



Sales & Operations Planning at:

Mac Baren Tobacco Company A/S

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This case study on Mac Baren Tobacco Company A/S outlines the company's process as it participated in the project "Improved Competitiveness through Implementation of Sales & Operations Planning" (S&OP project). The project was implemented from 2017 to 2018 with funding from The Danish Industry Foundation (see www.salesandoperationsplanning.dk).

The case describes the background of the S&OP project, the project approach, the performance benefits, and the learning achieved. It is important to note that the project was more complex than is possible to explain in this case. The case therefore concentrates on the main phase, reflection, and learning points of Mac Baren Tobacco Company A/S participants.²

¹For a full overview of the tools see: Stentoft, J., Freytag, P. V. & Mikkelsen, O. S. (2019), *Improved Competitiveness through Implementation of Sales & Operations Planning*, Department of Entrepreneurship and Relationship Management, University of Southern Denmark.

²A big thank you goes all the employees at Mac Baren Tobacco Company who participated in the project and for the positive approach in contributing to group processes, individual interviews, and readings of and commenting on written material.



1. Introduction

Mac Baren Tobacco Company A/S is a Danish-owned tobacco company based in Svendborg, Denmark. Founded in 1887 as Harald Halberg Tobacco Factory, the company has developed its knowledge of tobacco over generations. Today, the fourth generation owns the company, which employs 140 people. High quality, great tradition, and committed and enthusiastic employees have earned the company a position as a world leader in pipe tobacco, as well as in the niche of hand-rolled tobacco. The company's pipe and hand-rolled tobacco brands include Roll Your Own, Make Your Own, Smokeless, and Filler. The brands are exported to more than 80 markets worldwide. In addition, the company has contracts with several distributors, including Imperial Tobacco, Von EICKEN, and Ministry of Snus. Additionally, the company produces tobacco for some of the world's largest tobacco companies.

In 2014, the groundwork was laid for a decision to deploy sales and operations planning (S&OP) at Mac Baren Tobacco Company A/S. This groundwork occurred in connection with a major project under the name "process optimization." A large number of company employees attended brown-paper sessions and identified 24 specific projects that could help ensure continued competitiveness. One of the 24 defined projects was S&OP. Subsequently, a 25th project was implemented to reap the "low hanging fruit" in the 24 projects. The company had reached a tipping point. Thus, leaders needed to develop a growth strategy to accommodate increased demands for automation of production and soaring complexity in the store (Figure 1).

Before 2014, production was not a challenge. The company, as a purely make-to-order manufacturer, could largely meet customer desires. In addition, the company often used the same packaging to sell to different countries. Currently, Mac Baren Tobacco Company works in a limited capacity environment, making stock for major markets. However, the company cannot always fully meet customer requirements because of increased complexity from growing demands for forecasts, materials, government reporting, and

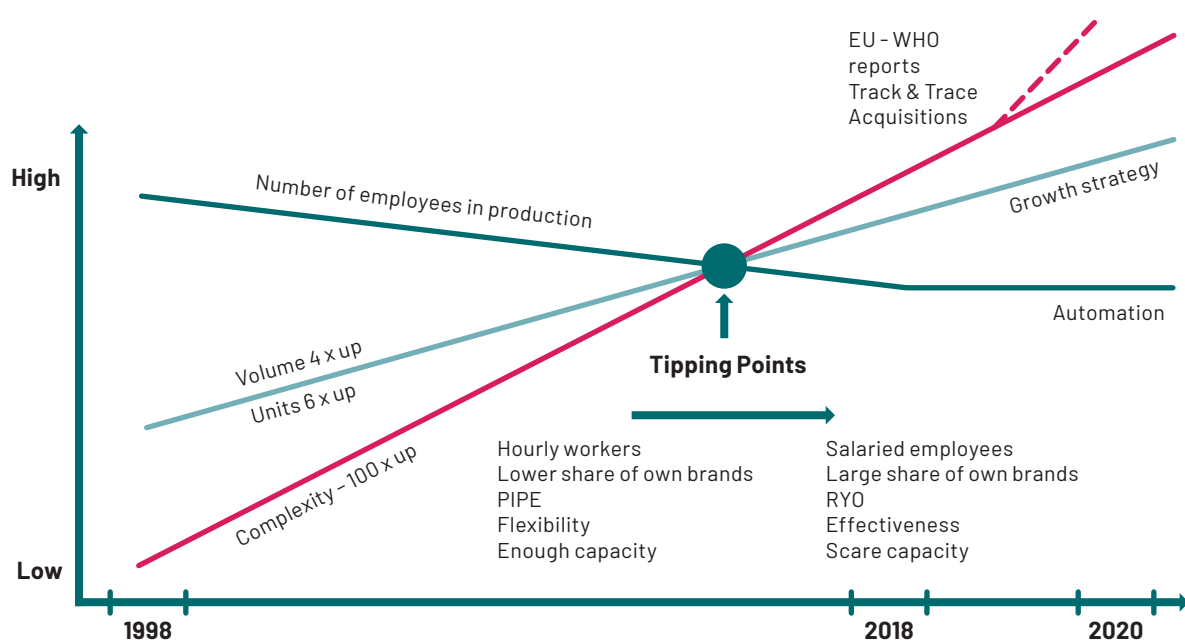
a rising number of SKUs. The new reality thus requires a greater focus on Key Performance Indicators (KPIs).

