14th Annual International Conference on Industrial Engineering and Operations Management
Dubai, United Arab Emirates (UAE), February 12-14, 2024
Publisher: IEOM Society International, USA DOI: 10.46254/AN14.20240285
Published: February 12, 2024

The Impact of Sales and Operations Planning Practices on Manufacturing Operational Performance in a South African Company

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Abstract

The purpose of this study was to investigate the influence of sales and operations planning processes on production operational efficiency at the organization. The objective of the paper was to examine the extent to which sales and operations planning practices enhance efficiency, the relationship between operations performance and sales planning, and how sales and operations planning can assist the organization in addressing factors that lead to ineffective efficiency. A quantitative research technique was used to collect data for this research, the data was analysed using a descriptive method. The sales and operations planning practices literature were reviewed and the results of the data obtained from the organization employees/participants were presented. The results of the study demonstrated that sales and operations planning (S&OP) incorporates all the procedures that connect the organisation's strategic goals with its production process. The influence of sales and operations planning procedures on operational performance were consistently and effectively demonstrated on the organization's operational characteristics such as quality, delivery, stock, and flexibility.

Keywords
Sales, Operations Planning, Manufacturing, Operational Performance

1. Introduction
The introduction highlights the significance of sales and operations planning (S&OP) as a methodical procedure used by organizations to manage consumer demand and product availability. Notably, 70% of global manufacturers have adopted S&OP, emphasizing its widespread implementation, particularly among large businesses. The process involves cross-functional collaboration and integrates client-focused marketing tactics with logistics management, providing a strategic approach to maintaining a competitive advantage.

In the context of the manufacturing organization where the study was conducted, which operates in the fresh prepared and convenience food industry in South Africa, the introduction stresses the company's commitment to innovation, quality, sustainability, and ethical practices.

1.1 Problem Statement
Due to increased worldwide competition, many manufacturing companies are being forced to cut costs while maintaining high levels of customer satisfaction. South African manufacturing company experience issues such as customer complaints, excessive inventory, cash flow issues, unfulfilled annual organization goals, imbalances in supply and demand. It is well known that when demand exceeds supply, the production organization may struggle to offer the desired volume, which can affect service delivery. Alternatively, if supply exceeds demand, stockpiles may rise, resulting in reduced output, plant closures, and layoffs, lowering the organization's competitiveness. Sales and

operations planning, often referred as aggregate planning, helps in the management of issues brought by overproduction or underproduction, such as wasted resources, poor customer service, and a negative impact on the organization's bottom line.

1.2 Aim and Objectives

The aim of this research was to investigate the impact of sales and operations planning techniques on manufacturing organizations, as well as to suggest ways to improve operational performance.

The objectives are:

- To determine the degree to which sales and operations planning practices are used to improve operational performance.
- To determine the relation between sales and operations planning, and operational performance.
- To Identify factors that leads to poor operational performance and suggest ways for improvement through sales and operations planning practices.
- To make recommendations based on sales and operations planning processes to improve production operational performance.

2. Sales and Operations Planning

Sales and operations planning is a management approach and a comprehensive set of transverse and longitudinal arrangement management activities inside the organization and in the supply chain (SC) that strives to enhance performance by connecting the gap between production and consumption gap (Thome, 2012). Business, strategic, tactical, and operational planning are all connected through vertical alignment.

Sales and operations planning is a method of integrating available assets to overall supply aims to improve customer satisfaction as well as company needs at the same time (Sousa, 2014). Sales and operations planning, according to (Gupta, H., 2011) is a unified decision-making approach including senior executives, sales/marketing, processes, and accounting/finance that oversees the entire operational, sales, and financial strategy to accomplish organizational goals. As a result, sales and operations planning improves the company's capacity to respond swiftly to price and quantity adjustments. While the significance of sales and operations planning is clear, previous research indicates that sales and operations planning has yet to keep its assurance (Kristensen, 2018). According to practitioner study, many organizations that implement sales and operations planning do not follow the technique correctly or obtain the intended results. As a result, sales and operations planning research is insufficient, both conceptually and empirically, failing to offer organizations with a full analysis of the sales and operations planning strategy and fundamental achievement drivers. As a result, the aim of this research is to establish and empirically test a theoretically based platform for identifying the determinants of effective sales and operations planning.

