# A Causal Relationship Model of Entrepreneurial Orientation Market Orientation and Competitive Advantage Influence of Business Performance of Construction in the Central Region of Thailand

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## Abstract

In this thesis, the researcher examines (1) examine the influence of entrepreneurial orientation, market orientation, and competitive advantage on the business performance of construction firms in the central region of Thailand; (2) confirm the structural relationships among entrepreneurial orientation, market orientation, competitive advantage, and business performance of construction firms in the central region of Thailand; and (3) develop a causal relationship model of entrepreneurial orientation, market orientation, and competitive advantage affecting the business performance of construction firms in the central region of Thailand. The study focuses on four key constructs: entrepreneurial orientation, market orientation, competitive advantage, and business performance. A quantitative research approach was employed. Data were collected from 300 construction companies through questionnaires administered to business owners or their representatives. Descriptive statistics and Structural Equation Modeling (SEM) using the AMOS program were applied for data analysis. The findings indicated that entrepreneurial orientation, market orientation, and competitive advantage were at the highest level, while business performance was at a high level, with the internal process perspective rated the highest. The results further showed that entrepreneurial orientation, market orientation, and competitive advantage had significant positive effects on business performance. All hypothesized relationships were supported at the 0.05 level of significance.

***Keywords:*** entrepreneurial orientation, market orientation, competitive advantage, business performance

## Background and Statement of the problem

The construction industry is a key driver of Thailand's economic development, contributing significantly to infrastructure expansion, employment generation, and linkages with related sectors such as real estate, manufacturing, finance, and logistics. In alignment with Thailand's National Economic and Social Development Plan and the 20-Year National Strategy, the industry plays a crucial role in enhancing national competitiveness through technology, innovation, and large-scale infrastructure investment (Anupan, 2015; Nuttavut & Sumalee, 2021).

In 2022, Thailand had 141,586 registered construction firms, with the highest concentration located in the Central Region, reflecting its economic significance (GSB Reserch, 2023). Construction investment was divided between the public sector (58%) and private sector (42%), with public projects primarily focused on infrastructure development, particularly within the Eastern Economic Corridor (EEC) (Krungsri Research, 2022). Although the industry shows signs of recovery and projected growth between 2022–2027, it continues to face substantial challenges, including project delays, rising material costs, labor shortages, inflation, and financial liquidity constraints—especially among small and medium-sized contractors.

Moreover, rapid digital transformation and technological advancement are reshaping construction processes, compelling firms to adopt modern management systems and performance measurement tools such as the Balanced Scorecard (BSC) to improve operational efficiency and competitiveness (Krungsri Research, 2022). These structural and environmental changes have pressured construction firms to rethink their strategic and operational approaches. Firms are increasingly integrating advanced technologies into construction processes to enhance productivity, while simultaneously adjusting marketing strategies to align with evolving customer expectations. Emphasis on environmental responsibility and cost efficiency has also become essential for sustaining and expanding competitive positions in a highly dynamic market (Nichakan Lunkhunthod et al., 2022). Nevertheless, disparities in financial capability, technological readiness, and strategic management practices between large and smaller contractors may hinder sustainable growth and limit the development of long-term competitive advantage.

Therefore, this study examines the relationships among entrepreneurial orientation, market orientation, and competitive advantage within construction businesses in Thailand's Central Region. The findings aim to provide strategic guidance for enhancing long-term competitiveness and sustainable growth in both public and private construction markets.

## Objective

1. To examine the influence of entrepreneurial orientation, market orientation, and competitive advantage on the business performance of construction firms in the central region of Thailand.
2. To confirm the structural relationships among entrepreneurial orientation, market orientation, competitive advantage, and business performance of construction firms in the central region of Thailand.
3. To develop a causal relationship model of entrepreneurial orientation, market orientation, and competitive advantage affecting the business performance of construction firms in the central region of Thailand.

## Expected benefits

1. At the governmental level, the findings offer guidelines for data integration, innovation promotion, and enhancing transparency in public construction projects.
2. At the business level, the results support firms in improving competitiveness, creating business value, enhancing operational efficiency, and reducing construction costs in response to economic conditions.
3. At the academic level, the study contributes to the body of knowledge and provides a conceptual framework for future research and teaching in construction business studies, particularly within the context of Thailand's central region.