Based on the 24 above-mentioned projects, the company has focused on projects in the area of “brush and bucket,” which involves emphasizing the core business, data, processes, and uniformity in procedures. Similarly, leaders have focused on standardization and product improvements while acquiring new in-house brands. These actions have increased production volume 35%. Mac Baren Tobacco Company is working now with a growth strategy of +30% toward 2021.

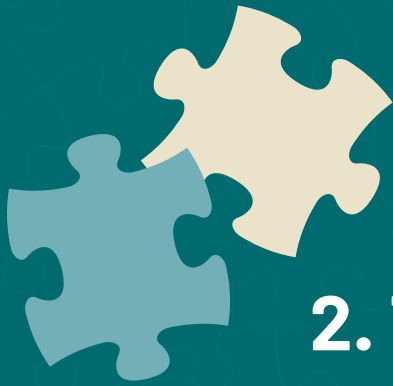
In 2016, company leaders decided to initiate an S&OP project with financial support from The Danish Industry Foundation, prompted by a request from SDU. The decision to launch S&OP was based on leaders’ belief that it was an important tool to ensure that Mac Baren Tobacco Company A/S meets the new European tobacco directive on “track and trace,” which comes into force on May 20, 2019. S&OP overall contributes with structure to improve daily operations and decrease “firefighting.” The specific S&OP work was structured in the following five steps:

1. Recognition.
2. Analysis and diagnosis of the current situation.
3. Defining new S&OP process.
4. Pilot implementation.
5. Operation.

Figure 1: Mac Baren Tobacco Company A/S’s “new” reality



Source: Mac Baren Tobacco Company A/S.



2. The starting point

2.1 RECOGNITION

In the first phase, two presentations occurred. The first was a theoretical and practical examination of the S&OP provided for top managers. A researcher from SDU reviewed the theory behind S&OP, during which managers could ask questions related to their own businesses. Managers reviewed success criteria and advantages of S&OP. They learned how to design an S&OP project process and estimate resources. The purpose of starting with top managers was to ensure their commitment before additional stakeholders joined the project. Next, a similar presentation was given to an extended group of people consisting of 25 key stakeholders in the internal value chain. Participants could ask critical questions and discuss the relevance of S&OP for Mac Baren Tobacco Company A/S. In the acknowledgment phase, it was important to communicate that S&OP was not an operations project but rather a business project relevant to both sales and operations.

2.2 ANALYSIS AND DIAGNOSIS OF THE CURRENT SITUATION

The second phase generated an analysis of S&OP practice implementation. Because S&OP was new to the company, a dedicated S&OP could not be analyzed; however, employees of course recorded customer orders, planned and implemented purchasing, and produced and delivered the requested goods to customers. For the analysis, a brown-paper method was used. A brown-paper analysis is a simple, effective method to identify challenges and solutions across functions. The method is easy to understand, interactive, and dynamic.

Prior to the session, company managers had identified key stakeholders who should participate in the brown-paper session. In addition, mana-

gers had communicated the background, purpose, and process of the session on the company intranet. A researcher from SDU facilitated the brown-paper analysis with 25 key stakeholders from the business. First, the key stakeholders created an overview of the process flow, from customer inquiries to the physical delivery, on a large piece of brown paper (hence the name). The individual subprocesses were labeled based on the terms used in the company to ensure familiarity among the participants.

When the main group of participants arrived at the brown-paper session, the brown paper showing the overall process flow hung on the wall in the meeting room. Participants were employees from sales, marketing, customer service, production planning, purchasing, production, product development, IT, and finance. The company's two equal-status CEOs also participated. After a general presentation of the flow and purpose of the day, employees began noting issues on red sticky notes. After 30 minutes, the participants



revealed what they had written on the red sticky notes. Next, participants described in their own words the problems and then placed the sticky notes at the relevant locations in the process flow on the brown paper. When all participants had placed their notes, some of which were similar, the process began again, this time with green sticky notes. Participants identified Mac Baren Tobacco Company A/S's strengths. Finally, participants summarized what they recognized as the main challenges emerging from the brown-paper session and identified the key success criteria for the S&OP project.

