

Factors influencing and criteria of supplier selection for EEC company Thailand

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Abstract

This study examines the factors influencing supplier selection decisions in the Eastern Economic Corridor (EEC) through a review of relevant literature and prior research related to the EEC, as well as procurement concepts and supplier selection theories. The conceptual framework incorporates price, service quality, and reliability as independent variables, with supplier selection as the dependent variable. Data were collected using a five-point Likert-scale questionnaire. Multiple regression analysis was employed to analyze the factors affecting the selection of high-quality suppliers that offer reasonable pricing, reliability, and the ability to meet business requirements without causing operational disruptions. The findings highlight that selecting efficient and effective suppliers contributes to improved business management and supports the development of an efficient and sustainable supply chain.

Keywords: The Eastern Economic Corridor, Purchasing and Supplier Selection selection

1. Introduction

At present, the Eastern Economic Corridor (EEC) represents one of Thailand's most significant strategic initiatives aimed at fostering national economic development. The project concentrates on three key provinces in the eastern region of Thailand which are recognized for their strong economic potential and strategic importance in enhancing regional and international trade and investment connectivity. The EEC was established by the Thai government to accelerate infrastructure development in the eastern region and to attract both domestic and foreign investment. The scope of development under the EEC encompasses multiple sectors, including the expansion of transportation infrastructure, the promotion of high-technology industries, and the enhancement of global competitiveness. The primary objective of the EEC is to strengthen the economic capacity of Eastern Thailand by supporting high-value industries such as automotive manufacturing, electronics, tourism, and advanced agricultural technologies, thereby positioning Thailand as a regional hub for production and investment in Southeast Asia. Infrastructure development within the EEC extends beyond industrial advancement to include the development of strategic facilities that enhance connectivity both domestically and internationally. Key projects include Laem Chabang Port, U-Tapao International Airport, and the high-speed rail system. Furthermore, procurement plays a critical role in improving business competitiveness within the EEC. Given the region's diverse industrial base—including automotive, electronics, tourism, and high-technology agricultural sectors efficient and effective procurement processes are essential to support sustainable business growth and operational efficiency.

The procurement process is a part of the supply chain process and is an important process in the process of obtaining or ordering raw materials or things necessary in the business process in the industry. The organization must have a supplier who is an expert in procuring, selecting good quality raw materials and being reliable. Therefore, it can be delivered on time in sufficient quantities for production. It also helps to control the cost of raw materials in the production process appropriately. It also affects the planning of storage, distribution and transportation. In addition, the selection of a supplier depends on many factors that the business focuses on and gives importance to. Poor procurement or problematic procurement processes often affect the organization in many ways and cause significant negative effects in both the short and long term. Problems that often arise from poor procurement processes, including the negative consequences, are as follows: 1. Problems with procurement of products or services that do not meet needs When the procurement process is not systematic or decisions are not accurate, the products/services received may not meet the needs, resulting in problems or disruptions in the work of various departments. Because there is a shortage of necessary raw materials Or not of the desired quality May cause time to find a solution or return the product 2. Excessive expenses When the procurement process does not carefully check the price or there is no good price negotiation May cause the purchased products or services to be priced higher than the market price. Therefore, the company has to pay more than it should be. Which can affect the company's profits in the long term and resulting in a limited budget for investment in other important areas. 3. Delays in delivery may be caused by poor selection of suppliers on time or unclear communication. Delays in delivery can disrupt the company's operations, resulting in missed business opportunities or failure to meet customer needs. 4. Poor quality control, resulting from selecting suppliers without quality control standards or failing to inspect products before use, may result in receiving low-quality products, which will result in wasted time to fix or damage customer reputation if the product or service has a problem. 5. Problems with stock management, may cause stock management problems, such as ordering too much or too little. If there is too much stock, it will result in excessive storage costs. But if there is too little stock, it may not be able to meet customer needs in time. 6. Problems with lack of transparency in the purchasing process without transparent inspection or reporting of results, may lead to corruption or unfair decisions, resulting in a lack of transparency and distrust both in the organization and with the supplier. It may have a long-term impact on the organization's image. 7. Impact on relationships with suppliers, may result in poor relationships, may not receive good conditions from the supplier or may lose the opportunity to negotiate better prices and services in the future.

From the above sources and impacts, including the review of theories and concepts, related research, it can be seen that selecting good suppliers is an important part of a good purchasing process. A good purchasing process is an important factor that can help solve problems that arise. And can greatly improve the efficiency of the business. By using the right concepts and methods to improve the purchasing process, it can lead to good results and create sustainable benefits for the business. On the other hand, if the purchasing is not good, it has many negative effects that can affect the business's operations in terms of cost, time, quality, and image. Improving the purchasing process to be efficient and transparent is important to enable the business to grow and compete in the market sustainably. Therefore, the researcher emphasizes the selection of suppliers from the literature review, the collection of various concepts, and related research.

2. Literature Review

The Eastern Economic Corridor (EEC)

The Eastern Economic Corridor (EEC), also known as the Eastern Seaboard, is a strategic project aimed at developing the eastern coastal provinces of Thailand, namely Rayong, Chonburi, and Chachoengsao, into key economic zones. The goal is to transform this area into an important economic hub for the country.

