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## BUSINESS DECISION MAKING: APPLYING STRATEGIC AND SOCIO- ENVIRONMENTAL METHODOLOGIES IN A SMALL INDUSTRY

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**Abstract:** Strategic decision-making based on consolidated methodologies is essential to business management, however, it is a resource little used in micro and small businesses, taking into consideration, that the vast majority of organizations in Brazil are made up of small companies. This lack of integration causes competitive damage, causing the company to lose market share. There is no perfect and immutable strategic plan; it must be updated with changes in the consumer market. Within the growth strategy, there are essential and mandatory plans to maintain survival, which are legal security, sales/marketing plan, master production plan, environmental, people management, technology, economic, financial and tax. The project proposed a strategic decision model based on consolidated methodologies, capable of reducing strategic risks. To achieve this, strengths and weaknesses, internal and external, were defined using the “SWOT” matrix. The “Balanced Scorecard” and “Triple Bottom Line” were used as a methodological basis. Economic, socio-environmental and financial indicators were applied as a technique to obtain data and analyze a small industrial enterprise in the paper and cellulose sector and through a case study, it was possible to measure the joint application of the methodologies, defining a model alternative for strategic decision making.

**Keywords:** Balanced Scorecard; SWOT matrix; Triple Bottom Line.

## INTRODUCTION

According to Arruda and Quelhas (2010), developing strategic planning is important for any organization.

In large corporations, there is a board of directors and an analytical structure where decisions are debated at all levels, with the primary objective of reducing strategic risks. A collaborative approach, involving all

employees (planners and executors), is the basis for efficient and effective performance, as well as risk mitigation (Arruda and Quelhas, 2010).

According to the Brazilian Micro and Small Business Support Service [SEBRAE], regardless of business size, it is necessary to format a strategy based on qualitative data analysis. In the case of a small company [EPP], it is no different; It is essential to have a strategic plan. Small businesses are the country's industrial base and are normally of family origin, with decisions generally based on the owner's intuition, without an internal and/or formal strategic procedure (Sebrae, 2017).

The flatter and more flexible structure of small companies typically requires employees to perform multiple functions, with poorly defined work limits and less formalized and objective remuneration and performance evaluation systems (Garengo et al., 2007).

With the “Triple Bottom Line” [TBL], “Balanced Scorecard” [BSC], “SWOT” analysis and strategic management as a basis for the development of this research, added to specific day-to-day situations, the aim is to model a strategic system capable of guiding growing companies to reduce their strategic risks.

Companies are increasingly adopting sustainability-oriented strategies and using tools to improve sustainable management (Arruda and Quelhas, 2010).

Elkington (1998) already highlighted that, regardless of the size of the company, traditional management, exclusively motivated by economic issues, is expanding to a management model that also considers environmental and social performance. It can be said that, in a sustainable development scenario, a company's success depends on excellent financial resources and non-financial performance, that is, on the ability to meet the

needs of all interested parties.

According to Von Gaibler et al. (2010), corporate sustainability involves an internal development process, requiring skills and human resources to lead and mediate with interested parties. Complementing this view, Gassenferth et al. (2015) demonstrate that sustainable management must be anchored in its institutional dimension, which means that it must be developed considering the particularities of the interaction between its agents.

For small companies, planning and operationalizing the efforts necessary to transform them into sustainable organizations represent a challenge, which contributes to the lack of efficient and effective management models in the literature (Gassenferth et al., 2015).

According to Hitt et al. (2011), strategic management requires the manager's ability to monitor and interpret the realities of organizational environments, both internal and external, to use them in the company's strategic development, translated into the declaration of values, vision, mission and strategic objectives. From this point on, it will be possible to define the global business strategy and, subsequently, propose specific objectives and actions. Consequently, the importance of strategic alignment throughout the entire process is essential (Hitt, et al., 2011).

The BSC is one of the management practices most frequently used by large, medium and small companies (Kogler et al., 2013). During the last decade, there has been considerable progress in implementing the BSC in EPPs (Fernandes et al. 2006; Taylor and Taylor, 2014). Proponents of the BSC have suggested that EPPs can benefit widely from its use (Kaplan and Norton, 1996), yet empirical evidence of the effects of using the BSC on EPPs is scarce and generally obtained

through just a few studies. Important for our understanding of the consequences of BSC use, this finding cannot be generalized to small businesses (Bititci et al., 2012). Studies have shown that the use of management practices in EPPs involves specific challenges not shared with large companies (Hudson and Smith, 2007). First, resource constraints, particularly in terms of management time and experience, mean that implementing management practices is markedly more difficult for EPPs than for larger companies (Ates et al., 2013).

This project aims to propose a strategic decision model based on consolidated tools capable of reducing strategic risks in small companies. For this, internal and external strengths and weaknesses were defined using the SWOT matrix. The "Balanced Scorecard" and "Triple Bottom Line" were used as a methodological basis. Indicators were used as a technique to obtain data and analyze a small industrial enterprise in the paper and cellulose sector and, through a case study, it was possible to measure the joint application of methodologies, defining an alternative model for making strategic decisions.

