RELISE

SALES AND OPERATIONS PLANNING (S&OP) FOR SUSTAINABLE DEVELOPMENT: STUDY IN A TECHNOLOGICAL PRODUCTS DISTRIBUTOR[1]

PLANEJAMENTO DE VENDAS E OPERAÇÕES (S&OP) PARA O DESENVOLVIMENTO SUSTENTÁVEL: ESTUDO EM UMA DISTRIBUIDORA DE PRODUTOS TECNOLÓGICOS

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ABSTRACT

This study presents the conception, implementation, and evaluation of the initial results of the S&OP process in a technology products distributor, as well as its alignment with some of the SDGs (Sustainable Development Goals). The implementation of S&OP in light of sustainable practices faces contextual challenges: people, technology, resources, competitors, among others, even though ESG is an emerging topic on organizations' strategic agendas. Methodologically, it is a technical report in the form of a case study, with an emphasis on the practical application of the solution to the problem studied, through qualitative and exploratory research. The main results include: improved internal communication, discipline in meetings and follow-ups, greater accuracy in sales forecasting, and automation of operational processes. Theoretical-methodological contributions: an S&OP process aligned with SDGs 8, 9, 12, 13, and 17. Contributions to management: inclusion of the topic of sustainable development in organizational decisions, inspiring managers to consider actions for a more prosperous world.

Keywords: S&OP, sustainable development, SDGs.

RESUMO

Este estudo apresenta a concepção, implantação e avaliação de resultados iniciais do processo de S&OP numa distribuidora de produtos tecnológicos, bem

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como sua aderência a alguns dos ODS (objetivos do desenvolvimento sustentável). A implantação do S&OP à luz das práticas sustentáveis enfrenta desafios contextuais: pessoas, tecnologia, recursos, concorrentes, entre outros, mesmo sendo ESG um tema emergente na pauta estratégica das organizações. Metodologicamente, é um relato técnico sob a forma de estudo de caso, com ênfase na aplicação prática da resolução do problema estudado, por meio de pesquisa qualitativa e exploratória. Os principais resultados incluem: melhora na comunicação interna, disciplina nas reuniões e acompanhamentos, maior assertividade na previsão de vendas e automatização de processos operacionais. Contribuições teórico-metodológicas: processo de S&OP aderente aos ODS 8, 9, 12, 13 e 17. Contribuições para a gestão: inclusão do tema do desenvolvimento sustentável nas decisões organizacionais, inspirando gestores a considerar ações para um mundo mais próspero.

Palavras-chave: S&OP, desenvolvimento sustentável, ODS.

INTRODUCTION

The topic of ESG (Environmental, Social, and Governance) and, therefore, sustainable development, has gained strategic importance in organizations. Part of consumers' and customers' perceptions of these organizations is shaped by the commitment they make to valuing sustainable practices in products and services, as well as in their own production processes. In addition, governments have tightened laws so that different economic actors are increasingly committed to these sustainable practices; organizations deserve attention because, in addition to their reach, they play an essential role in the economy and society. More tangibly, the 2030 Agenda presents 17 global goals – called SDGs, Sustainable Development Goals – which aim to end poverty, protect the environment, and promote prosperity (UNITED NATIONS, 2015). Adopting these goals as guidelines for decision-making has been challenging for management for different reasons, but particularly because it requires a holistic view, considering both internal and external aspects of the organization.

From an internal perspective, Sales & Operations Planning (S&OP) can be cited, which is a process for developing an integrated set of tactical business

plans (sales, marketing, development, manufacturing, supply, and finance) and which, when properly executed, helps the organization improve the flow of information between its processes (THOMÉ et al., 2012). As a result, resources are better utilized, thus advancing continuous development toward sustainable competitive advantage.

In this context, the timely implementation of S&OP in light of sustainable practices – notably, taking the SDGs into consideration as guidelines – is a topic that draws attention. First, because although S&OP is admittedly common in organizations – especially those that are growing –, there are still a number of challenges in its implementation, depending on the context – people, technology, resources, sector, and competitors, to name just a few. ESG also emerges as an important but emerging topic that has only recently appeared on organizations' strategic agendas. And finally, encompassing potential disruptions in production processes, based on old and new guidelines, this implementation will require competent, effective, and efficient change management.