The EEC is supported by strong infrastructure and logistics systems designed to accommodate all forms of economic activities. One of its key features is the Laem Chabang Port, a major deep-sea port for international shipping. The EEC has plans to further develop this port into a regional hub for the Indochina trade zone, enabling it to handle an increased volume of container traffic and serve heavy industries like automotive manufacturing.

In addition to port development, the EEC is working on a high-speed rail network connecting Don Mueang, Suvarnabhumi, and U-Tapao airports, which will provide fast and convenient transportation at speeds of up to 250 kilometers per hour. Another significant project is the expansion of Map Ta Phut Port, aimed at increasing its capacity to handle natural gas and liquid cargo, supporting the petrochemical industry and enhancing the country's energy security. Once completed, this expansion will allow the port to handle up to 31 million tons of cargo annually.

To support investment in these sectors, the EEC, in collaboration with the Board of Investment (BOI), offers a range of incentives for qualifying investors. These incentives include exemptions on corporate income tax, import duties on machinery and raw materials for production, land leasing rights, and the ability to own land for business purposes. Additional benefits include financial support for investment and research and development, as well as a One-Stop Service to facilitate business operations.

These initiatives aim to foster economic growth by attracting investments, linking new supply chains, and boosting competitiveness. Furthermore, the EEC plays a crucial role in enhancing Thailand's economic and social stability, positioning the country as a leading force in the global economy.

Procurement

Purchasing is a process of purchasing by studying the needs, finding sources, selecting suppliers, negotiating prices (Price) and setting conditions that meet the needs, including following up on the delivery of goods to receive goods on time and following up on payment for goods. In fact, purchasing (Purchasing), supply management (Supply Management) and procurement (Supply) are used interchangeably to procure goods and services efficiently and effectively within the organization. Therefore, purchasing (Purchasing) or supply management is not just (Leenders, et al., 2006)

The Ministry of Finance, the Comptroller General's Department (2017), defines procurement as "procurement" means the action to obtain goods by purchasing, hiring, renting, exchanging or by other legal acts as specified in the ministerial regulations. Procurement must be consistent with the following principles:

- 1) Value for money, whereby the procured goods must have quality or characteristics that meet the purpose of use of government agencies and have a reasonable price. and have a clear and appropriate material management plan

2) Transparent: Procurement and material management must be carried out openly, open to fair competition, treat all operators equally, have a suitable and sufficient period for submitting proposals, have clear evidence of operations, and disclose information on procurement and material management at every step

3) Efficient and effective: Procurement and material management must be planned in advance so that procurement and material management is continuous and has a suitable time frame, with an evaluation and disclosure of the results of procurement and material management

4) Auditable: Procurement and material management data must be systematically collected for the purpose of auditing government agencies to use the principles in paragraph one as a guideline for procurement and material management practices. If procurement does not comply with the 9 principles mentioned above but does not significantly affect the procurement, or is due to an urgent matter, or there is another reason or necessity, the procurement will not be lost.

Supplier Selection

Donald W. Dobler and Devid N. Burt (1996) mentioned that the decision to select a supplier must consist of 2 steps:

1. Consideration of factors and importance of each factor. The person considering must be involved in the product in each organization, such as the purchasing department, the production department, the design department, etc.

2. Scoring each factor of each supplier, which will be considered from the results of the factors in the past supplier selection. The supplier with the highest total score will be selected.

Dickson (1966) conducted research and presented criteria for selecting suppliers. The criteria were obtained from sending questionnaires to purchasing managers in various industries throughout the United States and Canada who were listed in the National Association of Purchasing Managers. The research results indicated that the criteria that are important for considering suppliers are quality, delivery, and operational history.

Peerapop Chomthong, Nop Khun Saengkheaw, Harsakorn Rotsrisamut, and Chusak Phonsingh (2020) conducted a study on the selection of steel product suppliers using the Analytical Hierarchy Process (AHP). This case study focused on a steel distribution company. To find the criteria for deciding on the most suitable supplier for delivering steel products, this study used 5 main criteria: price, payment terms, delivery time, service, and quality. The data was collected from a questionnaire given to 6 experts. The results of the study found that the most important factor in making the decision was "quality" (48.73%), followed by "delivery time" (18.86%), while the least important factor was "service" (7.72%). For choosing the most suitable supplier, Supplier A received the highest score (43.63%), followed by Supplier C (36.07%), and Supplier B (20.30%). Worapot Sirirak, Haritthirat Chantakhad, Peerawat Luesak, Kapol Jintamarachai, Amornrat Pinchaimun, Somkuan Songwanpang, and Chatchai Sita (2021) studied supplier selection and evaluation. It reviewed and presented important factors related to supplier evaluation, which significantly affected business operations. In this study, the analytical hierarchy method (AHP) was used in conjunction with Microsoft Excel to process the main factors in the assessment, which consisted of quality, cost, delivery, and price. The criteria used in the assessment were mainly

