.

As mentioned that Thailand faced “Tom Yam Koong Crisis” in 1997, it affected many parties such as business owners, employees, and financial institutions. Many businesses faced a financial crisis, Thai baht devalued 100 percent against the dollar which caused them to have very high debts. Many financial institutions suffered from nearly 60 percent loss in non-performing loans. Many employees had their pay cut, and some were laid off. Many of those who suffered most from the crisis were small business owners and company employees. The government, then realized that the way to reduce the impact of the economic crisis is by strengthening the SMEs.

SMEs are claimed to be crisis shock absorbers (Wiboonchutikula, 2002) that would act as a buffer for a country's economy at times when large organizations turn to a severe measure of laying off workers during the rough period of economic downturn, and sustainable performance of SMEs is considered crucial.

In Thailand, approximately 99% of the businesses are SMEs; still, it was considered inconsistent contributors to Thai economic unlike large enterprises (The Office of SMEs Promotion, 2018). The main reason could be that SMEs have limited resources in comparison with large enterprises. SMEs are known to face various difficulties and limitations which lead many SMEs to close down their business, especially within the early years of operation (Taylor, 1999; Jeffoate, Chappell, and Feindt, 2002). Even though the government provided the support mechanism for SMEs, many still not survive. It has claimed that the failures were due to the lack of knowledge, ability, experience, insufficient capital, marketing, information, and technology among the entrepreneurs (Wiboonchutikula, 2002). These obstacles were considered as the barriers of Thai SMEs to achieve business sustainability. The highest proportion of enterprises in Thailand were small size business which was difficult for them to pursue medium size (OSMEP, 2018), while Thailand need more medium enterprises to compete in international trade. The Office of SMEs Promotion (OSMEP) is hoping that SMEs would help Thailand to overcome a “middle - income” trap within ten years. As a result, the government has tried to support SMEs with knowledge, funds, information and technology to strengthen their business, at the same times Sufficiency Economy Philosophy has introduced to business sector as an approach to sustainability as well regarding the success of implementing to agricultural sector. Despite of the perception of people that the philosophy of sufficiency economy could be used in the agriculture sector and households only, but it can be applied to the business sector as well. Modern business organizations have become increasingly focused on sustainability, balance, and security (Taulananda, 2012).

Research Objective

To investigate an application of Sufficiency Economy Philosophy affecting the sustainability of Thai SMEs in the upper north of Thailand.

Hypothesis

Hypothesis 1: Sufficiency Economy Philosophy has a direct effect on business strategy.

Hypothesis 2: Business strategy has a direct effect on business sustainability.

Hypothesis 3: Sufficiency Economy Philosophy has a direct effect on business sustainability.

Conceptual Framework

This research adopted SEP principles; moderation, reasonableness, self-immunity, knowledge and moral to investigate the implementation of SEP in their enterprises as Isarangkun, C., & Pootrakool, K. (2002) research lends support for this study that the principles of moderation, reasonableness and self-immunity are highly relevant for manufacturing, service and other non-agricultural economic activities for sustainable development in Thailand. Regarding the literature, SEP is proposed as the pathway for business sustainability (Pruetipibultham and Buranapin, 2010) because it takes a middle path approach towards sustainable development (Kumar, et al 2011). This research also adopted generic strategies of Michael E' Porter (1980) which compose of cost leadership, differentiation and focus as an endogenous variable. The business sustainability adopted Elkington (1994) the triple bottom lines and ten global compact principles and sustainability performance (United Nations, 2013) as another endogenous variable in this conceptual framework.



Image 1 Research Methodology

This study was aimed to investigate the application of Sufficiency Economy Philosophy, business strategy and business sustainability of SMEs (service sector) in upper northern Thailand using both qualitative and quantitative research.

The first phase was to study primary data and semi-structured interview was used to gather data from five SMEs entrepreneurs in different business activities; education, hotel and restaurants, travel agency, construction and other services activities. Data was analyzed and used for design of questionnaires to collect data on quantitative research in phase 2.