## Conceptual Framework

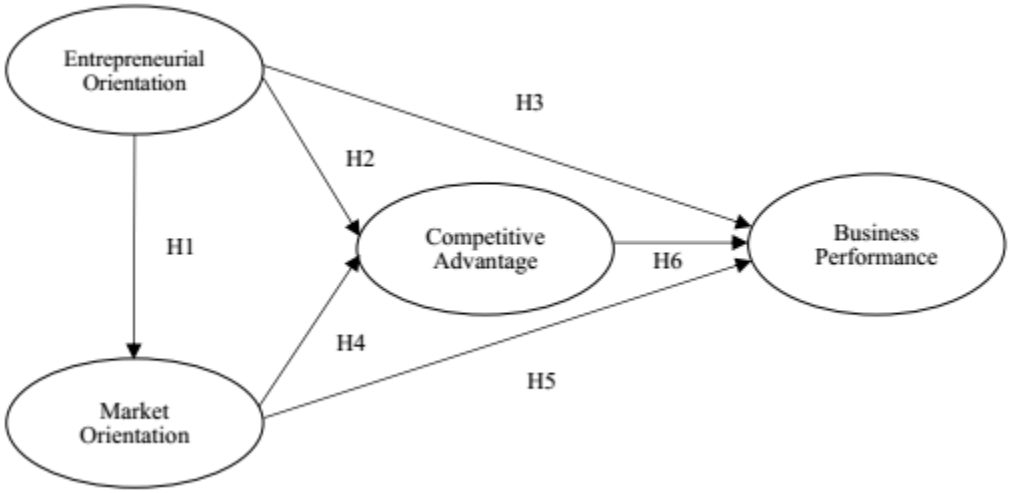


Figure 1: Conceptual Framework of Entrepreneurial Orientation, Market Orientation, Competitive Advantage, and Business Performance

## Research Methodology

This study employed a quantitative research approach. The population consisted of 28,805 construction firms in the central region of Thailand, based on the Department of Business Development (2026). The unit of analysis was the organization. The sample size was determined based on the criteria of Comrey and Lee (1992), in which 300 samples are considered "good" for factor analysis and structural equation modeling (SEM). A total of 300 construction firms were selected using probability sampling through multi-stage sampling, including stratified random sampling and proportional allocation across 12 provinces in the central region. The sampled firms were required to be actively operating in the construction sector in the central region of Thailand, engaging in both residential and non-residential construction projects. Respondents were business owners or assigned executives. Data were collected using structured questionnaires. Content validity was examined using the Index of Item-Objective Congruence (IOC ≥ 0.50), and reliability was confirmed with Cronbach's alpha coefficient ($\alpha$ ≥ 0.70). Data were analyzed using descriptive statistics and Structural Equation Modeling (SEM) with AMOS. The independent variable was entrepreneurial orientation. Market orientation and competitive advantage were mediating variables, and business performance was the dependent variable.

## Research Results

Table 1 Mean, standard deviation, coefficient of variation, skewness, and kurtosis of the constructs

| Constructs | Mean | Standard Deviation | %CV | SK | KU |
|---|---|---|---|---|---|
| Entrepreneurial Orientation (EO) | 4.239 | 0.526 | 12.405 | -1.113 | 1.390 |
| Market Orientation (MO) | 4.256 | 0.471 | 11.074 | -1.168 | 1.446 |
| Competitive Advantage (CA) | 4.295 | 0.449 | 10.463 | -1.095 | 1.598 |
| Business Performance (BP) | 4.171 | 0.515 | 12.355 | -0.995 | 0.994 |

The descriptive analysis of entrepreneurial orientation, market orientation, competitive advantage, and business performance of construction firms in the central region of Thailand indicated that all constructs were rated at a high level. Competitive advantage reported the highest mean value (Mean = 4.295), followed by market orientation (Mean = 4.256) and entrepreneurial orientation (Mean = 4.239), while business performance showed the lowest mean (Mean = 4.171), though still at a high level. The skewness and kurtosis values were within acceptable ranges, indicating that the data were approximately normally distributed, as shown in Table 1.

