ปัจจัยที่มีอิทธิพลต่อการลงทุนด้านอุตสาหกรรมผลิตไฟฟ้าในสาธารณรัฐประชาธิปไตยประชาชนลาว

Factors Influencing Power Generation Investment in Lao People's Democratic Republic

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บทคัดย่อ

การศึกษาปัจจัยที่มีอิทธิพลต่อการตัดสินใจในการลงทุน ด้านอุตสาหกรรมการผลิตไฟฟ้าของผู้ประกอบการผลิตไฟฟ้าไทย มีปัจจัยสำคัญแบ่งออกเป็นปัจจัยหลัก 2 ปัจจัย ได้แก่ปัจจัยทางกายภาพและสังคม (Physical and societal factor)และปัจจัยทางการแข่งขัน(Competitive environment factor)และรูปแบบในการเลือกการลงทุนซึ่งประกอบไปด้วยการร่วมทุนกับเอกชน(Joint venture) การร่วมทุนกับรัฐบาล สปป.ลาว (Mixed venture) การเลือกลงทุนเพียงบริษัทเดียว(Wholly owned enterprise) และการลงทุนแบบไม่ต้องการควบคุมกิจการ(Portfolio investment) ผู้ประกอบการผลิตไฟฟ้าไทยประกอบด้วยผู้ประกอบการผลิตไฟฟ้าขนาดเล็กมาก(Very small power producer) ผู้ประกอบการผลิตไฟฟ้าขนาดเล็ก(Small power producer) ผู้ประกอบการผลิตไฟฟ้าอิสระ(Independent power producer) ที่มีการทำสัญญาซื้อขายกับการไฟฟ้าฝ่ายผลิตแห่งประเทศไทย (กฟผ.) จำนวนทั้งหมด 101 ราย เครื่องมือที่ใช้ในการวิจัยประกอบด้วยแบบสอบถามแบบปลายปิดและแบบปลายเปิด มาตรวัดตัวแปรสถิติที่ใช้ในการวิจัยใช้ปัจจัยการวิเคราะห์ปัจจัย (Factor analysis) การวิเคราะห์ถดถอยแบบโลจิสติก (Binary Logistic Regression Analysis) เพื่อหาสมการในการเลือกรูปแบบของการลงทุน ปัจจัยด้านกายภาพประกอบด้วยปัจจัยย่อยจำนวน 5 ปัจจัยซึ่งมีความสัมพันธ์เกี่ยวข้องกับการเลือกรูปแบบในการลงทุนทางตรงด้านการผลิตไฟฟ้าได้แก่ ปัจจัยทางการเมือง ปัจจัยทางกฎหมาย ปัจจัยทางเศรษฐศาสตร์ ปัจจัยทางภูมิศาสตร์และปัจจัยทางวัฒนธรรม ปัจจัยด้านการแข่งขันประกอบด้วย ปัจจัยเรื่องข้อได้เปรียบด้านราคา ปัจจัยเรื่องข้อได้เปรียบทางการตลาด ปัจจัยเรื่องข้อได้เปรียบด้านเทคโนโลยี ปัจจัยเรื่องจำนวนและความสามารถของผู้แข่งขัน ปัจจัยเรื่องความแตกต่างทางการแข่งขันของแต่ละประเทศ

