

**The Challenges of Management Processes in Enterprises within the
Bakery Industry and Opportunities for Sustainable Development
Through the Integration of Information Technologies
(Case Study Based on CAHULPAN S.A. and SAVIT SIM S.R.L.)**

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Abstract

Food industry enterprises are facing a series of difficulties. These relate to the scarcity of raw materials, the increased prices of raw materials and fuels, and deficiencies in logistics and marketing. All of these difficulties slow their sustainable development. These are the effects of inefficient managerial and industrial processes within the enterprise, primarily due to the lack of, or minimal, digitalisation of these processes. The digital century in which we live and the progress recorded through the development of digital technologies allow us to state that the efficiency of managerial processes can be achieved mainly through digitalisation, an essential strategy for improving an enterprise's performance. Digitalisation can optimise daily operations, reduce costs, and increase the business's adaptability in a competitive environment. Digitalisation of managerial and industrial processes not only simplifies processes but also provides a clear vision of the enterprise's activities and can stimulate innovation.

Keywords: digitalisation, food industry, managerial processes, sustainability, etc.

Introduction

Bread has always been an essential part of the human diet. It is therefore not surprising that the global bakery market shows no signs of slowing down; rather, it is estimated to grow to over USD 672 billion by 2026 [1]. Despite this favourable outlook, the bakery industry has faced several challenges globally in recent years. These can be observed in several aspects. On the one hand, starting with the COVID-19 pandemic and up to the current global geopolitical crisis caused by high inflation. Cumulatively, these events have had a significant impact on the bakery industry, affecting the availability of raw materials, product distribution and ultimately, their prices. On the other hand, customer demand has recently focused on bakery products that meet nutritional health standards and offer a pleasant taste and texture. Consumer preferences are also oriented towards products that can be easily purchased but are made sustainably. In addition, consumers continue to be interested in products that are organic, gluten-free, and that promise to improve their immunity or that can be integrated into different diets. The bakery industry must show great ingenuity in the face of these challenges and difficulties to meet all these characteristics in the complex global context. Therefore, to ensure that distribution networks are robust and that bakery products align with demand and sustainability requirements, innovative solutions are sought.

Therefore, the most significant challenges currently facing the bakery industry are the high costs of raw materials and the need to adopt sustainable technologies. The first major challenge for the food industry was the COVID-19 pandemic, which closed global borders, disrupted supply chains, and made access to essential raw materials more difficult. In addition, the global workforce was affected by lockdowns and periods of isolation, leading to a decrease in production. Another fundamental challenge is the significant increase in fuel prices, which represent an essential resource for production in this field. The Russian-Ukrainian war also affected it, leading to increased volatility in global grain and sunflower oil supplies. Russia and Ukraine are suppliers of about a third of the world's wheat, and areas affected by the grain crisis must find alternative ways to import. With increasing pressure on the bakery industry's supply chain, it is no surprise that raw material prices are constantly fluctuating. This is forcing bakery manufacturers to find innovative solutions in ingredients, raw materials and production technology. [1]

Concerns about environmental health and food waste also affect the bakery industry. Approximately 1.3 billion tons of food are wasted each year, with bread among the most frequently thrown away products. To combat this, the bakery industry is turning to innovative ingredients to streamline processing and reduce pressure on production costs. In addition, more and more manufacturers in the bakery industry, having this same aim of reducing production costs, are resorting to the use of professional equipment with more efficient energy consumption and intelligent production lines. However, there is no single solution for all manufacturers. Everyone finds their solution based on how the enterprise manages its managerial and industrial processes.

Methodology

The scientific approach is based on a deductive approach from theory to practice, from general to particular, to achieve the objectives proposed by the authors in the research. Some general scientific methods were used, including analysis and synthesis, induction and deduction, the principle of logic, comparative analysis, and the survey method. The interest in the research topic is determined by its interdisciplinary nature, which involves knowledge from the processing industry (food industry), management, economic and financial analysis, statistics, and informatics.

The research includes the fundamental-general research part, which aims to study the difficulties of management processes at enterprises in the field of the bakery industry and the applied part, carried out based on real information obtained based on a survey, completed by 2 enterprises in the field of the bakery industry, to determine the difficulties and prospects for their sustainable development through the integration of information technologies.

