

THE LEADERSHIP, STRATEGY OF ABILITY TO CREATE INNOVATIONS IN ORGANIZATION, AND COMPETITIVE CAPABILITY OF ENTREPRENEURS AFFECTING THE CREATION OF NEW PRODUCTS IN THE AUTOMOTIVE PARTS INDUSTRY IN THAILAND

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Abstract

The automotive and automotive parts industry is a main industry that is important and can generate income for Thailand continuously. It includes the group of producers of first rank automotive parts, the group of producers of second rank automotive parts, and the other groups. The investment in the automotive parts industry has received pressure from the competitive condition, the slowing down trend of the automotive parts industry due to the slowing down world economy resulting in the production and selling of automotive parts in the trading partner countries having problems, as well as the electric car technology gaining more roles in the car market. The fact that the ordinary automotive parts cannot be used as the parts of electric cars has an impact on the automotive parts industry in Thailand. The objectives of this research are as follows: (1) to study levels of leadership, strategy of ability to create innovations in organization, and competitive capability of entrepreneurs affecting the creation of new products in the automotive parts industry in Thailand; (2) to study the influences of leadership, strategy of ability to create innovations in organization, and competitive capability of entrepreneurs affecting the creation of new products in the automotive parts industry in Thailand; and (3) to develop a model of success in creating new products in the automotive parts industry in Thailand. This study is a mixed-method research involving the quantitative and qualitative research methodologies. In the quantitative study, the research sample consisted of 300 entrepreneurs who produced automotive parts in Thailand, obtained by multi-stage sampling. The sample size was determined based on the criterion of 20 times of the observable variables. A questionnaire was employed as the data-collecting instrument. The data were analyzed using the structural equation modeling analysis. In the qualitative study, the researcher conducted in-depth interviews of target group persons consisting of 15 administrators and experts on production of automotive parts in Thailand. The research findings indicated that (1) leadership, strategy of ability to create innovations in organization, competitive capability of entrepreneurs, and the creation of new products in the automotive parts industry in Thailand were rated at the high level; (2) leadership, strategy of ability to create innovations in organization, and competitive capability of entrepreneurs had influences on the creation of new products in the automotive parts industry in Thailand, which were at the .05 level of statistical significance; and (3) the model of success in creating new products in the automotive parts industry in Thailand, developed by the researcher, was named as CLSS Model (C = Competitiveness of Entrepreneurs, L = Leadership, S = Strategy to Create Innovation, S = Success in Creating New Products). In addition, results of qualitative study indicated that in the creation of new products in the automotive parts industry in Thailand, the entrepreneurs should take into consideration the trends for the needs of the market both domestically and internationally under the progress of modern innovations and technology in the production of automotive parts including the genuine parts, imitative parts, or comparative parts that are of light weight but durable and have high efficiency. The results of this research can be adjusted to apply as guidelines for formulation of policies concerning the business operation of the automotive parts industry in order to promote the

creation of new products in the automotive parts industry in Thailand so that it has the ability to compete in the international market sustainably.

Keywords: Leadership, competitive capability, creation of new products, automotive parts

INTRODUCTION

Developing a modern economy through innovation and technology is an important part of growth in the manufacturing sector. Both cost savings and service quality improvements have a positive effect on business efficiency and productivity through innovation. (Department of Business Development, 2021). This is a key component of innovation policies and strategies that support the business sector to have more marketing power. The sustainable development goals, as a result, are increasingly being applied to manage the economy and society. Moreover, the big data was used to develop the country with the national strategy in the manufacturing industry. The sustainable development goals aim to build local capacities into national development policies. (Kerdpitak & Heuer, 2021) Entrepreneurs operating in the production of automotive parts enter new markets and can generate higher incomes. This arises from the entrepreneurs' strategy to create innovations in the organization, including having a clear process for creating innovation, meeting market demand, and generating value for business from the selection of good innovations (Automotive industry, 2020).

