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Original article

Proposed action plan for information management in agri-food companies

Propuesta de plan de acciones para la gestión de la información en empresas agroalimentarias

Plano de ação proposto para a gestão da informação em empresas agroalimentares

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ABSTRACT

Information management stands as a strategic resource for competitiveness and efficiency in the modern industrial sector. Companies and organizations that invest in adequate information management are better positioned to face future challenges and seize emerging opportunities. This research aims to design an action plan to optimize information management in a agri-food industry company. A case study was developed through the application of surveys, direct observation of processes, and analysis of internal documentation, allowing for a comprehensive diagnosis of the state of information flows. The diagnosis identified a lack of standardization in data handling and failures in internal communication as critical deficiencies, which hinder interdepartmental collaboration. As a main contribution, a structured action plan was proposed, including the establishment of policies, the implementation of technological tools, and a training program. It is

concluded that the application of the plan establishes the foundation for improving decision-making and the organization's operational efficiency, positioning it better to face environmental challenges.

Keywords: information management; decision-making; operational efficiency; organizational communication.

RESUMEN

La gestión de la información se erige como un recurso estratégico para la competitividad y eficiencia en el sector industrial moderno. Las empresas y organizaciones que invierten en una gestión adecuada de la información están mejor posicionadas para enfrentar desafíos futuros y aprovechar oportunidades emergentes. La presente investigación tiene como objetivo diseñar un plan de acciones para optimizar la gestión de la información en una empresa agroalimentaria. Se desarrolló un estudio de caso mediante la aplicación de encuestas, la observación directa de procesos y el análisis de documentación interna, permitiendo un diagnóstico integral del estado de los flujos informativos. El diagnóstico identificó como deficiencias críticas la falta de estandarización en el manejo de datos y las fallas en la comunicación interna, las cuales obstaculizan la colaboración interdepartamental. Como principal contribución, se propuso un plan de acción estructurado que incluye el establecimiento de políticas, la implementación de herramientas tecnológicas y un programa de capacitación. Se concluye que la aplicación del plan constituye la base para mejorar la toma de decisiones y la eficiencia operativa de la organización, posicionándola mejor frente a los desafíos del entorno.

Palabras clave: gestión de la información; toma de decisiones; eficiencia operativa; comunicación organizacional.

RESUMO

A gestão da informação está emergindo como um recurso estratégico para a competitividade e a eficiência no setor industrial moderno. Empresas e organizações que investem em uma gestão adequada da informação estão mais bem posicionadas para enfrentar os desafios futuros e aproveitar as oportunidades emergentes. Esta pesquisa visa elaborar um plano de ação para otimizar a gestão da informação em uma empresa agroalimentar. Um estudo de caso foi desenvolvido utilizando

questionários, observação direta de processos e análise de documentação interna, permitindo um diagnóstico abrangente do estado dos fluxos de informação. O diagnóstico identificou deficiências críticas, como a falta de padronização no tratamento de dados e falhas na comunicação interna, que dificultam a colaboração interdepartamental. Como principal contribuição, foi proposto um plano de ação estruturado, incluindo o estabelecimento de políticas, a implementação de ferramentas tecnológicas e um programa de treinamento. Conclui-se que a aplicação do plano fornece a base para aprimorar a tomada de decisões e a eficiência operacional da organização, posicionando-a melhor para enfrentar os desafios do ambiente.

Palavras-chave: gestão da informação; tomada de decisões; eficiência operacional; comunicação organizacional.

INTRODUCTION

Information management, understood as the systematic process of identifying, collecting, organizing, storing, retrieving, analyzing, and distributing information, has emerged as a fundamental discipline for the success of organizations in an increasingly competitive and dynamic environment.

Information management can be defined as the set of practices, policies, technologies, and strategies that enable an organization to manage its information resources efficiently and effectively. This process includes activities such as data collection, organization and classification, secure storage, rapid and accurate retrieval, and distribution to the appropriate users at the right time (Nonato et al., 2023).