The company to be presented in this study is B2B Enterprise (fictitious name), a distributor of technological products (related to telecommunications and solar energy), with 20 years in the market, having experienced strong growth over the last 10 years following the adoption of a business model focused on the sale and rental of products. In 2021, it reached R$1 billion in revenue and went public. These two important milestones brought a new challenge: to remain attractive to investors, its results would be measured not only by revenue, but also by its EBITDA (earnings before interest, taxes, depreciation, and amortization). As a consequence, it would be necessary to improve its operations, with special attention to inventory management, since, as a distributor, it is appropriate for inventory turnover to be as efficient as possible: products stored for too long directly and negatively affect its EBITDA and, consequently, its results.

At the same time that the management of goods circulation and inventories became critical, B2B Enterprise continued its expansion into new markets, increasing sales, which made the integrated management of the logistics and commercial process even more relevant. The implementation of S&OP could be the solution for the organization to purchase and stock only what was necessary to meet demand, in accordance with the sales made. This, however, would depend on the proper and timely implementation of this new integrated process.

On the other hand, concomitantly with the process of going public, B2B Enterprise's senior management agreed to adhere to ESG and sustainable practices through the adoption of the SDGs as guidelines for decision-making regarding production processes, because such processes constitute a large part of the company's operations. Thus, on the one hand, the implementation of S&OP could promote processes with better performance and, therefore, better financial results (greater profit, at present, but mainly for the future); on the other hand, this implementation would be aligned with one or more SDGs, reflecting the strategic definition in favor of sustainable development and, thus, contributing to a more prosperous world and, evidently, to an even more favorable perception of the company by society.

Problem situation

Based on the situation presented, in September 2021, B2B Enterprise identified some problems related to its inventory management, with negative effects on the results of that year and the potential for even worse impacts in the future, namely: products in *aging* inventory (products with no turnover, stored for more than 90 days) and obsolete products; marketable products in *aging* inventory, but with low market acceptance; little physical storage space in the inventory and a large part of this space occupied by products falling under the

previous situations; and the need to stock new products to enable new sales, due to expansion into new markets.

Given this context, B2B Enterprise's management decided to conduct a more detailed investigation and identified the following as the main factors causing this risky situation: deficient inventory management by the company's product managers; excessive influence from some manufacturers, using the distributor to move products already manufactured and thus achieve their own sales targets; incorrect or hasty market demand analysis; and delays in product delivery, causing the *timing* of market needs to be missed and making these products obsolete when they arrived in inventory.

This same investigation highlighted the need for close monitoring among different areas of B2B Enterprise, especially operations, products, and sales. As previously mentioned, there was additional operational complexity when replenishing inventories, because physical space was limited and the obsolete products present there hindered operations. In turn, the purchasing process would need to be even more efficient, meeting commercial demand while also considering the limitation of operational capacity.

Thus, this case report aims to present the S&OP implementation process at B2B Enterprise, from September 2021 (process conception) to March 2022 (completion of implementation, becoming permanent), and the results of this implementation, with October 2022 as the 'cut-off point' for the evaluation.

In addition to this implementation having taken place at a time when there was still uncertainty regarding the full resumption of in-person activities, due to the health challenges prevailing because of the pandemic, another particularity of the case that deserves emphasis is the decision to adopt the strategic guideline in favor of sustainable development. Tangibly, this decision materialized in the study and adaptation of production processes with a view to a set of SDGs

selected as being relevant to the context and whose relationships will be detailed below.

The theoretical foundation of the study is presented in the next section. The methodology will be presented in the third section, followed by the presentation and analysis of the results obtained in the following section. The conclusions, contributions in the form of artifacts, and final considerations comprise the final section of the study.

THEORETICAL FRAMEWORK

In this section, the definitions underlying this study are presented, namely: (1) S&OP and (2) Sustainable Development and the SDGs.