The current automotive industry is highly competitive due to the increasing number of operators and the use of electric vehicles to protect the environment. The automotive parts manufacturing industry, thus, is affected. Entrepreneurs are unable to use innovation and technology in the production process. Moreover, the country's economy faces problems during the epidemic, causing consumers to reduce their purchases. Automotive industry has been considered one of the industries, which has driven and developed the Thailand economy for a long time. In 2019, Thailand is the 11th largest car-producing country in the world, accounting for about 2% of the world's car production. Automotive industry in Thailand is experiencing problems from the economic, causing the volume of automobile production in Thailand to decrease. When the number of automobile production decreases, auto parts manufacturing industry is also affected. As a result, auto parts manufacturers in Thailand have to accelerate the development of new products that can meet the needs of producing new parts for electric vehicles efficiently. They, in addition, have to bring innovation and technology to produce better products that have higher performance than old car parts (Aunyawong et al., 2020). From such problems, therefore, the researcher is interested in studying leadership, strategy of ability to create innovations in organization, and competitiveness of entrepreneurs on success in creating new products of the automotive parts industry in Thailand to strengthen Thailand automotive parts industry to have the sustainable competitiveness and trade advantages in the global market.

LITERRATURE REVIEW

Leadership

The leadership variables, comprising ability to use business strategies, courage in leading organization to change and vision to create competitive advantage, affect strategy to create innovations in the organization (Suwandej et al., 2020; Phrapratanporn et al. 2019; Buil, Martínez & Matute, 2019). The leadership factors affect the competitiveness of entrepreneurs in the production of automotive parts in Thailand that uses innovation in production, has potential for marketing dynamics, and develops human resources in the organization effectively. (Blome, Foerstl & Schleper, 2017; Waiyavat et al., 2022)

Strategy of ability to create innovations in organization

The creation of process innovation of the auto parts industry organization, innovations that can effectively respond to market demands, values to the policies of the auto parts industry in Thailand and selection of highly efficient innovations in production affect the competitiveness of entrepreneurs in the production of auto parts in Thailand (Sommanawat et al., 2022). Sustainability in the manufacturing company of the Automobile Industry in China is able to design a circular business model in various contexts, which will be the future direction and opportunity for automotive parts for the re-manufacturing industry by developing human resources in the organization effectively to create a competitive advantage. (Mansaray, 2019).

Competitiveness of Entrepreneurs

Marketing dynamics potential and effective human resources development in the organization affect the creation of new products in the auto parts industry in Thailand, consisting of acceptance by customers and business networks, high sales, more efficiency in use than the original products, and creation of value for customers and businesses with more marketing power. The study on the employment growth in Japanese brands and the Japanese automotive industry differs greatly from those on production of the Canadian automotive industry because Japanese automotive manufacturers have experience so that they are recognized by customers and business networks and can increase their sales (Mordue & Sweeney, 2019; Kerdpitak et al., 2022). The purpose of quantitative study was to study organizations in the modern technology era. The tools were the Multi-Factor Questionnaire (MLQ) and the Job Satisfaction Survey (JSS). The sample was organization leaders. The analysis was completed through the SurveyMonkey.com and SPSS. Transformational Leadership was measured in motivating employees to be satisfied and productive (Wojtara-Perry, 2016).

METHODOLOGY

The researchers used mixed methods research in order to achieve the strengths of each method to support the quality of research. The researchers have chosen an embedded design. The sample consisted of 300 manufacturers of automotive parts in Thailand, selected by a multi-step sampling. The research was initiated by reviewing the literature and research findings related to the new product creation variables of the automotive parts industry in Thailand,

consisting of acceptance by customers and business network, high sales, more effective in use than the original product, creating values for customers and businesses, and more marketing power. The data were synthesized and the indicators of the variables according to the research conceptual framework were determined. Then, the 5-point Likert scale questionnaire was created. The scales were tested in terms of validity and reliability before collecting and analyzing data by structural equation modeling (SEM).