The scope of information management is broad and encompasses multiple dimensions. First, it includes technical aspects, such as the design and implementation of information systems, databases, and analytical tools. Second, it involves organizational aspects, such as the definition of policies and procedures for information management, staff training, and the assignment of responsibilities. Finally, it also encompasses ethical and legal aspects, such as the protection of personal data, privacy, and information security.

The importance of information management in organizations is evident at multiple levels. At the strategic level, it enables companies to identify market opportunities, anticipate trends, and make informed decisions based on concrete data.

At the operational level, it contributes to process optimization, cost reduction, and improved efficiency. At the tactical level, it facilitates coordination between departments, collaboration among teams, and the management of organizational knowledge.

Furthermore, information management plays a key role in the digital transformation of organizations. In a world where technology is changing rapidly, companies must adapt to new ways of working, communicating, and competing.

Information management provides the foundation for this transformation, enabling organizations to capitalize on the opportunities offered by technologies such as artificial intelligence, big data, the cloud, and the Internet of Things.

Despite its importance, it is not without challenges, chief among them the growing volume of data, which makes it difficult to organize and analyze. Another challenge is the quality of information, as incomplete, inaccurate, or outdated data can lead to erroneous decisions (Redman, 2008). Furthermore, information security is a constant concern, especially in a context where cyberattacks and data breaches are becoming increasingly frequent.

In an era of digital contradictions, information circulates at unprecedented speeds and generates unprecedented opportunities, yet it also widens social and economic divides, threatening to further fragment humanity. In this context, this analysis explores the main issues arising from information management in the 21st century and proposes pathways to build a more just and inclusive informational ecosystem.

Information management reproduces and amplifies historical geopolitical inequalities. With 92% of data centers located in developed countries (IBM, 2023), a form of "data colonialism" is taking hold, in which entire nations are technologically dependent on foreign powers. Technological wars (such as sanctions against Huawei) and fragmented regulation (with countries serving as "data havens") further complicate the landscape, requiring global governance frameworks that prevent new forms of domination.

Building a more equitable digital future requires reorienting information management toward human-centered principles, where technology serves to empower rather than exclude. This implies, first, closing the gaps through real not merely nominal access to technology and the development of critical skills; second, designing new social contracts that protect fundamental rights in the digital economy; third, fostering cooperative global governance that counteracts data colonialism; and, finally, prioritizing ethic s and technologies that measure success in terms of human well-being, not solely profits.

The fundamental challenge is not technical, but civilizational: managing information not as an end in itself, but as a tool to build more just societies, where knowledge empowers everyone equally. The quality of the collective response to these challenges will define the kind of digital future that future generations will inherit.

At the heart of the contemporary digital economy, knowledge management has emerged as a paradoxical phenomenon that simultaneously generates unprecedented opportunities and deep structural inequalities. This comprehensive analysis unravels the complex web of social and economic challenges that arise when knowledge that intangible yet fundamental resource becomes the object of institutionalized management systems, while identifying paths toward more equitable and sustainable models.

Cognitive capitalism has created new forms of power concentration. Globally, patenting activity is highly concentrated: in 2023, just five countries (China, the United States, Japan, South Korea, and Germany) accounted for 84.3% of all global patent applications (WIPO, 2024). This geographic concentration of knowledge widens existing gaps. At the same time, the emigration of skilled professionals the so-called "brain drain" imposes substantial costs on developing countries. For example, the migration of doctors from Sub-Saharan African countries alone costs the region more than $2 billion annually in lost educational investment (IOM, 2024), a figure that highlights how talent trained in the poorest nations ultimately benefits advanced economies.

The solution does not lie in rejecting knowledge management systems, but in radically transforming them: by decommodifying essential knowledge, democratizing access to cognitive tools, valuing epistemic diversity, and, above all, reaffirming that knowledge in all its forms must serve collective human flourishing rather than private accumulation.