ผลการวิจัยพบว่า ปัจจัยที่มีผลต่อการตัดสินใจในการลงทุนมากที่สุดที่เป็นปัจจัยด้านกายภาพได้แก่ ปัจจัยด้านกฎหมาย ในเรื่องที่ รัฐบาลลาวออกกฎหมายให้ความมั่นใจแก่นักลงทุนชาวต่างชาติ ใน เรื่องสิทธิในการส่งเงินทุนและเงินปันผลกลับสู่ภูมิลำเนา รัฐบาล สปป.ลาว ออกกฎหมาย ยกเว้นภาษี หรือการยกเว้นภาษีในการก่อสร้าง โครงสร้าง และกิจกรรม บางส่วนที่เกี่ยวข้องกับกระบวนการและกิจกรรมทางอุตสาหกรรมซึ่งใช้เทคโนโลยีที่ทันสมัย ออกกฎหมายยกเว้นภาษีอากรนำเข้าอุปกรณ์ อะไหล่ และยานพาหนะที่เกี่ยวข้องกับการผลิตโดยตรง รวมถึงวัตถุดิบที่หาไม่ได้ในประเทศ หรือไม่เพียงพอ อันดับสองได้แก่ปัจจัยทางวัฒนธรรมในด้านภาษาลาวซึ่งมีความใกล้เคียงกับภาษาท้องถิ่นของภาคตะวันออกเฉียงเหนือของไทย จึงสามารถติดต่อสื่อสารโดยไม่ต้องใช้ล่าม

[1] แผนกบำรุงรักษากังหันกลาง ฝ่ายบำรุงรักษาโรงไฟฟ้าแม่เมาะ การไฟฟ้าฝ่ายผลิตแห่งประเทศไทย แม่เมาะ ลำปาง

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อันดับสามได้แก่ ปัจจัยทางภูมิศาสตร์ซึ่งได้แก่สภาพป่าทึบปกคลุมไปทั่วบริเวณภาคเหนือและภาคตะวันออก ยังมีความอุดมสมบูรณ์มากและมีน้ำไหลผ่านตลอดปี ซึ่งเหมาะสำหรับการลงทุนสร้างเขื่อนผลิตไฟฟ้าสำหรับปัจจัยทางการแข่งขัน ปัจจัยที่มีผลต่อการตัดสินใจมากที่สุดได้แก่ปัจจัยด้านความได้เปรียบทางด้านเทคโนโลยีและปัจจัยเรื่องข้อได้เปรียบด้านความแตกต่างทางการแข่งขันแต่ละประเทศ เนื่องจากเทคโนโลยีในการผลิตไฟฟ้าจากพลังน้ำเป็นเทคโนโลยีที่ง่ายและสะอาด ไม่ซับซ้อนเหมือนโรงไฟฟ้าถ่านหินหรือโรงไฟฟ้าแบบอื่นๆ กอปรกับ สปป.ลาว มีจุดแข็งด้านป่าไม้ที่อุดมสมบูรณ์ ทรัพยากรน้ำมีมากตลอดปี ทำให้มีทรัพยากรน้ำมากและเป็นสิสำคัญในการผลิตกระแสไฟฟ้าซึ่งเป็นสินค้าส่งออกสำคัญ ให้กับกับประเทศไทย กัมพูชาและเวียดนาม อันดับสองได้แก่ปัจจัยเรื่องข้อได้เปรียบด้านราคา ราคาค่าไฟฟ้าที่ผลิตโดยผู้ประกอบการใน สปป.ลาวที่จำหน่ายให้กฟผ.นั้นจะมีต้นทุนการผลิตต่ำเนื่องจากเป็นโรงไฟฟ้าพลังงานน้ำ (Hydro power plant) อันดับสาม ได้แก่ปัจจัยเรื่องข้อได้เปรียบด้านการตลาดเนื่องจากความต้องการไฟฟ้าในประเทศไทย จีน และเวียดนามมีแนวโน้มสูงขึ้นกว่าสามเท่าในราวสิบปีข้างหน้าจึงเป็นโอกาสทางการตลาดในการจำหน่ายกระแสไฟฟ้าของธุรกิจผลิตไฟฟ้าในอนาคต

