PROBLEM AND NEED FOR HELPING IN THE BUSINESS OPERATION OF PLASTIC MOLD MANUFACTURING INDUSTRY OF THAILAND

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Abstract - The purposes of this research were to: 1. to study the business operating conditions of Thai plastic mold manufacturing industry, 2. to study the problems in the business operation of Thai plastic mold manufacturing industry, 3. to study the need helping from the government in the business of Thai plastic mold manufacturing industry, and 4. to compare the problems and need for helping in the business operation of Thai plastic mold manufacturing industry; classified by operating conditions in Thai plastic mold manufacturing industry, for example; the size of the establishment, nature of business, and the duration of business operation. The populations were 163 entrepreneurs or managers of the plastic mold industry business. The instrument used in this research was a questionnaire. The statistics used for data analysis were the frequency, percentage, mean, standard deviation, and one-way variance testing statistics. The statistical analyzed by using a computer program. The results of this research found that, 1) Most of them were men, who were in the managers' position; that was the second type factory; it was a business of Thai people and produced for personal using. It has run in the business for 10-20 years; with a production capacity of 200-300 sets per year. There were lathe, milling machine, drilling machine, grinding machine, sparks machine, wire cut machine; the size of plastic mold was not over 1,200 mm, and it had a resolution level of the plastic mold greater than .05 millimeters; then used by a software program to help in designing, 2) found that; the establishments had a high level of problems, when considering in descending order; it was found that the highest mean was administrative and management; followed by finance, raw materials, people, machinery, and equipment. 3) there was a need for helping from the government; in terms of people the most; it should set up the school to teach about the plastic mold manufacturing industry especially; to develop people; to put the right man in the right job, and 4) the size of the establishment, nature of business, and the length of time doing business were different. There were problems in the business operation of Thai plastic mold manufacturing industry; with statistical significance at the level of .05, and establishments with different business characteristics. There were problems in the business operation of Thai plastic mold manufacturing industry, which were appreciably different at the level of .05 as well.

Keywords - Business operation, Need for helping, Manufacturing industry, Plastic mold

I. INTRODUCTION

Supporting industry is becoming increasingly important and it is a driving force for the country's main industries; it can comparable with the advanced countries. The mold industry is one of the fundamental industries that are very important to the continuous growth of production in technology and human development in various manufacturing industries of the country; including the production of metal products, plastic products, rubber products and others. There are many types of molds that are used, depending on the material such as metal mold, plastic mold, rubber mold, glass mold and others. The molds that are widely used both at home and abroad are metal molds and plastic molds, which are used in almost every industries; such as the parts and automotive industry, appliance industry, electronic toys industry, and the plastic products industry, etc.; because mold is a tool that helps in the production of various products; that has the same shape; it can produce many pieces in each time; made the products have the same quality and standard, as well as creating added value, creating competency and competitive advantages in each industry. Currently, there are 1,061 mold factories in Thailand, most of them produce 90% of metal and plastic molds; and another 10% produce glasses, rubbers and ceramics, only 3% can produce the quality, efficiency, and high accuracy mold. It is shown that the mold industry in Thailand is still unable to produce high quality and accuracy. [1]

Thailand's economy in 2014; Gross domestic product or GDP, in the fourth quarter of 2014 deflated by 9.0 percent, deflated from the third quarter of 2014, whichexpanded by 3.7 percent and deflated from the fourth quarter of 2013, that expanded by 3.8 percent. The reason was that, the rate of expansion from the third quarter of 2013 was decreased in supply. Due to the great flood at the end of 2011; resulting in both foreign and domestic demands decreased, household consumption expenditures, government consumption expenditures and investment decreased. Trade situation in the first quarter of 2012; exports increased in the fourth quarter of 2011; after the manufacturing sector recovered from the flooding; in the first quarter, Thailand's foreign trade totaled US $ 114,170.2 million, which was the exported value equal to 54,641.8 million US dollars, and the imported value was equal to 59,828.4 million US dollars, when compared to the fourth quarter of 2011, the value of export increased by 9.93 percent and the value of import increased by 10.35 percent, resulting in the first quarter of 2012, the trade balance was

deficit of US $ 5,186.6 million, and compared to the same period last year; it was found that the value of export decreased by 3.92 percent, import value increased by 10.45 percent. Net foreign direct investment in the first quarter of 2012, according to preliminary data from the Bank of Thailand, net investment in January and February, with a total value of 21,024.35 million baht, the net direct investment in January was 7,417.22 million baht. In February, the net investment value was 13,607.13 million baht. In the first quarter of 2012, it was found that the investment value in January had a net investment value of 12,454.05 million baht, and in February; the net investment value was 13,788.31 million baht. In January and February, the value of investment; decreased by 4.93 percent, compared to the same period last year. [2]