The process generated no fewer than 150 red sticky notes, including duplicates. A researcher from SDU summarized the brown-paper analysis, including all the sticky notes, and typed the data into a PowerPoint presentation. Some days later, the participants from the brown-paper session met again to review the compilation. This review was intended to correct any misunderstandings in data processing as well as to validate and ensure a common understanding of the results. A summary of the main challenges and perceived strengths of Mac Baren Tobacco Company A/S appears in Table 1.

The process led to the idea that KPIs should be developed in the following areas:

1. Inventory levels.
2. Ability to deliver.
3. Complaints.
4. Productivity.
5. Sales forecast.

In the past, inventory levels, complaints, and productivity had been measured; however, the focus was only on productivity because those data were available. Productivity in relation to the new S&OP has been extended by OEE measurements of machine utilization levels. In addition, four other areas have been included, for which managers have set goals for KPIs to achieve the desired development.

S&OP contributes with more structure and a day with a small number of firefights.

Jarl M. Rigner Freiesleben, CEO, focusing on operations, Mac Baren Tobacco Company A/S.



Table 1: Summary of challenges and perceived strengths

CHALLENGES (RED STICKY-NOTES)		PERCEIVED STRENGTHS (GREEN STICKY-NOTES)	
1.	Inadequate horizontal communication (lack of clear roles and responsibilities)	1.	Strong corporate values
2.	Lack of a holistic understanding across functions ("pointing fingers" culture)	2.	Good at "firefighting"
3.	Too high level of scrapping	3.	Helpful colleagues
4.	Unsatisfying delivery performance	4.	Offers quality products
5.	Large variations in order load	5.	High commitment and pride among employees
6.	Lack of understanding of new product introductions in production	6.	"Our solution" culture
7.	High stocks	7.	Change-ready
8.	Lack of sales forecast	8.	Flat dynamic organization
9.	Lack of production capacity	9.	Strong quality control
10.	The amount of customer complaints	10.	High level of flexibility

Source: Stentoft et al. (2018b).



3. Defining the new S&OP process

3.1 DEFINING NEW S&OP PROCESS

3.1.1 The technical part—“hard wiring”

The work to define a new S&OP began when the steering committee for the project conducted a formal handoff to the project team, which consisted of five widely representative people from across the company. However, the steering committee members believed the formal handoff interfered too much in the S&OP process; instead, they recommended the handoff needed greater ownership among the project group. The project team learned they had taken on a huge task involving much work in defining specific performance goals within the five areas above. How should participants define the targets? For example, what did “ability to deliver” mean? The project team members were positive toward the development but learned that S&OP project work took more time than planned; they also had to manage the usual operational tasks at the same time.

To support the project, senior consultant Thomas Brams from 4IMPROVE Consulting Group was hired to assist with the planning and construction of the new S&OP process. The work was organized through a series of individual meetings with the S&OP project manager and subprocess owners. In addition, workshops were held with participants from the different subprocesses.

The “TO-BE” process appears in Figure 2. Based on the five subprocesses, the theory indicated the following plan:

”It came as a surprise for the project group, how extensive a work it was to establish real-time and reliable measurements, if we were to succeed with the project.

Dick Esmark, S&OP Manager, Mac Baren Tobacco Company A/S.

1. Data collection.
2. Demand planning.
3. Supply planning.
4. Premeeting.
5. Decision meeting.

The planned launch of the pilot phase was postponed for three months, starting in March 2018 instead of in December 2017. The delay occurred because leaders questioned whether they could rely on the data that were generated and used to define the KPIs.

Figure 2: General project plan

	DECEMBER	JANUARY	FEBRUARY	MARCH
S&OP KPI	<ul style="list-style-type: none"> • KPIs are defined • Data sources defined in ERP 	<ul style="list-style-type: none"> • Construction of data model 	<ul style="list-style-type: none"> • First draft of data model 	<ul style="list-style-type: none"> • Review of reporting
Preparation	<ul style="list-style-type: none"> • Analyses of historical sale, structure of bill-of-material and products/hierarchy 	<ul style="list-style-type: none"> • Exchange of experience at an external company 		
DEMAND Sales and forecast	<ul style="list-style-type: none"> • Assessment of budget forecast and other existing forecasts • Current break-down logic 	<ul style="list-style-type: none"> • Build S&OP tool the Demand side – can the new budget models be used 1:1? • Discussions of horizons • Sales instructed and trained 	<ul style="list-style-type: none"> • Demand Manager • Forecast analysis and tests 	<ul style="list-style-type: none"> • Launch Demand meetings
SUPPLY Production and capacity			<ul style="list-style-type: none"> • ERP forecast (% division) – future set-up, maintenance, etc. • Invite to S&OP meetings • Process landscape / flow diagrams for manufacturing processes • Build S&OP tool the Supply side 	<ul style="list-style-type: none"> • Capacity scenarios • Launch Supply meetings
Pilot		<ul style="list-style-type: none"> • "On the job training" with sales and logistics (forecasts and capacity plans) 	<ul style="list-style-type: none"> • "On the job training" with sales and logistics (forecasts and capacity plans) 	<ul style="list-style-type: none"> • The project group examine KPIs (data), Demand, Supply, Scenarios, Pre-S&OP meetings