การเลือกรูปแบบในการลงทุนนั้น ผู้ประกอบการส่วนใหญ่เลือกแบบร่วมทุนกับเอกชนด้วยกันหรือร่วมทุนกับรัฐบาลลาวร้อยละ 85.2 ซึ่งแสดงให้เห็นว่าผู้ประกอบการต้องการจะลดความเสี่ยงในการลงทุนประกอบธุรกิจผลิตไฟฟ้า สำหรับข้อเสนอแนะต่อรัฐบาลไทยนั้น ผู้ประกอบการส่วนใหญ่ต้องการให้รัฐบาลไทยมีส่วนสำคัญในการสร้างความร่วมมือด้านการลงทุน ในระดับรัฐบาลต่อรัฐบาลโดยสนับสนุนและผลักดันในการสร้างความสัมพันธ์ที่ดีต่อกันและออกกฎหมายต่างๆที่ช่วยสนับสนุนการลงทุนอย่างเป็นรูปธรรม ส่วนข้อเสนอแนะต่อรัฐบาล สปป.ลาวนั้นผู้ประกอบการส่วนใหญ่ต้องการให้ สปป.ลาว สนับสนุนการออกกฎหมายส่งเสริมการลงทุนในด้านความมั่นคงในการดำเนินธุรกิจ การไม่แทรกแซงการประกอบการ ความรวดเร็วและความโปร่งใสในอนุมัติการลงทุนและความชัดเจนในด้านการเงินและการส่งผลกำไรกลับสู่ประเทศผู้ลงทุน รวมทั้งให้ความมั่นใจในระบบการให้สัมปทานในระยะยาว

คำสำคัญ: ปัจจัยที่มีอิทธิพลต่อการตัดสินใจในการลงทุนด้านผลิตไฟฟ้า, ผู้ประกอบการผลิตไฟฟ้า

Abstract

This paper aims to study factors influencing investment in power generation by Thai businesses. The study focuses on one hundred and one power generating companies comprised of very small power producers, small power producers, and independent power producers. Investment is through joint ventures, mixed ventures, wholly owned enterprises, and portfolio investment. Research was conducted using closed and open-ended questionnaires; variable measures; statistical factor analysis; and binary logistic regression. The study reveals two main factors influencing investment decisions: physical and societal factors, and factors stemming from the business environment.

Physical and societal factors are sub-divided into five minor factors relating to political, legal, economic, geographical, and cultural factors. Business environment factors are sub-divided into price advantage, marketing advantage, advantages in innovation, number and comparative capabilities of competitors, and national competitive differences.

In terms of physical and societal factors, the research shows that the most influential issues affecting investment decisions are legal, namely that the government of Lao PDR has issued laws assuring foreign capitalists of rights regarding the repatriation of capital and dividends. Moreover, the Laos government has enacted laws concerning tax exemption or waivers relating to project construction, infrastructure, and certain industrial activities which involve the use of modern technology. Additionally, laws providing for tax exemption when importing machines, tools, spare parts, vehicles, and raw materials that are unavailable or inadequate in the country have also been issued. The second factor positively affecting investment decisions is the cultural continuity between Lao PDR and Thailand. The similarity between Laotian and Thai north-eastern dialects provides for a direct means of communication, obviating the need for an interpreter. Geographical influences are a third factor; dense forests cover the northern and eastern areas with plentiful water throughout the year.

Referring to factors categorized under the business environment, the most influential factor is advantages originating in technology and innovation, followed by national competitive differences. Unlike complicated coal-fired or other thermal power plants, electricity produced using hydropower is simple and clean. The large amount of water contained throughout the year in mountainous locations in Lao PDR enables the construction of dams to generate a great deal of electricity, when compared to Thailand, Cambodia and Vietnam, to which in exports significant quantities of energy. Price advantages are a second factor. The price of electricity, generated by entrepreneurs in Lao PDR and sold to EGAT has a low cost due to the low fixed cost of hydropower. The third factor is a major advantage in marketing. Power demand in Thailand, China, and Vietnam will be three-times higher in the next ten years, providing extensive business opportunities in the market for electricity.