In this civilizational challenge, the quality of the collective response will determine whether knowledge management becomes an instrument of emancipation or a new form of domination for the 21st century.

In the context of the Fourth Industrial Revolution, data management has become a complex phenomenon that presents both transformative opportunities and profound socioeconomic challenges.

This comprehensive analysis examines the dual nature of data management as both a driver of progress and a source of structural inequalities, exploring its economic, social, political, and ethical dimensions.

The current scenery is characterized by an alarming concentration of digital power. This digital oligopoly has created an ecosystem where large platforms accumulate insurmountable competitive advantages through network effects, generating barriers to entry that stifle innovation and competition. The business model based on the extraction and monetization of personal data has reached astronomical proportions, with annual revenues exceeding $500 billion in behavioral advertising. This extractive economy operates through sophisticated value-capture mechanisms, where users generate valuable data that is monetized without fair compensation, creating what some scholars have termed "unpaid digital labor".

At the organizational level, the problem of silos persists as a critical challenge: 85% of companies report significant difficulties in integrating data across departments. These operational inefficiencies are exacerbated by the rising costs of regulatory non-compliance, as fines for violations of the General Data Protection Regulation exceeded 4 billion euros in 2023. However, the deepest imbalances transcend the corporate sphere and reveal profound global asymmetries in access to and control over digital resources. While Nordic countries enjoy 5G penetration exceeding 90%, in Sub-Saharan Africa it barely reaches 6%, drastically limiting these nations' ability to fully participate in the digital economy.

This unequal distribution reinforces patterns of technological dependency where countries in the Global South generate valuable data on climate patterns, biodiversity, or demographic behaviors that is subsequently monetized by foreign corporations without an equitable return for the communities of origin. Beyond the economic consequences, data management poses complex social problems that

threaten the very foundations of democratic societies. Mass surveillance systems, exemplified by China's controversial social credit system, have normalized data collection.

Information management in Cuba has evolved significantly in recent decades (Ponjuán Dante, 2014), becoming a fundamental pillar for the country's business and institutional development.

The history of information management in Cuba can be divided into four clearly distinct stages. In the pre-revolutionary phase (1950-1959), information systems were rudimentary and elitist, limited mainly to physical archives with restricted access (Rodríguez Cruz, 2015).

The Triumph of the Revolution brought about a radical change, with a model of state centralization of information established between 1960 and 1989, notably marked by the creation of the Institute of Scientific and Technical Documentation and Information in 1963 as the governing body.

The Special Period (1990-2000) represented a crucial moment, when technological and economic constraints forced the development of innovative solutions with limited resources. It was in this context that Decree-Law 187/1998 was enacted, marking the beginning of systematic efforts to modernize information management in the business sector.

From 2001 to the present, Cuba has transitioned into the digital age, adopting advanced technologies in strategic companies such as BioCubaFarma, although this progress has always been constrained by the economic blockade. Cuban studies on information management have developed their own conceptualizations adapted to the national context, viewing information management as a comprehensive strategic process that ranges from data capture to its transformation into useful knowledge for decision-making (Ponjuán Dante, 2014). This perspective emphasizes the interrelationship between human, technological, and organizational components.

The theoretical models applied in Cuba present interesting particularities. For example, the adaptation of the DeLone and McLean (2003) model by Cuban researchers incorporated the "geopolitical context" variable, thereby recognizing the specific impact of the blockade on information systems. Likewise, resource and capability theory has been used to analyze how Cuban institutions optimize their limited technological resources.

In the Cuban state-owned business sector, notable examples include the CIMEX Corporation (Domestic Trade, Foreign Market), which implemented an integrated enterprise resource planning

systema tool known as ERP, though the acronym is not used here and achieved tangible results in optimizing its supply chain. Similarly, the AZCUBA Sugar Group (Azúcar de Cuba) developed an information management system for the sugar agroindustry that incorporates predictive analytics, demonstrating how these tools can be applied even in traditional sectors (Díaz, 2022).

