



Review

A systematic assessment of supplier selection literature – State-of-the-art and future scope

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ABSTRACT

With the growth in outsourcing in various sectors, the selection of the right suppliers is increasingly critical to a firm's business success. However, a thorough analysis of the extensive spectrum of supplier selection literature has not yet been performed. To address this gap, we conduct a comprehensive and systematic literature review. The purpose is to examine in detail the evolution of the extensive body of research, its research streams and areas for further research. We developed a classification framework that contains six streams of research derived from the extensive literature comprising both a quantitative and qualitative content analysis. To this end, this paper contributes a structured, large-scale and longitudinal review of 221 papers published in leading journals from 1990 to 2015 and carefully elaborated research recommendations to further advance supplier selection. Results reveal tremendous scientific progress in the last two decades, a trend predicted to continue. Moreover, the findings show that particular streams have been strongly accentuated whereas other important aspects lack examination. Research on mathematical approaches clearly dominates the body of supplier selection. Green and sustainable as well as strategy oriented supplier selection are at an early stage of the research cycle and represent upcoming streams. Contextual perspectives, such as behavioral aspects, theoretical foundation, or multi-period/ longitudinal settings also require further attention.

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1. Introduction

Supplier Selection (SS) is described as one of the most significant processes in the Purchasing and Supply Management function (Ghodsypour and O'Brien, 1998; Kaufmann et al., 2010) and widely understood as a crucial management responsibility (Golmohammadi and Mellat-Parast, 2012). Due to a strong trend in outsourcing in various sectors (Spina et al., 2013), the collaboration with the right suppliers becomes increasingly important. The associated SS decisions are complex and critical to organizations' competitiveness as considerable revenue is spent on purchasing in most industries (DeBoer et al., 2001). Moreover, several recent empirical studies on SS underpin its effects on a firm's business performance (Kannan and Tan, 2002; Koufteros et al., 2012; Thornton et al., 2013). Thus, it is not surprising that many authors attribute a key role to SS, e.g. (Amid et al., 2011; Parthiban et al., 2013).

The SS problem has received significant attention in the extant literature. Previous research has especially focused on selection criteria or on various mathematical optimization approaches that trade off multiple criteria analytically to select the optimal supplier(s) (Sen et al., 2008; Kaufmann et al., 2012). More recently, topics such as green and sustainable SS are gaining a presence in academic debate. However, a literature overview that captures and structures a comprehensive picture of SS literature and its many research streams has not been provided so far. Several reviews show a partial overview of SS research, include other issues from purchasing, are dated, analyze a narrow time period or lack methodological rigor (Section 2). Moreover, previous research does not review additional important themes in the context of SS (contextual perspectives), like theoretical foundation, behavioral issues, dynamics or process orientation. Nor, has its focus been to guide future research interest.

To address these gaps, this paper provides profound insights into and an examination of SS literature published in leading academic journals and develops a comprehensive categorization to understand, structure and create a longitudinal overview of the extensive body of SS literature. Our main purpose is to systematically review developments in pertinent SS literature with high scientific value in order to extract existing research topics and

perspectives, as well as to synthesize through research recommendations to direct future avenues of research. Accordingly, this paper aims to contribute to the literature in three important ways: First, we expand preceding research by providing an updated and comprehensive review of SS issues that is deeper and broader than prior academic work. We examine a sample of 221 contributions and omit other purchasing-related issues to tailor our review to the very body of SS research. We focus on 23 leading academic journals and utilize a clear and transparent review method to represent the full spectrum of high-quality research and create robust, reproducible results (Denyer and Tranfield, 2009). Second, we provide an aggregated view of previous reviews on fragmented topics but also ease limitations by incorporating empirical, conceptual and mixed-method papers. Third, we examine the discipline's current state and further evolution. Therefore, we categorize the operational streams researched since 1990 and disclose trends by performing a longitudinal analysis and uncovering several contextual perspectives. This will both enable scholars in the future to explore missing knowledge and help decision-makers to better comprehend the body of SS and its potential benefits. In summary, two questions have guided our review:

- **RQ1:** How can the developments and areas of research in SS literature within the last quarter century be characterized?
- **RQ2:** What is the life-cycle status of each research stream and are new streams emerging?

The paper continues with a short background on relevant definitions and previous reviews, followed by a description of our review methodology, leading to the creation of the classification framework. This framework then serves to structure Section 4, which presents the key findings by stream and contextual perspectives. Section 5 discusses and synthesizes the literature by positioning streams according to their growth potential and elaborates research recommendations. Managerial and theoretical implications are then discussed. Finally, Section 6 concludes the review in view of our RQs.

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