Results

The managerial processes in the enterprise are the activities through which resources are planned, organised, coordinated, led, and controlled to achieve the enterprise's objectives. In other words, managerial processes are the sequence of activities through which management functions are implemented in practice to achieve the desired results. These are essential for the efficient functioning of any business, and the bakery industry is no exception. The managerial processes have a major implication on the sustainable development of bakery enterprises, having an impact on operational efficiency, social responsibility and environmental protection. However, they encounter various difficulties and challenges listed above. Even if these difficulties are somewhat global, each enterprise overcomes them in its

own way, namely through the management of the managerial and industrial processes it carries out.

In turn, the difficulties of management processes in the bakery industry are influenced by a series of factors, as follows: [2, 3, 4]

- **Economic factors:** fluctuations in the prices of raw materials and energy resources, fierce competition, shortages of qualified personnel, etc.
- **Technological factors:** the urgent need to modernise equipment to improve product quality and productivity, and to automate industrial processes, etc.
- **Logistics and distribution:** supply chain management, streamlining distribution processes, waste management, etc.
- **Digitalisation: lack of digital solutions in all areas of enterprises, such as production, logistics, marketing, economic and financial management, etc.,** or the insufficient efficiency of existing ones.

Therefore, at the current stage, a major challenge is the lack of digitalisation, or the insufficient or poor-quality digitalisation, within the enterprises of the bakery industry. Although this is precisely what represents a significant opportunity for them. The presence of digitalisation at the enterprise could solve many of the difficulties encountered, such as a lack of personnel and qualified personnel, reduce production costs, facilitate logistics and distribution, and even manage the entire economic and financial activity, from planning to the analysis of results.

As the object of the analysis, 2 enterprises in the field of bakery, of the Southern Development Region of the Republic of Moldova, which have a significant share in the sales market, were chosen:

- CAHULPAN S.A.- is a bakery enterprise, which was founded in 1946 and in 1996 reorganised, with a business volume of 50-58 million lei annually and a number of employees of about 160 people. During the activity, it faced several periods of success and failure, but each time it tended to achieve its objectives and overcome the crisis periods. Today it is a medium-sized enterprise.
- SAVIT SIM S.R.L. – is an enterprise that also deals with the field of bakery, founded in 1996. The turnover of this enterprise is between 7 and 10 million lei annually, and the number of employees is approximately 37. At this stage, it is a small enterprise experiencing slight stagnation in its activities.

Thus, for this research, these enterprises were chosen based on the same type of activity, the same period of activity, but different degrees of development, to determine the potential for overcoming difficulties through digitalisation. To carry out the study, the enterprises were surveyed, based on a Questionnaire, called "Questionnaire on identifying the needs of enterprises in the food industry regarding the digitalization of management processes and studying the degree of application of information technologies in the activities of the enterprise", with the aim of identifying the difficulties of the management processes encountered in the analysed enterprises and what are the possible perspectives for their sustainable development through the integration of information technologies.

The results of the questionnaire are presented as follows:

- Both companies have some information technologies (applications/ software programs) for managing management processes or other industrial processes.

- When indicating *in which areas information technologies (applications/ software programs) are used at the company*, both companies indicated only "recording of economic and financial activity" and "marketing", as follows (figure 1):