Table1: Statistical test of empirical variables (n=300)

Variables	M	S.D.	%CV	Sk	Ku	χ^2	P-value
BUSG	3.40	1.05	30.88	-.814	-1.965	4.522	.104
ORCG	3.64	.90	24.73	-.977	-1.300	2.644	.267
VIAD	3.55	.87	24.51	-.750	-.604	.927	.629
PCIN	3.94	.86	21.83	-1.916	-2.879	11.961	.003
DEMCK	3.65	.89	24.38	-1.013	-1.290	2.688	.261
VLPO	3.71	.95	25.61	-1.433	-1.858	5.506	.064
HGIN	3.66	.83	22.68	-.603	-1.246	1.916	.384
INPD	3.73	.88	23.59	-1.069	-1.844	4.545	.103
PTMD	3.68	.84	22.83	-.717	-1.438	2.581	.275
HRDD	4.06	.74	18.23	-1.767	-1.964	6.980	.031
ACCN	4.10	.68	16.59	-.769	-5.415	29.908	.000
HISL	4.06	.72	17.73	-1.296	-3.044	1.943	.004
EFUS	3.69	.78	21.14	-.427	-.587	.527	.768
CVCU	3.87	.71	18.35	-.724	-1.021	1.567	.457
POBS	3.94	.79	20.05	-.995	-3.174	11.062	.004

Note: Chi-Square (χ^2) with statistical significance (P-value <.05) presents non-normal distribution

From TABLE 1, the results of the normal curve distribution of the observed variables, including ability to use business strategies (BUSG), courage in leading organization to change (ORCG), vision to create competitive advantage (VIAD), response to demand of market (DEMCK), value for organizational policies (VLPO), selection of highly efficient innovations (HGIN), use of innovations in production (INPD), potential on marketing dynamics (PTMD), more efficiency in use than the original products (EFUS), and creation of values for customers (CVCU), found that Chi-Square (χ^2) test had no statistical significance ($p > .05$), indicating Normal Distribution. In addition, other observed variables had statistical significance ($p < .05$), indicating Non Normal Distribution. Such results may cause the problem in assessing model fit using Chi-Square (χ^2). Therefore, the researchers solved the problem by calculating the ratio of Chi-Square (χ^2) to degrees of freedom (df). The value of less than 2.00 portrayed that the model was fit to the empirical data, although Chi-Square (χ^2) statistic of the model was statistically significant (p -value < .05) (Hair, et al., 2006).

Table 2: Factor Loadings (n=300)

Variables	Factor Loading (λ)	Error (θ)	t	R ²
Leadership (LEAD)				
Ability to use business strategies (BUSG)	.71	.49	12.70	.51
Courage in leading organization to change (ORCG)	.80	.37	14.34	.63
Vision to create competitive advantage (VIAD)	.79	.38	14.22	.62
$\rho_c = .81$ $\rho_v = .59$				
Strategy to Create Innovations in Organization (INORG)				
Creating process innovation (PCIN)	.66	.46	11.38	.54
Response to demand of market (DEMK)	.77	.41	13.52	.59
Value for organizational policies (VLPO)	.73	.47	12.71	.53
Selection of highly efficient innovations (HGIN)	.53	.42	8.77	.58
$\rho_c = .80$ $\rho_v = .51$				
Competitiveness of entrepreneurs (CPEN)				
Use of innovations in production (INPD)	.69	.22	6.64	.78
Potential on marketing dynamics (PTMD)	.67	.26	6.57	.74
Efficient human resource development in organization (HRDD)	.63	.29	4.64	.71
$\rho_c = .84$ $\rho_v = .63$				
Success in Creating New Products of Automotive Industry in Thailand (SCNPD)				
Acceptance by customers and business networks (ACCN)	.66	.36	10.36	.64
High sales (HISL)	.63	.30	9.78	.70
More efficiency in use than the original products (EFUS)	.56	.39	8.94	.61
Creating values for customers (CVCU)	.63	.30	10.23	.70
More market power of business (POBS)	.61	.33	9.84	.67
$\rho_c = .85$ $\rho_v = .53$				

From Table 2, Leadership (LEAD), consisted of 3 factors, had standardized solutions (λ) of .71 - .80 with statistical significance at the .05 level and the standard errors (θ) of .37 - .49. It could describe the variance of Leadership (LEAD) (Indicators of each variable had reliability by considering from R²) by 51-63 percent. Latent variable had composite Reliability (ρ_c) of .81 and average variable extracted (ρ_v) of .59.