Sales and Operations Planning – S&OP

Sales and operations planning (S&OP), is an aggregate planning process that takes place over a time horizon of one to two years and aims to reconcile customer service levels with appropriate management of the organization's assets and costs (M. TANAJURA; CABRAL, 2011).

According to Wallace (2012), the phases of the monthly S&OP process are: preparation of sales forecasts, demand planning, operations and supply capacity planning, pre-S&OP meeting, and executive meeting, with the objective of S&OP activities being to improve forecasting and planning. Through these activities, organizations can integrate the operational S&OP process monthly, weekly, and daily, to be defined in each context, taking into consideration their activities and needs.

A very common aspect of this process is product stratification, considering different criteria, such as operational, marketing, and financial criteria, aiming to assist decision-making in sales and operations planning

(S&OP), in order to offer a high level of service to the market and profitability for the company (GAVIOLLI; BARBIERI, 2007).

The adoption of this process has helped organizations establish the best way to unfold strategic plan decisions into daily operations, in order to contribute to an appropriate balance between supply and demand, with an increase in the level of service offered to customers (TOMAS; SATO; ALCANTARA, 2012). Thus, as a consequence of such a process, there is the possibility of providing tactical and operational alignment between operations, sales, and related areas (ZANON; ALVES FILHO, 2012).

The literature also presents reports of challenges faced by companies in adopting S&OP, such as fragmented communication and difficulty in building visibility of capacity management, indicating that the effort to synchronize demand and supply leads to the need for process redesign, more frequent and comprehensive planning meetings, including the inclusion of functions that were not always previously considered in planning, in order to improve communication, optimize capacity planning, and increase sales forecast accuracy (BIAZZIN; TOMASELLI; COSTA PENA, 2017).

Along these lines, greater market knowledge by functional areas related to supply, as well as improved communication between functional areas, are aspects that deserve emphasis, since companies will only be able to achieve the results of S&OP if the challenges inherent in its implementation are faced and overcome (PEDROSO; DA SILVA, 2015).

Finally, taking as an example a case of S&OP implementation applied to the Brazilian telecommunications market – the same segment as B2B Enterprise –, the results obtained include: increased availability of essential information for decision-making, greater visibility of organizational bottlenecks, closer relationships among the various departments, reduction of operating costs, and reduction in service delivery time to the end customer (FERNANDES;

DOMINGOS; MAIA, 2020). These results, although an example of a particular case, demonstrate potential benefits of S&OP and indicate that organizations may be correct in deciding to implement it.

Sustainable development and the SDGs

The concept of sustainable development seems to have been institutionalized by the World Commission on Environment and Development in 1987 through the Brundtland Report. However, it is worth noting that this concept had already been the subject of debate and discussion since the 1970s and refers to a development model that seeks to meet present needs without compromising the possibilities and rights of future generations (WCED, 1987). In this sense, it concerns the search for a symbiosis between economic growth, environmental preservation, and the reduction of global disparities, establishing, for this purpose, a set of ethical goals shared with humanity.

In 2012, during the Rio+20 Conference, which included the participation of more than 190 countries, the global political commitment to sustainable development was reaffirmed, and the guidelines for the Sustainable Development Goals (SDGs), subsequently consolidated in 2015, were launched. These goals represented the result of an arduous process of intergovernmental negotiation, with the purpose of guiding national policies and international cooperation activities until the year 2030.

The SDGs embrace a broad and ambitious vision, addressing a diversity of issues that can be considered crucial for humanity, such as the eradication of poverty, the promotion of gender equality, access to quality education, the guarantee of clean water and basic sanitation, combating climate change, among other pressing challenges (UNITED NATIONS, 2015). Through this agenda, the aim is to achieve a fairer, more inclusive, and sustainable world, capable of ensuring the quality of life of present and future generations.

Chart 1 below presents the 17 SDGs and the main targets associated with them. These goals are integrated, indivisible, and combine the three dimensions of sustainable development: economic, social, and environmental. They are like a list of tasks to be fulfilled by governments, civil society, the private sector, and all citizens on the collective journey toward a sustainable world.