Table 2 Correlation coefficient matrix between variables

| Constructs | Entrepreneurial Orientation (EO) | Market Orientation (MO) | Competitive Advantage (CA) | Business Performance (BP) |
|---|---|---|---|---|
| Entrepreneurial Orientation (EO) | 1.000 | | | |
| Market Orientation (MO) | 0.795** | 1.000 | | |
| Competitive Advantage (CA) | 0.732** | 0.713** | 1.000 | |
| Business Performance (BP) | 0.748** | 0.797** | 0.740** | 1.000 |

Kaiser-Meyer-Olkin Measure of Sampling Adequacy = 0.846, Bartlett's Test of Sphericity = 1,054.358, df = 6, p-value = 0.000, **p < 0.010

The results from analyzing the correlation coefficients between the variables of the structural equation model of entrepreneurial orientation, market orientation, competitive advantage, and business performance of construction firms in the central region of Thailand showed that all correlation coefficients were significance at 0.01 level. All pairs of variables had positive relationships, ranging from 0.713 to 0.797. The pair with the highest correlation coefficient was the relationship between market orientation and business performance, with a coefficient of 0.797. The pair with the lowest correlation coefficient was the relationship between market orientation and competitive advantage, with a coefficient of 0.713 Therefore, all relationships were statistically significant at the 0.01 level, as shown in Table 2.

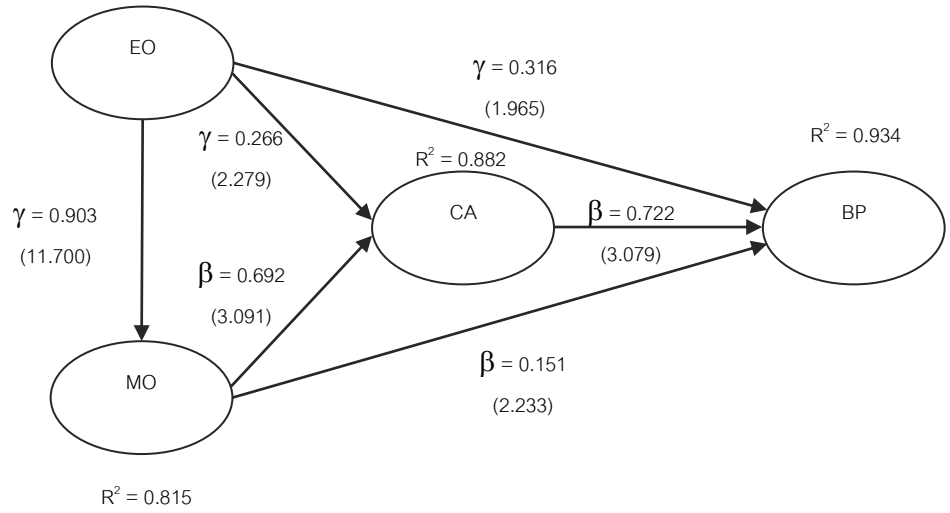


Figure 2: Structural equation model of the causal relationships affecting business performance of construction in the central region of Thailand.

Table 3 Estimating the direct and indirect influence of causal factors affecting the business performance of construction in the central region of Thailand

| Antecedent Variables | Endogenous Variables | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | MO | | | CA | | | BP | | |
| | DE | IE | TE | DE | IE | TE | DE | IE | TE |
| EO | 0.903 | - | 0.903 | 0.266 | 0.624 | 0.891 | 0.316 | 0.598 | 0.914 |
| MO | - | - | - | 0.692 | - | 0.692 | 0.151 | 0.499 | 0.650 |
| CA | - | - | - | - | - | - | 0.722 | - | 0.722 |
| R-Square | 0.815 | | | 0.882 | | | 0.934 | | |

The results from structural equation modeling (SEM) showed the structural relationships affecting the business performance of construction firms in the central region of Thailand. The causal influence line from the entrepreneurial orientation (EO) affected the business performance (BP) with a value of 0.316. The causal influence line from the entrepreneurial orientation (EO) affected the market orientation (MO) with a value of 0.903. The causal influence from the market orientation (MO) to the business performance (BP) had a value of 0.151. The causal influence line from the entrepreneurial orientation (EO) affected the competitive advantage (CA) with a value of 0.266. The competitive advantage (CA) affected the business performance (BP) with a value of 0.722. Furthermore, the market orientation (MO) affected the competitive advantage (CA) with a value of 0.692.