Phase 2, data from the qualitative research was used to develop questionnaires and checked validity of content by three experts involve in the business field or researchers in the field of study, then analyze the IOC (Item of Objective Congruence Index). If there are comments from

the experts, the questionnaire will be corrected before trying out 30 sets of questionnaires, then the reliability test was used to checked the internal consistency. If the coefficient value of the questionnaire is above 0.7 it can distribute to the prospect respondents and the IOC value of this questionnaires was 0.936.

Phase 1 Qualitative research

1. Population and sample size

The sample used in in phase 1 consisted of five SMEs entrepreneurs in service sectors; education, hotel and restaurants, travel agency, construction and other services activities for the semi-structured interview. The purposive sampling was used to select sample for the interview. They are working in the service sectors for more than five years and all of them are business owners.

2. Variables

2.1 Exogenous Variables

2.1.1 Sufficiency Economy Philosophy composes of moderation, reasonableness, self-immunity, knowledge and moral.

2.2 Endogenous variables

2.2.1 Business strategy; cost leadership, differentiation and focus.

2.2.2 Business sustainability consists of economic, social and environment.

3. Research Instruments

A semi-structured interview was conducted using open-ended questions. The interview questions were constructed based on the literature review on Sufficiency Economy Philosophy and case studies, literature review on business strategy and business sustainability. Open-ended questions enable the researcher to receive insight information of the enterprises of the process of applying the Sufficiency Economy Philosophy, business strategy, and business sustainability and how it influences each other.

4. Data collection

A semi-structured interview was used to gather data from SMEs entrepreneurs in the service sector. There were five SMEs entrepreneurs engaging in education, hotels and restaurants, travel agency, warehousing and real estate providing information regarding the application of Sufficiency Economy Philosophy, business strategy and business sustainability in their organizations.

5. Data analysis

The researcher examined all the data to obtain a general understanding of the data set (Creswell & Plano Clark 2007). Furthermore, the researcher maintained objectivity during content analysis of the reasons obtained from the how, what, why questions to ensure the data collected was represented accurately (Krippendorff, 2004).

Phase 2 Quantitative research

1. Population and sample size

The population was SMEs in the service sector that registered with Office of Small and Medium Enterprises Promotion. The total number of SMEs in the service sector in upper northern Thailand equal to 116,615 enterprises (OSMEP, 2017) and sample size of this research was 518 as Comrey and Lee (1992) indicated the quality of data as “very good” as shown in table 2.

Table 1 Number of population and sample size

Province	Number of enterprises	Number of Samples
Chiang Mai	42,991	184
Lamphun	7,964	34
Lampang	11,593	50
Mae Hong Son	2,326	10
Phrae	11,843	51
Nan	8,292	36
Phayao	8,261	35
Chiang Rai	23,345	100
Total	116,615	500

Source: Office of Small and Medium Enterprises (2017)

The population used in the research were SMEs in service sector of upper northern Thailand; Chiang Mai, Lamphun, Lampang, Mae Hongson, Chiang Rai, Phayao, Phrae and Nan. The sample size of this research aimed at 500 SMEs among 850 distributed questionnaires, but 518 questionnaires were received.

Table 2 Quality of data

Numbers of sample size	Quality of data
50	Very poor
100	Poor
200	Moderate
300	Good
500	Very Good
1,000	Excellent

Source: Comrey and Lee (1992)

The variables used in this study consisted of exogenous and endogenous variables as shown in Table 3

Table 3 Exogenous and Endogenous variables

Latent Variables	Observed Variables
1. Exogenous Variables	
Sufficiency Economy Philosophy	1. Moderation 2. Reasonableness 3. Self-immunity 4. Knowledge 5. Moral
2. Endogenous Variables	
Business Strategy	1. Cost leadership 2. Differentiation 3. Focus
Business Sustainability	1. Economic 2. Social 3. Environment

2. Research instruments

The researcher used questionnaires to collect data from 850 SMEs in the service sector. The questionnaires divided into four parts;

Part 1: Demographic data about SMEs

Part 2: Five rating scales questionnaires with 28 questions on the application of Sufficiency Economy Philosophy of upper northern Thai SMEs.