The achievements in information management are undeniable, particularly in sectors such as health, with the INFOMED system (Cuban Health Information Network), and higher education, with the master's degree in information management at the University of Havana. However, significant challenges remain, mainly related to technological obsolescence and legal restrictions on the importation of equipment.

The future of information management in Cuba appears to be moving in four main directions: first, further development of national solutions based on open-source software; second, the integration of emerging technologies such as big data; third, the strengthening of human capacity through training programs; and fourth, the adaptation of legal frameworks to facilitate technological modernization.

The Cuban experience is a prime example of how a developing country, even under adverse circumstances, can transform its limitations into opportunities for innovation. This progress demonstrates that technological development is not exclusive to nations with abundant economic resources, but can be achieved through political will, creative strategies, and precise adaptation to the local context. The lessons learned in informational resilience and adaptation to restrictive environments offer a valuable reference model for other nations facing similar challenges.

A particularly valuable aspect is the adaptation of international theories and models to the country's specific conditions. The incorporation of variables such as the "geopolitical context" into information management models not only reflects scientific realism but also constitutes a significant methodological contribution for other countries facing similar situations.

These theoretical adaptations have enabled the development of effective practical tools, such as the systems implemented at CIMEX and AZCUBA, which combine advanced technologies with a deep understanding of Cuban organizational needs.

The lessons emerging from the Cuban experience are numerous and valuable:

1. Technological resilience: Cuba has demonstrated that it is possible to develop robust information systems even with limited resources, prioritizing efficiency over ostentatious technological deployment (Laudon & Laudon, 2020).
2. Capacity building: The success of Cuban initiatives underscores the importance of investing in human capital. The creation of specialized academic programs has been key to sustaining long-term development.
3. Technological sovereignty: The emphasis on domestic solutions and open-source software offers an alternative model of technological development that is less dependent on large international corporations.
4. Organizational adaptability: The case studies show how Cuban institutions have managed to modify their structures and processes to make the most of new information technologies.

However, there is still a long way to go. The main future challenges include upgrading technological infrastructure, making regulatory frameworks more flexible, and further integrating small and medium-sized enterprises into national information systems. The growing importance of technologies such as artificial intelligence and big data presents both opportunities and new challenges for Cuban information management.

In today's global context, where information has become a strategic resource, the Cuban experience offers valuable insights into how countries can develop their own models of information management that address their specific needs without sacrificing their sovereign principles.

The balance between international openness and endogenous development, between technological innovation and adaptation to the local context, is perhaps the most relevant lesson emerging from this analysis.

Finally, the Cuban case invites reflection on the very nature of information management. Beyond technical aspects, it demonstrates how information systems are, in essence, social constructs that reflect the values, priorities, and capabilities of each society. This humanistic understanding of technology, so evident in the Cuban approach, could inspire new paradigms in the field of information management.

In today's business environment, characterized by increasingly complex supply chains, growing volumes of data, and regulatory requirements regarding traceability and security, information management tools are no longer a luxury but a strategic necessity. Companies lacking integrated systems to capture, process, and distribute timely and reliable information face operational inefficiencies, financial losses, and difficulties competing in dynamic markets.

The agri-food sector, in particular, requires solutions tailored to its specific needs: control of perishable inventories, batch management, compliance with health standards, and agile response to fluctuations in demand. Although there are successful examples in other sectors, such as those implemented at CIMEX or AZCUBA, there remains a lack of tools designed specifically for small and medium-sized agri-food enterprises, especially in contexts with limited resources. Therefore, it is necessary to delve deeper into the study and design of practical tools that enable the optimization of information management in this type of organization, taking into account both their technological limitations and their endogenous potential. Within this framework, the objective of this research is to design an action plan to optimize information management in an agri-food company.

MATERIALS AND METHODS

The dialectical-materialist method serves as the foundation, as it is the most significant method that cuts across all others. This method facilitated the analysis of the research subject in various contexts. Furthermore, it enabled the identification of the contradictory elements that underpin the rationale of the proposal.