Furthermore, the results from analyzing the standardized path coefficients of the causal components of the structural equations showed that the entrepreneurial orientation (EO) had the highest total effect (TE) of 0.914 on business performance (BP). Next, the competitive advantage (CA) had a total effect (TE) of 0.722. The market orientation (MO) had a total effect (TE) of 0.650 on business performance (BP), respectively. The coefficient of determination ($R^2$) showed that the model explained 0.815 of the variance in MO, 0.882 of CA, and 0.934 of BP, as shown in Figure 1 and Table 3.

In addition, the analysis of indirect effects revealed that competitive advantage (CA) plays a significant mediating role in the relationship between entrepreneurial orientation (EO) and business performance (BP). Entrepreneurial orientation positively influences competitive advantage ($\beta$ = 0.266), which in turn has a strong positive effect on business performance ($\beta$ = 0.722). The indirect effect of entrepreneurial orientation on business performance was 0.598, indicating a partial mediation effect.

Similarly, market orientation (MO) also contributes indirectly to business performance through competitive advantage. Market orientation significantly affects competitive advantage ($\beta$ = 0.692), which subsequently enhances business performance. The indirect effect of market orientation on business performance was 0.499, further supporting the mediating role of competitive advantage.

These findings highlight that competitive advantage serves as a key mechanism through which both entrepreneurial orientation and market orientation improve business performance.

By analyzing the path coefficients of the causal components of the structural equations, The results of hypothesis testing in the quantitative study are presented in Table 4.

Table 4 Results of research hypothesis testing

| Path Diagram | Path Coefficients | CR *(t-value)* | P-value | Conclusion |
|---|---|---|---|---|
| EO → MO | 0.903 | 11.700 | 0.001 | Supported |
| EO → CA | 0.266 | 2.279 | 0.05 | Supported |
| EO → BP | 0.316 | 1.965 | 0.05 | Supported |
| MO → CA | 0.692 | 3.091 | 0.001 | Supported |
| MO → BP | 0.151 | 2.233 | 0.05 | Supported |
| CA → BP | 0.722 | 3.079 | 0.001 | Supported |

**Hypothesis 1:** Entrepreneurial orientation influences market orientation. The hypothesis was supported by statistical analysis, which found a path coefficient of 0.903 and a t-value of 11.700, with a significant level of 0.001. This indicates that placing

emphasis on entrepreneurial orientation has a strong positive impact on market orientation within an organization.

**Hypothesis 2:** Entrepreneurial orientation influences competitive advantage. The hypothesis was supported by statistical analysis, which found a path coefficient of 0.266 and a t-value of 2.279, with a significant level of 0.05. This suggests that entrepreneurial orientation positively affects competitive advantage within the organization.

**Hypothesis 3:** Entrepreneurial orientation influences business performance. The hypothesis was supported by statistical analysis, which found a path coefficient of 0.316 and a t-value of 1.965, with a significant level of 0.05. This indicates that entrepreneurial orientation has a positive impact on business performance.

**Hypothesis 4:** Market orientation influences competitive advantage. The hypothesis was supported by statistical analysis, which found a path coefficient of 0.692 and a t-value of 3.091, with a significant level of 0.001. This suggests that market orientation positively contributes to competitive advantage.

**Hypothesis 5:** Market orientation influences business performance. The hypothesis was supported by statistical analysis, which found a path coefficient of 0.151 and a t-value of 2.233, with a significant level of 0.05. This indicates that market orientation has a positive effect on business performance.

**Hypothesis 6:** Competitive advantage influences business performance. The hypothesis was supported by statistical analysis, which found a path coefficient of 0.722 and a t-value of 3.079, with a significant level of 0.001. This suggests that competitive advantage has a strong positive impact on business performance.

## Summary of the Study

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This study aimed to examine the causal relationships influencing business performance of construction businesses in the central region of Thailand. The key variables included entrepreneurial orientation, market orientation, competitive advantage, and business performance.

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included entrepreneurial orientation (EO), market orientation (MO), competitive advantage (CA), and business performance (BP).

