Corporate Culture, Innovative Technologies Management, Management Control, Influencing Corporate Performance of Manufacturing Plant in Thailand

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Abstract

The automotive industry in Thailand is the largest in Southeast Asia and the 10th largest in the world, an annual output of more than two million vehicles, including passenger cars and pickup trucks. This study aims to: study the effect of corporate culture, innovative technologies management, management control and corporate performance. 2.) determine the management control, innovative technologies management play a mediating role between corporate culture and corporate performance. 3) propose development corporate performance model of automotive industry This study employed mixed research methods, the population in quantitative was the supervisor, manager and higher executive of automotive manufacturing plants in Chachoengsao, Chon Buri Province in Thailand, sample size of 344 respondents. For a qualitative study in-depth 15 key experts in the corporate performance model of automotive industry. The convenient sampling was used to choose the respondents, The research tools were a questionnaires and interview question form used for data collection. Data were analyzed by using statistics including descriptive research and SMART PLS

Research found that: 1) corporate culture direct affects corporate performance, innovative technologies management, and management control, then innovative technologies management, and management control innovative technologies management, management control, 2) The management control, innovative technologies management play a mediating role between corporate culture and corporate performance 3) Corporate performance model of automotive industry was improved first corporate culture by constructing an innovation culture, which can be applied to production processes, financial control, and other aspects, control level efficiency and effectiveness, implementation of enterprise strategic planning, improving innovation technology management in manufacturing it will improve both levels of control in enterprise management will lead to improvements in Corporate financial performance and non-financial performance of the automotive industry. However, this study found many theory in Corporate culture/, Innovation technology Management, Management control/, Corporate performance.

Keywords: Corporate Culture, Innovation Technology Management, Management Control, Corporate Performance

Introduction

Thailand's manufacturing industry is extremely competitive because of a number of variables, including the country's plentiful supply of raw materials, inexpensive labor, and creative technology management. The manufacturing industry is one of the main drivers of the Thai economy. Although the manufacturing sector's contribution to Thailand's gross domestic product (GDP) has fluctuated in the past decade, it contributed approximately 4.4 trillion Thai baht in 2021. Compared to other important economic sectors, the manufacturing sector makes a greater impact on the Thai economy. It accounts for the majority of Thailand's total exports and generates a large volume of jobs, amounting to almost 6.3 million workers in 2021. As of the first quarter of 2023, the manufacturing sector's contribution to the Thai economy was 34 percent, preceding other major industries like service and trade.

As of 2019, the automotive industry in Thailand is the largest in Southeast Asia (Al-Abassi, A., Karimipour, H., HaddadPajouh, H., Dehghantanha, A., & Parizi, R. M. (2020). and the 10th largest in the world Golas, Z., & Bieniasz, A. (2016). The Thai industry has an annual output of more than two million vehicles (passenger cars and pickup trucks), more than countries such as Belgium, Canada, the United Kingdom, Italy, Czech Republic and Turkey. McLaughlin, P. (2018)

Research Objectives

1. To study the effect between corporate culture, innovative technologies management, management control and corporate performance.

2. To determine the management control, innovative technologies management play a mediating role between corporate culture and corporate performance.

3. To propose development corporate performance model of automotive industry.

Research Hypotheses

H1: There is a significant relationship between the corporate cultures and corporate performance.

H2: There is a significant relationship between the corporate cultures and the management control.

H3: There is a significant relationship between the corporate cultures and the innovative technologies management.

H4: There is a significant relationship between the management controls and corporate performance

H5: There is a significant relationship between the innovative technologies' management on corporate performance.

H6: The innovative technologies management play mediating role between corporate culture and corporate performance

H7: the management control plays a mediating role between manufacturing culture and corporate performance.

Literature Review

The essence of innovation culture is an innovative consciousness, which can promote the creation of innovative behavior and activities. The academic community's understanding of innovation culture is generally uniform, but there are also some differences. Some scholars believe that the essence of innovation culture is a cultural form, including the innovation environment, the awareness and motivation of risks and challenges, and the cultivation of organizational innovation behavior; It is also a behavior model aimed at cultivating innovative behavior. With the gradual deepening of research on innovation culture, some scholars have proposed that innovation culture combines enterprise values and employee behavior patterns.