## MATERIAL AND METHODS

The research work is established based on the search of specialized scientific literature and the review of industrial examples and application of the model. It aims to develop a methodology that allows guiding the management of a small company in line with sustainability rules to reduce strategic risks. It was based on the integration of TBL, SWOT analysis and BSC as shown in figure 1.

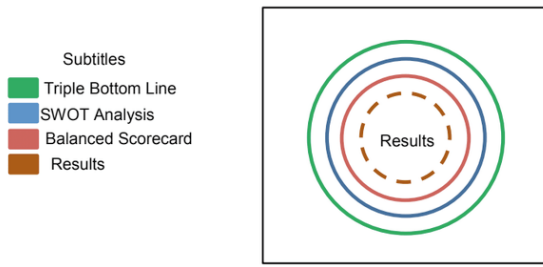


Figure 1: Integration and delimitation of applied methodologies

Source: Original research data

Figure 1 demonstrates how the methodologies are defined within the strategic plan. The “Balanced Scorecard” defines the details of the strategies until reaching the operational level, after the guideline, the BSC provides indicators, sales targets, lead generation. SWOT Analysis, a methodology that provides an analysis of scenarios for decision making, realizes that all strategies are in accordance with social, environmental and economic principles, that is, they are subject to the “Triple Bottom Line”. Any strategy that violates one of these principles will be discarded.

Strategic planning is an organization’s process of describing its strategy, or direction, and making decisions about the allocation of its resources to track that strategy (Hitt et al., 2011).

Through a case study and analysis of quantitative and qualitative data, we will define the efficiency and effectiveness of the proposal.

It is understood that sustainability must begin to be introduced into the company and the management system through the reformulation of its values, mission and strategic objectives, as this is one of the ways that will enable the harmonization of all decisions and actions taken by the company. To introduce strategy into a company based on the principles of sustainability, first, it was necessary to analyze the organization’s

environments, including an assessment of the entrepreneur’s small objectives. Based on the new strategic stance, specific objectives were formulated, covering the dimensions (economic, social and environmental) and BSC dimensions (learning, growth, customer and financial).

A control plan was necessary to allow the implementation and monitoring of sustainable strategy proposals, generating information that enables the company to learn and improve its sustainable management in the short, medium and long term.

## IMPLEMENTATION METHODOLOGY

The implementation of the model was defined in six stages as shown in Figure 2. The stages do not coincide with a continuous flow model, there is a continuous logic, but it is not immutable, that is, the iteration is cyclical and may undergo changes at any time.

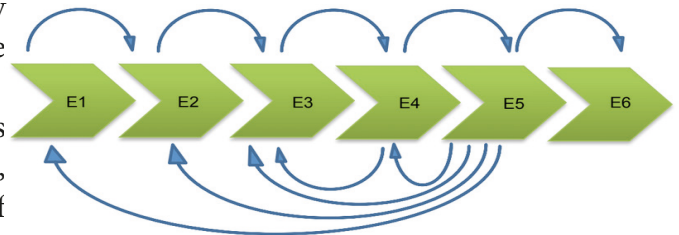


Figure 2: Step-by-step model for applying the method

Source: Original research data

Step 1: Analysis of the company’s current performance, seeking to identify its strengths and weaknesses, as well as analyzing the entrepreneur’s purpose to align personal perspectives and values with sustainability principles.

SWOT analysis examines the strengths (S) and weaknesses (W) of the company in question along with the opportunities (O) and threats (T) as represented by the environment to select and implement the best strategy that

helps the company achieve its objectives in this market (Chiavenato and Sapiro, 2003).

The process of understanding the internal and external environments of the company studied was carried out through “brainstorming” meetings<sup>1</sup> and through “benchmarking<sup>2</sup>”, market research, literature and conference participation. The members were administrators and managers. Some questions were raised and interactions were quantified to generate “insights” for the construction of the SWOT matrix, as shown in Table 1.

Taking into consideration, the limited number of contingent in the organization and low qualification levels and guidelines from the owners, this research does not expect to look for other markets, segments and new products. It is expected to improve what is already practiced in the bidding market, seeking to improve operational efficiency, market share and the company’s current strategic understanding.

After quantifying the ideas presented, they were analyzed, qualified and those that showed greater consistency are shown in Table 2.

The data demonstrate that the company has adequate equipment to supply a greater market share, the capacity does not meet adequate efficiency, therefore, requiring internal adjustments for better efficiency.

Exchange rate fluctuations considerably threaten the organization’s competitive performance, since the form of revenue is direct sales through bidding processes (Lower price). Purchasing strategies are essential for good performance in the bidding market, government supplier companies, wholesale, this way, they earn on the purchase of inputs.

Stage 2: Analysis of the internal sectoral and external environments in which the company

operates, aiming to identify opportunities based on sustainability and interactions with “stakeholders”<sup>3</sup>. The analysis technique, Porter’s Competitive force, was used, as shown in Figure 3.