Source: Mac Baren Tobacco Company A/S.

The project team members learned they needed to allocate 100% of their resources to be responsible for the new S&OP process. A new S&OP manager function was therefore established. The manager has been relieved of operational tasks while managing the project. The new S&OP manager reports directly to the Executive Committee (Figure 3). In addition, subprocess owners were designated for data, demand, and supply.

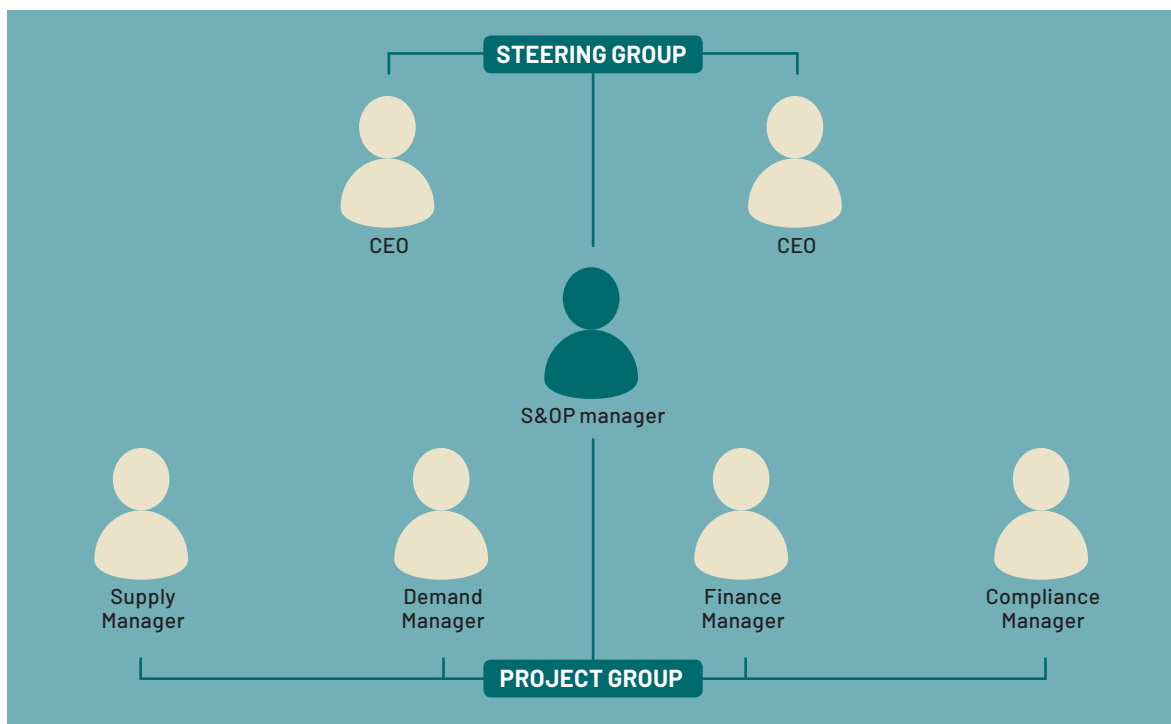
Adequate resource allocation for an S&OP project is a key success criterion. Thomas Brams, Senior Consultant, 4IMPROVE Consulting Group, noted, “There needs to be allocated resources to the task and built an organization with a Demand Manager, a Supply Manager, and an S&OP Manager. The responsible managers can attend to other areas/tasks simultaneously, again depending on the scope—but they must formally have the role.” This means, for example, that in addition to managing the S&OP process, the S&OP manager solves other less defined tasks.

3.1.2 The behavioral part—“soft wiring”

Type Analysis

An important initial element in the process of defining the content of the new S&OP process was the requirement that every participant in the process individually perform a type analysis using Myers-Briggs Type Indicator (MBTI) based on Jung’s type theory. Participants answered questions from the analysis through a web-based form. Subsequently, each participant received individual feedback from a Mercuri Urval consultant. The analysis gave participants a deeper understanding of their own personalities and created a

Figure 3: Organization of the S&OP



Source: Mac Baren Tobacco Company A/S.