The academic community has conducted extensive discussions and research on innovation culture based on the above research. Xu Qingrui and others believe that an innovation culture is a cultural form that takes encouraging innovation as the core value and is based on the organizational structure and institutional system conducive to innovation to achieve innovation- driven development. Some scholars also believe innovation culture guides new resource development, product creation, and method exploration (Li J X, 2015). To sum up, innovation culture is a culture that can stimulate the innovation consciousness of individuals and organizations, promote the creation of innovative activities and behaviors within the organization, and to a certain extent can make rapid responses and adjustments to the crisis within the external environment organization, to maximize the motivation of employees to serve the development of the enterprise better.

The importance of an innovative culture to an enterprise

King (1995) emphasized that organizational innovation is generally purposeful, planned, and thoughtful corporate behavior. Innovation helps companies develop and advance, and innovative culture can provide an atmosphere and theoretical guidance for innovative behavior. Enterprise development and innovation is not a simple linear process but a complex system engineering with several factors. Among them, the corporate innovation culture is the key to improving the innovation capability of the entire enterprise and the driving force and core for the survival and development of the enterprise under fierce market pressure.

Wang Yuqin's (2007) research found that improving the core competitiveness of an enterprise requires constructing an innovative cultural workforce. After being widely

recognized by employees, the innovative ideas promoted internally by an innovative culture are applied to practice, which is conducive to the innovation of enterprise technology, products, and systems. At the same time, a solid and innovative culture can effectively improve the sensitivity and adaptability of the company to the external environment. Wang Yuqin's (2007) research found that improving the core competitiveness of an enterprise requires constructing an innovative cultural workforce. After being widely recognized by employees, the innovative ideas promoted internally by the innovative culture are applied to practice, which is conducive to the innovation of enterprise technology, products, and systems.

Research Methodology

The research study used a mixed-methods approach, combining quantitative and qualitative research. This research adopts a sequential mixed method, starting with quantitative analysis and then followed by qualitative analysis, using a combination of data analysis, questionnaire distribution, and field interviews. In the research design, a scientific and rigorous attitude will be maintained, focusing on solving the research questions. The research process will mainly include the selection of the topic, review of previous research, determination of research questions, construction of the model and hypothesis, pre-survey, formal survey, data collection and analysis, and presentation of results. Semi-structured interviews will be conducted based on the model results to collect data.

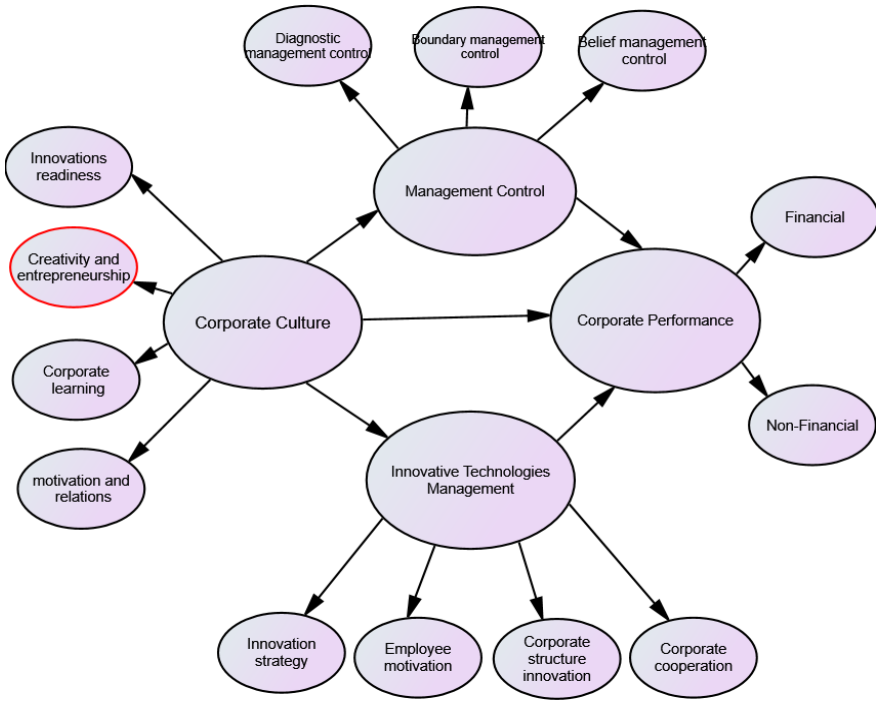
Two surveys will be distributed using both paper-based and electronic questionnaires to collect offline and online data from the employee work in the 3 automotive manufacturing plants, from employees working at two automotive manufacturing plants located in GATEWAY CITY Industrial Estate Chachoengsao province each one of 120 total 212 respondents and employee work at automotive manufacturing plants Laem Chabang Industrial Estate in Chon Buri Province, Thailand of 112 respondents , over all 344 respondents.