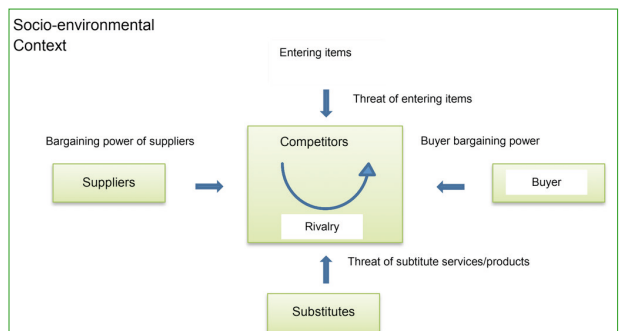


Figure 3 – Porter forces for decision making  
Source. Adapted from Michael Porter (1990).

Porter (1988) defines cost leadership as the strategy that faces the competitiveness of the sector with the maximum reduction of production and distribution costs, in order to also reduce the final price to the consumer. Interpreting Figure 3 and applying the data obtained from the company, there are some sustainability-oriented opportunities as suggested in Table 3.

Activities required for Cost Leadership	Actions
Equipment and tools (modern and appropriate)	Fulfilled
Responsibility in financial management	Fulfilled
Detailed environmental analysis	Fulfilled
Adequate fiscal responsibility	Analysis
Negotiate with suppliers	Constant
Search for the best price internationally	Constant
Partnerships with other companies	Constant
Productivity	Fulfilled

Table 3. Activities required for cost leadership strategy

Step 3: Based on sustainability, the new mission and vision.

1. Brainstorming: Group dynamics technique developed to explore the creative potential of an individual or a group (Dean Leffingwell and Don Widrig, 2015)  
2. Benchmarking: Benchmarking consists of the process of searching for the entity’s best management practices in a given industry that lead to superior performance (Camp, 1993).

Questions	Number of interactions
What sets the company apart from its competitors?	32
Is there market recognition for any special reason?	24
What sets our team apart?	10
What resources do we have at our disposal?	18
What reason most contributes to lost sales?	15
Do we have complaints and which are the most frequent?	5
Do we have qualified people?	12
What weakness can we control compared to our competitors?	3
Do we have good relationships with our customers?	16
Biggest reason for lost sales?	14
How to improve product quality?	52
What are our clients' goals and how can we better serve them?	12
What are the trends and increases in bidding (Sector of activity)?	6
What are the favorable political, economic and social conditions?	3
Are there technological and economically viable innovations?	2
Is there a possibility of reducing government purchases?	6
Possibility of economic crisis?	3
Possibility of new competitors?	3
Possibility of increasing taxes on imported products?	3
Possibility of suspending tax incentives?	3
<b>Total</b>	<b>242</b>

Table 1. Main strategic questions x number of interactions  
Source: Data taken from meeting minutes of the company studied

	Positive Factors	Negative Factors
Internal Factors	<b>Strength</b> <ul style="list-style-type: none"> <li>• Adequate machinery</li> <li>• Performance in product deliveries</li> <li>• Technical knowledge in purchasing</li> <li>• Adequate capacity</li> <li>• Working capital and credit</li> <li>• Improve after-service</li> </ul>	<b>Weakness</b> <ul style="list-style-type: none"> <li>• Personnel with low qualifications</li> <li>• Low level of efficiency</li> <li>• Quality complaints</li> <li>• High turnover – "Turnover"</li> <li>• Inventory is inefficient</li> </ul>
External factors	<b>Opportunities</b> <ul style="list-style-type: none"> <li>• Conquer a greater share of the market</li> <li>• Partnering with other companies in relation to manufacturing other products</li> <li>• Increase the product portfolio</li> <li>• Improve after-service</li> </ul>	<b>Threats</b> <ul style="list-style-type: none"> <li>• High dollar makes raw material more expensive (Fluff Cellulose)</li> <li>• Variations in the characteristics of the products tendered</li> <li>• Low price due to competition</li> </ul>

Table 2: Main internal and external factors  
Source: Original research data



Mission: To develop personal hygiene products with the quality expected by our customers, reducing socio-environmental impacts

Vision: To be recognized for offering quality products, a reference with the best cost-benefit to the consumer

Step 4: Strategic Alignment of specific objectives, these objectives will be identified according to the restrictions of the Triple Bottom Line and Balanced Scorecard.

Strategic management is based on the objectives defined by the company, based on BSC, SWOT Analysis and “Triple Bottom Line” tools. Monitoring internal sectors in the execution of strategic planning to achieve the defined goals is essential and will be foreseen in this project. as shown in Figure 4.

Step 5: Strategic mapping was carried out and sustainable conceptual guidelines were proposed, taking into consideration, each of the objectives.

The strategic map described in Table 4 provides a visual representation of the company’s key objectives and conveys the contribution of the areas and scope proposed in the planning.

Conceptual map in Figure 5 represents the guideline and arbitrariness that the “Triple Bottom Line” encompasses within the organization studied.

Step 6: Defining the control structure for the proposed strategic plan. Performance indicators were used to quantify the definitions of responsible individuals, resources to be used and the implementation schedule for each strategy:

- Sustainable production
- Turnover index
- Qualification Index
- “Overall Equipment Effectiveness” [OEE]

- MTTF/MTBF
- Sales cycle
- Accounting/Economic Indicators
- Quality KPI
- TIR
- VPL

These indicators will be analyzed in more depth in the case study and in the results and discussions.