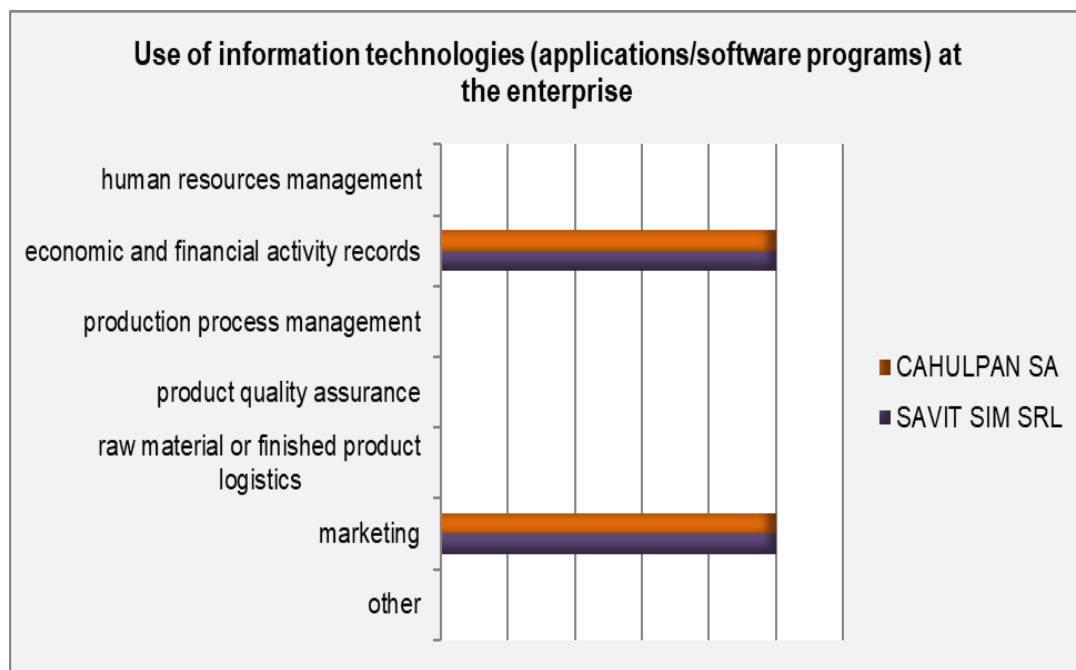


Figure 1. Areas where information technologies are used at CAHULPAN S.A. and SAVIT SIM S.R.L.

- The question of determining the degree of information technology provision in the management processes, or in other industrial processes, we can note that enterprises are provided with a computer network and also have licensed computer programs/software (Figure 2).

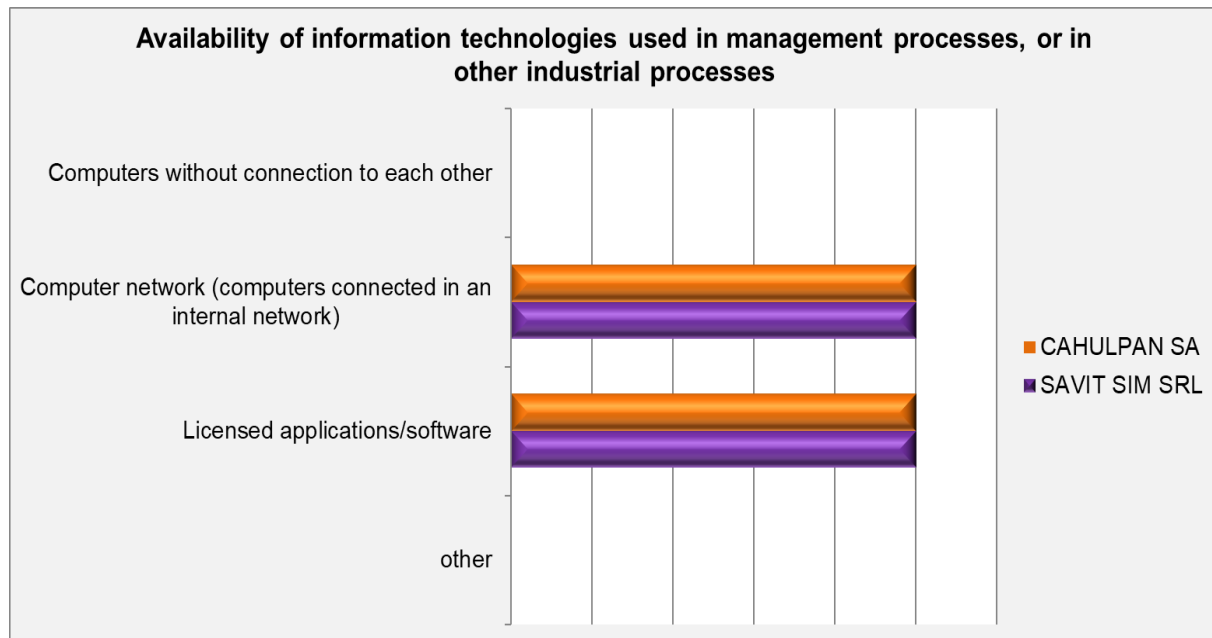


Figure 2. Degree of assurance with information technologies used in the management of management processes, or other industrial processes at CAHULPAN S.A. and SAVIT SIM S.R.L.

- When determining how to conduct marketing activities, the companies, both CAHULPAN S.A. and SAVIT SIM S.R.L., indicated that they have a company website (site) and use various pages on social networks. However, they do not yet have an online store, which at the current stage offers real possibilities to increase sales, therefore:



Figure 3. Use of information technologies for marketing activity at CAHULPAN S.A. and SAVIT SIM S.R.L.

