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Performance-based contracting in business markets

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ABSTRACT

The aim of this Special Issue is to advance our understanding of performance-based contracting (PBC) in business markets. PBC has the potential for aligning incentives among buyers and sellers and fostering innovation. This paper critically reflects on extant research in order to develop a systematic knowledge map of PBC research. On that basis four major research gaps are identified and addressed, drawing out specific avenues for further PBC research. The knowledge map is also used to illustrate the focus and main arguments of the articles featuring in this Special Issue.

1. Introduction

Existing literature reviews on performance-based contracting (PBC) have shown a dramatic increase of scientific contributions being published in that area over the last decade (e.g. Hypko, Tilebein, & Gleich, 2010; Selviaridis & Wynstra, 2015). Recent studies published in Industrial Marketing Management (IMM) have highlighted the increasing importance of 'servitization', an adjacent topic to PBC, with particular emphasis on the academic discourse of service offerings, service pricing, and contracting for services (e.g. Brax & Visintin, in press; Kowalkowski, Windahl, Kindström, & Gebauer, 2015; Ulaga & Loveland, 2014). This Special Issue (SI) builds on these contributions and addresses explicitly the contractual aspects of servitization and the role of PBC more specifically. The purpose of this article is not only to provide an overview of the SI papers, but also to frame the topic and to suggest directions for future research on PBC on the basis of remaining knowledge gaps.

A focus on PBC is needed due to the increasing stream of research on service business development (servitization) across many industries and the use of numerous synonymous terms to describe the PBC phenomenon such as 'performance (-based) contracting', 'performance-based logistics', 'outcome-based contracting', 'availability contracting', 'pay for performance', and 'performance-based service acquisition'. Thus, it is not surprising that multiple definitions of PBC exist in the literature stressing aspects such as definition of performance in terms of outputs and outcomes, the design of incentive payment systems, financial risks and risk transfer to suppliers, and asset ownership issues (e.g. Brucker & Stewart, 2011; Hypko et al., 2010; Kim, Cohen, Netessine, & Veeraraghavan, 2010).

As PBC links service or integrated solution providers with their industrial customers, it is also of importance for the academic discussion and theory development in industrial marketing (IM) and its 'counterpart' in operations and supply management (OSM). PBC is a promising contractual mode which enables business partners to adopt 'use rather than own' strategies. Thus, PBC can be seen as an approach that represents a supply chain application of the service-dominant-logic theory (Randall, Pohlen, & Hanna, 2010). PBC is also of high relevance to practice, as (complex) service offerings are increasingly important to the world-wide economy. This can be illustrated with recent service offerings of space freight transport (e.g. Space X company), pay per use of aero engines (e.g. the often cited Rolls Royce aero engine support-case), full service offerings for machinery and equipment (cp. the discussion of outsourced manufacturing), or full service fleet and mobility management (helicopter to forklift trucks) (Kleemann & Essig, 2013; Randall, Wittmann, Nowicki, & Pohlen, 2014; Seedhouse, 2013). These examples compare with the B2C market and examples such as Uber (mobility), AirBnB (lodging), Dim Dom (toys), GirlMeetsDress (clothes), movies (Netflix), parking spaces (parkatmyhouse), land (Shared Earth) and many other companies and offerings using a 'use/access rather than own' strategy (Earley, 2016). It seems necessary to have a closer look at relevant contractual arrangements to analyze the impact of that strategy in the industrial and manufacturing context (Malhotra & Van Alstyne, 2014).

Existing research appears to converge on some common denominators and collectively defines PBC as a contracting approach whereby

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payment to the provider (supplier) is tied either partially or fully to its performance (Selviaridis & Wynstra, 2015). However, the literature is less in agreement about what constitutes 'performance' with some studies suggesting that performance includes both service outputs and outcomes (e.g. Axelsson & Wynstra, 2002; Martin, 2007), while others referring only to outcomes (e.g. Ng, Ding, & Yip, 2013). The majority of the literature in fact fails to explicitly define clearly 'outputs' and 'outcomes' and comments on their differences (for a notable exception see Martin, 2007). In this introductory article, PBC is defined as a contract which provides incentives for business outcomes. This means that a service provider is compensated according to the contribution made to the business results of the service buyer and pricing depends (at least to a certain extend) on the service performance level that is actually rendered (Fig. 1).

The remainder of the paper is structured as follows. The upcoming Section 2 discuss extant literature on adjacent areas of system selling, integrated solutions, and procuring complex performance, before positioning PBC research in IM and OSM. The section cumulates in proposing a PBC framework. Next, the papers of the SI and the existing PBC literature are mapped according to the framework, which also leads to the identification of remaining research gaps. These findings are briefly discussed and specific suggestions for future research avenues are provided in the subsequent conclusion section.

2. Performance-based contracting research: state of the art

This section reviews the state of the art of PBC research. We first discuss the relevance of PBC to the wider IM and OSM literatures, addressing adjacent concepts such as solutions and systems selling, product-service systems and procuring complex performance (PCP). Key studies which explicitly focus on PBC within these adjacent areas are highlighted. Finally, we provide a brief account of the current status of extant PBC literature across disciplines and propose an overarching framework of PBC research to further drive systematic research efforts to inform academics and practitioners alike.