Population and Sample

Population is the supervisor, manager and higher executive of automotive manufacturing plants in Chachoengsao, Chon Buri Province in Thailand.

Sample size is 20x16 = 320 respondents of supervisor, manager and higher executive of automotive manufacturing plants in Chachoengsao, Chon Buri

Conceptual Framework



Data Analysis

This study will use the data analysis software SPSS, and the use of SMART PLS should be explicitly explained, including why it was chosen for statistical data analysis. Descriptive statistical analysis, In the project, scales are used to measure each research variable, and descriptive statistical analysis is performed on the sample data of the research variable from the minimum, maximum, mean, standard deviation, skewness, and kurtosis characteristics to test the performance of the sample data whether it meets the structural equation requirements.

Mean: The quantity that represents the overall trend of a certain variable data. It is an important indicator that reflects the overall trend of the data.

Standard deviation: It is commonly used in probability statistics. As a measure of the degree of statistical distribution, it is the average distance of each data distribution ability, which can reflect the degree of dispersion of a data set.

Skewness: An indicator that describes the skewness level and trend of data distribution, that is, reflects the asymmetry level of data distribution. The skewness is equal to 0, and the data distribution is symmetrical. The skewness is less than 0, meaning the data distribution presents asymmetric characteristics. Currently, there is more data on the right side of the meaning than on the left.

The distribution graph shows a long tail on the left side. When the skewness is greater than 0, the data distribution is skewed to the right, and there is more data on the left side of

the meaning than on the right side. It can see from the distribution graph that there is a long tail on the right side. Kurtosis is an indicator used to indicate the steepness or gentleness of the top of the probability density distribution curve. When the data present a normal distribution, the kurtosis is equal to 3; if the kurtosis of a set of data is too low, if the kurtosis is higher than 3, the kurtosis of the distribution is too high.

Result

Result objective 1. corporate culture direct affects corporate performance, innovative technologies management, and management control, then innovative technologies management, and management control innovative technologies management, management control, the detail as follow:

H1: The t statistic of the path corporate cultures -> corporate performance is Initial sample =0.255 (SD = 6.479, and the p-value is less than 0.001, less than 0.01. Combined with the correlation analysis of corporate culture and corporate performance, it shows that corporate culture can significantly and positively affect corporate performance, H1 is successful. All 15 interview materials believe a positive impact exists between corporate culture and corporate performance. As shown in the word cloud diagram, corporate, innovative, managers, enterprise, and culture have a high frequency, and interviewers analyze these keywords. In the current economic environment, manufacturing enterprises encourage employees to generate innovative ideas by constructing an innovation culture, which can be applied to production processes, financial control, and other aspects, thereby improving corporate financial and non-financial performance. Therefore, the qualitative and quantitative analysis results validate hypothesis 1

H2: The t statistic of the path the corporate cultures -> management control is Initial sample =.504 (SD 4.084, and the p-value is less than 0.001, less than 0.01. Combined with the analysis of the relationship between corporate culture and management control, it shows that corporate culture can significantly and positively affects management control, assuming H2 is successful. In the current economic environment, manufacturing enterprises create a creative atmosphere and values by constructing an innovative culture, making employees more willing to integrate into the collective. It is conducive to improving the level of control in enterprise management. Therefore, the qualitative and quantitative analysis results validate hypothesis H2.

H3: The t statistic of the path Corporate culture -> innovative technologies management is Initial sample= .373 (SD = 12.603, and the p-value is less than 0.001, less than 0.01. Combined with the relevant analysis of corporate culture and innovative technologies management, it shows that corporate culture can significantly positively affect innovative technologies management, assuming H3 is established.