## CASE STUDY: CONTEXT

According to the federal government’s purchasing panel website, the volume of purchases of disposable diapers in Brazil made by public bodies has been increasing. This is the main reason that has attracted companies to the sector. It is estimated that Brazil will have approximately 29 million children under 9 years of age (IBGE, 2010).

Around 7 thousand babies are born per day in Brazil. Government policies for income distribution and access to personal hygiene products are increasing, the concentration of efforts to serve public institutions through tenders, in this process this segment becomes extremely viable.

According to SEBRAE (2017), the disposable diaper market is practically dominated by foreign-owned companies, however, in the public sector, 90% of companies in the sector do not participate in bidding processes. In the bidding market, where brand value does not represent a competitive differentiator. It is to serve a portion of this market that we intend to strategically position ourselves.

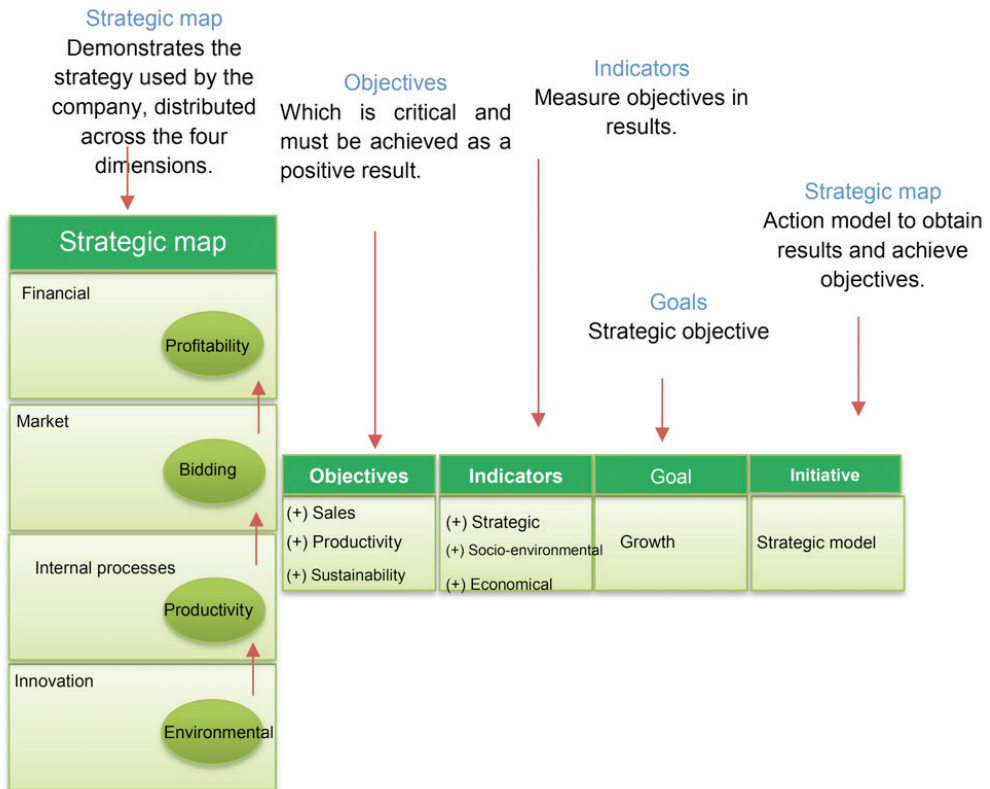


Figure 4. BSC components and terminologies  
Source: Adapted from Kallás, 2003; Bscol, 2000.

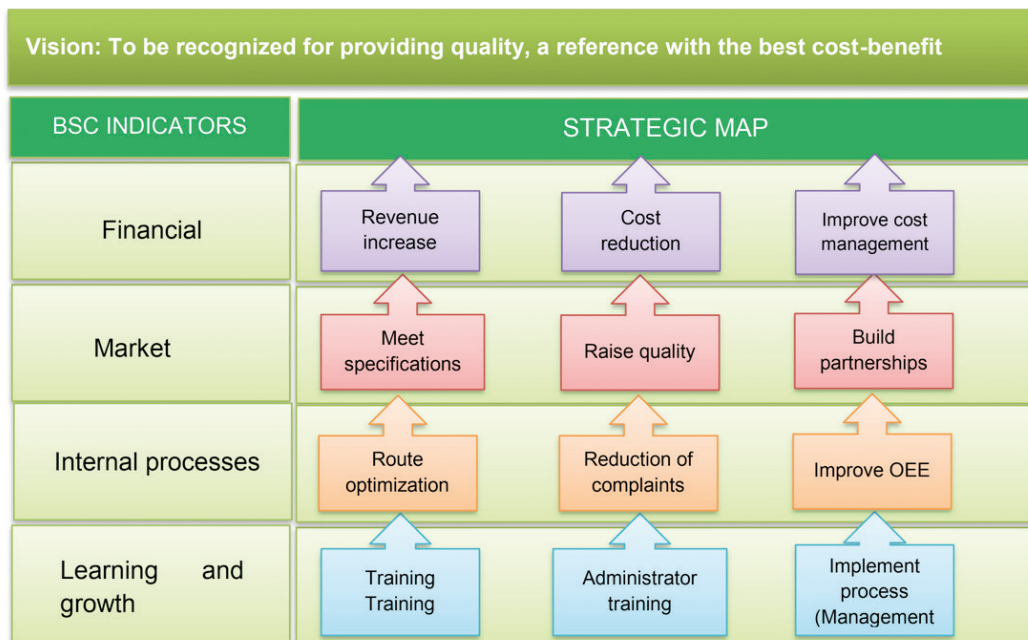


Table 4. Strategic map  
Source: Original research data  
Note: "Overall Equipment Effectiveness" [OEE]