2.1. The objectives of manufacturing operational performance

An organization will choose the proper operational performance benchmarks to measure and create the environment necessary to achieve the goals after defining its corporate strategy (Schroeder, 2018). To increase overall production efficiency within a manufacturing company, it is crucial to know the operational performance targets (Ahmad, 2018). These operational performance objectives incorporate the following objectives: speed, quality, cost, flexibility, and dependability.

2.1.1 Speed

The purpose of speed is to assess how fast an organization can supply products and produce sales quotes. This objective will be concerned with problems such as the time needed to produce and handle one or more of the organization's productions, as well as the time needed to conduct study and create a new product. In the manufacturing industry, speed is essential and a reliable indicator of how productive the firm is (Cortes, 2016).

2.1.2 Operational Flexibility

The process of developing product lines to fulfill a variety of needs and quickly changing these market segments to new needs is referred to as operational flexibility. Flexibility is closely tied to speed, as an organization should be able to manufacture a range of high-quality items while adapting to fluctuating market conditions (Molinaro, 2018).

2.1.3 Product Quality

Quality often assesses how closely a product matches the requirements. While this is important, there is much more to it than that, and the product's value is also very significant. A crucial element of the performance objectives is having a useful product that is reliable, long-lasting, simple to maintain, effective, and approved by customers (Hidalgo, 2019).

2.1.4 Cost Variation

The purpose of cost variation is to establish how much variability exists in a product's unit cost because of changes in a variety of components. Product volume and variety are examples of these features. Products with numerous features often have a lower volume and higher unit cost. This determines the item's pricing, as well as its production costs and profitability (Shahbaz, 2018).

2.1.5 Dependability

Dependability is an important aspect of processes and performance objectives. Dependability is an organizational effectiveness goal that assesses an organization's reliability in terms of timely delivery to clients at defined pricing and costs. The capacity of a product to function as intended over time is another sign of dependability (Ramayah, 2020).

2.2 Sales and Operations Planning Processes

The average purpose of strategizing for sales and operations planning is 12 months, which corresponds to financial budget cycles (Kristensen, 2012). The procedure is usually agreed to be organized around some approximation of the steps, which are completed monthly (Johnson, 2018). First, information is collected at the end of every month, and quality requirements are modified focused on the previous month's results. Sales representatives produce preliminary demand predictions. These demand projections should be unrestricted, focusing on what can be sold to customers rather than what the company can produce. Anticipated marketing strategies, such as new product releases, as well as advertising and promotion plans, should be included in the consensus unconstrained sales estimate. Lastly, to ease continuing financial reconciliation, the updated estimates should be transformed into monetary terms. As a result, salespeople should consult with both marketing and finance department when developing an unconstrained demand estimate. The operations department will then develop an initial supply strategy at the same time. This plan combines supply objectives such as inventory design or drawdown with an unlimited demand plan to generate an irregular volume strategy (Johnson, 2018). The first two processes may include official or informal discussions, but the third step requires a formal sales and operations planning meeting. According to Kristensen (2018), two official meetings should be held. Medium directors and the sales and operations planning project leaders or product line supervisor participate in the first discussion, also known as the pre-meeting. The goal is to reach an agreement on demand and supply strategies, as well as to outline alternative scenarios if a solution cannot be reached. A new financial plan is also produced at the same time to evaluate current outcomes to the business strategy (Nabil, 2018). After the pre-meeting, a monthly culminating session with top-level executives and the sales and operations planning implementation team is frequently held. Executives come to an agreement on issues that could not be resolved during the pre-meeting. The importance of critical performance indicators is assessed, and corporate plans and strategies are modified as needed. These stages are normally done once a month (Nemati, 2017).

2.3 Sales and operations planning drives perfection

No industrial organization can operate at peak efficiency unless it has a solid sales and operations planning system integrated with its enterprise resource planning system. This technique is highly important when market conditions necessitate a fast shift to sustain production continuation caused by unforeseen events (Abdallah, 2017). There is no sales and operations planning solution that can predict when a major event will take place, but it can provide techniques to examine different courses of action, determine the best solutions to tackle the challenge, and limit damage (Ahmad, 2018). A reliable sales and operations planning system integrated with a complete enterprise resource planning platform equip manufacturers with techniques that are required to operate at optimal efficiency while remaining flexible enough to adjust swiftly when market differences arise (Schroeder, 2018).