Both enterprises indicated that they have applications/software programs for recording economic and financial activity, online communication, text processing, spreadsheets, etc., when they were asked about the type of applications/software programs used in the enterprise for managing management processes, or other industrial processes. These are the most basic ones. However, they do not have special applications/software programs related to their activity.

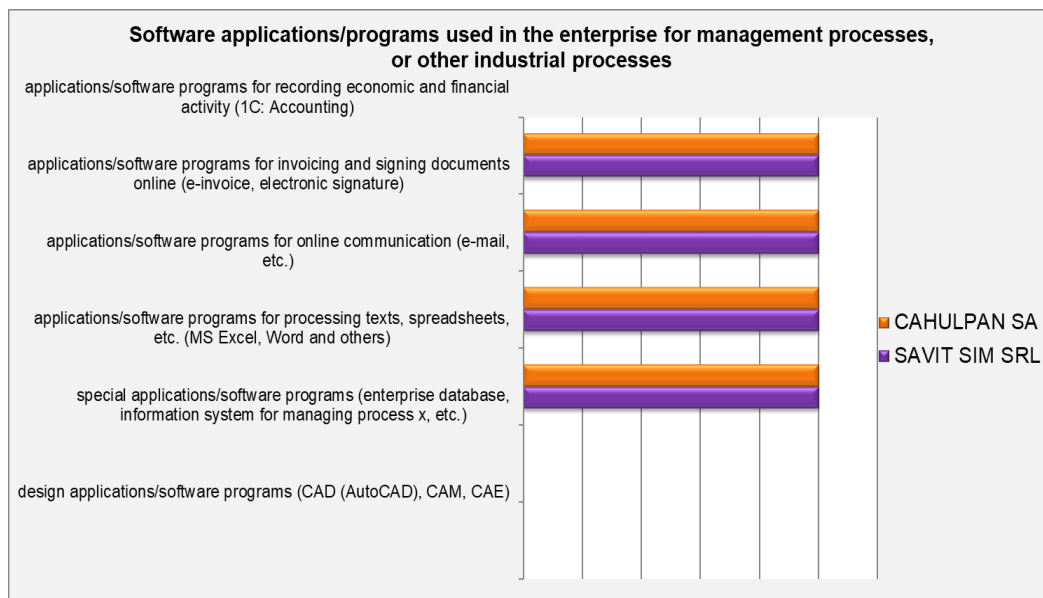


Figure 4. Types of applications/software programs used for management processes, or other industrial processes at CAHULPAN S.A. and SAVIT SIM S.R.L. The companies were asked about the level of satisfaction with the digitalisation of their previous processes, and the responses varied. If the digitalisation process of some areas resulted in success and the results were in line with expectations for CAHULPAN S.A., then in the case of SAVIT SIM S.R.L., the digitalisation process brought less satisfaction, which makes us conclude that the results are not what was expected.