Keywords: factor influencing power generation investment, power generating entrepreneurs

Introduction

The cost of generating electricity has become a sharp increase due to the increase of demand with fluctuating prices of gasoline and natural gas. This cost increase is likely to continue in the near future with the consequent negative impact on the cost of living of Thai people. Electricity Generating Authority of Thailand (EGAT) as a key authority on power generating in Thailand, has sought several ways to lessen such a crisis by increasing power generating capacity as well as power plant efficiency, especially coal-fired power plants. According to EGAT Power Development Plan (PDP) 2007, anticipates that the maximum power need in 2021 will reach 48,958 MW or 116% from current basis (Peak's electricity demand on March, 2008, EGAT). Building new power plants is not an easy fix due to several regulatory measures. For example, regulation requires an impact studies, scarcity of fuel sources, global warming awareness, etc. Therefore, EGAT is looking for an alternative approach to supply sufficient power by using the electricity generating potential in neighboring countries, such as Lao PDR, Myanmar, and Cambodia. EGAT currently manages the power supply

from a hydro power plant in Lao PDR with over 5,000 MW per year or 22.53% of the current maximum power demand (EGAT's news, 2008).

Consequently, investing of power plants in neighboring countries is EGAT's inevitable decision. However, constructing new power plants both in Thailand and in a neighbor country are complicated task due to a huge amount of construction cost 20-30 billion baht per plant. In addition, EGAT has been approved smaller amount of budget from the government and ministry of finance as result of the public finance principle to constrain the nation's public debt. EGAT, therefore, has to be dependent on their owned investment. In addition, fund raising tends to be difficult in such a situation. Businesses considering, investing in power producing in Thailand and a neighbor country is a profit-making and constant business. They are potential private sectors known in efficient policy of investment budget and score of fund raised in financial markets. It is an opportunity in create a joint investment with EGAT and its subsidiaries in the future.

Literature Review

The objective of this research is to study factors that influence four forms of investment, i.e. joint venture, mixed venture, wholly owned enterprise, and portfolio investment of Thai Power Generation Business Entrepreneurs in Lao's People Democratic Republic (Lao PDR) and to find out the relation on probability equation in selecting forms of investment. The researcher will be able to find out the analyses of overall picture of Thai Power Generation Businesses which will invest in Lao PDR. The locations of the majority of the businesses are in Vientiane or districts near the border of Thailand, especially where there are water resources or rivers. From total 101 businesses, types of businesses would consist of wholly foreign owned enterprise, joint venture, mixed venture, and portfolio investment. The researcher will emphasize on the relationship of the ten factors encouraging investment in Lao PDR which can be applied for the improvement of the investment policy of the Thai and Lao governments in future collaboration. This theory could be used to confirm in accordance with the studies of Zhang (2002, pp. 49-58) which concluded that the market of host country (Lao PDR) still has a gap which is overlooked by the competitors and can be considered as an opportunity for the investors to increase their market share.

To provide relevant research in order to demonstrate the foreign direct investment (FDI), the influence factors on FDI, electricity and power generation business research, and external influences factors of firm which consist of physical and societal factors research and competitive environment research. By reviewing empirical research that focus on the relationship between the form of direct investment of Thai Business Entrepreneurs and the external factors which are influenced by all variables through by the level of agreement, this study will also serve to improve the agreement of Thai Government and Lao PDR policy of bilateral trading.

Trevino et al., (2004) described the factors that determine the types of investment in a foreign country as: a) external environment. b) geography of the host country. c) knowledge of the investors in their own businesses.

Research by Hennart & Park (1993) and Smarzynska (2000) found that the most influential factor determining selection of form of investment and increasing competitive advantages of multinational businesses are ownership of the technology considered as the advantage in possessed resource based on Dunning's theory (Dunning, 1988, 1998) and strong business relationship with the network of the local enterprises in host country considered as advantage in business management. This is in line with the research by Gleason, Lee & Mathur (2002) as well.