Different organizations have sought alignment between their operations and the targets of one or more SDGs. This is evident in so-called sustainability policies. In a study on the Project Management field, the need for institutional support for the issue of Sustainability was identified, with policies and standards to reduce gaps in the appropriation of knowledge about the SDGs, as well as the need to allocate resources (teams, communication actions, and relationships with stakeholders) to implement actions that align organizational strategies with the challenges inherent in the 2030 Agenda (CRUZ, 2020).

Considering that concern with social, environmental, and economic issues is a globally accepted and valued topic, an increasing number of companies, especially publicly traded companies, have published, in addition to their financial reports, sustainability reports to demonstrate their socio-environmental actions. In a study that analyzed reports from B3 companies, published in 2017 and 2018, there was an indication of efforts in favor of the SDGs related to improving the living conditions of the communities where the companies are located, offering benefits to their workers to ensure their health and well-being, and adopting measures to reduce environmental impacts and preserve life on land and in water. However, it was found that the SDGs implemented, as well as the actions to achieve them, are related almost exclusively to the companies' internal scope, with no reports of efforts to collaborate with the external environment, such as, for example, actions to eradicate hunger and poverty on a broader scale (DA SILVA et al., 2021).

Chart 1. Sustainable Development Goals (SDGs) and their main targets

SDG 1 – No Poverty	End poverty in all its forms everywhere.
SDG 2 – Zero Hunger	End hunger, achieve food security and improved nutrition and promote sustainable agriculture.
SDG 3 – Good Health and Well-being	Ensure healthy lives and promote well-being for all at all ages.
SDG 4 – Quality Education	Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all.
SDG 5 – Gender Equality	Achieve gender equality and empower all women and girls.
SDG 6 – Clean Water and Sanitation	Ensure availability and sustainable management of water and sanitation for all.
SDG 7 – Affordable and Clean Energy	Ensure access to affordable, reliable, sustainable and modern energy for all.
SDG 8 – Decent Work and Economic Growth	Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all.
SDG 9 – Industry, Innovation and Infrastructure	Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation.
SDG 10 – Reduced Inequalities	Reduce inequality within and among countries.
SDG 11 – Sustainable Cities and Communities	Make cities and human settlements inclusive, safe, resilient and sustainable.
SDG 12 – Responsible Consumption and Production	Ensure sustainable consumption and production patterns.
SDG 13 – Climate Action	Take urgent action to combat climate change and its impacts.
SDG 14 – Life Below Water	Conservation and sustainable use of the oceans, seas and marine resources for sustainable development.
SDG 15 – Life on Land	Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, halt and reverse land degradation and halt biodiversity loss.
SDG 16 – Peace, Justice and Strong Institutions	Promote peaceful and inclusive societies for sustainable development, provide access to justice for all and build effective, accountable and inclusive institutions at all levels.
SDG 17 – Partnerships for the Goals	Strengthen the means of implementation and revitalize the global partnership for sustainable development.

Source: Nações Unidas (2015)

Finally, recent studies indicate the relationship between the SDGs and concepts that are still relatively immature in the academic literature, such as eco-innovation, which refers to all innovative practices that can contribute to the environment (MORENO; DUTRA, 2022), whether through more sustainable actions focused on alternative production and service provision practices, or by

not harming the environment, in alignment with the principles of socio-environmental responsibility (SILVA et al., 2023).

METHODOLOGY

Following the recommendations of the protocol proposed by Biancolino, Kniess, Maccari and Rabequini Jr. (2012), this technical report was prepared for professional purposes, while employing scientific and methodological rigor. This study intends to share the technical experience of the project carried out, emphasizing the practical application of the solution to the problem studied (MARTENS; PEDRON; OLIVEIRA, 2021).

The research can be classified, regarding the approach to the problem, as qualitative (GODOI; SILVA; MELO, 2010) and even exploratory, recommended when the aim is to explore and understand a problem or issue in a more complex manner (CRESWELL, 2014). Regarding the research procedure, it is classified as a case study (YIN, 2010).

For data collection, company documents (documentary research) related to the S&OP process, such as meeting minutes and procedure manuals, were analyzed. The documents analyzed were selected based on availability of access, but above all, according to their relevance to the topic of the study, as well as their importance for the implementation of the S&OP process and its alignment with the SDGs.