Part 3: Five rating scales questionnaires with 15 questions on the application of the business strategy of upper northern Thai SMEs.

Part 4: Five rating scales questionnaires with 14 questions on the business strategy of upper northern Thai SMEs.

Construct of research instruments

1) Use data from the semi-structured interview and literature review to create a 5 rating scales questionnaire.

2) After the questionnaire was created, the draft was asked for comment from the advisor for correction.

3) The questionnaire was sent to 3 experts in the field to check the validity of content and analyze the IOC value.

4) Tried out 30 questionnaires with non- sampling group of this research and found that the Cronbach's Alpha was equal to 0.936

3. Data collection

This research used two types of questionnaires; the printout and the electronic questionnaires. The questionnaire was distributed to SMEs in the service sector by post and by e-mail. There were 850 questionnaires distributed to SMEs (service sector) in the upper north of Thailand engaging in business activities such as construction, transportation and storage, education, financial activities and insurance, real estate activities, hotels and restaurants, art, entertainment and recreation, and health and social work. The researcher received 518 questionnaires for analysis.

4. Data analysis

The researcher analyzed data as follows:

1) Analysis of SMEs demographic data by using Frequency and Percentage to describe general information about SMEs in the service sector.

2) Descriptive analysis was used to explain the application of SEP, Business Strategy and business sustainability of upper northern Thai SMEs. Mean and Standard Deviation was used to interpret the data.

3) Analysis of the correlation coefficient was used to measure the relationship between each variable. The correlation coefficient value between -1 and 1 which means that

1 indicates a strong positive relationship.

-1 indicates a strong negative relationship.

A result of zero indicates no relationship at all.

The correlation coefficient is a criterion to measure the relationship between variables and use to analyze the Structural Equation Modeling: (SEM). The correlation coefficient value between variables in SEM must not exceed 0.80. Besides, to check the validity of correlation matrix KMO and Bartlett's test will be used. $KMO > 0.5$ and Bartlett Test of Sphericity must have a significant level at .000 which means that the set of variables is suitable for analysis of factor.

The researcher had tested the correlation matrix, and the overall value showed that the $KMO = .880$ which exceed 0.5 and Bartlett's test was significant at .000 and can be used to analyze confirmatory factor.

Table 4 Goodness of fit indices

GOF Test	Name	Cut-off Value	References
p	Probability value	> .05	Carmines & McIver (1981) Ullman (2001)
χ^2/df	Normed Chi-square	< 3	
CFI	Comparative fit index	$\geq .95$	Carlson & Mulaik (1993)
TLI	Tucker-Lewis index	$\geq .95$	Hu & Bentler (1998)
RMSEA	Root mean square error of approximation	< .06	Yu (2002)
HOELTER	Hoelter's critical N (at a confidence level of 95%)	≥ 200	Hoelter (1983)

The Goodness of fit indices is used to validate whether the model is consistent with the empirical data by considering these value as shown in Table 4.

Research Findings

The model of applying Sufficiency Economy Philosophy, business strategy and business sustainability was generated and it was modified in ordered to rectify the model fit as seen in Figure 1