10 years ago, Thai people entrepreneurs had little knowledge and there were very few owners of mold business; but when the automotive, electrical and electronics industry moved to increase production in Thailand since the last 20 years, resulting in the need to import more molds and parts for domestic production; therefore they had to start seriously with the awakening of the mold industry in Thailand; however, small and medium-sized enterprises (SMEs) in Thailand still lack skills and experience. Therefore, the mold must develop uninterrupted, must learn and train, invent and research the production model to be ready to support the future technological world, which will focus on using precision mold parts, minimal precision (High Precision) , lightweight, robust (High Tensile), including the technology of the small size (Micro) as well as the production is more complex. There were a variety of materials combined in one mold. Therefore, it was necessary to accelerate the pace of continuous mold development in Phase 3 for the next 5 years (2015-2019), to upgrade the already strong Thai industry to "High technology" is as advanced as the change of technology to the future world, becoming the "leader of the mold industry" in ASEAN, as well as expanding the development of the industry to be in line with the Thai production, which is the world's leading agricultural and food exporter, which should have developed a mold to support the Thai basic industry as well. [3]

Molds and mold production technology have become a benchmark for the level of science and technology development of each country, indicating the quality, profit and the ability to compete in the production of the industry. Thailand's government and private businesses should jointly find the way to increase the competitiveness of the mold industry. This will develop the ability to compete in the industrial production of the whole country. [4]

From the general situation and conditions mentioned; the researcher is interested to study various problems that occurred, to be a guideline for curriculum development and improvement, to produce students or manpower to enter the plastic mold industry, to the needs of establishments and related agencies, to apply this research to solve various problem, to promote production and development of this type of industry: small, medium and large, involve with the strategy of adjusting the economy's structure to be balanced and sustainable, adjusting the production's structure, to increase productivity, the value of products and services; based on knowledge and being Thai as well as, to support the entering the industrial age of Thailand '4.0, according to the current government's policy.

II. METHODOLOGY

Method

A. Purpose of the research –

1) To study the business operating conditions of Thailand's plastic mold manufacturing industry.
2) To study the problem in business operating of Thailand's plastic mold manufacturing industry.
3) To study the need helping from the government; in business operating of Thailand's plastic mold manufacturing industry.
4) To compare the problems and needs of business operations of Thailand's plastic mold manufacturing industry; classified by operating conditions in Thailand's plastic mold manufacturing industry; namely the size of the establishment, nature of business, and the duration of business operations.

B. The study variables-

Independent variables include the size of the industrial enterprises producing automotive parts distribution small and medium-sized enterprises.

Dependent variables including problems with the fundamentals of business in the automotive parts industry as perceived by entrepreneurs by ; 1)production , 2) marketing, 3) finance, 4) personnel , and 5) export.

C. Population/Sample-

The populations used in this study were the entrepreneurs or managers of plastic mold industry; who were the members of Thai mold industry; up to the first of February in 2018, a total of 163 persons. [5]

D. Data analysis-

1) Research instrument was the questionnaire; divided into 3 parts, as the following:

Part 1: General conditions of Thai plastic mold manufacturing industry; the questionnaire is a check list.

Part 2: Business performance result of Thai plastic mold manufacturing industry; the questionnaire is a check list.

Part 3: Business performance factors of Thai plastic mold manufacturing industry; the questionnaire is a rating scale.

Part 4: Other suggestions; the questionnaire is open-ended.

2) Data collected; the researcher proceeded to collect the data for research as the following steps.

The researcher submitted the questionnaires; by post, electronic mail, and attaching a courtesy letters to answer the questionnaires to 163 company managers or managing directors in the luggage manufacturing industry for exports.The questionnaires that returned were 115 (70.55%). Statistical data were analyzed by a computer program.

3) Statistics used in data analysis

The analysis of general conditions of Thai plastic mold manufacturing industry; the questionnaire is a check list, which used, the frequency and summarized it as a percentage .Percentage the analysis of business performance of Thai plastic mold manufacturing industry; the nature The analysis of business factors of Thai plastic mold manufacturing industry; the questionnaire is a rating scale; using the average analysis; standard deviation, which had a criteria in determining the weight of the assessment in 5 levels according to Likert's guidelines. One Way Analysis of Variance : One Way ANOVA the analysis of the relationships between general conditions of Thai plastic mold manufacturing industry, the operating results of the business in terms of operations and the nature of product manufactured. Analyze by using One Way Analysis of Variance: One Way ANOVA.One Way Analysis of Variance : One Way ANOVA the analysis of factors that affected to the business operations of Thai plastic mold manufacturing industry in 6 factors, which were raw materials, financial, manpower, administration and management, production and machine, and government-related to find the relationships with the business performance results of Thai plastic mold manufacturing industry, such as sales value and production volume. Analyze by using One Way Analysis of Variance: One Way ANOVA.Other suggestions; the questionnaire is an open-ended . The content analysis method is compiled into frequency values and to be ranked.