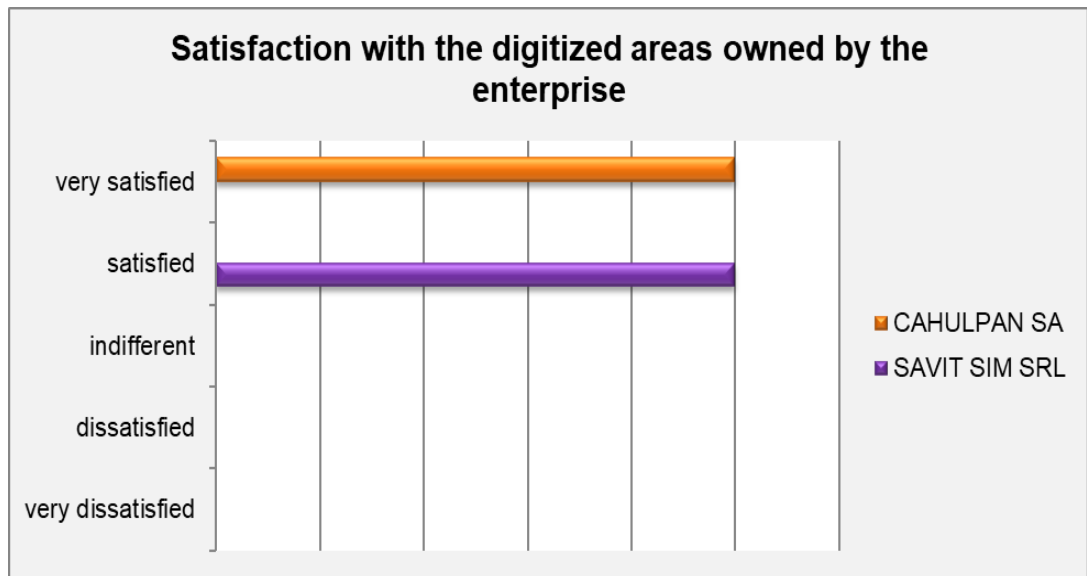


Figure 5. CAHULPAN S.A. and SAVIT SIM S.R.L.'s level of satisfaction regarding the previously digitised domains owned by the company

Another question related to the effects of digitalisation already achieved at the company, in fact, confirms those mentioned in the previous question, both at CAHULPAN S.A. and at SAVIT SIM S.R.L.

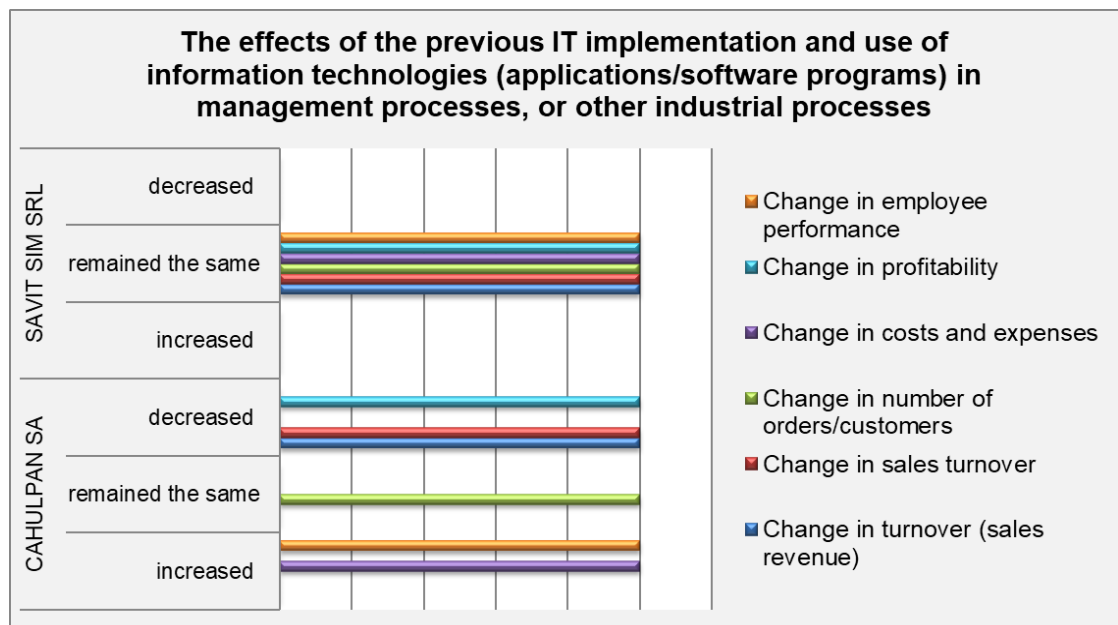


Figure 6. Effects of the previous IT implementation and use of information technologies (applications/software programs) in management processes, or other industrial processes at CAHULPAN S.A. and SAVIT SIM S.R.L.

The data in Figure 6 attest that at CAHULPAN S.A. the expected results were achieved in the field of increasing employee performance and changing production costs and rationalizing expenses, the number of orders did not change, but the financial performance indicators (profitability, turnover and sales turnover) decreased, which tells us about the lack of programs/software that could signal the situation regarding financial results in real time and promptly. At the same time, at SAVIT SIM S.R.L., the results speak of some null effects obtained after the digitalisation. This means it has reservations about improving managerial and industrial processes in the future due to digitalisation.