3. Methodology

The research methodology encompassed the utilization of closed-ended questionnaires, observations, and surveys to gather data on the influence of sales and operations planning strategies on production operational efficiency. Electronic distribution of questionnaires facilitated efficient data analysis and ensured the anonymity of respondents, with their personal details remaining confidential. The study assured the privacy of 40 participants, omitting any mention of

participant or organizational names. The empirical findings were enriched by data obtained from the organization, a manufacturing company. The research aimed to delve into participants' perceptions of their organizational sales and operations planning processes, emphasizing a quantitative approach rooted in statistical, mathematical, and analytical assessments of gathered information.

3.1 Data Collection

The study employed a variety of data collection methods to examine the impact of sales and operations planning strategies on production operational efficiency. Closed-ended questionnaires, electronic in nature, were distributed to participants, ensuring anonymity and privacy of personal data. The questionnaire, approved by the company manager, had a two-week response deadline, streamlining data collection and analysis. Additionally, the study incorporated observation as a participatory method, involving immersive context exploration with notes and captures. This approach allowed for both planned and unplanned observations. Lastly, surveys were utilized to gather data from a specified sample, employing standardized procedures to maintain consistency in participant responses and prevent biased opinions from influencing the study results.

3.2 Research Area, sample size and target population

The study focused on how sales and operations planning techniques influence production performance, hence sales and operations planning professionals were the study's primary target group. Interns from operations and supply chain department, sales operations administrators, sales operations specialists, sales operations coordinators, sales operations analysts and directors of sales operations. The investigation was conducted at a manufacturing company Gauteng, South Africa. Forty (40) participants completed the survey.

4. Results and Discussion

The study employed a descriptive analysis method to examine information collected through distributed questionnaires and surveys. The 40 respondents, divided into different groups, responded to a questionnaire with three sections. The research utilized a quantitative technique, incorporating both primary and secondary data. Primary data collection involved the use of questionnaires, surveys, and observation, employing probability sampling to identify participants. Secondary data was obtained through relevant literature review. Data analysis was an ongoing process, occurring concurrently with data collection, involving grouping comparable concepts into subcategories and further organizing them into primary groups.

4.1 The influence of sales and operations planning practices on operational performance

Table 1 presents the respondents' agreement levels regarding the impact of sales and operations planning procedures on production operational efficiency, using a five-point scale Strongly (SA), Agree (A), Neutral (N), Disagree(D), Strongly Disagree) (SD). The table displays results from 40 respondents, including mean and standard deviation calculations. Respondents generally concurred on the importance of sales and operations planning in organizations, the need for effective planning, the non-guarantee of increased profitability by implementing the sales planning system, the risk of poor operational performance without adherence to procedures, the importance of measuring procedure effectiveness, and the generation of a one-number plan distributed across functional formats. The mean and standard deviation for the overall respondent data are presented in Table 1.

Table 1. The influence of sales and operations planning practices on operational performance

To what extent do you agree that sales and operations planning practices has an influence on manufacturing operational performance?	SA	A	N	D	SD	Total	Mean	Standard Deviation
1.Sales and operations planning is essential in any organization.	31	9	0	0	0	40	4.775	4.266146
2.Sales and operations planning drives manufacturing performance.	21	17	2	0	0	40	4.475	3.98748
3. Aligning finance and budget with sales and operations planning is crucial.	9	21	10	0	0	40	3.975	3.507136
4. Collaboration of sales and operations department makes it easier to match supply and demand.	9	24	6	0	1	40	4	3.549648
5. Sales and operations planning provide reliable short-to-long range forecasts of market needs	10	21	5	4	0	40	3.925	3.5
6. Implementing sales and operations planning does not guarantee increased profitability.	26	13	0	1	0	40	4.6	4.117038
7. Failure to follow the sales and operations planning procedures might result in poor operational performance.	24	15	1	0	0	40	4.575	4.080441
8. Based on the business and its aims, planning for sales and operations may take place on a monthly, annual, or even two-to-three-year basis.	0	24	8	8	0	40	3.4	2.966479
9. It takes some level of direction and advice to plan sales and operations successfully.	28	12	0	0	0	40	4.7	4.195235
10.Sales and operations planning results in one-number plan that is then distributed in functional specific formats of sales, supply, inventory, and financial plans.	11	18	10	1	0	40	3.975	3.528456
11. It is essential to measure the performance of the sales and operations planning procedure.	13	26	1	0	0	40	4.3	3.801316
12. Implementing sales and operations planning speed up the logistics process.	7	23	7	3	0	40	3.85	3.405877
13. Sales and operations planning provides support, stability, and meaningful benefits.	10	18	10	1	1	40	3.875	3.456877