The geographical advantage has only one factor which is the government policy that provides trade and investment privileges to multinational enterprises, which is in line with Dunning's theory (1988-1998). The theory regards the factor on trade and investment privileges to foreign enterprises as one of the four criteria in considering investment in foreign country. Research by Goodnow & Hansz (1972) mentioned that the host country aiming to attract more foreign investment will establish government policy on tax privileges and interest rates as well as other privileges.

The research of Chiang (1996) illustrated that foreign enterprises investing in developing countries will receive customs privileges, besides Lao PDR borders with Thailand, China, Vietnam, Myanmar, and Cambodia, therefore is a land bridge to trade and investment as land link and gateway to the neighbor countries.

Grosse & Trevino (1995) suggested that entrepreneurs venturing/working in a foreign country must study the language and develop communication skills while expanding the business in order to avoid problems resulting from culture gap.

Hofstede (1980) as well as Chen & Hu (2002) mentioned that culture is made up of the shared value, therefore foreign investors must apply appropriate management approaches based on cultural dissimilarity.

Chiang (1996) illustrated that the government is promoting direct investment which brings in technology and knowledge transfer as well as increased employment, resulting in good image for the country. However, this result contradicts the research by Kotler (2003) which presented the limitation of direct investment due to the risk of expropriation.

Recent studies have recognized that firms invest in foreign countries not only to exploit but also to develop their firm-specific advantages or acquire necessary strategic assets in a host country (Almeida, 1996; Chang, 1995; Dunning, 1993, 1995; Frost, 2001; Shan & Song, 1997; Teece, 1992). These studies suggested that a firm's firm-specific advantages would arise not only from the possession of proprietary assets but also from the capacity to acquire, or the efficient coordination of, the complementary assets owned by other firms in a host country (Dunning, 1995, 1998, 2000). Underlying this perspective is that critical resources and capabilities that firms seek are more often found to be spatially determined than simply existing within any single firms (Enlight, 1998). Firms that intend to build advantages through FDI therefore have a natural incentive to seek opportunities to invest in a particular location (host country) in which their needed strategic assets are available.

Methodology

The tool applied in this research is open-ended and close-ended questionnaire. Statistics applied are Likert type scale, factor analysis and binary logistic regression analysis as well as probability equation in selecting forms of investment. This paper will analyze binary regression analysis between independent variables and dependent variables. Independent variables are 1. Political policies, 2. Legal practices, 3. Cultural factors, 4. Economic forces, 5. Geographical influences, 6. Major advantage in price, 7. Major advantage in marketing, 8. Major advantage in innovation, 9. Number and comparative capability of competitor, and 10. Comparative differences by country (Daniels and Radebaugh, 2001, p. 48). Dependent variables are two forms of investment, i.e. joint venture and mixed venture, wholly owned enterprise and portfolio investment.