The results indicated that entrepreneurial orientation had a significant positive influence on market orientation. This finding demonstrates that organizations emphasizing proactiveness, innovativeness, and risk-taking tend to strengthen their market-oriented behaviors by actively responding to customer needs and market changes. Furthermore, entrepreneurial orientation positively influenced competitive advantage. This suggests that organizations with strong entrepreneurial characteristics are more capable of creating differentiation, developing innovative solutions, and sustaining competitive positions in dynamic market environments. In addition, entrepreneurial orientation had a positive effect on business performance, indicating that proactive and innovative management contributes to improved operational efficiency, profitability, and long-term organizational outcomes.

The results indicated that entrepreneurial orientation had a significant positive influence on market orientation. This finding demonstrates that organizations emphasizing proactiveness, innovativeness, and risk-taking tend to strengthen their market-oriented behaviors by actively responding to customer needs and market changes. Furthermore, entrepreneurial orientation positively influenced competitive advantage and business performance. Crucially, the findings reveal that competitive advantage (CA) serves as a key mediator that bridges the influence of entrepreneurial orientation (EO) toward business performance (BP). This suggests that while having an entrepreneurial vision is vital, proactiveness and innovativeness alone may not directly translate into superior performance. Instead, these entrepreneurial characteristics act as a catalyst for the firm to first develop distinct differentiation or cost leadership strategies. This "competitive superiority" then functions as a bridge, transforming entrepreneurial energy into tangible profitability and long-term organizational sustainability.

The study also found that market orientation positively influenced competitive advantage. This implies that focusing on customer needs, competitor analysis, and internal coordination enhances an organization's ability to build sustainable advantages and adapt effectively to industry changes. Moreover, market orientation positively affected business performance, showing that market-driven strategies contribute to improved operational effectiveness, customer satisfaction, and financial results. Lastly, competitive

advantage had a strong positive influence on business performance. This indicates that differentiation, cost leadership, and niche market strategies significantly enhance overall business performance and organizational sustainability.

In the specific context of the current Thai construction industry, which faces multi-faceted challenges such as volatile and rising material costs as well as severe skilled labor shortages, the roles of EO and MO become even more critical. The study implies that entrepreneurial and market-driven firms are better equipped to adapt promptly to these external pressures. For instance, by adopting innovative construction technologies to reduce labor dependency or implementing proactive supply chain management to control material costs, firms can enhance their cost-based competitive advantage.

Overall, the findings confirm that entrepreneurial orientation serves as a fundamental driver that strengthens market orientation and competitive advantage, which in turn lead to improved business performance. These results highlight the importance of strategic management practices in achieving sustainable growth in the construction industry.

Overall, the findings confirm that entrepreneurial orientation serves as a fundamental driver that strengthens market orientation and competitive advantage, which in turn leads to improved business performance. These results highlight the importance of strategic management practices in achieving sustainable growth and maintaining operational resilience within the Thai construction sector amidst a highly dynamic and demanding economic environment.

## Discussions

The findings of this study provide empirical evidence of the significant relationships among entrepreneurial orientation, market orientation, competitive advantage, and business performance in construction businesses in the central region of Thailand.

First, entrepreneurial orientation was found to have a strong positive influence on market orientation. This result indicates that organizations characterized by proactiveness, innovativeness, and risk-taking behaviors are more likely to develop strong market-oriented practices. In the context of the construction industry, where competition is intense and