4.2 The benefits of effective sales and operations planning practices

Figure 1 reveals that 26 respondents strongly agree, and 13 respondents agree that sales and operations planning improve service delivery. 2 respondents selected neutral and none of the respondents disagreed with this statement.

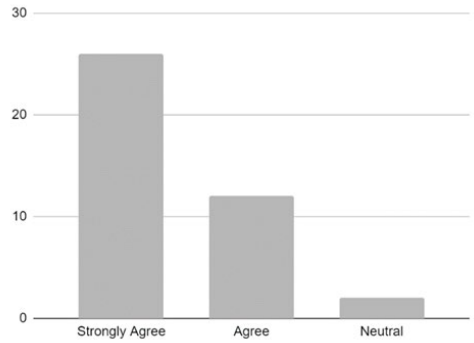

Figure 1. Influence of sales and operations planning on improving service delivery.

Figure 2 shows that out of the 40 participants, 20 strongly agree, and 18 agree that sales and operations planning reduce out of stocks. 1 participant was neutral, and 1 disagreed with this statement.

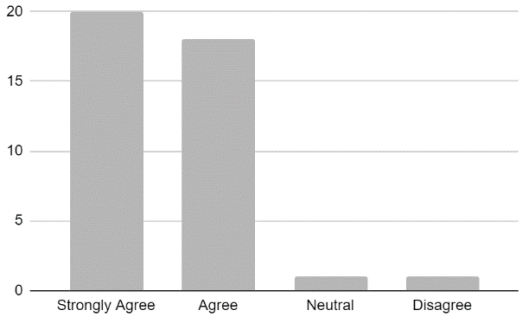

Figure 2. Influence of sales and operations planning on reducing out of stocks

Figure 3 shows that 17 participants strongly agree, and 22 agree, that improving labor productivity is one of the sales and operations planning benefits. 1 participant selected neutral, and none of the participants disagreed with this statement.

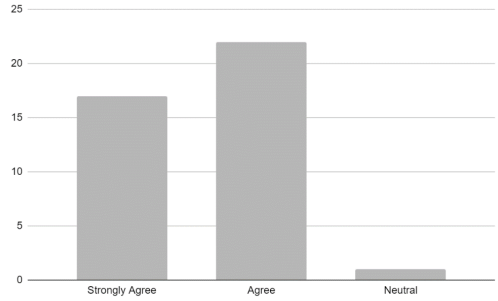

Figure 3. Influence of sales and operations planning on improving labor productivity.

5. Findings

The findings on the benefits of sales and operations planning processes for production efficiency. For improving promotions effectiveness, 7 participants strongly agree (SA), 20 agree (A), 6 are neutral (N), 6 disagree (D), and 1 strongly disagrees (SD). In terms of fixed cost optimization, 14 strongly agree (SA), 19 agree (A), 5 are neutral, and 2 disagree (D). For the reduction of freight cost, 12 strongly agree (SA), 22 agree (A), 4 are neutral (N), and 2 disagree (D). Regarding raw materials and work in progress reduction, 14 strongly agree (SA), 19 agree (A), 6 are neutral (N), and 1 disagrees (D). Finally, for finished goods inventory reduction, 21 strongly agree (SA), 15 agree (A), and 4 are neutral (Figure 4).