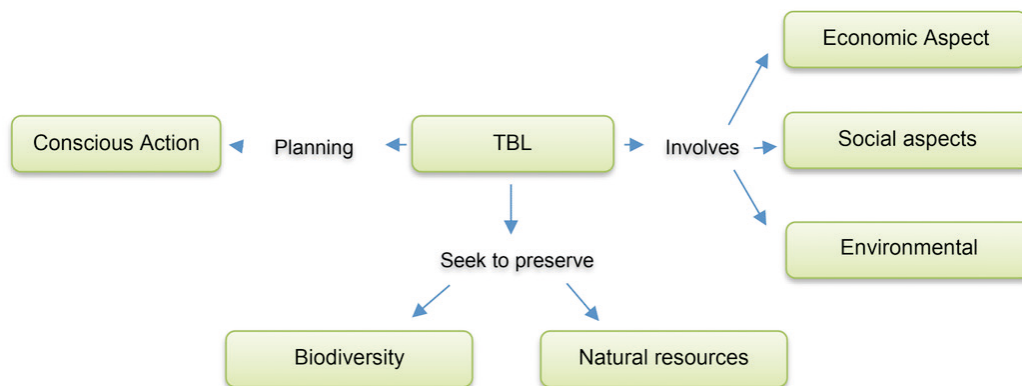


Figure 5. Conceptual representation of TBL in the construction of planning in the company studied.

Source: Original research data

## ABOUT THE COMPANY

The Organization located in the state of Rio Grande do Sul, in the city of Passo Fundo, manufacturer of geriatric and children's disposable diapers and geriatric pads, belonging to the paper and cellulose sector where the data for this research were collected, analyzed and compared. The respective company in 2020 belonged to the simple national tax regime and in 2021 belonged to the real profit tax regime. The company exclusively supplies products to city halls, being contracted only through bidding processes. Revenue in 2020 was R\$4.8 million, employing around 50 direct, indirect and third-party people.

Company business activities under CNAE 17.42-7-01 - Manufacture of disposable diapers. CNAE 47.72-5-00 - Retail trade of cosmetics, perfumery and personal hygiene products.

The retail trade in cosmetics, perfumery and personal hygiene has people (end users) as its main demand. This category considers beauty products such as lipsticks, blush, nail polish, eye masks, foundations and perfumery items, such as perfumes, essences and fragrances, for both personal and veterinary (animal) use. Personal hygiene items form a very diverse group, including lotions and moisturizing creams for the body; basic body hygiene

products - soaps, shampoos and conditioners, toothpastes, dentifrices and dental floss; skin protectors and tanners; toiletries; disposable diapers, panty liners; contact lens solutions; and latex condoms (Federal Revenue, 2021).

## INTERNAL FACTORS

The National Confederation of Industry [CNI] provides a questionnaire on its website that checks the company's position in relation to others regarding management techniques. After the evaluation it was noted that the company studied does not have any management techniques in its scope, this means that the processes are totally wrong, and for a company that wants success it must pay attention to these techniques. Some management tools will be used as support to integrate the methodologies.

The 5S's Methodology - As a general and already widespread concept, the application of this method, by its very nature, allows processes to become more organized and systematized over time, facilitating operations, reducing material losses and optimizing the time spent on tasks.

The organizational structure is the way in which activities are divided, organized and coordinated. In the implementation process, failures in the organizational process were found, as shown in Figure 6,

and communication failures, failures in the hierarchical process, accumulation of tasks, among others.



Figure 6. Sectoral disorganization. Photograph taken on 07/06/2020

Source: Original research data

Production capacity is the limit of products that an industry can produce with available resources. It is essential that managers know the operational efficiency of the industry if they intend to improve their management. According to Nomus (2021), knowing exactly your production capacity brings several benefits, such as:

- It helps to make more assertive decisions;
- It helps maintain ideal stock levels, avoiding excess and shortage of materials and products.
- It helps to improve employees' routine and productivity;
- It allows your industry to better use materials and inputs in production;
- It helps with more accurate planning between commercial, financial and production;
- It allows the definition of assertive goals for the sales and production sector;

Some of these points raised by the company studied do not obtain satisfactory results, requiring adjustments to make more assertive decisions.

## STAKEHOLDER INTEGRATION

The participation of all internal sectors in planning is essential. Industrial management has the greatest planning responsibilities within the organization at the strategic, tactical and operational levels and the level of detail is defined according to the company's objectives and resources.

The Project to use methodologies such as BSC, SWOT and Triple Bottom Line began with the need to formalize the company's strategic planning. An integrated management group was defined, with the participation of legal and accounting consultancy. Below, Figure 7 represents the internal strategic context of the company studied.