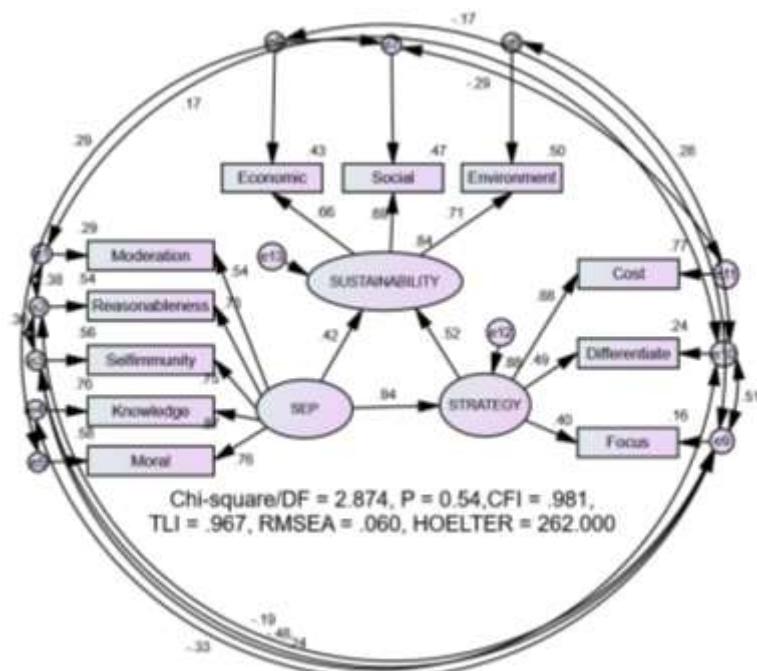


Figure 1 measurement model modification of applying Sufficiency Economy Philosophy, business strategy and business sustainability

The model modification was generated in ordered to rectify the model fit. This revealed that the model was a good fit with the new value of $\chi^2/df = 2.874$, $p = 0.54$, CFI = .981, TLI = .967, RMSEA = .060 and HOELTER = 262 as shown in Figure 1.

As a result, it can be explained that Sufficiency Economy Philosophy, business strategy and business sustainability were related to one another and consistent with the empirical data. Applying of SEP (moderation, reasonableness, self-immunity, knowledge and moral) could lead firms to sustainability, but business must use SEP as part of firms' strategic formulation which would lead firms to a more sustainable organization.

Discussion

From the study, it found that SEP had direct effect on business sustainability of Thai SMEs in service sector. SEP consists of moderation, reasonableness, self-immunity, knowledge and moral. In this study, the application of SEP in service sector of Thai SMEs highlighted on knowledge, moral and reasonableness which consistent with Thongpoon et al., (2012) indicated that applying of Sufficiency Economy Philosophy; knowledge and moral were important on SMEs entrepreneurial competencies and lead to sustainable performance. As we acknowledge that SMEs has limited resources, they have to be very careful operating their business, having good production planning, hiring local people, using of technology that easily find in local (Puntasen et al., 2003).

From the model, SEP was very important to firms as a business framework so that firms could choose an appropriate business strategy that would lead them to sustainability. Knowledge principle in SEP was the most influential factor affecting business sustainability while cost leadership was a most influential strategy of firms to reach sustainability. The finding was consistent with Grant (1996) stated that knowledge is the focal resource and the driver of sustainable advantage and there was a linkage of knowledge to competitive advantage (Nidumolu et al., 2001). Firms adopted focus strategy would follow moderation because they had to provide goods and services for a particular market, they do not emphasize on broader market because the competition is too high.

It concluded that both SEP and business strategy could lead firms to sustainability. Business that want to pursue a greater sustainability would have to adopt SEP to formulate their business strategy to compete in a competitive market. Blending the philosophy into a business strategy would make firms decide better of what strategy that most fit them.

Recommendation

Academic Recommendation

Scholars or researchers interested in exploring Sufficiency Economy Philosophy of SMEs should add innovation as another variable for further study to investigate that it is essential for SMEs to pursue innovation within firms and would it help business to sustain better in a competitive market.

Policy Recommendation

Policy maker in charge of SMEs in Thailand should promote the implementation of Sufficiency Economy Philosophy to help strengthen Thai SMEs coping with high competition from globalization.

References

Carmines, EG & McIver, JP. (1981). 'Analyzing models with unobserved variables: Analysis of covariance structures', in GW Bohrnstedt & EF Borgatta (eds), **Social measurement: Current issues**, Sage, Beverly Hills, CA, pp. 61-73

Carlson, M., & Mulaik, S. A. (1993). Trait ratings from descriptions of behavior as mediated by components of meaning. **Multivariate Behavioral Research**, 28(1), 111-159.