Strategy to Create Innovations in Organization (INORG), consisted of 4 factors, had standardized solutions (λ) of .53 - .77 with statistical significance at the .05 level and the standard errors (θ) of .41 - .47. It could describe the variance of Strategy to Create Innovations in Organization (INORG) (Indicators of each variable had reliability by considering from R²)

by 53-59 percent. Latent variable had composite Reliability (ρ_c) of .80 and average variable extracted (ρ_v) of .51.

Competitiveness of entrepreneurs (CPEN), consisted of 3 factors, had standardized solutions (λ) of .63 - .69 with statistical significance at the .05 level and the standard errors (θ) of .22 - .29. It could describe the variance of Competitiveness of entrepreneurs (CPEN) (Indicators of each variable had reliability by considering from R^2) by 71-78 percent. Latent variable had composite Reliability (ρ_c) of .84 and average variable extracted (ρ_v) of .63.

Success in Creating New Products of Automotive Industry in Thailand (SCNPD), consisted of 5 factors, had standardized solutions (λ) of .56 - .66 with statistical significance at the .05 level and the standard errors (θ) of .30 - .39. It could describe the variance of Success in Creating New Products of Automotive Industry in Thailand (SCNPD) (Indicators of each variable had reliability by considering from R^2) by 61-70 percent. Latent variable had composite Reliability (ρ_c) of .85 and average variable extracted (ρ_v) of .53.

Table 3 Measurement Model (n=300)

Dependent Variables	R ²	Effects	Independent Variables		
			Strategy to Create Innovations in Organization (INORG)	Competitiveness of Entrepreneurs (CPEN)	Leadership (LEAD)
Strategy to Create Innovations in Organization (INORG)	.68	DE	-	-	.82*(9.91)
		IE	-	-	-
		TE	-	-	.82*(9.91)
Competitiveness of Entrepreneurs (CPEN)	.73	DE	.89*(5.52)	-	.35*(8.39)
		IE	-	-	.54*(5.38)
		TE	.89*(5.52)	-	.89*(8.07)
Success in Creating New Products of Automotive Industry in Thailand (SCNPD)	.73	DE	-	.84*(5.81)	.32*(2.51)
		IE	.93*(5.00)	-	.52*(5.21)
		TE	.93*(5.00)	.84*(5.81)	.84*(5.32)
$\chi^2 = 116.97$ df = 72 p-value = .00000, $\chi^2 / df = 1.62$, RMSEA = .046, RMR = .036, SRMR = .042, CFI = .99, GFI = .95, AGFI = .92, CN = 268.84					

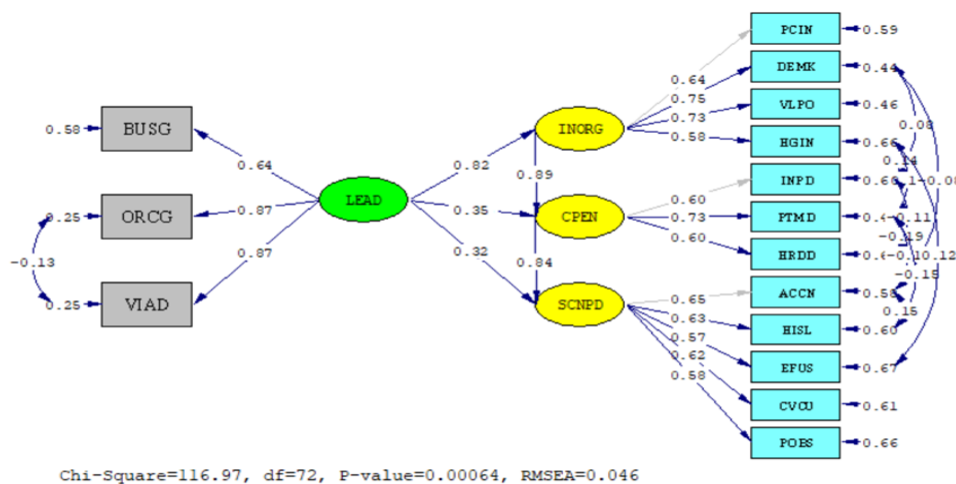
*Statistically significant level of .05

Note: The t-test statistic was in parentheses. If it was not between -1.96 and 1.96, it was statistically significant at the .05 level.