## SUSTAINABLE PRODUCTION

Sustainable production can be treated as incorporating the best possible practices to minimize environmental impacts (Ministry of the Environment, 2000). Some quantified data are demonstrated in Figure 8, which demonstrates the comparison in the timeline of water consumption savings, highlighting the effectiveness of the alternative model proposed in this project.

The reduction of approximately 15% was achieved by guidelines set out in the decision-making plan, based on the premises of the TBL, where all employees and third parties were involved and guided towards conscious consumption, that is, passing on the strategic plan to all employees and third parties, demonstrated effectiveness.

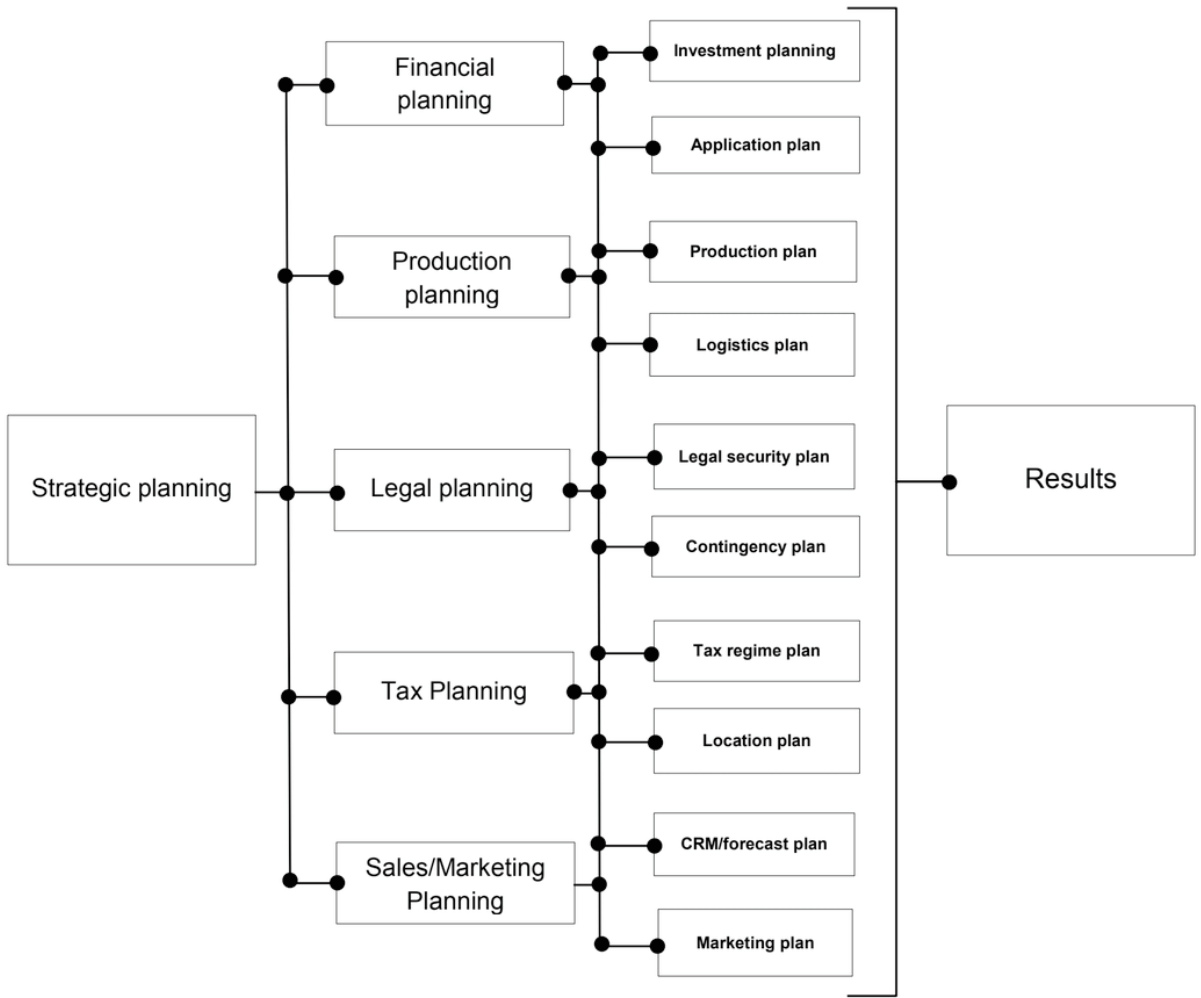


Figure 7: Represents the internal and external dimensions involved in the strategic plan