Comrey, A. L., & Lee, H. B. (1992). **A First Course in Factor Analysis (2nd ed.)**. Lawrence Earlbaum Associates. Publishers: Hillsdale, New Jersey.

Grant, R. M. (1996). Toward a knowledge-based theory of the firm. **Strategic management journal**, 17(S2), 109-122.

Hoelter, JW. (1983). 'The analysis of covariance structures: Goodness-of-fit indices', **Sociological Methods & Research**, 11 (3), pp. 325-44.

Hu, L. T., & Bentler, P. M. (1998). Fit indices in covariance structure modeling: Sensitivity to underparameterized model misspecification. **Psychological methods**, 3(4), 424.

Jeffcoate, J., Chappell, C., & Feindt, S. (2002). Best practice in SME adoption of e-commerce. **Benchmarking: An international journal**, 9(2), 122-132.

National Economic and Social Development Board (NESDB). (2004). **What is Sufficiency Economy?**. Bangkok, Thailand : NESDB.

Nidumolu, S. R., Subramani, M., & Aldrich, A. (2001). Situated learning and the situated knowledge web: Exploring the ground beneath knowledge management. **Journal of management information systems**, 18(1), 115-150.

Office of Small and Medium Enterprises Promotion (OSMEP). (2017). "SMEs situation". From <http://203.154.140.77/sme/Report/View/1188>. Retrieved 25th July 2018.

Office of Small and Medium Enterprises Promotion (OSMEP). (2018). **SME master plan 2017-2021.** From http://www.sme.go.th/upload/mod_download/แผนแม่บทฯ%20ฉบับที่%204.pdf. Retrieved 24th December 2018.

Oxford business Group. (2016). **Thailand applied sufficiency economy philosophy to promote sustainable development.** From <https://oxfordbusinessgroup.com/overview/middle-way-applying-king's-philosophy-sufficiency-economy-long-term-sustainable-development>. Retrieved 15th November 2018.

Pruetipibultham, O. (2010). The sufficiency economy philosophy and strategic HRD: A sustainable development for Thailand. **Human Resource Development International**, 13(1), 99-110.

Puntasen, A., Premchuen, S., & Keitdejpunya, P. (2003). Application of the royal thought about the Sufficiency Economy in SMEs. *Bangkok: Thailand Research Fund*.

Sasin (Sasin Graduate Institute of Business Administration of Chulalongkorn University). (2010). **Corporate Sustainability under the Sufficiency Economy Philosophy**. From <http://social.nesdb.go.th>. Retrieved on 15 November 2018.

Taylor, M. P. (1999). Survival of the fittest? An analysis of self-employment duration in Britain. **The Economic Journal**, 109(454), 140-155.

Thongpoon, S. (2012). Sustainable Performance of Thai SMEs: Investigating the Entrepreneurial Competencies and Sufficiency Economy Philosophy. **Asia Pacific Journal of Management & Entrepreneurship Research**, 1(2), 5.

Ullman, JB. (2001). "Structural equation modelling", in BG Tabachnick & LS Fidell (eds), **Using multivariate statistics (4th ed.)**. Allyn & Bacon, pp. 635-771.

U-tantada, S., Mujtaba, Bahaudin G. & Yolles, M. and Shoosanuk, A. (2016). Sufficiency economy and sustainability, proceedings of the 2nd multidisciplinary research and innovation for globally sustainable development (MRIGSD), extra issue, p 84-94.

United Nations. (2016). **The Ten Principles of the UN Global Compact**. From www.unglobalcompact.org. Retrieved 25th July 2016.

Wiboonchutikula, P. (2002). "Small and medium enterprises in Thailand: Recent trends". **Small Business Economics**, vol, no.1, pp.211-224.

Yu, C. (2002). 'Evaluating Cutoff Criteria of Model Fit Indices for Latent Variable Models with Binary and Continuous Outcomes', Doctor of Philosophy in Education, thesis, University of California.