Table 2: Team Roles

TEAM ROLE	FUNCTIONAL -ORIENTATION	CHARACTERISTICS	MAC BAREN TOBACCO COMPANY A/S
The Need Spotter	F _{extra} vert	<ul style="list-style-type: none"> Establishes social contact Builds well-balanced relationships Identifies urgent needs and information 	One individual from sales
The Value Advocate	F _{intro} vert	<ul style="list-style-type: none"> Aware of values and ethics Fights for social justice Supports 	None
The Prophet	N _{intro} vert	<ul style="list-style-type: none"> Visionary Understand the potentials early Scenario builder 	None
The Promoter	N _{extra} vert	<ul style="list-style-type: none"> Inspires and sells ideas Brainstormer Change agent 	Four people (one senior executive, two from sales, and one from data collection)
The Analyst	T _{intro} vert	<ul style="list-style-type: none"> Problematize and challenges Analyzing logically Clarifies and define 	None
The Organizer	T _{extra} vert	<ul style="list-style-type: none"> Structuring and planning Decides Controls 	Nine people (two from data collection, two from operations, one senior executive, four from sales)
The Operator	S _{extra} vert	<ul style="list-style-type: none"> Make things happen Realistic and practical Tactical, quick and immediate response 	One individual from operations
The Maintainer	S _{intro} vert	<ul style="list-style-type: none"> Continuity creator Experience based Care with detail 	Five persons from operations

Source: Broegger & Bohnsen (2015, p. 40) and Stentoft et al. (2019).

comprehensive overview of the participants' types from the four Myers-Briggs personality dimensions (Broegger & Bohnsen, 2011).

The TeamDiamond®

Based on the individual analysis on personality types, the S&OP team was then analyzed using the TeamDiamond® (Broegger & Bohnsen, 2015; Table 2). As seen in Table 2, some team roles among S&OP team members were not covered. The analysis created awareness that managers should somehow compensate for such not-covered roles.

”The process focusing on different personality types has been an eye-opener for us, which has given increased motivation.

Simon Sophus Nielsen, CEO, with focus on sales, Mac Baren Tobacco Company A/S.

Observations from residential course

During the project, three residential courses were completed on leadership. Mercuri Urval facilitated all residential courses. The first residential course focused on understanding the Myers-Briggs Type Indicators (MBTI) and learning how MBTI could be used in teamwork. Participants in the first residential course included the core S&OP team and additional stakeholders—25 people in all. In addition to the type indicators, participants considered and practiced theory on listening levels and simulated an S&OP process flow based on a case about a typical problem in which a customer order differed from the standards. Participants discussed how to address and prioritize the problem in an S&OP cycle.

The second residential course had a specific focus on S&OP and management, including discussing reasons why S&OP participants were limited to top and middle managers. The course referred to the major management paradigms (industrial society, knowledge society, creating society; (Stentoft et al., 2019) affecting the different functional areas and explored what the paradigms meant for the actual management task. In addition, participants worked with MBTI profile analysis, team compositions, the task wheel, and the relationship between KPIs and Key Behavioral Indicators (KBIs).

The third residential courses focused on leadership and S&OP. The objective in this course was to teach specific tools to increase the managers' resilience toward engaging more actively in the leadership role rather than waiting for the S&OP manager and the executives to react.

Overall, the process of focusing on behavioral part led to:

- The creation of a common language through MBTI.
- Awareness of lowered guards (it was permissible to ask others how they were and felt).
- Awareness of listening levels.
- Greater respect and mutual understanding.
- Employee commitment and high group dynamics.