Among the theoretical methods used are the historical and logical methods, to conduct a historical analysis of the evolution of the different concepts that relate the development and application of Information Management for decision-making in the business environment

The systemic method was employed with the aim of reaching conclusions that integrate the close relationship between information systems and knowledge management with the business management process and decision-making in the various organizational subsystems.

Among the empirical methods used is the measurement method, applied through the questionnaire technique which included interviews and surveys to obtain primary information on the current state of an agri-food company regarding information management.

The axiomatic-deductive method was used to develop logical reasoning that allows us to arrive at general conclusions tailored to our context, based on experiences reflected in the scientific literature and prior studies on these topics in the business sector and at the institutional level, in line with the changes currently taking place in the country.

RESULTS AND DISCUSSION

Primary and secondary information sources were used, which supported the scientific research methods and techniques that enabled us to diagnose the current state of the process under study. Regarding secondary sources, their determination involved identifying a general environment, defined as the set of essential relationships that manifest at the agri-food company level.

Following a detailed review of the institutional documents of this type of company, certain aspects detrimental to Information Management were identified, as listed below:

- There is no information policy establishing the rules to be followed regarding the information management process in these institutions.
- The analyzed documentation contains duplicate information, and the relevance of this information does not align with the objectives set by the departmental units.
- The information is not structured in a way that aligns with the organizational units and management decision-making levels.
- There is no flexibility in the formats of the information processed using IT tools
- The companies' Information System is not aligned with the Institutional Communication System.
- Information flows are not properly designed across all departmental areas in a systematic and integrated manner.
- There are computerization issues in 35% of the companies' units, with the highest incidence in the Basic Business Units (UEB).
- No Information Management Strategy has been developed that is fully aligned with the management scorecard, as required by the Business Improvement Information System.

In general, after processing the surveys and observations conducted in the different areas, it can be stated that some employees feel they do not receive sufficient information from the companies. This

indicates that the transmission of information should not be concentrated in just a few areas, but rather that each manager must play their part in directing the flow of information.

Below is a summary of the main findings of the diagnosis of information management in agri-food companies:

1. Perception of Information Problems
    - Workers: 88% of employees acknowledge the existence of information-related problems.
    - Managers: 53% of managers agree that there are information gaps in their respective areas.
2. Timeliness and Information Flows
    - Receipt of Information: Only 39% of employees say they "always" receive information in a timely manner. In contrast, 16% receive it "almost never" or "never".
    - Vertical Flows: There is 100% consensus among managers on the need to strengthen top-down communication, emphasizing the manager's role as a spokesperson for decisions.
3. Communication Channels and Forums
    - Formal Forums: The most recognized channels for gathering feedback are the Member Assembly (46%) and direct conversations with supervisors (33%). Managers, for their part, prioritize morning briefings and assemblies (65%) and work meetings (63%).
    - Informal Channels: 14% of employees mention rumors as a source of information, while 40% perceive management's constant use of informal channels.
    - Digital infrastructure: There is low utilization of technological tools, with only 10% of managers using the intranet and 31% using email.
4. Organizational Climate and Training
    - Openness and Trust: 50% of employees perceive an environment conducive to raising concerns, primarily through their immediate supervisor. However, 21% believe that no such environment exists.
    - Management and Training: 95% of managers confirm the absence of a specific procedure for managing information. Likewise, 100% state that no training is provided to employees on how to manage information effectively.

The diagnosis reveals that information management is largely ad hoc, with a marked lack of formal procedures and training, which leads to misinformation and reliance on informal channels among the workforce.

Based on the diagnosis conducted using empirical methods (questionnaires, interviews, and surveys) and a systemic analysis of the relationships between information systems, knowledge management, and business management processes, significant deficiencies were identified in the information management of companies in the agri-food sector.