Source: Original research data

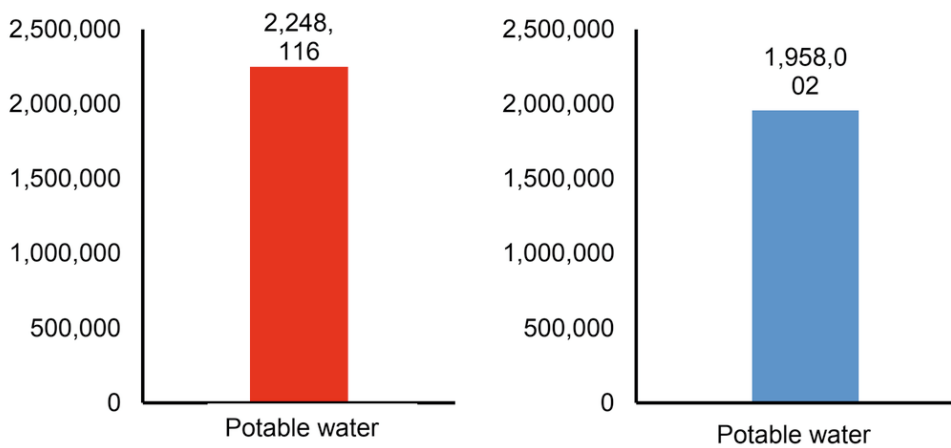


Figure 8. Comparative analysis of the reduction in drinking water consumption in the period from 05/05/2020 to 05/05/2021

Source: ``Companhia Riograndense de Saneamento`` (CORSAN)

## ENVIRONMENTAL ANALYSIS

Proactive corporate environmental responsibility involves business practices adopted by companies that go beyond regulatory requirements in order to actively support sustainable economic, social and environmental development. The environmental impact on the paper industry can have a major impact if waste is not adequately treated (CNI, 2017). Figure 9 demonstrates the generation of waste during the execution of the project, showing a gradual reduction in waste generation.

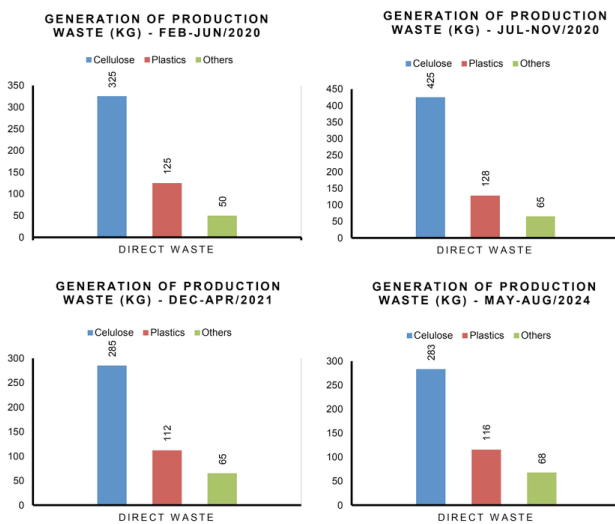


Figure 9: Generation of waste for disposal

Source: Original research data

All discarded waste is being managed in accordance with the national solid waste policy.

The Company recognizes that social and environmental sustainability are fundamental to achieving sustainable development results and, therefore, must be fully integrated into our programs and projects. To ensure this, we have policies, procedures and accountability mechanisms in place to support future projects.

A verification mechanism was developed for “stakeholders” that ensures that

individuals, people and communities affected by the respective company’s projects have access to appropriate procedures to hear and resolve complaints related to the project.

Compliance Review to respond to complaints that the company is not complying with appropriate social and environmental policies.

### “OVERALL EQUIPMENT EFFECTIVENESS”

“Overall Equipment Effectiveness” it measures how efficient manufacturing is and measures its availability, performance and quality. However, a comparison is made as Figure 10 shows the OEE measured on a 12-month time scale, starting from May 5, 2020 to May 6, 2021.

	OEE – Average (May-Oct. 2020)	OEE – Average (Nov.-Apr. 2021)
Availability	85%	88%
Quality	80%	80%
Performance	85%	90%
	56%	63%

Table 5 – OEE Comparison

Source: Data taken from the company by ERP software Windel System

An analysis was carried out, during the comparison period it was noticed that the equipment remained running for longer, a chronoanalysis was carried out<sup>3</sup>, determining a bottleneck in packaging, requiring the displacement of 1 more employee to carry out the service, as a consequence there was a considerable gain in performance.

3. Chronoanalysis: Analysis of times and movements, a study with the aim of gaining efficiency (Gowler, D e Legge, 1983).

## “TURNOVER” AND TRAINING

“Turnover” is a term characterized by the turnover of some employees, that is, it measures the frequency with which vacancies are left and filled measured by  $[\text{monthly admissions} + \text{monthly dismissals}] \div 2 \div \text{total number of employees}$ , considerably important for efficient management of people. Table 6 represents the average indicators over the 12-month period, collected based on e-social.

Turnover - Average (May-Oct/2020)		Turnover - Average (Nov-Apr/2021)	
monthly admissions	9	monthly admissions	4
monthly shutdowns	9	monthly shutdowns	4
total number of employees	49	total number of employees	48
18,30%		8,30%	

Table 6 – “Turnover” Comparison

Source: Data taken from the company via e-social

## RESULTS AND DISCUSSION

Senior management and employees demonstrated commitment to structured management in the organization, which provides a dynamic interpretation of knowledge, considering the strategic particularities for improving the economic, sustainable, marketing, technological, operational and social state of the company.

The perception of the implemented methodologies was felt in all sectors and hierarchical levels, a fact confirmed through a knowledge assessment.

The implementations were carried out under sectoral responsibility as shown in Table 7.

