

**THE INFLUENCE OF KNOWLEDGE CREATION, KNOWLEDGE-INTENSIVE SOLUTIONS,
GREEN PROCESS INNOVATION ON FINANCIAL PERFORMANCE**

MARIA EMILIA CAMARGO, DR.

Federal University of Santa Maria
Santa Maria, Rio Grande do Sul-Brasil
ORCID ID: 0000-0002-3800-2832

Ronnie Figueiredo, Ph.D.

Instituto Português de Administração de Marketing – IPAM
Lisboa, Portugal
ORCID ID: [0000-0002-6587-6113](https://orcid.org/0000-0002-6587-6113)

Aprigio Teles Mascarenhas Neto, Dr.

Faculdade 8 de Julho
Sergipe, Aracajú-Brasil
ORCID ID: 0000-0001-8418-0923

Abstract

The objective of this study was to investigate the influence of knowledge creation, knowledge-intensive solutions, green process innovation, and green product innovation on the financial performance of the apple production chain in the state of Rio Grande do Sul, Brazil. The research was quantitative, exploratory, and descriptive in nature, and was conducted using a cross-sectional survey. The population consisted of apple producers in the state of Rio Grande do Sul. The sampling process was non-probabilistic based on convenience sampling, and the final sample comprised 420 respondents. Data were collected using a questionnaire with a five-point Likert scale, made available electronically via Google Docs from August through December 2025. The data were analyzed using descriptive statistics and neural networks. Knowledge creation can be understood as the process of expanding and structurally organizing the knowledge generated by individuals within an organizational knowledge network, as described by Takeuchi and Nonaka (2004). Furthermore, it can be defined as the process of continuously improving the existing knowledge base, rather than simply incorporating previously unknown knowledge, while ensuring that this knowledge remains accessible and useful, as explained by Mildemberger (2023). This study developed a model representing the relationships between knowledge creation knowledge-intensive solutions, green process innovation on the financial performance of the apple production chain in the state of Rio Grande do Sul, Brazil

The three latent variables (knowledge creation, knowledge-intensive solutions, green process innovation explain 58.0% of the variance in financial performance. Thus, a gap remains for future studies to identify other variables that might explain the missing 42.0%, such as competitive priorities and competitive advantages.

Keywords: Knowledge Creation; Knowledge-Intensive Solutions; Green Innovation; Financial Performance.