In addition, interviews using a semi-structured protocol were conducted with two key company employees involved in the process of creating, implementing, and monitoring the results of S&OP. Because they were conducted separately, it was possible to gather details about the stages of the implementation process and, at the same time, triangulate the information based on the data collected.

Finally, qualitative data analysis was employed through the content analysis technique proposed by Bardin (BARDIN, 2016), following the stages of pre-analysis, exploration of the material, treatment of the results, inference, and interpretation.

ANALYSIS AND DISCUSSION OF RESULTS

This case report presents the implementation of S&OP – and its resulting outcomes – at B2B Enterprise, which, as previously stated, is the fictitious name of the company that served as the object of study.

B2B Enterprise is a distributor of technological products (focused on solar energy and telecommunications) with 20 years in the market, operating with a product sales and rental model. In 2021, it reached R$1 billion in revenue and went public. An internal investigation concluded that it would be necessary to better control its inventories, both physically and financially, to avoid a reduction in EBITDA, therefore resulting in the decision to implement S&OP.

The period addressed in this study covers September 2021 to October 2022, including the stages of process conception, implementation itself, and initial evaluation of the results obtained.

What draws attention in the case is the context of uncertainty regarding the full resumption of in-person activities at the time, because of the prevailing health challenges resulting from the pandemic: although the company dealt with products from a sector necessary for the functioning of economic activities – telecommunications –, including those that were and continue to be conducted remotely, restrictions on employee mobility and contact between employees unequivocally constituted another challenging chapter in this implementation process.

In addition, another particularity that deserves emphasis is senior management’s decision regarding the adoption of the strategic guideline in favor

of sustainable development, in part because it had recently become a publicly traded company. From a practical standpoint, a set of SDGs considered relevant to the company's operations was established and should be respected in the implementation that was about to take place.

Between September 2021 and March 2022, the company analyzed which measures would be taken and what the operating method would be, with a view to solving or mitigating problems related to inventory management and its effect on EBITDA, such as: products stored for more than 90 days and obsolete products; products stored for more than 90 days and with low market acceptance; limited storage space occupied by obsolete products and/or products with low market acceptance, making it impossible to store new products with high demand and acceptance, which was already impacting the potential volume of new sales. Given this challenging scenario, the following measures were initially adopted:

The information technology (IT) team identified and presented a structured database containing information on sales history, current inventory, inventory curve, product category, purchase orders, sales to be invoiced, and the value of products in inventory. The objective was to support a rapid, but data-based, analysis of product turnover characteristics, which affects its storage time and replenishment needs, two critical success factors for the creation and implementation of S&OP;

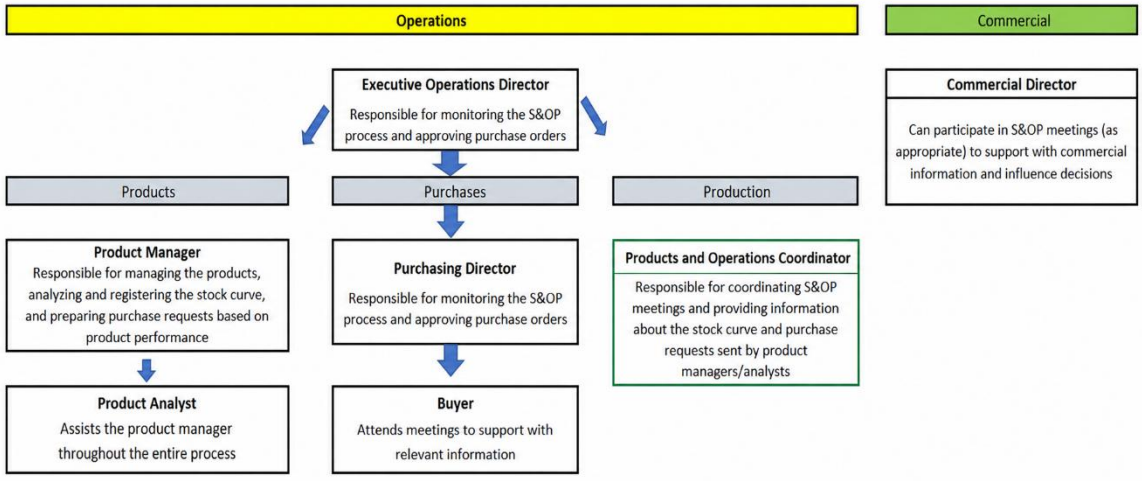
With the database structured and established, product managers analyzed and updated the inventory curve of the products under their responsibility. This curve classification would be linked to the product and could be updated according to the product's sales performance over the months. It would also be used in S&OP analyses; and

