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Optimizing Agricultural Packaging in Fiji: Strategic Barrier Analysis Using Interpretive Structural Modeling and Cross-Impact Matrix Multiplication Applied to Classification

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Abstract : Product packaging is a critical component of production, trade, and marketing, playing numerous vital roles that often go unnoticed by consumers. Packaging is essential for maintaining the shelf life, quality assurance, and safety of both manufactured and agricultural products. For example, harvested produce or processed foods can quickly lose quality and freshness, making secure packaging crucial for preservation and safety throughout the food supply chain. In Fiji, agricultural packaging has primarily been managed by local companies for international trade, with gradual advancements in these practices. To further enhance the industry's performance, this study examines the challenges and constraints hindering the optimization of agricultural packaging practices in Fiji. The study utilizes Multi-Criteria Decision Making (MCDM) tools, specifically Interpretive Structural Modeling (ISM) and Cross-Impact Matrix Multiplication Applied to Classification (MICMAC). ISM analyzes the hierarchical structure of barriers, categorizing them from the least to the most influential, while MICMAC classifies barriers based on their driving and dependence power. This approach helps identify the interrelationships between barriers, providing valuable insights for policymakers and decision-makers to propose innovative solutions for sustainable development in the agricultural packaging sector, ultimately shaping the future of packaging practices in Fiji.

Keywords : agricultural packaging, barriers, ISM, MICMAC
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