## REVENUE AND COST PROJECTION

According to the representation in Table 8, it was clear that the company moved from EPP to a medium-sized company, no longer opting for the Simples Nacional tax regime, as of 12/31/2020, starting to adopt real profit, strategically analyzing the impacts of the new collection regime on your revenue. As shown in Table 8. Observe the revenue for the base year 2020 and the estimated revenue for 2021.

Revenue -2020	R\$ 4.814.457,24
Cost Structure	Base year 2020
Feedstock	R\$2.458.475,27
Direct/Indirect Labor	R\$456.754,45
Maintenance	R\$32.002,52
Shipping	R\$122.502,45
Sales Commission	R\$42.845,42
Taxes	R\$254.687,87
Revenue -2021	R\$6.500.000,00
Cost Structure	Base year 2021
Feedstock	R\$3.500.000,00
Direct/Indirect Labor	R\$600.000,00
Maintenance	R\$35.000,00
Revenue -2021	R\$6.500.000,00
Cost Structure	Base year 2021
Shipping	R\$195.000,00
Sales Commission	R\$43.000,00
Taxes	R\$500.000,00

Table 8. Simplified representation of revenues and expenses for 2020 and projection for 2021

Source: Original search results

Analyzing Table 8, which represents the simplified evolution of revenue, demonstrates that the company now has a slightly more secure vision of its strategic plan and decision-making model.

The simplified representation of income and expenses demonstrates the outline of the planning acquired based on the 6-step method and the other methodologies applied are within the scope of administrators. The organization can see a strategic horizon, based on the construction of environmental,

Application	Department/External	Objective
Strategic map	Management/External	Reached
Set Goals	Direction/Management/External	Reached
Use by everyone	Management/Direction	Reached
Define indicators	Management/Operational	Reached
Strategic Operational Reconcile	Management	Reached
Link Methodologies to the budget	Management/External/Finance	Reached
Performance analysis	Management/Direction	Reached
Strategic learning	Management/Direction	Development
Company performance	Management/Direction/External	Development
Decision-making	Management/Direction/External	Development

Table 7. Represents applications and responsible departments

Source: Original survey results

operational and strategic indicators, as demonstrated.

### RISK ANALYSIS: SCENARIOS AND SENSITIVITY

Analyzing the risk scenarios involved in the context of government sales is necessary. Understand these risks and projections, through the generation of scenarios.

It must be understood that the history of failure in the national context in small businesses is extremely important to analyze all scenarios and define decisions that achieve the proposed objectives. Adding to the crisis that the country has been experiencing since 2015, worsening in 2020 with Covid-19, understanding, analyzing and comparing all scenarios from pessimism to optimism and over a time horizon of decades is essential for the organization's success.

Scene 1	Pessimistic	Normal	Optimistic
Market Share (%)	1,0%	1,01% ~ ~ 2,0%	2,01% ~ 4,0%
Invoicing	4,8 M	8, 0 M	16 M
General Costs/Expenses	3,84 M	6,4 M	12,8 M
Net margin (%)	12%	9%	8%

5 years

Table 9. Strategic scenario 2025

Source: Original survey results

Scenario 2	Pessimistic	Normal	Optimistic
Market Share (%)	2,0%	2,01% ~ ~ 4,0%	4,01% ~ 5,0%
Invoicing	14 M	28 M	62 M
General Costs/Expenses	11,2 M	22,4 M	55,2 M
Net margin (%)	11%	9%	8%

10 years

Table 10: Strategic scenario 2030

Source: Original survey results

Scenario 3	Pessimistic	Normal	Optimistic
Market Share (%)	3,0% ~4,0%	4,01% ~ ~ 6,0%	6,01% ~ 8,0%
Invoicing	18 M	40 M	78 M
General Costs/Expenses	14,4 M	32 M	64,4 M
Net margin (%)	10%	8%	8%

15 years

Table 11. Strategic scenario 2035

Source: Original survey results

It is understood that the strategic plan and the decision-making model have achieved their objective, the path to follow has been defined.

This model has a strategic horizon, and long-term expectations are what will consolidate the applied model.

As the implementation stages are cyclical iteration, the model will undergo small changes, as it underwent changes in the base year 2020 as a result of the Covid-19 pandemic,



where several already defined concepts were discarded and others were added. Based on the 17-month time horizon, substantial improvements can be seen in the indicators presented, as well as communication between those involved.

## FINAL CONSIDERATIONS

The search for a tool capable of creating satisfactory results motivated this work and understanding events in real cases helps to validate the integration of the concepts presented. The bidding market is something really promising, around 90% of all companies do not participate in auctions, however, there is great difficulty in determining the market share that can be achieved, through the information analyzed, it proved to be appropriate to maintain caution regarding investments for greater production capacity. A scientific approach based on already consolidated methodologies was demonstrated with the main objective of establishing connections

between the foundations to define an assertive model capable of guiding a small company towards growth with reduced strategic risks.

It is worth noting that although the work is an academic approach, with limitations of time, resources and detail, an attempt was made to provide as much information as possible regarding the methodology applied. The data presented satisfactory results in relation to the implementation of the proposed model, therefore, the solution was implemented and analyzed over a time horizon of 17 months, capable of demonstrating that the joint methodologies bring substantial results for their effectiveness.

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