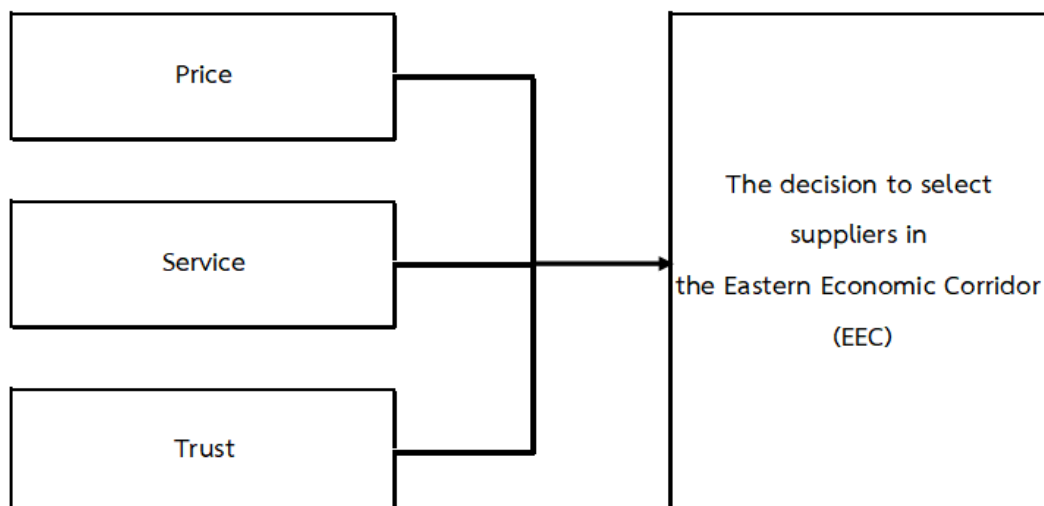
focused on quality, followed by cost and delivery. Additional important factors to consider were environmental management systems, as well as health and safety, which are important elements affecting the long-term development of suppliers and the success of business operations. These criteria are consistent with research reports from many researchers.

Supplier selection is a process of selecting suppliers by considering several factors, such as price, service quality, and reliability. The selection process has main steps, including setting selection criteria, evaluating and selecting suppliers, negotiating terms, and monitoring supplier performance, in order to obtain suppliers who can effectively support the organization in the long term.

3. Objective

- 1.1 To study the factors used in the decision-making process for selecting suppliers in the Eastern Economic Corridor (EEC).
- 1.2 To propose recommendations for selecting raw material suppliers for businesses in the Eastern Economic Corridor (EEC).

4. Conceptual framework



Research Methodology

This study utilizes a quantitative research design, with data collected from suppliers through a structured questionnaire comprising six sections: (1) demographic characteristics, (2) pricing factors, (3) service quality dimensions, (4) reliability attributes, (5) supplier selection decisions, and (6) additional recommendations. All items were measured using a five-point Likert scale. Primary data were obtained from a sample of 398 respondents through questionnaire administration, while secondary data were sourced from authoritative references, including peer-reviewed journal articles, academic books, and textbooks. Data analysis was conducted using statistical software packages. Prior to analysis, data screening procedures were implemented to assess completeness, accuracy, and suitability for statistical testing. Both descriptive statistical techniques and inferential statistical methods—specifically multiple regression analysis—were employed to test the proposed hypotheses,

evaluate the relationships among independent and dependent variables, and provide a systematic and empirical interpretation of the research results.

5. Results

The findings indicate that the study involved 398 respondents, the majority of whom were female, aged between 31 and 40 years, held a bachelor's degree, and were employed in corporate organizations, primarily in purchasing-related positions. The analysis of factors influencing supplier selection namely service quality, price, and reliability revealed that overall perceptions were at a high level. Among these factors, service quality was rated the highest, followed by price and reliability, respectively. With regard to service quality, the overall assessment was high. Item-level analysis showed that respondents placed the greatest importance on the supplier's ability to deliver products within the specified timeframe, while communication capability was rated as the least influential aspect.

In terms of price, respondents also reported a high overall level of agreement. The appropriateness of the unit price received the highest rating, whereas price negotiation was perceived as the least significant factor. Regarding reliability, the overall evaluation was likewise at a high level. The duration of business operations was rated as the most important reliability indicator, followed by the type of business registration, while registered capital received the lowest level of agreement.

Furthermore, the analysis of relationships among service quality, price, and reliability demonstrated that all three factors were positively associated with supplier selection decisions.

6. Discussion of Results

The findings of the study indicate that service quality, trust, reliability, and price were all rated at a high level, suggesting that contemporary business organizations place considerable emphasis on service-related factors. Service provision is therefore a critical criterion in the evaluation and selection of suppliers, alongside supplier reliability, which plays a significant role in determining supplier inclusion within the supply chain. In comparison, price was perceived as relatively less important than service quality and reliability. Consequently, initiatives aimed at supplier development should prioritize service performance and reliability, as these factors are highly valued by the business sector. This conclusion is consistent with the findings of previous studies (Kantamon et al, 2024, Aunyawong et al, 2024).

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