

SALES AND OPERATIONS PLANNING (S&OP): A PERFORMANCE FRAMEWORK

Scott C. Ambrose; Kennesaw State University, Emory & Henry College
sambrose@ehc.edu

ABSTRACT

Sales and operations planning (S&OP) is a formal process instituted by companies that attempts to balance customer demand with product supply. In a recent survey of global manufacturers, 70% of the study participants had implemented an S&OP process suggesting broad adoption, at least among large-scale firms (Propokets 2012). Companies expend significant resources and human capital trying to make S&OP successful. The process is carried out by what can best be described as a cross-functional planning team comprised of mid-level managers and analysts (Stahl 2010; Wagner, Ullrich, and Transchel 2013). In order to achieve S&OP success the team must reconcile all demand and supply plans at both the detail and aggregate levels and remain synchronized with the overall business plan. Given the complexity and cross-functional nature of the S&OP process, this is a challenge for most companies.

Given the practical importance of S&OP, academic research has begun the process of identifying what factors are predictive of successful S&OP initiatives. A synthesis of the literature indicates that interest in S&OP is growing (Tavares Thomé et al. 2012) with fifteen papers published in 2010 alone focused on S&OP. This is compared to less than a handful of yearly articles throughout the early-to-mid 2000s (Tavares Thomé et al. 2012). However, most articles to date have been authored by consultants and practitioners, appearing in mainstream media operations and supply chain publications. In fact, less than 15% of articles related to supply-chain alignment are published in scholarly journals (Wong 2012). This is especially true in the marketing field, where very few S&OP studies have been undertaken. Given that marketing has been virtually silent on the specific topic of S&OP, it can be reasoned that many marketers view S&OP purely as a supply chain initiative. Considering the important role that marketing and sales have in managing the demand-side of the S&OP equation, this lack of marketing attention represents cause for concern (Juttner, Christopher, and Baker 2007). In more specific terms, engagement of sales in the S&OP process can help in uncovering hidden revenue opportunities during windows of excess supply capacity (Lapide 2004).

Underscoring the need for more empirical research is general agreement among practitioners and academics alike that S&OP has yet to fulfill its promise of consistently helping firms to achieve greater demand and supply alignment (Grimson and Pyke 2007; Iyengar and Gupta 2013). Researchers have yet to empirically determine which factors matter more in an S&OP context. Therefore, the purpose of this study is to develop and empirically test a model of S&OP performance across a wide range of industries. The model is based on an input-process-output (IPO) framework and grounded in principles of group effectiveness theory (Hackman 1987; McGrath 1964). IPO frameworks have been used widely across the organizational behavior literature for organizing and studying variables related to team effectiveness (Stewart 2010).

The challenges posed by S&OP originate at interfaces between marketing and operations subgroups, most frequently, the interface between sales and manufacturing. These groups are often at odds largely because they have different goals and they are motivated (e.g. incented) to achieve them in different ways (Mello 2010; Shapiro 1977). Sales representatives are typically motivated to grow revenue and be responsive to customers, entailing preferences for wide product variety and selling with a full complement of available products (Olivia and Watson 2011; Singh 2010). On the other hand, manufacturing managers are often incented and evaluated according to production efficiency measures, entailing preferences for narrow product scope and discrete inventory levels (Olivia and Watson 2011; Shapiro 1977). From a social perspective, marketing (e.g. sales) managers have typically risen up through the sales ranks while plant managers have ascended through production as foremen and production supervisors. Thus, both groups are pre-disposed to have fundamentally different cultures (Shapiro 1977). This phenomenon was initially referred to over 40 years ago by the management sage Peter Drucker, who called it the “great operational divide” within organizations – the gap between operational and customer facing employee groups that causes goal incongruence and inefficiency as a result (Drucker, 1954).

Group effectiveness theory suggests that the success of various work teams hinges on both internal group dynamics and contextual factors that are external to the team but still within the firm (Hackman 1987). This study puts forth social cohesion and decision making centralization as internal factors that impact constructive engagement of the S&OP team. Contextual influencers projected to affect constructive engagement include having team-based rewards/incentives, resources/time allocated for S&OP work, and procedural quality. In turn, constructive engagement is projected to lead to higher levels of S&OP performance as measured by host of factors that are important to both sales and operations groups.

A key informant approach was employed asking S&OP team members to reflect on their experiences and a survey instrument captured the responses. The final data consisted of 123 respondents consisting of 70 from sales and 53 from operations, thus, achieving a balance of perspectives from both groups. Partial least squares structural equation modeling (PLS-SEM) was used to analyze the data based on the exploratory nature of the research, model complexity, small sample size, and research goal of maximizing prediction (Hair, Ringle, and Sarstedt, 2011).

Results indicate that among the internal team factors, social cohesion is positively associated with constructive engagement, while centralization is negatively associated with constructive engagement. The negative association between centralization and constructive engagement suggests that S&OP teams are more likely to engage when empowered with decision making autonomy. With regard to contextual influencers, having team-based rewards/incentives and procedural quality positively influenced constructive engagement. Meanwhile, having an abundance of resources and time for S&OP work did not spur additional engagement. Lastly, constructive engagement serves as significant predictor of S&OP performance.

The implications are that managers should focus on supporting both internal team factors and contextual influences that will foster constructive engagement of the S&OP team. Further still, the presence of informal meetings and challenging of assumptions within the team are signals to management that constructive engagement is occurring; and, when constructive engagement is present, S&OP performance is more likely. For academics, grounding the S&OP process within an input-process-output model of group effectiveness will hopefully foster more programmatic research in this important area of management practice.

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