The evidence gathered shows that, while there is widespread recognition of information deficiencies among both employees (88%) and managers (53%), there remains a lack of specific training on the subject and a reliance on informal communication channels. Furthermore, the underutilization of digital infrastructure and the absence of an information management strategy aligned with the business management system confirm the need for structural intervention.

Action plan for optimizing information management in agri-food companies

Action 1. Conduct a comprehensive diagnosis of the current state of information management (see table below).

Tasks	Compliance indicator / Deliverable	Completion date	Responsible parties	Participants
Design and validate diagnostic tools (survey questionnaire, interview guide, observation checklists).	Data collection instruments approved by the Board of Directors.	May	Human Resources Department / Projects Unit	Board of Directors (as validator)
Conduct anonymous surveys of 80% of staff to assess perceptions regarding information flows, access, and quality.	Database with survey results and preliminary report of findings.	May	Human Resources Department	Department Heads (to facilitate implementation)

Conduct semi-structured interviews with the heads of all departments.	Minutes or records of the interviews with key points identified.	June	Head of Information or Advisor	Department Heads
Map and document critical information flows (e.g., order to production, sales report).	Flowcharts of at least 5 critical processes.	June	Process Unit or Internal Consultant	Key employees from each area
Prepare a final diagnostic report summarizing findings, critical issues, and opportunities for improvement.	Diagnostic Report presented to and approved by the Board of Directors.	June	Head of Information / Project Unit	Board of Directors (as recipient and approver)

Action 2. Establish specific, measurable, achievable, relevant, and time-bound objectives to optimize information management in the agri-food sector (see table below).

Tasks	**Compliance indicator / Deliverable**	**Completion date**	**Responsible parties**	**Participants**
Identify urgent issues, e.g., (traceability of perishable products or information flows at the UEB)	Prioritized list of 3-5 issues to be resolved.	July	Board of Directors	Department Heads
Draft specific, measurable, achievable, relevant, and time-bound objectives for each prioritized area.	"Objectives for Information Management" document formalized.	July	Board of Directors	Chief Information Officer (as drafter)

Action 3. Implement technological tools to support the information management system (see table below).

Tasks	Compliance indicator / Deliverable	Completion date	Responsible parties	Participants
Evaluate and select the document management and collaboration software that best meets the needs identified in the diagnosis.	Technical evaluation report recommending the selected tool, approved by the Board of Directors.	August	IT Department / Chief Information Officer	Key users in each department
Manage the procurement of licenses and/or the configuration of the selected software, ensuring the necessary resources are available.	Software license or access agreement, or confirmation that initial setup is complete.	August	Administration/Purchasing Department	IT Department
Perform the installation, initial configuration, and deployment of the tool in a pilot environment with a specific department.	Technology tool installed, configured, and in operation for the pilot department.	September	IT Department	Pilot Department

Migrate and upload the initial critical data and documents to the new system, ensuring their integrity.	Certification of successful migration and at least 80% of critical data/documents available in the new system.	September	IT Department	Information managers in each department
Progressively roll out the tool to the rest of the company's departments.	Tool implemented and accessible to 100% of the company's departments.	October	IT Department	All departments
Develop and conduct hands-on training sessions on the use of the new tool for different user profiles.	Minutes of the training sessions and attendance list for 90% of the target staff trained.	November	Human Resources Department	IT Department (as instructor)

Action 4. Develop and formalize policies and procedures for information management in agri-food companies (see table below).

Tasks	**Compliance indicator / Deliverable**	**Completion date**	**Responsible parties**	**Participants**
Establish a working committee with key representatives from each area (production, quality) to draft the documents.	Minutes of the committee's formation and work plan for drafting.	July	Head of Information / Quality	Legal representatives, IT, and department heads

Draft the "Information Management Policy" and the "Procedures for Classification, Storage, and Security".	Draft policy and procedures document, ready for review.	August	Working Committee	Legal Counsel (for regulatory validation)
Map critical information flows in the agri-food sector (batch control, expiration of perishables, and production orders)	Flowchart of at least 5 critical agri-food chain processes	September	Head of Information / Quality	Key production and logistics staff.
Finalize the documents and submit them for formal approval by the Board of Directors.	Final policy and procedure documents, signed and made official.	September	Board of Directors	Working Committee
Formally communicate the policies to the entire organization and publish them on a channel accessible to all.	Official announcement issued and policies published on the intranet or designated repository.	October	Communications Department	All departments

Action 5. Implement a comprehensive training and skills development program for workers in agri-food companies (see table below).

