

LITERATURE SURVEY OF GLOBAL SALES DATA ANALYTICS

ABSTRACT

The purpose of this paper is to analyse the global Sales and Operations Planning (S&OP) process and investigate the steps to support consolidated business planning in worldwide operations and large-scale supply chains. The paper conducts a case study at a multinational manufacturing company applying an abductive approach. It combines the deductive logic from theory and the inductive logic from field observation in an attempt to elaborate further on theory on global S&OP. The analysis is structured and guided by a novel framework for global S&OP, which is developed based on the theoretical background and the case study findings. The research findings characterise the S&OP process for global operations and identify challenges related to the need to synchronise the subsidiaries' S&OP efforts worldwide to deal with different contingencies of these subsidiaries, and to manage and analyse a large amount of information gathered. The research reveals how the subsidiaries' performance is analysed by top executives along the global S&OP process, feeding strategic initiatives in the organisation and identifying business opportunities like benchmarking among subsidiaries, synergies with other management practices, and global gains. This paper offers a novel investigation of the global steps on S&OP in a real-life setting, offering a well-documented characterisation of the process that goes beyond the traditional local approach. Moreover, it is the first study to reveal challenges and expected outcomes of such a global perspective for S&OP. The theoretical advancements of S&OP research offered herein aid scholars, opening avenues for middle-range theorising, highlighting the cross-disciplinary nature of the domain, and discussing the use of concepts from related disciplines like Economics, Psychology, and Information Systems. The research findings can also assist executives, especially from multinational manufacturers, in their efforts to consolidate global planning.

INTRODUCTION

The fierce competition in the global markets has forced multinational manufacturing companies to review their strategies, systems, and processes to succeed. Multiple environmental factors complicate today's business management, including globalisation, an increasing supply chain complexity, and, just recently, the impacts of the worldwide COVID-19 pandemic. To face turbulent markets and uncertain economic environments, global corporations are putting more focus on their supply chain processes. and supply chain planning, in which sales and operations planning (S&OP) has become one critical factor S&OP is a management process leading to cross-functional coordination and integration .It is situated at the tactical level and is conducted periodically, usually once a month . S&OP balances demand and supply within the company and along the supply chain .If properly implemented, S&OP may contribute to increasing the company's supply chain and overall performance.

Theoretical background

A successful S&OP implementation increases profit by decreasing costs and increasing revenues and improves operations' performance regarding customer service, demand forecast, inventory management, and manufacturing resources . However, successful implementations obtaining the full benefits are challenging and still rare . A central reason for this is the lack of a complete understanding of S&OP , which requires a wide-ranging characterisation of the process . This section presents current literature findings aiming to address the issues regarding the S&OP understanding and process characterisation. The following two subsections offer the S&OP building blocks and the S&OP process steps from a local to a global scope. The findings are structured by two central frameworks identified in the S&OP literature.

Research method

The extant literature on S&OP guided the development of the study's research questions, the purpose and general objective, the case selection, and the data gathering method choice, following Yin . The research initiates with a deductive logic , having the literature body on the theme as the starting point to analyse the S&OP phenomenon and its connection to large-scale supply chain and global operations. Two suitable S&OP frameworks were deduced from

the theoretical S&OP background (i.e. Thomé et al. and Wallace and Stahl). As the knowledge in the literature about global S&OP is scarce, an exploratory qualitative case study is conducted, structured and guided by the offered frameworks to advance theory. The research applies an abductive approach. It combines the deductive logic from theory and inductive logic from field observation, in an attempt to elaborate further on theory on global S&OP, in a manner consistent with Ketokivi and Choi's strategy for theory elaboration in case study research. By building upon existing frameworks, the research applies the perspective of Meredith's theory development approach aiming to advance the understanding on global S&OP, in the sense recently called for by Kreuter et al. synthesises the research approach in a comprehensive roadmap.

Data analysis

Theoretical replication using a pattern-matching technique was adopted for the analysis. Consistent with Almutari et al. , the pattern-matching technique embraced the phases of

- (i) stating the expected patterns based on the theoretical S&OP frameworks identified;
- (ii) testing the empirically found patterns for each S&OP design parameter in all steps of the process;
- (iii) providing advancements of the original theory and developing research outcomes as regularities and contrasts between theory and observation.
- (iv) The regularities and contrasts of the global S&OP process in the subsidiaries and corporate headquarters were systematically analysed, guided by the two identified S&OP frameworks. Wallace and Stahl's framework was applied to analyse how the process steps are conducted to move from a local to a global S&OP scale. Thomé et al.'s framework aided in obtaining an S&OP understanding through analysing the main .