The companies CAHULPAN S.A. and SAVIT SIM S.R.L. were asked if they still see it appropriate to integrate new information technologies into management processes, or other industrial processes at the company and what the field would be; they discreetly replied that they are broadly willing to implement digital solutions for the following fields:

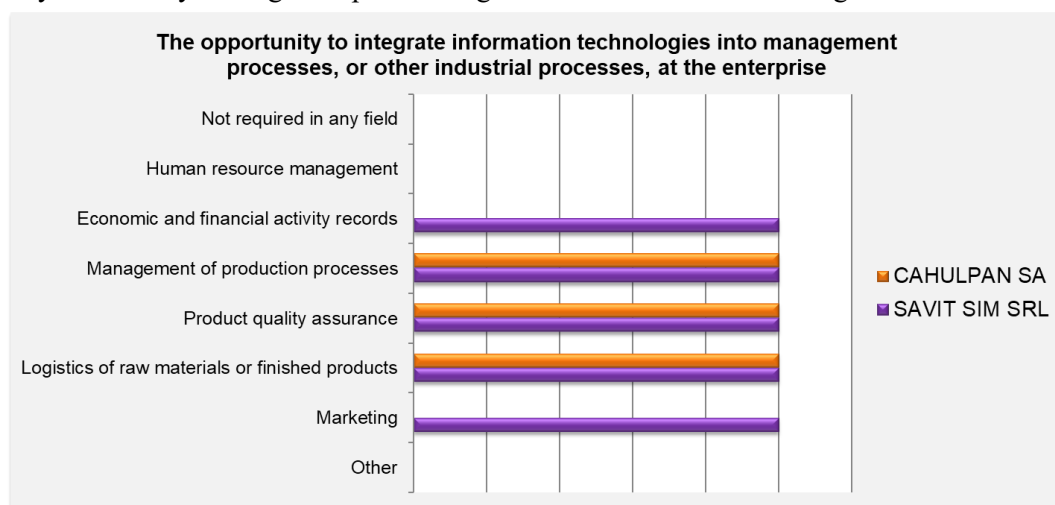


Figure 7. Possibilities for streamlining management processes, or other industrial processes, by integrating information technologies at CAHULPAN S.A. and SAVIT SIM S.R.L.

The results of the survey make us understand that both companies are willing to resort to the digitalisation of their managerial and industrial processes, and given that SAVIT SIM S.R.L. still has reservations from the previous digitalisation, it is willing to digitalise its entrepreneurial managerial processes more widely.

- At the same time, CAHULPAN S.A. and SAVIT SIM S.R.L. were asked what the economic and financial effects are expected to be from the integration of information technologies into managerial processes or other industrial processes. Their responses are present in Figure 8:

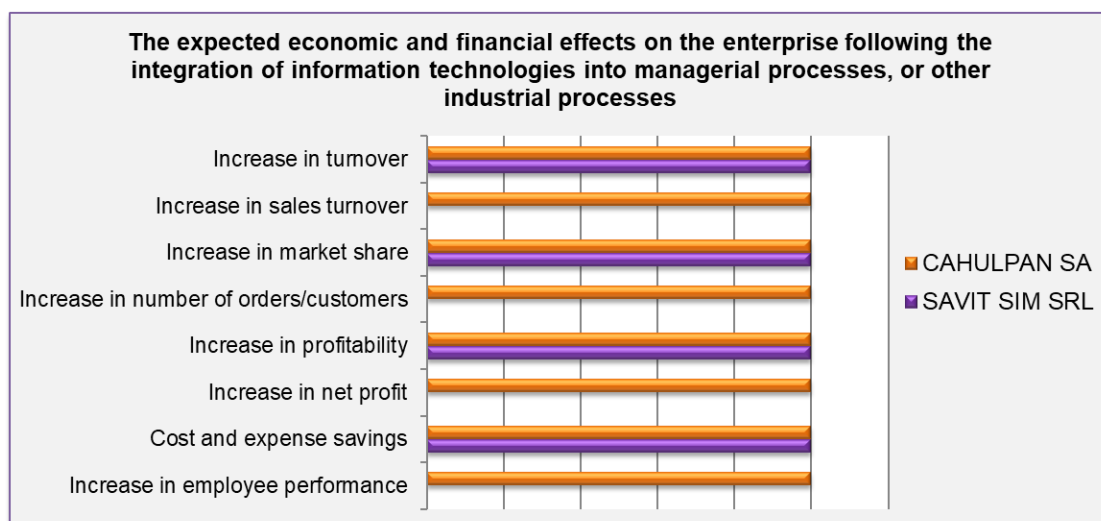


Figure 8. Expected economic and financial effects at CAHULPAN S.A. and SAVIT SIM S.R.L. following the integration of information technologies into managerial processes, or other industrial processes

Therefore, according to Figure 8, the effects expected by CAHULPAN S.A. are high, ranging from increased employee performance and improved financial performance to increased orders/clients. On the other hand, SAVIT SIM S.R.L. has the highest expectations due to the reduction of production costs, increasing sales and profitability. These are the company's priority objectives.