2.1. PBC relevance to industrial marketing and purchasing

'System selling' or 'systems marketing' as pioneered by the industrial marketing literature and dating back to the 1960s (Mattson, 1973) form the roots of solutions provision. System selling is defined as the provision of products and services as integrated systems that provide solutions to client's operational needs (Page & Siemplenski, 1983). Later, industrial marketing management research heralded the move from 'system selling' to 'solution selling'. Solution selling encompasses the complete activity chain for a client, creating a new role for the seller to become a 'strategic consultant' able to foster the client's value creation processes (Cova & Salle, 2007). Whereas systems selling strategies focus on answering the client's operational needs (Azimont, Cova, & Salle, 1998), solution selling strategies develop the client's core business. The industrial marketing literature identifies two contrasting pure forms of solutions providers: systems sellers and systems integrators. Systems sellers are vertically integrated organizations producing all (or most) components in-house or in collaboration with a group of firms. Systems integrators are responsible for integrating goods and services supplied by multiple vendors and service providers (Davies, 2004; Prencipe, Davies, & Hobday, 2003).

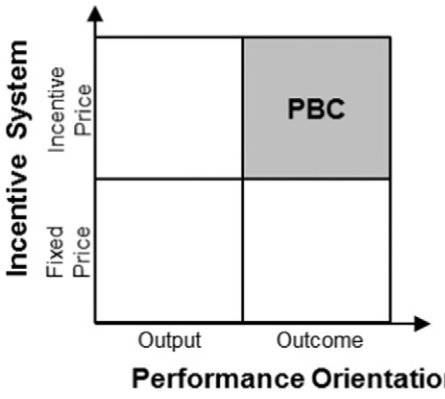

Fig. 1. Dimensions of PBC.

Extant literature in IM and OSM literatures and adjacent areas offer a myriad of labels describing solution offerings as 'integrated solutions' (Davies, Brady, & Hobday, 2006), 'customer-centric business solutions' (Galbraith, 2002), 'product service systems' (Pawar, Beltagui, & Riedel, 2009), and 'customer solutions' (Sawhney, Balasubramanian, & Krishnan, 2004). Following Tuli, Kohli, and Bharadwaj (2007), these labels consist of three common key characteristics: (i) a solution involves a combination of goods and services, (ii) which are customized to address particular client's requirements, (iii) and products and services – and the related tasks – in a solution must be integrated to work together. These labels characterize the 'service-dominant logic' (Vargo & Lusch, 2004) and the move towards 'servitization' (Vandermerwe & Rada, 1988) for organizations from different sectors. Beyond contract-oriented theories, the service dominant logic (SDL) of Marketing is a key perspective employed to study PBC. It mainly stresses the role of relational governance mechanisms such as trust, collaboration, open communications and information sharing to manage the co-production of service outcomes between the buyer, supplier and other supply chain partners (e.g. Ng, Maull, & Yip, 2009). As mentioned earlier, PBC can be seen as the approach that represents a supply chain application of service-dominant-logic theory (Randall et al., 2010).

The shift towards integrated solutions mainly started with manufacturing firms seeking to expand their revenue income and then it appeared in sectors focused on delivering complex products and systems, so called CoPS (Hobday, 2000). For instance, the aero-engine manufacturer Rolls Royce offers not only aircraft engines to its customers, but also earns revenues from providing 'total care' solutions through 'power by the hour', offering services throughout an engine's lifecycle to ensure that customers pay for a product in use. Extant research regarding solution provision has investigated this concept from the perspective of either the supplier (Galbraith, 2002), the buyer (Kapletia & Probert, 2009), or the evolving inter-organizational relationship between supplier and buyer. Studies adopting the latter perspective have tended to focus on value co-creation from a consumer goods (Prahalad & Ramaswamy, 2004) and manufacturing industries perspectives (Payne, Storbacka, & Frow, 2008). Value for both, provider and customer, is created by enhancing operating efficiency, enabling market expansion, and mitigating risks throughout the asset's lifecycle (Cornet et al., 2000).

Lewis and Roehrich (2009) argue that although there is an increasing number of studies exploring this transition towards servitization and integrated solutions, the majority focuses on challenges faced by the provider. Hence, fewer studies focused on challenges associated with this transition from the buyer's side to explore issues around 'procuring complex performance' (PCP) (Caldwell & Howard, 2010). In other words, PCP studies explore the challenges customers of bespoke product-service solutions face (Caldwell, Roehrich, & Davies, 2009). PCP is defined as "inter-organizational arrangements that are characterized by significant levels of performance complexity (i.e. must include numerous knowledge intensive activities) and infrastructural complexity (i.e. must include substantial bespoke or highly customized hardware and software elements)" (Lewis & Roehrich, 2009, p.128). PCP investigates the inherent challenges and complexities of managing operations in environments that have complex infrastructural and performance requirements (Caldwell & Howard, 2014). At the heart of PCP is the notion of adapting to the dynamics of emergent customer requirements particularly across capital intensive sectors such as construction, healthcare, aerospace and defense (Hartmann, Roehrich, Frederiksen, &