Change Barometer

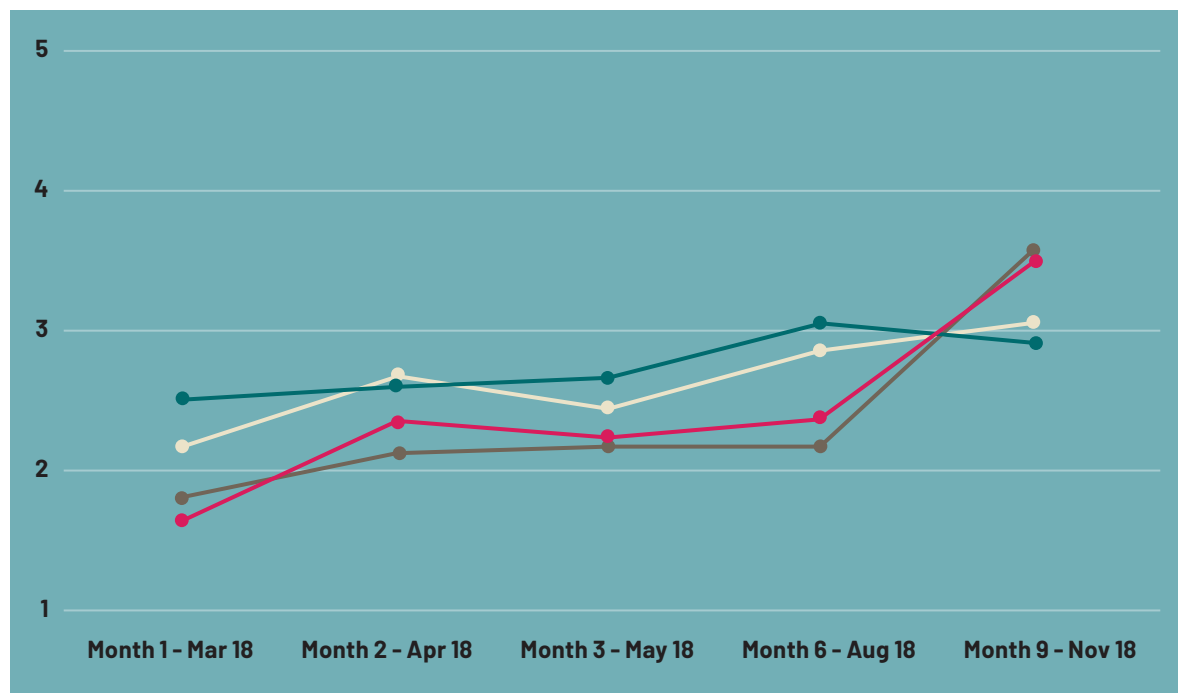
Since the pilot phase, the S&OP project group members have participated five times in change surveys in which they have completed a short questionnaire (at the end of the month, after the monthly S&OP activities) about



”At Mac Baren Tobacco Company leadership is today much more concerned about releasing human potentials in the organization, to make each other good, so results are achieved that not were thought possible.

Søren Eckhardt, Group Director, Mercuri Urval, Washington DC.

Figure 4: Development of the perceived readiness for change

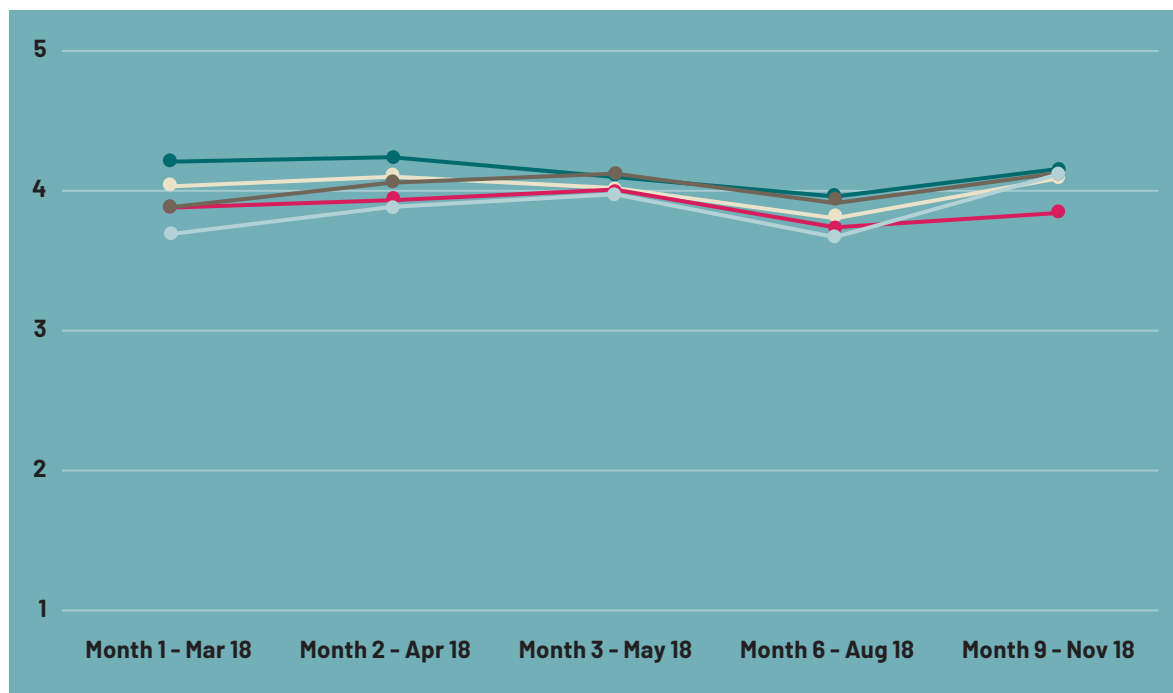


the S&OP process and its changes. S&OP participants indicated whether they had found that the various employee groups were ready for change in the process. Figure 4 shows the evolution of employees' responses to questions about change readiness in top management, sales, operations, and S&OP manager measured five times over a nine-month period. All employees expressed their opinions on each of the four categories of staff. The questionnaire was designed as a series of statements in which the participants declared their level of agreement on a scale of 1 (strongly disagree) to 5 (strongly agree).

