

ANALYZING INFLUENCIAL FACTORS FOR PREFERABLE COURIER SERVICES IN MALAYSIA BY USING FUZZY ANALYTIC HIERARCHY PROCESS (FAHP)

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ABSTRACT - This study addresses the problem of understanding users' preferences for courier services in Malaysia. With the increasing reliance on online shopping and package delivery, it is crucial to identify the key factors that shape users' decision-making process when selecting a courier service. To tackle this problem, the Fuzzy Analytical Hierarchy Process (FAHP) method is employed. The study aims to determine the relative importance of criteria such as responsiveness, reliability, empathy, assurance, and tangibility along with their corresponding sub-criteria. A group of experts defines these criteria and sub-criteria, and a questionnaire is distributed to gather data on customer preferences. Using the FAHP technique, the study constructed a hierarchy tree, created a fuzzy pairwise comparison matrix, and calculated criterion and sub-criteria weights. The findings highlight the importance of responsiveness, particularly easy contact with courier companies, as the primary criterion. Enhancing services based on these insights can help users select suitable courier services while improving competitiveness in the industry.

Keywords: Courier services, fuzzy analytical hierarchy process, online shopping, customer preferences.

1. INTRODUCTION

In the modern age of digitalization, courier services have gained paramount significance as online shopping and package delivery continue to witness extraordinary growth. In order to thrive in this fiercely competitive market, it is essential for courier service providers to gain a thorough understanding of the factors that impact users' choices when it comes to selecting their services. This research study focuses on examining user preferences for courier services in Malaysia with the objective of identifying the primary criteria and sub-criteria that shape their decision-making process. By employing the Fuzzy Analytical Hierarchy Process (FAHP) methodology, this study offers invaluable insights that can assist service providers in improving their offerings and meeting the expectations of their customers.

2. METHODOLOGY

The Fuzzy Analytical Hierarchy Process (FAHP) methodology is employed to analyze user preferences for courier services. A group of experts in the field of courier services is engaged to define the criteria and sub-criteria for evaluation. A questionnaire is distributed to these experts to gather their opinions and ratings. The collected data is then analyzed using Microsoft Excel software. The Fuzzy AHP method involves constructing a hierarchy tree, creating a fuzzy pairwise comparison matrix, checking for consistency, determining the geometric mean fuzzy, calculating the fuzzy weight of each criterion, and averaging and normalizing the weights. The same process will be repeated to identify the final weights and ranking of the sub-criteria with respect to each criterion. The process provides insights into the relative importance of each criterion and sub-criterion based on the experts' evaluations.

3. RESULTS AND DISCUSSION

The outcomes of the study indicate that the primary factor influencing users' choice of courier services is responsiveness, particularly the convenience of contacting the courier company. Factors such as reliability, empathy, assurance, and tangibility also play significant roles but to a lesser extent. The results provide valuable insights for courier service companies to improve their communication channels, ensure timely and efficient service, and enhance customer satisfaction. By understanding the relative importance of each criterion and sub-criterion, service providers can tailor their offerings to meet customer expectations and gain a competitive edge in the market.

4. NOVELTY OF RESEARCH / PRODUCT

The novelty of this research lies in the application of the Fuzzy Analytic Hierarchy Process (FAHP) to analyze factors for the most preferable courier services. While previous studies have examined customer satisfaction and service quality in the courier industry, this research goes a step further by utilizing the FAHP method, which combines a methodology that combines the Analytic Hierarchy Process (AHP) and fuzzy set theory, allowing for the consideration of uncertainties and imprecisions inherent in decision-making processes (Bhatt et al., 2021). Focusing on criteria such as responsiveness, reliability, empathy, assurance, and tangibility, the research offers valuable insights for courier service providers to tailor their services and strategies accordingly (Valaei, Rezaei, & Shahijan, 2016). Additionally, the incorporation of fuzzy set theory, expert evaluations, and specific criteria analysis sets this research apart from others in the field (Büyükoçkan et al., 2011). Overall, this study brings a fresh perspective and innovative methodology to the study of customer preferences and decision-making in the courier industry.

5. CONCLUSION

In conclusion, this study highlights the significance of understanding user preferences for courier services in Malaysia. The application of the FAHP methodology provides insights into the relative importance of different criteria and sub-criteria. The findings emphasize the crucial role of responsiveness, specifically easy contact with the courier company, in users' selection of courier services. By considering these insights, courier service companies can improve their communication channels, enhance service quality, and ultimately increase customer satisfaction. Future research can explore the integration of different decision-making techniques alongside fuzzy AHP to further enhance the decision-making process in this domain.

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