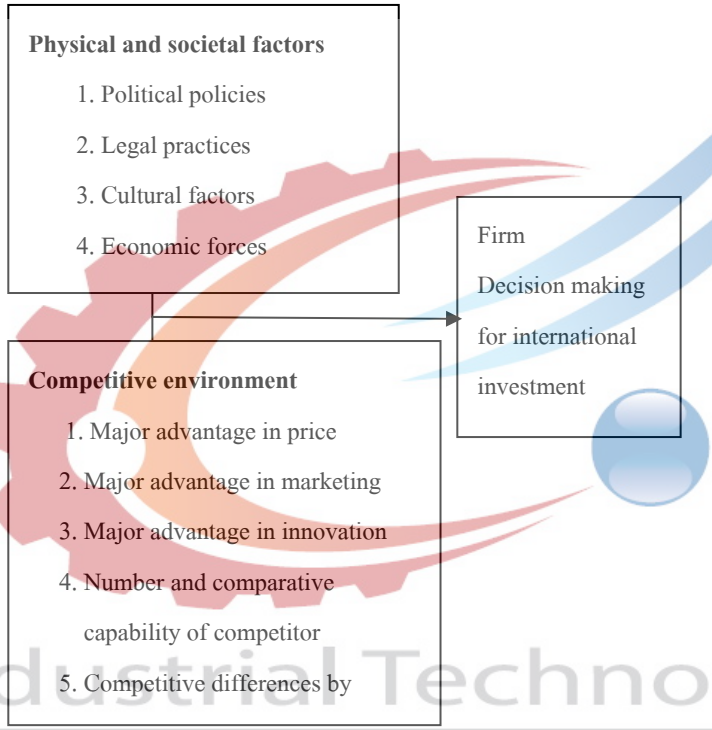

Figure 1 Physical, Societal and Competitive Factors (Daniels and Radebaugh, 2001)

The information related to investment of electricity generating business could be performed by literature review and relevant researches and organize relevant theory and framework of thought. Attitude survey would be related to investment of electricity generating business from EGAT's specialists such as Deputy Governor of Electricity Generating Division, Deputy Governor of Power Control System Division, and Director of Power System Planning Department including private sectors for instance, Managing Director of Ratchaburi Electricity Generating Holding Public Company and investment consultant of Managing Director of EGCO Public Company.

All 69 variables were categorized and grouped. The survey instrument used in the study is in a form of Likert type scale questionnaire. The questionnaire used in this study included four parts. The first part contained a cover letter describing the aim of the survey to assure the experts that no negative action would be

taken against their business.The second part consisted of demographic question for general investment with close-ended questions. Moreover, there are five questions asking for the factor influences in power generation business to assure that the model used in this study is agreed by experts. The third part contained sixty nine statements regarding the independent variable of this study. Each expert was asked to state his or her agreement or disagreement with the statement using the five point Likert type scale.

After experts' interviewing, the collected data would be analyzed by factor analysis method, factor analysis was a mathematical tool which could be used to examine a wide range of data sets (Ressse & Lochmuller, 1994). Factor analysis was used to uncover the latent structure (dimensions) of a set of variables. It reduced attribute space from a larger number of variables to a small number of factors and such as a non-dependent procedure that it did not assume a dependent variable was specified

Result and discussion

The Cronbach's alpha estimation also describes us how highly the items in our questionnaire are interrelated. Cronbach's alpha is the most popular test of inter-item (internal) consistency reliability. Alpha equals 1.0 when all items measure only the true score and there is no error component. Cronbach's alpha can be interpreted as the percent of variance the observed scale would explain in the hypothetical true scale composed of all possible items in the universe. Alternatively, it can be interpreted as the correlation of the observed scale with all possible other scale measuring the same thing and using the same number item**.** To analyze the data collected for this study, The Statistical Package for Social Sciences (SPSS) program version 15th was used for result analysis. Eighty one questionnaires are actually received from the contacted private companies with the response rate of 80% (81/101). In this study, we obtained a Cronbach's alpha coefficient of over 0.898 which is more than 0.6 thus it has reliability.

Physical and societal factors

	Means (Ranking)	Standard deviation	Means (by Scoring)
Political policy	3.67(1)	1.414	3.89(4)
Legal practice	3.17(2)	1.127	4.17(1)
Cultural factors	2.32(5)	1.596	3.92(2)
	3.01(3)	1.299	3.86(5)
Economical forces	2.83(4)	1.282	3.91(3)
Geographical influences			

Competitive environment factors

	Means (Ranking)	Standard deviation	Means (by Scoring)
Major advantages in price	3.52(1)	1.450	3.83(2)
Major advantage in marketing	3.32(2)	1.105	3.71(3)
Major advantage in innovation	2.67(4)	1.500	3.88(1)
Number and comparative capability of competitors	2.88(3)	1.259	3.53(4)
Competitive differences by country	2.62(5)	1.521	3.88(1)

The factor analysis method will be used to analyze the correlation between group of variables and total variance explained table; using principle component analysis in extraction method. The results indicated in table below.