As shown in Figure 4, in the pilot phase of the S&OP process, the mean values of the perceived change readiness of the four categories of staff were below 3; sales and the S&OP manager showed the least readiness for change (with average values of 1.84, and 1.68, respectively). Top management was considered the readiest for change, followed by operations. Broadly, the change readiness increased month by month up to month 6. However, in the ninth month, two notable trends appeared. This measure occurred after the second residential course, which occurred from November 15 to 16, 2018.

In fact, after the course, members in operations were seen as less prepared for change over the six-monthly measurement. Among the employee category overall, operations appeared least willing to change. However, when the pilot phase started, they had been perceived as the most ready to change. One explanation for the decline may be that Mac Baren Tobacco Company A/S had not worked with sales forecasts until the formation of the S&OP process. Thus, members in operations found it relatively easy to attribute reasons for challenges to members in sales because operations did not work with sales forecasts. The problem, however, changed after sales began to develop sales

Figure 5: Perceived relevance of Key Behavioral Indicators



- Meetings are held as planned
- The necessary openness exists between the meetings participants
- Dialogue takes place at a constructive listened level 2
- Debates and discussions are primarily based on facts and not feelings
- There is a reflection about the process and whether the debated themes really grasp the core challenges (listened level 3)

forecasts. Operations began to feel pressure to deliver. Another explanation could be that for a long time, operations had not been satisfied with the data, which were now significantly improved.

The second noteworthy development was the perception of sales and S&OP manager's readiness for change. In the early stages, members in sales showed most resistance toward working with S&OP. They wondered why forecasting was necessary. Subsequently, salespeople were determined to establish forecasts when they saw their value. Ongoing recognition and value creation were particularly instrumental in the increase in readiness. Regarding the S&OP manager's progress in change readiness, the explanation can be found in increasing clarification of roles and responsibilities—for example, the pilot and operational phases progressed, and the second residential course focused on leadership.

Key Behavioral Indicators (KBIs)

In S&OP, team members decided to work with the following KBIs:

- ▶ Meetings will be held as planned.
- ▶ The necessary transparency/honesty exists between meeting participants.
- ▶ The dialogue is made constructively at listening level 2.
- ▶ Debates and discussions are mainly based on facts and not feelings.
- ▶ There is a reflection of the process and discussion of whether the debated issues really reflect the core challenges (listening level 3).

In addition, the S&OP participants reported in the ongoing change surveys their perceptions of the relevance of the set KBIs.

As seen in Figure 5, all KBIs at the start of the process achieved high average values for their relevance (3.53 to 4.32) with “the necessary transparency/honesty between meeting participants” as the highest scoring KBI. Then, over the first six months, a decline in the perceived relevance of KBIs appeared before rebounding in the fifth poll from November. One explanation for the finding may be that the second S&OP residential course occurred in the middle of November, when KBIs were refreshed. This result indicates that there was ongoing maintenance and communication of KBIs, including replacement when needed to focus on other behavioral changes. Generally, the statement “To what extent do you think that key behavioral indicators are useful as targets?” achieved an average value of 3.36 on a 5-point Likert scale ranging from 1 (very low degree) to 5 (very high degree).