market conditions change rapidly, entrepreneurial firms tend to actively seek new opportunities in both public and private sectors. As a result, they are required to analyze customer needs, monitor competitors, and coordinate internally to reduce risk and enhance success. This finding is consistent with Idrus et al. (2020), Octavia et al. (2020) and Paitoon and Kittisak (2020), who reported that entrepreneurial orientation directly strengthens market orientation by encouraging firms to respond strategically to market dynamics. Second, entrepreneurial orientation positively influenced competitive advantage. This suggests that organizations emphasizing innovation and proactive decision-making are better positioned to differentiate their products and services. In construction businesses, differentiation may occur through project quality, innovative techniques, or specialized expertise. This finding aligns with Karnowati et al. (2022), Pratikshya et al. (2022), Fatikha et al. (2021), Artarina and Deni (2019) and (Nuttavut & Sumalee, 2021), who found that entrepreneurial orientation enhances a firm's ability to create unique value and sustain competitive advantage. Moreover, entrepreneurial orientation had a positive impact on business performance. This indicates that firms that actively pursue innovation and accept calculated risks are more capable of improving operational efficiency, controlling costs, and increasing customer satisfaction. These improvements ultimately contribute to both financial and non-financial performance. The result supports prior studies by Neni Dyah and Avanti (2025), Abdullah Hamoud Ali (2025), Abdullahi et al. (2023), Triani and Yeni (2023), Karnowati et al. (2022), Nursal et al. (2022), Pratikshya et al. (2022), Karimi et al. (2021), Octavia et al. (2020) and (Paitoon & Kittisak, 2020), which confirm the direct relationship between entrepreneurial orientation and firm performance. In addition, market orientation significantly influenced competitive advantage. This finding supports the concept proposed by Narver and Slater (1990), which emphasizes that customer orientation, competitor orientation, and interfunctional coordination are fundamental elements of sustainable competitive advantage. Organizations that continuously collect market information and adapt strategies accordingly can respond effectively to customer demands and environmental changes. This result is consistent with Karnowati et al. (2022), Fatonah and Haryanto (2022), Fatikha et al. (2021) and Winarso et al. (2020), who found that market orientation directly enhances competitive positioning. Furthermore, market orientation positively affected business performance. This indicates that organizations

that prioritize customer satisfaction and competitor analysis can improve service quality, increase customer loyalty, and expand their customer base. Such improvements ultimately lead to higher revenue and profitability. These findings are consistent with Zhou et al. (2026), Triani and Yeni (2023), Wucheng et al. (2022), Nursal et al. (2022), Octavia et al. (2020) and Paitoon and Kittisak (2020). Finally, competitive advantage was found to have a strong positive influence on business performance. This result confirms Porter's (1980) theory that differentiation, cost leadership, and focus strategies are essential determinants of superior performance. Construction firms that successfully differentiate their services, control costs efficiently, or focus on niche markets are more likely to win projects, retain customers, and achieve sustainable profitability. This finding is consistent with Karnowati et al. (2022), Pratikshya et al. (2022) and Abeysekara et al. (2019), who emphasized that competitive advantage directly enhances organizational performance. Overall, the discussion highlights that entrepreneurial orientation acts as a foundational strategic capability that strengthens market orientation and competitive advantage, which subsequently drive business performance. In a highly competitive and dynamic construction environment, firms must integrate entrepreneurial behavior with market-driven strategies to achieve sustainable growth and long-term success.

## Recommendations

Construction firms should prioritize entrepreneurial orientation as a core strategic driver to enhance business performance. Managers should emphasize proactiveness, innovativeness, and calculated risk-taking to identify emerging opportunities, improve operational efficiency, and ensure long-term sustainability. Firms should also strengthen competitive advantage through cost efficiency, service differentiation, and niche market positioning. In the context of the Thai construction industry, firms are increasingly facing challenges such as rising material costs, labor shortages, and supply chain disruptions. These external pressures require firms to enhance their competitive advantage by improving cost control, adopting innovative construction technologies, and optimizing resource management. The adoption of modern construction technologies, systematic project management, and recognized quality and safety standards can enhance organizational credibility and performance. Continuous development of market orientation

is equally important. Systematic customer analysis, competitor monitoring, and effective internal coordination—supported by digital tools and market intelligence—can improve decision-making, customer satisfaction, and market expansion.

Government agencies should support innovation capability, technological adoption, and safety standards to enhance industry competitiveness. Public–private collaboration and knowledge-sharing platforms should be promoted to improve project efficiency and strategic coordination. Private sector organizations should invest in workforce development, digital transformation, and sustainable construction practices. Strategic partnerships with suppliers and industry stakeholders can strengthen resource integration and long-term competitiveness.

The findings reinforce the importance of entrepreneurial orientation as a strategic capability that drives market orientation, competitive advantage, and business performance. The results highlight the interconnected relationships among these key variables in strengthening organizational outcomes within the construction industry. Future research may explore additional dimensions of entrepreneurial orientation, examine the role of digital technologies in construction management, and extend the framework to related industries or different stakeholder groups to enhance generalizability and further theoretical development.

## Acknowledgment

The authors would like to express their sincere appreciation to the Department of Mechanical Engineering, Faculty of Engineering and Industrial Technology, Silpakorn University, for their valuable support and for providing the opportunity to conduct this research.

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