From the analysis, as shown in FIGURE 1, it was found that the adjusted structure equation model was fit to the empirical data at an acceptable level when considered the fit Indices: $\chi^2 = 113.83$ df = 69 p-value = .00055, $\chi^2 / df = 1.64$, RMSEA = .047, RMR = .027, SRMR = .036, CFI = .95, GFI = .92, AGFI = .90, CN = 262.91. The estimations in the structural equation model were as follows:

- 1) Leadership (LEAD) had a direct effect on Strategy to Create Innovations in Organization (INORG), with the effect coefficient of .82 and a statistically significant level of .05.
- 2) Leadership (LEAD) had a direct effect on Competitiveness of Entrepreneurs (CPEN), with the effect coefficient of .35 and a statistically significant level of .05.
- 3) Leadership (LEAD) had a direct effect on Success in Creating New Products of Automotive Industry in Thailand (SCNPD), with the effect coefficient of .32 and a statistically significant level of .05.
- 4) Competitiveness of Entrepreneurs (CPEN) had a direct effect on Success in Creating New Products of Automotive Industry in Thailand (SCNPD), with the effect coefficient of .84 and a statistically significant level of .05.
- 5) Strategy to Create Innovations in Organization (INORG) had a direct effect on Competitiveness of Entrepreneurs (CPEN), with the effect coefficient of .89 and a statistically significant level of .05.
- 6) Competitiveness of Entrepreneurs (CPEN) and Leadership (LEAD) could jointly predict Success in Creating New Products of Automotive Parts Industry in Thailand (SCNPD) by 73 percent.

Figure 1: Adjusted Model (n=300)



CONCLUSIONS

The results found that leadership, strategy to create innovations in organization, competitiveness of entrepreneurs, and success in creating new products of the automotive parts industry in Thailand were at a high level.

Relationship path equation between independent latent variables affecting dependent latent variables in the adjusted model revealed that Competitiveness of Entrepreneurs and Leadership

had a direct effect on Success in Creating New Products of Automotive Industry in Thailand, with a statistically significant level of .05, and could explain the variance by 73 percent. In addition, the relationship path equations between the exogenous latent variables and the endogenous latent variables (Reduced equations) studied in the developed and adjusted model showed that external latent variable, Leadership, had a total effect on Success in Creating New Products of Automotive Industry in Thailand, with a statistically significant level of .05, and could explain the variance by 46 percent. After the objective findings of the research were obtained, the researchers have developed CL2S Model (C = Competitiveness of Entrepreneurs, L = Leadership, S = Strategy to Create Innovations, S = Success in Creating New Products) as the model of success in creating new products of automotive industry in Thailand.

Policy recommendations

Policy recommendations are critical to the success in new product creation of automotive parts industry in Thailand, the researchers, therefore, would like to suggest as follows:

- 1) Government and private sectors should formulate a policy of cooperation with relevant organizations in all sectors in developing success in new product creation of automotive parts industry in Thailand.
- 2) Relevant agencies should use the research findings to formulate policies and plans to generate stable success in new product creation of automotive parts industry in Thailand by developing leadership, strategy to create innovations in organization, and competitiveness of entrepreneurs.

Academic Recommendations and Implementation

From the research, there are findings that can be applied in academics and practice as follows:

- 1) Relevant agencies should use the findings to promote and develop academically the new product creation of automotive parts industry in Thailand.
- 2) Government by the Ministry of Industry, including the private sectors and organizations relating in automotive parts industry in Thailand should support and promote the new product creation of automotive parts industry in Thailand.
- 3) The government, private sector and related agencies should take action to develop leadership, strategy to create innovations in the organization, competitiveness of entrepreneurs and new product creation of automotive parts industry in Thailand for sustainable success.

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