H4: The t statistic of path management controls ->corporate performance is Initial sample= .373 (SD= 2.940, and the p-value is less than 0.001, less than 0.01. Combined with the correlation analysis of management control and corporate performance, it shows that enterprise management control can significantly and positively affect corporate performance, assuming that H4 is established. All 15 interview materials believe there is a positive impact between management control and corporate performance. As shown in the word cloud diagram, corporate, innovative, managers, enterprise, and culture have a high frequency, and interviewers analyze these keywords. In the current economic environment, improving the management and control level of manufacturing enterprises can contribute to the efficiency and effectiveness of the implementation of enterprise strategic planning, thereby improving enterprise performance. It is conducive to improving the level of control in enterprise management. Therefore, the qualitative and quantitative analysis results validate hypothesis H4.

H5: The t statistic of path innovative technologies' management ->corporate performance is Initial sample= .872 (SD = 2.940, and the p-value is less than 0.001, less than 0.01. Combined with the correlation analysis of innovative technologies' management and corporate performance, it shows that it can significantly and positively affect corporate performance, assuming that H5 is established. All 15 interview materials believe that there is a positive impact between innovation technology management and corporate performance. As shown in the word cloud diagram, corporate, innovative, managers, enterprise, and culture have a high frequency, and interviewers analyze these keywords. Improving innovation technology management in manufacturing enterprises is conducive to improving enterprise performance. It is conducive to improving the level of control in enterprise management. Therefore, the qualitative and quantitative analysis results validate hypothesis H5.

From the value of the coefficient of the path, among the three factors that affected corporate performance were, innovative technologies' management corporate culture, and management control respectively. However corporate culture affected on innovative technologies' management, and management control.

Result Objective 2. The management control, innovative technologies management play a mediating role between corporate culture and corporate performance. The detail as follow:

H6: Through the specific indirect effect, the indirect effect of the specific path is significant. The specific indirect effect of corporate culture -> innovative technologies management ->corporate performance is 0.229, the t statistic is 3.959, the p-value is less than 0.001, and the confidence interval corrected for deviation is [0.113,0.341]. The indirect path effect is significant. The indirect effect is significant. It shows that the construction of enterprise innovation culture is conducive to improving management innovation, thereby improving

enterprise performance. All 15 interview materials confirm the intermediary role of innovation technology management in the process of corporate culture influencing corporate performance. As shown in the word cloud diagram, corporate, innovative, managers, enterprise, and culture have a high frequency, and interviewers analyze these keywords. Manufacturing enterprises strengthen the construction of enterprise innovation culture, form flexible management norms through cultural construction, improve management control, provide organizational personnel protection to implement enterprise strategy, and promote enterprise performance improvement by realizing business management objectives. Therefore, the qualitative and quantitative analysis results validate hypothesis H6.

H7: The indirect effect of corporate culture ->management control ->corporate performance is 0.184, the t statistic is 2.934, the p-value is less than 0.001, the confidence interval corrected for deviation is [0.061,0.308], and the indirect path effect is significant. All 15 interview materials confirm the mediating role of management control in influencing corporate culture on corporate performance. As shown in the word cloud diagram, corporate, innovative, managers, enterprise, and culture have a high frequency, and interviewers analyze these keywords. Manufacturing enterprises can strengthen the construction of enterprise innovation culture, create an innovation atmosphere, create innovation strategies, improve the level of management innovation, strengthen management in organizational mechanisms, and optimize processes in production practices, which can help improve corporate performance. Therefore, the qualitative and quantitative analysis results validate hypothesis H7.

Result objective 3 Corporate performance model of automotive industry

This study combines this chapter's theoretical analysis and qualitative and quantitative analysis found that Development corporate performance model of automotive industry was improved first corporate culture by manufacturing enterprises encourage employees to generate innovative ideas by constructing an innovation culture, which can be applied to production processes, financial control, and other aspects, second improving the management control level of manufacturing enterprises can contribute to the efficiency and effectiveness of the implementation of enterprise strategic planning, thereby improving enterprise performance. It is conducive to improving the level of control in enterprise management and, third improving innovation technology management in manufacturing it will improve both levels of control in enterprise management will lead to improvements in Corporate financial performance and non-financial performance of the automotive. A discussion on research limitations and future research directions should be included.

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