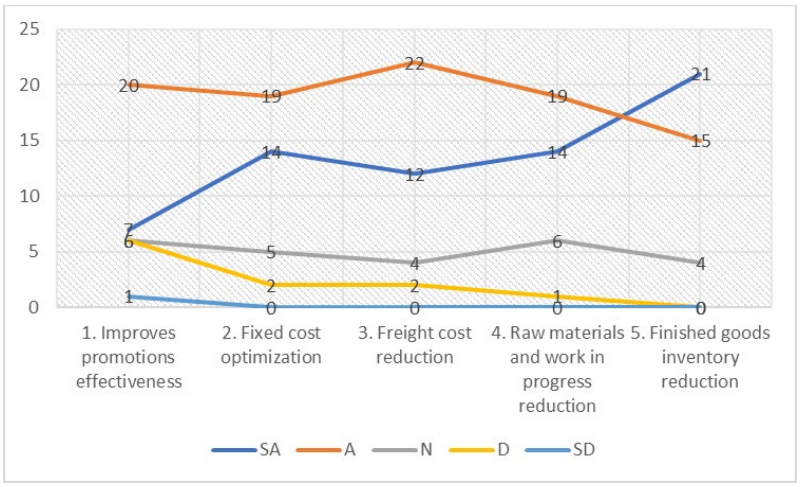

Figure 4. Benefits of sales and operations planning practices.

7. Conclusion

Manufacturing organizations utilizing sales and operations planning (S&OP) processes often face challenges by overcomplicating the process, especially regarding Key Performance Indicators (KPIs). Attempting to monitor numerous aspects of supply and demand may render planning ineffective, leading to oversight of departmental visibility. Instead, organizations should focus on identifying crucial KPIs that genuinely assess the collaboration and performance of various departments. S&OP is a continuous process that relies on learning from past failures, emphasizing the need for comprehensive documentation of previous plans and practices.Cross-organizational collaboration forms the foundation of successful sales and operations planning. Involving stakeholders from all aspects of the business during the planning stage is essential for effectiveness. Neglecting divisions like operations and finance while prioritizing only the sales department can undermine the utility of the S&OP process. Investing in S&OP resources facilitates accurate alignment of demand and supply aspects, fostering a cohesive and productive organizational environment.

The study had four research objectives. The first objective aimed to assess the impact of sales and operations planning practices on operational performance. The findings indicated that these practices contribute significantly to managing consumer demand and maintaining operational capabilities, providing a consistent set of numbers for strategic, tactical, and operational planning. Notable benefits included improved labour productivity, service delivery, reduced material costs, fixed cost optimization, enhanced promotional effectiveness, and finished goods inventory reduction.
The second objective sought to establish the relationship between operational performance and sales planning. Results showed a positive correlation, emphasizing the pivotal role of effective sales and operational planning in manufacturing operational success. Planning, especially through sales and operations planning, enables organizations to assess their market position and proactively address supply chain and demand issues.

The third objective aimed to identify factors leading to poor operational performance and how sales and operations planning practices address these issues. Findings underscored that inadequate production procedures, redundancy, poor planning, complicated processes, and inefficient resource allocation contribute to poor performance. Sales and operations planning enhances internal visibility, enabling better product management, promotion scheduling, and inventory control. It mitigates inefficiencies stemming from wasted resources, overproduction, and suboptimal customer service.
The fourth objective focused on making recommendations based on sales and operations planning processes to enhance organizational efficiency and effectiveness. Recommendations included regularly reviewing organizational performance against business goals, involving input from all levels, prioritizing improvement areas, and developing action plans with deadlines. The study emphasized the necessity of patience in mastering sales and operations planning for consistent growth, development, and stability.

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Biographies

Dr Khathutshelo Mushavhanamadi is a Senior Lecturer who is highly Knowledgeable and a Business Professional, an Esteemed Leader who's highly Focused and Committed with a Consistent track record. As an out of the ordinary dynamic individual, she appeals to an astute can-do positive attitude focused on creative solutions which always propels her to challenge convention. Dr Mushavhanamadi holds a PHD Degree in Engineering Management and possess extensive experience in the Academic, Research, Consulting & Advisory Industries. An Esteemed Leader in the Training & Development Space of Enterprise Resource Planning, Operations Management, Production Planning and Control & Project Management. Her research interests involve green supply chain management, operations management issues, production planning and control, Operations management, Enterprise Resource Planning, and Quality management.

Lebogang Seopela is an operations management graduate who is dedicated and goal-oriented, with a consistent track record. She is currently working as a quality control intern. She is a performance-oriented leader with demonstrated history in strategic planning. Lebogang Seopela holds a Postgraduate Diploma in Operations Management and possess a strong academic record. Her research interests involve the impact of sales and operations planning practices on manufacturing operational performance.