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# Evolving Purchasing and Supply Organizations: A contingency model for structural alternatives

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#### ABSTRACT

Purchasing and Supply Management (PSM) is under significant pressure to find levers to further increase its contribution to corporate goals. In order to improve performance in line with expectations, Purchasing and Supply Organizations (PSOs) have to evolve continuously. To help address this challenge, a comprehensive contingency framework of PSO structures is presented. The framework is based on existing literature on PSO contingency factors as well as analysis of two case companies. The findings highlight the importance of taking a contingency perspective for understanding the PSO and combining a detailed view of macro-level structural dimensions with micro-level characteristics. These macro-level dimensions comprise category, business unit, geography and activity. The micro-level characteristics comprise centralization, formalization, specialization, participation and standardization. From a theoretical perspective, the contingency framework opens up insights that can be leveraged in future studies in the fields of hybrid PSOs, global sourcing organizations, and International Purchasing Offices (IPOs). From a practical standpoint, an assessment of external and internal contingencies and their relation to specific structural dimensions and characteristics provides the opportunity for more consciously evolving the PSO to continue to improve PSM's contribution.

#### 1. Introduction

With increasing reliance by firms on suppliers' inputs and contributions, the Purchasing and Supply Management (PSM) function's importance as the interface managing these inputs has increased (Van Weele and Van Raaij, 2014). Leverage can be gained through cost savings on the external spend side, as well as in speed, quality, and flexibility with the right supply base (Carr and Smeltzer, 2000; Choi and Krause, 2006; Scannel et al., 2000). During the last decade and financial crisis, PSM has intensified its efforts to put many of these levers in motion. As a result, the function is now under increased pressure to search for additional value generation, placing particular emphasis on true integration of suppliers, having them bring actual product or process innovations, as well as sustainability, to the table, often across borders and time zones (Schiele, 2012, 2010; Caniato et al., 2012).

Goals such as supplier innovation and sustainability are quite different from previous goals focused on maximizing savings or operative efficiency through increasing automation rates. These considerations raise the question of how to organize PSM functions to fulfill PSM goals optimally. Towards this point, Schneider and Wallenburg (2013) reviewed 50 years of research on organizing the PSM function to evaluate whether more research is needed on Purchasing and Supply Organization (PSO). They conclude that (p. 152) "future research will need to consider especially (a) how to support purchasing's growing importance and enlarged set of responsibilities by (more) effective and (more) efficient organizational structures. (b) how to deal with increasing market dynamics and volatility by providing purchasing with the structural adaptability and flexibility necessary to support the company's overall market responsiveness and competitiveness".

While research has demonstrated that firms make frequent major changes to their organizational structures, e.g. in order to optimize costs (Leenders and Johnson, 2000), further research on the decision process and the actual structural dimensions chosen are needed (Johnson and Leenders, 2006, 2012). Specifically, Johnson and

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Leenders (2006, p. 333) concluded that "largely absent from the purchasing literature is research that examines the environment-strategystructure relationship." Fortunately, some extant research on PSOs has taken a contingency perspective, yet only to a limited extent (Zheng et al., 2007). The work by Rozemeijer et al. (2003) stands out in contingency theory based PSO research: they highlight in their conceptual model that the (a) business context (market, technology and business environment), (b) corporate organization, (c) corporate strategy, and (d) purchasing maturity (the level of professionalism in purchasing) impact corporate purchasing synergy, structure, and ultimately, performance. In line with this Glock and Hochrein (2011, p. 173), based on their extensive literature review on PSO research from 1967 to 2009, suggest that further research needs to "1) Analyze inconsistent results between contextual variables and the structure of the purchasing function. [...] 4) Identify additional contingency relationships to further our understanding of which situational factors influence the PO [purchasing organization]." At the same time, recent research on International Purchasing Offices (IPOs) has highlighted that a more comprehensive description is required in order to characterize PSOs (Jia et al., 2014).

Addressing these research gaps, our study aims to shed light on PSOs using a Contingency Theory Perspective. Our overall research objective is to propose a comprehensive contingency framework for the PSO, highlighting areas for future research. The research question is: How do external and internal contingency factors affect PSO structure? We seek to address this question by providing insights on two more specific research questions:

- I) How can PSO structure be comprehensively described?
- II) How do contingency factors influence evolution of the PSO?

We start by summarizing the existing literature on PSO dimensions and contingency factors in Section 2. Next, a description of the methodology follows in Section 3, and Section 4 presents the main results of the two cases. Section 5 discusses the main results and summarizes them as propositions. In Section 6, the paper closes with the main conclusions, limitations, managerial and research implications.

