


Chapter 6

A Machine Learning Perspective on Knowledge Management in Tourism Business

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ABSTRACT

Knowledge Management and Innovation are critical drivers of success in the dynamic and competitive tourism operations sector. Efficient knowledge management enables tourism organizations to capture, organize, and leverage valuable information from various sources, including customer feedback, operational data, and market trends. Innovation builds upon this knowledge base to develop new services, improve customer experiences, and optimize operational processes. This study explores the integration of these two elements using advanced computational techniques, specifically a bi-stacked Artificial Neural Network (ANN), to analyze their impact on tourism operations. By applying feature selection through Ant Colony Optimization (ACO), the study ensures that the most relevant data attributes are utilized for accurate prediction and analysis. The findings highlight how effective knowledge management combined with continuous innovation can significantly enhance service quality, operational efficiency, and competitiveness in the tourism accommodation sector.

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INTRODUCTION

Quality of service is very crucial within the tourism sector in order to get and hold clients. Knowledge management allows the tourism sector to tap into a massive body of information regarding taste, past experience, and mood of customers. Ownership and interpretation of the same allow tourist operators to tailor services and facilitate products to change in an effort to meet travelers. Innovation also achieves this by enabling the creation of experience differentiation, new packaging, and innovative solutions that can guarantee the highest level of customer satisfaction. Lacking an effective knowledge management system for searching and finding the knowledge, tourist operators only have generic or uninnovative products. Innovation and knowledge management thereby become immanent spaces that need to be accessed in an effort to keep pace with changing customer needs and live in a customer-based economy. All such synergy finally leads to repeat business and word-of-mouth publicity, sine qua non of business expansion.

Tourism enterprises involve intricacies and quick decision-making with regard to marketing, money, and customer service. Knowledge management systems offer allied information and know-how available at no cost, which the decision-makers can access. Streamlining eradicates delay and enables intuition to exploit secrecy with reduced wastage and mistakes. Above all, innovation can provide decision-support tools such as predictive models and analytics dashboards that provide insights on future trends in the market and purchaser behavior. Emergence and exposure to extensive and actual knowledge enable ease of managers at strategic-level decision-making resulting in high profitability and optimal use of resources. Without knowledge management, organizations lose control over dynamic business environment and lose the marketplace. Integration and innovation of knowledge management become a success criterion, thus, in being able to sustain agility and effectiveness in the tourism business. Tourism relies on the new and the new experience, and innovation is a top priority.

Knowledge management provides a methodical way of obtaining innovative ideas from staff, partners, and customers. It may transfer experimentation and failure as learning experience. Innovation derived from the knowledge base leads to the creation of new products, services, and business models that set an operator apart from competitors in a competitive market. Virtual holidays or green holiday bookings can be marketed to specialist buyers. Changing seasonally the lines of their products, tourism organizations will be in a position to deal with new travel requirements arising and take advantage of new trends. In the absence of knowledge management, organizations will probably lose precious knowledge in creating innovations and therefore subject them to obsolescence. Incorporating knowledge management into innovation processes guarantees long-term competitiveness. Turnover of staff in

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