For the beginning of the process, a monthly frequency for S&OP analysis was established, involving the purchasing director, buyers, operations coordinator, product manager, and product analyst.

For some meetings, provided that a specific need of the sales team was identified in advance, the sales director or coordinator would also participate. It is worth mentioning that discipline in holding meetings periodically and effectively monitoring their results were success factors in the use of the S&OP process. To broaden the understanding of the relationships between the areas, the business structure involved in the process is presented in Figure 1.

It is worth emphasizing that the analysis of purchases for inventory, as well as the purchasing decision, does not originate with the buyer, as is commonly the case in other companies. At B2B Enterprise, this function belongs exclusively to the product manager or analyst, regarding the brands under their responsibility, which reinforces the need for greater interaction between the areas involved (especially the purchasing, product, and sales areas).

Figure 1 – Organizational chart of the team responsible for S&OP implementation



Source: authors (2023), based on data from field research.

*Management results obtained with the implementation of S&OP**

The implementation of S&OP at B2B Enterprise was completed in March 2022, when it became possible to observe the results obtained after the S&OP meetings, especially the reduction in *aging* inventory and the improvement in

communication, with greater circulation and alignment of information among the areas involved. These are results arising from this change process:

Reduction in stored aging (greater control over inventory turnover and new purchases). One of the company's business units reduced the value of products in aging by more than 50% (from R$7,680,499.67 to R$3,833,291.99) in 12 months, being the unit with the most significant result in this regard after the implementation of the S&OP process;

Reduction in stockouts (more efficient inventory and demand management, and greater accuracy between the submission of the purchase order and the time required for the product to arrive in inventory);

Negotiation of better payment terms with suppliers (greater participation of the purchasing area to support product managers in their relationships with suppliers);

Process automation, based on the product classification curve (Figure 2). Products on curve "A," for example, due to their high turnover, began to be purchased monthly through a specific platform, without the need for approval from the purchasing area, given their stable average sales and uninterrupted inventory turnover – resulting in lower operational complexity and freeing up the team's time for other activities; and

Greater accuracy in demand forecasting (given the involvement of the sales area in analyzing sales demand in subsequent months).

Figure 2, below, presents the product classification, in the form of product curves at B2B Enterprise.

Figure 2 – Product curves at B2B Enterprise**

Product Curve	What are they?		
Curve A	These are products that do not require much sales effort and have a high turnover. They are purchased monthly without the need for approval from the purchasing department.		
Curve B	These are those that require more sales effort; their sales occur every two months, that is, they are not monthly, are kept in stock with attention.	Satellite Products	Products subclassified as satellites generally have a low or average sales volume or experience sales interruptions between months; they fluctuate between curve "B" or "C," but are important for portfolio complementarity.
Curve C	These are products that have occasional sales; they are purchased only when there is customer demand.		

Source: authors (2023), based on data from field research.

Based on these analyses, product managers and analysts were able to use the cross-referencing of information to make high-impact decisions, such as: which products the company should continue distributing; which products would need greater or lesser emphasis in marketing actions; which solutions should be adopted to boost sales of products with a high contribution margin but low sales performance; and which solutions should be adopted to reduce the sales effort for products with high turnover but a low contribution margin.

Regarding gains in the sales forecasting process and market demand mapping, the progress achieved after the full implementation of S&OP was also important, because evaluating the historical sales performance of a product does not guarantee that it will continue to achieve the same results in the following months.