Factor Analysis of all variables

Factors	component1	Component 2	Component 3	Total cumulative
Political policies	4, 5, 7, 8, 9(38.250%)	1,2,3 (12.873%)	9,10,11 (11.787%)	62.909%
Legal practices	1,2,3,4, 5, 6, 7, 11 (62.357%)	8,9,10 (9.188%)	-	71.545%
Cultural factors	1,2,3,4,5,6 (62.174%)	-	-	62.174%
Economic forces	2,3,4,5 (44.000%)	1,6,7,8 (13.593%)	9 (11.563%)	69.156%

Factors	component1	Component 2	Component 3	Total cumulative
Geographical influences	3,4,5,6,7,8 (43.705%)	1,2,9 (13.475%)	-	57.179%
Major advantage in price	**1,2,3,4**	**-**	**-**	**58.093%**
Major advantage in marketing	**2,3,5,6 (47.876%)**	**1,4 (17.86%)**	**-**	**65.737%**
Major advantage in innovation	**1,2,3 (50.289%)**	**4 (26.59%)**	**-**	**76.879%**
Number and comparative capability of competitor	**1,2,3,4**	**-**	**-**	**54.897%**
Competitive differences by country	**1,2,3,4,5**	**-**	**-**	**52.702%.**

Summary of Hypotheses Testing

H1: There is a relationship between the physical and societal factors and the form of direct investment of Thai Power Generation Business Entrepreneur.

H2: There is a relationship between the competitive environment and the form of direct investment of Thai Power Generation Business Entrepreneur.

H3: There is a relationship between the political policies and the form of direct investment of Thai Power Generation Business Entrepreneur.

H4: There is a relationship between the legal practices and the form of direct investment of Thai Power Generation Business Entrepreneur.

H5: There is a relationship between the cultural factors and the form of direct investment of Thai Power Generation Business Entrepreneur.

H6: There is a relationship between the economic forces and the form of direct investment of Thai Power Generation Business Entrepreneur.

H7: There is a relationship between the geographical influences and the form of direct investment of Thai Power Generation Business Entrepreneur.

H8: There is a relationship between the major advantage in price and the form of direct investment of Thai Power Generation Business Entrepreneur.

H9: There is a relationship between the major advantage in marketing and the form of direct investment of Thai Power Generation Business Entrepreneur.

H10: There is a relationship between and the major advantage in innovation and the form of direct investment of Thai Power Generation Business Entrepreneur.

H11: There is a relationship between the number and comparative capability of competitor and the form of direct investment of Thai Power Generation Business Entrepreneur.

H12: There is a relationship between the competitive differences by country and the form of direct investment of Thai Power Generation Business Entrepreneur.

Implications of the Research

The major factors to be studied in this research include the following physical and societal factors: political policies; legal practices; cultural factors; economic forces; and, geographical influences. An additional factor is the competitive environment factor which consists of the following: major price, marketing and innovation advantages; number and comparative competency of competitors; and, competitive differences by country. Models and equations to forecast Thai power generation entrepreneurs' decisions in selecting forms of investment in electricity production businesses are also created. The study further indicates the influential factors toward the entrepreneurs' investment decision. The summary of this research study will be practical in creating cooperation guidelines and strategic plans in developing more than a hundred Thai electricity producers' investments with the intention of expanding electricity production investment in Lao PDR in the future. Direct investment in electricity production is a very huge investment compared to other direct investments. This additionally influences the nation's electricity security which will encourage investment in Laos, one of Thailand's neighboring countries. Direct investment in Lao PDR not only creates the nation's earnings (one of the country's developing factors), but it also encourages superior collaboration of both countries in the future. Moreover, the result of this study can be used in creating or developing collaboration between the governments of Thailand and Lao PDR which is the foundation of the electricity production connection for Indochina in the future.