- The last question refers to *the technical effects expected at the enterprise following the integration of information technologies into managerial processes, or other industrial processes*, CAHULPAN S.A. and SAVIT SIM S.R.L. responded as it is presented in Figure 9 :

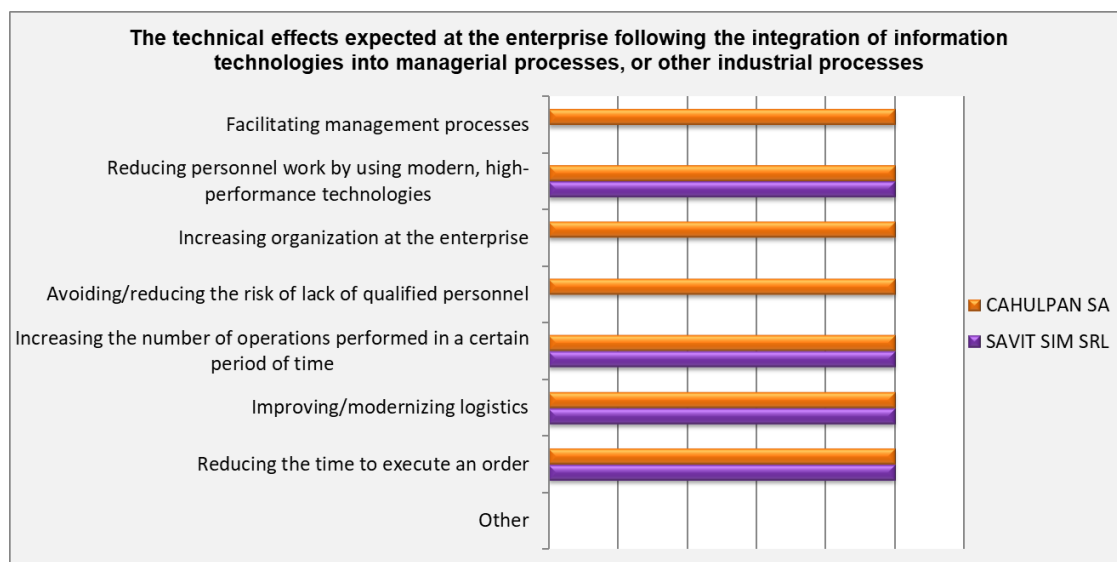


Figure 9. Expected technical effects at CAHULPAN S.A. and SAVIT SIM S.R.L. following the integration of information technologies into managerial processes, or other industrial processes

Therefore, the expected technical effects of the digitalisation of managerial processes at the enterprise, both at CAHULPAN S.A. and at SAVIT SIM S.R.L., are oriented towards facilitating managerial processes, reducing personnel work by using modern and efficient technologies, reducing the time to execute an order and increasing the number in a specific period of time, and improving/modernising logistics. This means that enterprises clearly see that integrating digitalisation into managerial and industrial processes would bring positive effects and prospects for their development.

Therefore, the integration of information technologies into the managerial processes at enterprises in the bakery industry, including at CAHULPAN S.A. and at SAVIT SIM S.R.L., can play a crucial role in sustainable development. This integration can help enterprises optimise resources, reduce their environmental impact, and respond more efficiently to market demands. Moreover, some essential development perspectives include streamlining production processes, improving the supply and distribution chain, increasing decision-making efficiency, increasing competitiveness through digitalisation, improving the efficient management of human resources, introducing innovation in products and processes, etc.

Conclusions

Following the research conducted, we conclude that the integration of information technologies in the managerial and industrial processes at bakery enterprises, including CAHULPAN S.A. and SAVIT SIM S.R.L., can fundamentally transform this industry, making it more sustainable, efficient and competitive. However, the adoption of these technologies requires a well-thought-out strategy, initial investments and a clear vision of the long-term benefits.

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