The creation of the report with historical data (S&OP report created by the IT team) was not sufficient for purchasing decisions by the responsible department, since defining which products – and in what quantity – should be acquired for inventory replenishment involves an understanding of the product and its application market (the role of the product manager and analyst) and the

opinion of the commercial areas that are in contact with customers (the role of the sales director). The joint action of these areas, through the S&OP process, prevented the purchase of products with a strong sales history but lower profitability or whose market acceptance was beginning to decline, whether due to new technologies or changes in consumer behavior, for example.

Another fundamental factor was the understanding of communication among the areas involved in the S&OP process: for the process to occur smoothly, openness and willingness to collaborate and listen to colleagues was a critical success factor, given that, in S&OP meetings, the different areas make considerations from their own points of view, operational conditions, and results to be achieved, to support the same decision-making process. Although negotiations among the different teams involved in the S&OP process end up being necessary to achieve the company's objectives, there is the advantage of prior alignment and respect for the operational limits of those involved, as argued by some authors (BIAZZIN; TOMASELLI; COSTA PENA, 2017; FERNANDES; DOMINGOS; MAIA, 2020; THOMÉ et al., 2012).

With the initial and partial results available, it was not possible to effectively assess the full effect that the implementation of the S&OP process had on the company's results (the assessment had October 2022 as its 'cut-off point'): sales revenue for 2022 indicated that it would close at around R$1.1 billion, slightly higher than in 2021; an improvement in EBITDA growth was expected when 2022 closed, but it was not yet possible to precisely measure this, nor the impact on the company's profit, given that the definitive adoption of the S&OP process was still relatively recent. On the other hand, based on the improvements listed, it is possible to consider that the implementation of S&OP was beneficial to the company, both through improved inventory management (GAVIOLLI; BARBIERI, 2007) and through the control and monitoring by managers of the different areas involved (PEDROSO; DA SILVA, 2015).

SDG-related results obtained with S&OP

In addition to the management results obtained with S&OP, the results obtained from the partial or full achievement of some targets advocated in the SDGs will be described below.

It is important to emphasize that the company aims to generate value through its operations, but in a long-lasting manner and, therefore, respecting the principles of ethics and social responsibility in order to pursue a sustainable environment (considering the social, environmental, and economic dimensions). Therefore, the aforementioned implementation of S&OP aimed to address as many SDGs as possible.

In general terms, these are precautions that companies should take when implementing an S&OP process aligned with the SDGs (UNITED NATIONS, 2015):

Understand the SDGs and how they relate to the company's business. Each SDG has a series of specific targets that can be achieved by companies from various sectors;

After understanding the SDGs, the company should identify opportunities for contribution. This can be done by analyzing the company's products, services, and operations to identify areas where it can have a positive impact;

After identifying opportunities for contribution, the company should define specific goals and objectives. This will help the company achieve its sustainable development objectives;

After defining goals and objectives, the company should implement concrete actions to achieve them. This may involve changes in the company's products, services, or operations; and

Finally, it is important to measure the company's progress toward its sustainable development objectives.

By following these steps, companies can implement an S&OP that is sustainable and has a positive impact toward a more prosperous world. In the specific case of B2B Enterprise, the implementation of S&OP generated results that addressed some SDGs.

SDG 8 - Decent work and economic growth

The S&OP process promoted more effective and assertive inventory and sales management, resulting in an improvement in the company's capital turnover, serving as a means of preventing financial risks. As it is a large publicly traded distributor, there is a significant potential impact both on the value chain in which it operates and socially, through job creation and other outcomes of its improved operational and financial results.

SDG 9 - Industry, innovation and infrastructure

The implementation of S&OP promoted smoother materials management, increasing the company's capacity both in the movement of goods and in the selection of new products with greater market and social impact. The improved relationship, through greater transparency, with the chain involved is also notable, both upstream, with suppliers, and downstream, with current and potential customers.