III. RESULTS

1) The general information of respondents and the establishments in production of Thai plastic mold industry; mostly were men, who had the managers 'position; it was a factory type 2 ; it was a business of Thai people; produced for personal used in the business; the business had been done for 10-20 years with a production capacity of 200-300 sets per year. There were lathe, milling machine, drilling machine, grinding machine. The machine sparks, the Wire cut machine, the size of the plastic mold was not more than 1,200 millimeters, the resolution of the plastic mold size was more than 0.05 millimeters, and the software is used to design.

2) The importance level of the problems in Thai plastic mold manufacturing industry found that; the establishments had a high level of problems, when considering in descending order, it was found that; the highest mean was administrative and management; followed by finance, raw materials, personnel, machinery and equipment respectively, as shown in Table 1.

3).Analysis of data about problems in the operation of the automotive parts industry

The industry's auto-parts.	$\bar{X}$	S.D.	Level of Problems
1.Production	3.91	0.89	high
2.Personnel	3.90	0.85	high
3.Export	3.89	0.88	high
4.Marketing	3.86	0.91	high
5. Financial	3.74	0.90	high
Total	3.86	0.89	high

Table 1 motor vehicle parts industry problem created.

Table 1 showed that the establishments are in the business of manufacturing automotive components industry, the overall level. Considering it was found that a high level in all aspects of production, followed by the personnel of export marketing and finance, respectively.

Comparison of results in the business of manufacturing automotive components industry as a whole by size of establishment in Table 2.

The automotive parts industry SMEs.	***Small size***		***Medium size***		***t-Value***	***p-Value***
	$\bar{X}$	**S.D**	$\bar{X}$	**S.D.**		
1.Production	3.99	0.80	3.79	0.91	5.570	0.000*
2.Personnel	3.97	0.84	3.89	0.90	4.731	0.000*
3.Export	3.96	0.82	3.79	0.96	2.341	0.041*
4.Marketing	3.95	0.81	3.60	1.01	2.222	0.021*
5. Financial	3.93	0.84	3.60	1.00	2.127	0.001*
Total	**3.96**	**0.19**	**3.68**	**0.39**	**3.640**	**0.000***

Table 2 compares the results of operations in the automotive parts industry as a whole.

Table 2. Results of the data analysis to compare the difference between the average of the problems in the operation of manufacturing automotive components overall by size of establishment revealed that the size of the establishments that different. The problem in the operation of the overall difference was statistically significant at the .05 level. Considering it was found that there is a difference there.A statistically significant at the .05 level. 5 aspects: production personnel, marketing and export

finance. The establishment has a small problem in the operation of over-sized enterprises.

IV. DISCUSSION &CONCLUSION

1. Production problems with technology such as machinery and equipment, metal alloys users (vender) domestic manufacturer of engine parts. Automotive suspension parts auto body parts. Parts and accessories powered electric power transmission systems, and automotive electronics. Parts and accessories ferrous metals, nonferrous metals, synthetic planning. Other inputs such as electricity, telephone, water supply, sewage system, etc. consistent with FTI. [7]
2. Personnel problems relating to the shortage of designers, pattern or piece of modern technology. Employee training, labor recruitment and selection of personnel, marketers pay to the employee and the evaluation of operating personnel. Car manufacturers 16 camps built together personnel from the artisan class education, vocational certificate, vocational. And automotive engineering undergraduate 100,000 people within three years (2012-2014 BC) to accommodate. The expansion of the automotive industry in the future. And the ASEAN Economic Community (AEC) in the year. In 2015, because if people do not meet the requirements may result in the automotive industry of Thailand halted, in line with Surapong [6].
3. Export Consistent with the problem on a lack of promotion of exports by the government. The corrupt officials of government export procedures exports. Import duties on raw materials and to compete with foreign competition, in line with the Office of Industrial Economics [8].
4. Marketing for issues with the channels of distribution. Product pricing finding new markets. Marketingpromotions as part of an exhibit at trade fairs such as the Motor Show, and is consistent with Surat [10].
5. Financial found problems with working capital accounting finances, investments and loans, in line with the Bank of Thailand Research and Planning [9].

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