# 2. Dimensions of Purchasing and Supply Organization, contingency factors and performance

The term PSO is an established way to refer to how PSM activities and competencies are organized and structured in the firm (Carter et al., 2000). The overall research framework that summarizes the literature review is shown in Fig. 1. As a novelty to PSO research, the distinction of macro-level dimensions and micro-level characteristics is introduced in this paper to clarify the respective units of analysis.

To illustrate how previous research lacks a common language for this differentiation, Narasimhan and Carter (1990, p. 9) noted this difference like this: "a firm can adopt either a centralized, decentralized, or matrix organizational structure in conjunction with various forms of divisionalizations. Each of these organizational forms can be further segmented by geography, product, or both." These "divisionalizations" are what we refer to as macro-level dimensions, and the hierarchical coordination (centralization) is one of the micro-level characteristics, as this degree can be decided for each of the macro-level "divisionalizations". What they then referred to as "further segmented" would just be a sub-dimension on the macro-level. In this case first macro-level by category (e.g. raw materials), then second macro-level by geography (e.g. region). For each of these macro-level choices, further choices on micro-level can still be made separately, both on the

global and local levels. For example, the global category managers (division by *category*) might operate in a hybrid mode, i.e. part of the organization operates centralized in headquarters, another part remains co-located at production site locations (division by *geography*), but is coordinated closely with headquarters. However, most existing research does not differentiate macro and micro levels. As a result, a firm exhibiting a "mixed" approach to centralization as described above, would be labelled as "hybrid" without detecting the actual differences in macro structures and the global versus local structures.

Therefore, to summarize the conceptual background on PSO structure for this paper, the macro-level unit of analysis is the PSM department structure (org chart view) in terms of the *dimensions* chosen. The micro-level unit of analysis is with which *characteristics* PSM processes are enacted *within* a department structure (e.g. with which degree of standardization).<sup>2</sup> In this application, micro does not refer to the level of the individual employee, but delimits the overall PSO organizational design (macro) from the more detailed design of how it is operated (micro). The organizational dimensions and characteristics, as well as the contingency factors, will now be described. For the performance shown on the right in Fig. 1, we refer to the comprehensive literature review and empirical investigation by Caniato et al. (2012), who defined the key purchasing performance indicators as Cost, Time, Quality, Flexibility, Innovation and Sustainability.

#### 2.1. Describing the Purchasing and Supply Organization (PSO)

While the degree of centralization has been one of the most studied organizational changes of the PSO (Johnson et al., 2014; Tchokogué et al., 2011), so far organizational structures at the macro level are seldom studied specifically. Instead, they are mentioned rather implicitly as different structural alternatives for PSM, for example, organization by (a) categories (e.g. Ates et al., 2017; Karjalainen, 2011; Luzzini et al., 2014; Nellore and Motwani, 1999; Trautmann et al., 2009a, 2009b), (b) product line divisions, or by (c) geographic area (e.g. Cavinato, 1992; Giunipero and Monczka, 1997; Narasimhan and Carter, 1990). These are taken up in this study explicitly as three structural dimensions a PSO can have on the macro-level: Category, business unit/customer, and geography. The resulting structural dimensions are summarized in Table 1.

In line with this, recent research on IPOs has highlighted that the situation is much more complex than just looking at centralization. According to Jia et al. (2014, p. 290) "centralization/decentralization of a purchase structure obviously depends on how the responsibilities are divided along the levels introduced **above** [emphasis added]." They continue by mentioning that sometimes the structure is by business units, sometimes by the IPOs in their respective location. In the terminology put forward in this paper, this directly refers to the macrolevel structure and mentions the macro-level dimensions business unit and geography. Table 2 summarizes both the macro- and micro-level attributes previously employed in academic literature to describe the PSO. The literature review on the PSO by Schneider and Wallenburg (2013) highlighted the most studied dimensions of the PSO structure. Their study analyzed 212 journal articles on the PSO topic alone, over a 50-year period. It resulted in 99 articles in the category 'structure and formalities' and 26 articles in the subcategory 'structural determinants.' Of the 26 journal articles, 14 studies specifically highlighted the most frequent features of the PSO over those years sampled. We summarized the content of these 14 studies in Table 2 and unsurprisingly, the centralization versus decentralization dichotomy is the most prevalent. Research has defined centralized and decentralized PSOs based on the locus of decision-making (Arnold, 1999; Johnson and Leenders, 2001,

<sup>&</sup>lt;sup>1</sup> Other theoretical lenses than contingency theory applied in PSO are research transaction cost theory, open system theory, resource-based view, information processing theory, agency theory, experience curve and game theory (Glock and Hochrein, 2011).

<sup>&</sup>lt;sup>2</sup> This terminology is similar to previous research that has referred to the macro-level as "organizational design" and micro-level as "department/division" (e.g. Poole and Van de Ven, 1989, p. 570), but in this paper the macro-level is already the PSO department level.

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