SDG 12 - Responsible consumption and production

This was probably the SDG in which alignment was most noticeable after the implementation of S&OP at B2B Enterprise, since this process monitors market demand and the company's supply capacity, seeking a balance between the parties and the generation of results based on the healthy use and turnover of capital compatible with the sales made. With S&OP, the risk of having products not absorbed by the consumer market, which ultimately generate waste of raw

materials, financial resources, and human resources, was reduced. As observed in the case reported, there was a decrease in *aging* inventory, a decrease in stockouts, and better demand forecasting, resulting in better resource allocation and product management. In addition to an evident reduction in costs – and, consequently, greater potential profit –, less waste can be understood as greater respect for the planet's resources.

SDG 13 - Climate action

Better management of inputs can generate positive effects, such as reducing greenhouse gas emissions in production processes, helping to combat climate change by moving only the quantity of products necessary to meet sales planning, without waste or with minimized waste.

SDG 17: Partnerships for the goals

B2B Enterprise is a large Brazilian distributor with several partnerships with manufacturers located in other countries. Efficient management of its products, generating for society the results mentioned in the previous SDGs, makes it a tool for expanding the connectivity of the global market, valuing sustainability, development, and strengthening among different markets.

Thus, it can be said that the implementation of the S&OP process achieved good operational and financial results, but also in a manner aligned with the general principles of sustainable development, as presented by some authors (DA SILVA et al., 2021; UNITED NATIONS, 2015), which guided B2B Enterprise's actions in this change process.

CONCLUSIONS/FINAL CONSIDERATIONS AND CONTRIBUTIONS

This technical report presented the case of the implementation of the S&OP process at B2B Enterprise, both regarding operational, commercial, and product management aspects and its alignment with some of the SDGs, with the actions described herein having occurred from September 2021 to October 2022, addressing the stages of process design, implementation, and initial assessment of the main results obtained.

Among the lessons learned from this case, convergent with and complementary to the literature, the following can be cited, but are not limited to:

The gains arising from the adoption of S&OP, with regard to better operational planning (reduction in the value of the company's *aging* inventory, more efficient use of inventory, avoiding waste of resources, for example) for adequately meeting current and future sales at lower costs;

The improvement in internal communication, arising from the proactive interaction among the different areas involved in the S&OP process (such as products, purchasing, and commercial), favors the achievement of the expected results and also contributes to the development and strengthening of the company's organizational culture;

The discipline in holding periodic S&OP meetings, as well as monitoring their results (with the use of structured databases), with the effective and proactive participation of the areas involved proved to be a critical success factor in the case studied, by enabling anticipation in meeting future demands;

With the maturation of the S&OP process, greater accuracy in sales forecasting, the automation and/or simplification of operational processes (such as the purchase of products with higher turnover and/or results, for example), and the direction of demand among the areas were achieved (for example, the purchasing area actively working on relationships with suppliers, through new

purchasing agreements, price and deadline negotiations, in partnership with the product area); and

In addition to the S&OP process achieving good operational results, it was carried out in a manner aligned with sustainable development principles, with emphasis on the SDGs: 8 – Decent work and economic growth; 9 – Industry, innovation and infrastructure; 12 – Responsible consumption and production; 13 – Climate action and 17 – Partnerships for the goals.

Another interesting aspect of the case reported was that, as the monthly S&OP meetings were held, the participation of the executive director of operations was no longer essential, becoming occasional and complementary, given that, with the operational improvements resulting from the team's decisions, the areas involved began to use it as a work tool smoothly, without the need for supervision, becoming an efficient methodology as a daily work tool. In another way, this may also denote a positive cultural change in favor of more assertive communication and more holistic integration.

The limitations of the case study presented here are specific, as it concerns a single company and only two employees were interviewed, not constituting a fully representative sample of the total number of people involved in the S&OP process (approximately 30 people, from various areas such as products, purchasing, and commercial).

In new studies on S&OP processes, it is suggested that research be conducted in other markets, multiple case studies, with a larger number of companies, and quantitative research with employees, with statistically representative samples.

Finally, it is understood that this study, through the inclusion of the emerging theme of sustainable development in organizations, in addition to being current, may inspire managers to make decisions that consider not only organizational performance, but also actions for a more prosperous world.

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