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AGROINDUSTRIAL INTELLIGENCE CENTER

Technical Report:

Quality Management: Implementation Costs in Minimally Processed Food Agro-Industries

Study on the northern coast of Rio Grande do Sul
Ref.: Analysis based on the master's thesis by Mariana Curtinovi Geyer (PPGSPPA/FURG, 2023).
Link to the thesis: https://sistemas.furg.br/sistemas/sab/arquivos/bdtd/b924a6b0a6b38164f786323e5bb1675f.pdf
Link to the English/Portuguese version of the report
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1. Executive Summary

This report details the costs of implementing a Quality Management System (QMS) in agro-industries producing minimally processed foods (MPF) on the northern coast of Rio Grande do Sul. The study used a qualitative and quantitative exploratory approach, which focuses on identifying and analyzing the costs of a QMS in a selected agro-industry. The results showed that annual quality spending tripled after the implementation of the QMS, with 78% of costs being preventive and 22% evaluative. Even though failure costs were not quantified, managers considered this expenditure an "investment," given the increase in hygiene and sanitary compliance from 49% to 89% after implementation. The dissertation sought to identify and analyze the costs of implementing a QMS in an AMP agroindustry, in addition to assessing managers' expectations regarding the expected return. The study seeks to understand the process of implementing Quality Management and the costs associated with it, using an AMP production chain as a basis.

Analysis of the Costs of Implementing a Quality Management System (QMS) in AMP-producing Agro-industries

The Brazilian food industry is one of the most dynamic segments of the economy, driven by growing demands for food quality and safety. The adoption of quality policies and programs is crucial to ensuring consumer satisfaction. Quality Management (QM) has evolved, aiming to apply methods and mechanisms to ensure product and process compliance with pre-established standards. This demonstrates organizations' commitment to customer satisfaction, reinforcing their image and keeping pace with market developments.

01 Quality Management (QM) is crucial for competitiveness, but there are initial costs and a lack of preparation can hinder implementation in small agro-industries.

02 In the long term, investment in QM tends to reduce costs and improve quality, which is essential for food safety and market sustainability.

03 These investments are a major challenge for family agribusinesses due to limitations in planning, structure, and finances.

Methodology

The study took a qualitative and quantitative approach, in an exploratory manner, with the aim of deepening knowledge about quality costs in Brazilian agribusinesses. Classified as applied research, it sought to solve real problems, using participatory research with interaction between researchers and members of the agribusiness sector. The stages included:

1. Mapping of agribusinesses on the northern coast of Rio Grande do Sul;
2. Application of questionnaires to identify quality tools;
3. Selection of an agro-industry for implementation of QMS (including GMP and HACCP), survey and comparison of costs before and after implementation (classified as prevention, evaluation, and failures);
4. Evaluation of the benefits perceived by managers and through external audits.

Results

Agro-industries Mapped: Two minimally processed food (AMP) agro-industries were identified on the northern coast of Rio Grande do Sul;

Annual Cost of Quality (Before QMS): The annual cost was R$ 23,032.42, with POPPA representing 63%, PRH 20%, and POPCP 15%;

Annual Quality Cost (After QMS): The annual cost rose to R$ 69,807.49, a threefold increase. Technical assistance was the highest cost (39%), followed by PV and POPPA (21%);

Cost Classification: 78% of costs were preventive and 22% were evaluation costs. Failure costs were not quantified due to the recent implementation of the QMS;

Benefits Perceived by Managers: The QMS was considered an "investment" that provided process standardization, market differentiation, and autonomy in customer relations, despite initial adaptation difficulties;

Improved Hygiene and Sanitation Compliance: The level of compliance in external customer audits increased from 49% to 89% after the implementation of the QMS.

Conclusion:

It was evident that the implementation of the QMS tripled the annual costs related to quality in the agro-industry, but it was seen as an "investment" by managers. This resulted in a significant improvement in the hygienic-sanitary compliance of products, from 49% to 89%. Adapting to new procedures was an initial challenge, but the standardization and organization achieved generated a competitive advantage in the market.