The consequence of this study can also be applied to survey Thai electricity producers' attitudes and demands concerning investment in such a business in other neighboring countries, such as Myanmar and Cambodia where the resources are considered suitable for electricity production. Currently, there are a few studies of direct electricity production investment in Thailand and Lao PDR. This study can therefore be a research model for fundamental industry studies to determine influential factors toward other investments, such as automobiles and textile industries (both in and out of the country). Applying equations in forecasting forms of investment is beneficial in order to determine the relationship between the forms of investment selection (a significant variable of physical and societal factor) and the competitive environment factor. The accuracy of this

methodology is 80%, which is appropriate to analyze the forms of electricity production investment in the future.

Suggestions

Physical and societal factors, as well as the competitive environment factor are studied in this research in order to observe the decision correlation of investing in Lao PDR. Five minor factors from each major factor are analyzed in regards to how they influenced the decision in selecting forms of investment. The entire relevant forms of investment, such as joint venture, mixed venture, wholly own subsidiaries, and port folio investment are considered as decision variables. Binary logistic regression is subsequently applied as an equation in forecasting the selection of investment. The influential factors toward direct investment from the investment factor model in international investment of Daniels and Radebaugh (2001, p. 48) are used in this research process in order to create a relationship model. Additional study is suggested for further research that may take place in the future to cover other dimensions. The preceding studies and analysis only focused on potential Thai power generation business entrepreneurs who have the opportunity to invest directly in Lao PDR; meanwhile, potential private sectors in large industries, such as cement, mining, and heavy industries are not included. Therefore, following research may consider including the entire Thai entrepreneurs who have the opportunity to invest directly in electricity production business in Lao PDR. The study may also want to cover the influential factors toward investment and selecting the forms of investment in neighboring countries such as, Myanmar, Cambodia and Vietnam. Similarity, as well as differences, in the influential factors toward forms of investment selection of each country could be compared and analyzed, in order to promote future collaboration in Indochina.

Conclusion

The most influential factor toward investment is the legal practices factor, in which the government of Lao PDR issues laws assuring foreign capitalists in repatriating capital and dividend. Moreover, the Laos government determines laws concerning tax exemption or waivers relating to project construction, infrastructure, and certain activities regarding processes and industrial activities that use modern technology. Additionally, laws concerning tax exemption in importing machines, tools, spare parts and relevant vehicles (including raw materials that are unavailable or inadequate in the country) are issued. The second factor is culturally based. The similarity between the Laotian and Thai northeastern dialect provides direct communication without an interpreter. The third factor is geographical influences. Dense forests cover the northern and eastern areas with plentiful water flows throughout the year.

Referring to competitive environment factors, the most influential factors are the technology and innovation advantage and the competition differences by country. Unlike complicated coal-fired or other thermal power plants, electricity production using hydropower is simple and clean. The large amount of water resources throughout the year and the mountainous location of Lao PDR enables the construction of dams to

generate a great deal of electricity compared to Thailand, Cambodia and Vietnam. In addition, the Lao PDR also has bountiful forests and water resources throughout the year which are essential to producing electricity (a major export product to Thailand and Vietnam). The second factor is major advantage of price. The price of electricity that is generated by entrepreneurs in Lao PDR and sold to EGAT has a lower cost due to the low fixed cost of using hydropower. The third factor is a major advantage of marketing. Power demand in Thailand, China and Vietnam will be three-times higher in next 10 years; consequently, this presents a good opportunity for the electricity market.

Regarding investment forms, 85.2% of entrepreneurs chose joint venture and mixed venture which indicates the entrepreneurs' attempt to avoid investment risk in the electricity production business. According to this study's suggestions that entrepreneurs made for the Thai government, most would like the government to take a major role in creating investment cooperation between the two countries, as well as building a good relationship and concretely issuing laws encouraging investment. The suggestions for the Laos government are that most entrepreneurs want the Lao PDR to issue laws focusing stability for business operation without intervention. In addition, prompt and transparent investment approval and understandable finance in repatriating capital and profit are required. Long-term concession is also suggested for investment assurance.

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