3.2 FROM PILOT IMPLEMENTATION TO OPERATIONS

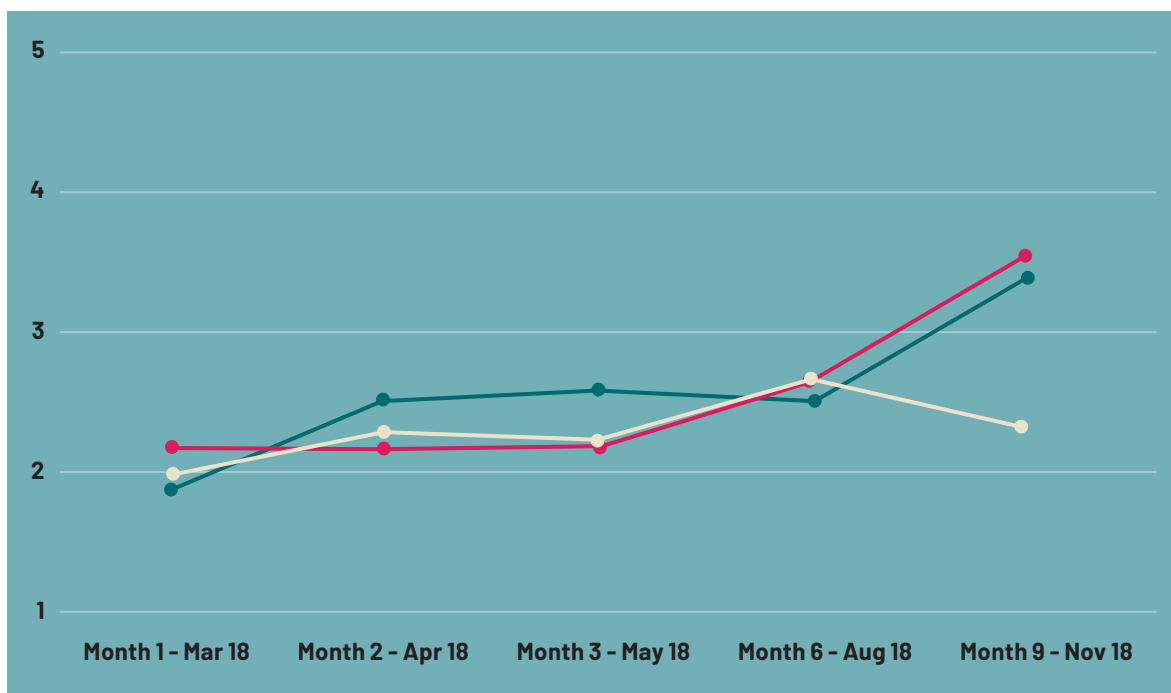
The S&OP pilot phase lasted three months during which the process gradually improved. The pilot phase took place from March 2018 to May/June 2018, after which S&OP went into operation. At the same time, S&OP stopped as a project and was established as a formal process in the company.





4. Effect and learning

Figure 6: Development of the challenges with the clarity and perception of roles and responsibilities of the objectives



- Clear objectives
- Roles and responsibilities in the process
- Haziness in the S&OP process

4.1 OBJECTIVES, ROLES AND RESPONSIBILITIES

As seen in Figure 6, the process led to an ongoing clarification of the S&OP process goals, especially after the end of the three-month pilot phase. Especially the period from the sixth to the ninth month produced positive developments with greater clarity of objectives and roles and responsibilities in the process. This improved clarity happened in line with the data showing

the KPIs achieved an accepted level of reliability. Meanwhile, the perceived lack of clarity in the process dropped.

4.2 RESULTS ACHIEVED

In terms of the outcomes of the process, KPIs and concrete targets are now established. However, KPIs by themselves are not enough. There should also be targets in order to assess whether the actual performance is satisfactory. Here, specific progress has occurred. For example, the company is now able to initiate concrete actions if the KPIs are not at the desired level. In addition, the process has contributed other benefits:

- good energy.
- colleagues working positively with the system.
- dialogues between demand and supply influence everyday work.
- facts to speak from, instead of from emotions.
- holding the S&OP meetings as agreed.
- sales are actively working with forecasts.
- the company is on top of orders.

Moreover, KPIs are developed based on reliable data. These are now reported on a one-pager each month. The process has brought more peace to daily life. It has become increasingly clear the consequences of decisions. Further, it has become easier to discuss standardization and product elimination between sales and operations.



4.3 LEARNING

When asked to share the learning received from the project and implementation of S&OP at Mac Baren Tobacco Company A/S, the following answers emerged:

- Importance of allocation of resources to a full-time SOP manager.
- Change takes time.
- It takes courage to change.
- Sustained focus on the process of management.
- Long process that requires new thinking.
- Focus on the human aspect.
- Time is a crucial limiting factor—the development will come under pressure of daily operation.
- Facts rather than feelings.
- Sales are actively working with forecasts.
- They are on top of orders.
- Considerably smaller amount of “fighting fires”.

Further points that are either in process improvement or needed as soon as possible:

- More focus on behavior (the technical part has dominated).
- How much should forecasts be acted upon?
- The systems run too manually.
- Operations must become more involved.
- Agreements and decisions are under pressure in a busy day.

In conclusion, it should be noted that the S&OP work after the pilot phase changed status from being a project to become an established process within the company. This was, among other things, signaled by closing the project number. The project enhanced awareness of a change in culture. The perception of the parties was that it constantly needs to be improved through continuous improvement.



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