Tasks	Compliance indicator / Deliverable	Completion date	Responsible parties	Participants
Design the workshop content, distinguishing between: a) Use of tools and b) Information management culture.	Curriculum and training materials (presentations, guides) developed.	October	Human Resources Department	IT Department and Chief Information Officer
Develop user manuals and quick reference guides for the new tools and policies.	Manuals and guides completed and published in digital and print formats (if necessary).	October	Human Resources Department	IT Department
Conduct training workshops in phases to cover all staff.	Attendance lists covering at least 95% of the workforce.	November	Designated trainers (HR/IT)	All staff
Conduct a specific training session for managers on their role in information flow and governance.	Minutes of the session and written commitment from attending managers.	November	Senior Management	Board of Directors and department heads
Administer a post-training diagnosis to measure understanding and retention of key concepts.	Report on evaluation results with an average comprehension score of over 80%.	December	Human Resources Department	Trained staff

Action 6. Establish a system for monitoring, evaluation, and continuous improvement in agri-food companies (see table below).

Tasks	Compliance indicator / Deliverable	Completion date	Responsible parties	Participants
Define Key Performance Indicators (KPIs) to measure the effectiveness of the new system (e.g., time to access inventory data, percentage of compliance with health regulations).	Official indicator matrix, with metrics, for food traceability and effectiveness targets.	January	Head of Information / Quality	Board of Directors
Implement a data collection mechanism prioritizing open-source software solutions and reports from the Business Units at the grassroots level.	Mechanism implemented and generating reports on information flows regarding production and logistics.	January	IT Department	Department Heads and UEB Heads
Conduct the first "Management Review" of the information management system.	Minutes of the meeting with analysis of KPIs, deviations, and corrective action plans.	March	Board of Directors	Head of Information
Create and implement a formal protocol for semi-annual internal audits.	Report on the first internal audit conducted and resulting corrective action plan.	June	Internal Auditor / Quality Unit	Working Committee

Note: Prepared by the authors based on the institutional diagnosis of agri-food companies

The action plan proposed for implementation corresponds to the existing patterns identified by the authors through the triangulation of information obtained from the primary and secondary sources used in the characterization.

The implementation of the proposed action plan represents a comprehensive and systematic roadmap for transforming information management in agri-food companies. Through a rigorous diagnosis, the establishment of quality-based objectives, the implementation of appropriate technological tools, the development of clear policies, staff training, and the establishment of a continuous monitoring system, the foundations for a true information culture are laid. This comprehensive approach will not only improve operational efficiency and decision-making but will also position the organization to face the challenges of a competitive business environment with greater capabilities. The sustainability of the system will be guaranteed by the evaluation and continuous improvement mechanisms incorporated into the plan, ensuring that information management becomes a lasting strategic asset for the company.

The evidence gathered shows that, while there is widespread recognition of information deficiencies among both employees and managers, there remains a lack of specific training on the subject and a reliance on informal communication channels. Furthermore, the underutilization of digital infrastructure and the absence of an information management strategy aligned with the business management system confirm the need for structural intervention.

Given this situation, it is imperative to establish a framework for action that transforms these weaknesses into opportunities for improvement. Therefore, with the aim of optimizing internal processes and facilitating systemic and integrated communication, it is proposed a strategic action plan designed to strengthen the pillars of information management within the organization.

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Conflict of interest

Authors declare that they have no conflicts of interest.

Authors' contribution

All the authors reviewed the writing of the manuscript and approve the version finally submitted.



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