Chapter VIII
Bundling for Online Reverse Auctions: Approaches and Experiences

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ABSTRACT

This chapter provides insights into bundling practices for online reverse auctions by exploring approaches and reporting experiences of 252 companies in the U.S. manufacturing industry. Within the context of Parente, Venkataraman, Fizel, and Millet’s (2004) conceptual framework for the analysis of online auctions, aspects of the “Product Characteristics” component were explored. Bundling issues investigated include content, goals, structure, and performance. Following the theme of the book, differences and similarities in bundling behavior and outcomes between small and large enterprises are emphasized, highlighting the impact of firm size and the resulting strategies explored. While large corporations are usually on the forefront of information technology adoption and use, the potential is significant for smaller firms as well. As such, this chapter provides managerial insights, useful especially to smaller companies, for successfully employing bundles in reverse auctions.

INTRODUCTION

An important aspect in online reverse auctions is the design/configuration of the order lot that is put up for bid to potential suppliers (Mabert & Skeels, 2002). The order lot can consist of a single stock-keeping unit (SKU), but is most often comprised of several different products and/or services bundled together in a single request for quotation (RFQ) (Schoenherr & Mabert, 2006).
We define this *bundling* activity as the aggregation of two or more products (SKUs) and/or services by an industrial buyer into a bundle that is put up for bid to potential suppliers as part of a single RFQ.

The practice of bundling has received some attention in economics (e.g., Adams & Yellen, 1976) and marketing (e.g., Stremersch & Tellis, 2002), but bundling research for the purchasing function in an enterprise has been sparse. Furthermore, while bundling (that is, lotting, combining, and aggregating) is frequently practiced in offline procurement, its criticality is heightened in online bidding events, especially in online reverse auctions used today, due to their usual short duration and constrained environment (Mabert & Schoenherr, 2001; Beall et al., 2003; Schoenherr & Mabert, 2006). Despite the importance of this task, little systematic discussion or evaluation has taken place concerning this practice. Therefore, the objective of this chapter is to provide insight into bundling approaches and experiences gained during online reverse auctions by enterprises, and following the theme of the book, to identify differences and similarities that exist between small and large enterprises in this regard. Past studies have shown that firm size is a particularly influential factor in explaining adoption, implementation, and use of information systems (e.g., Raymond, 1990; Yap, 1990; Mabert, Soni & Venkataramanan, 2003).

Within the context of Parente et al.'s (2004) conceptual framework for the analysis of online auctions, which is based on systems theory, this chapter provides analyses and results about the “Product Characteristics” component, influencing auction dynamics and, ultimately, auction outcomes. Both products and services are considered in this chapter for outside provisioning, and therefore the term “item” is used instead of “product.” As such, “item” denotes one purchasable component of a bundle, whether it is a product or a service (cf., Cavinato & Kauffman, 1999). The narrative below not only explores item characteristics, but also the impact that the *combination* of items auctioned off in a single auction event may have.

Specifically, this chapter provides detailed insight about bundle usage in online reverse auctions, including the predominant types of items chosen, the number of items, the spend included in a bundle, the contract length associated with the bundled items, the preparation time to set up the bundle, and what goals are pursued by having items bundled together. In addition, bundle structure in terms of item difficulty (i.e., the degree of complexity the individual items possess, such as highly-engineered components vs. off-the-shelf commodities) and overall bundle complexity (i.e., the degree of homogeneity vs. heterogeneity of the items in the bundle, or a bundle with similar items vs. one with diverse items) will be discussed. The impact of these characteristics on purchase performance, as measured by percent savings achieved, is also assessed. In line with the theme of this book, differences and similarities are discussed, with implications, especially as they relate to small-and-medium-sized enterprises.

To explore these issues in detail, data were collected with a large-scale survey from purchasing professionals in manufacturing, randomly drawn from the membership database of the Institute for Supply Management (ISM). A total of 252 respondents, having indicated using bundles for online reverse auctions, fully completed the questionnaire.

This chapter proceeds as follows. The subsequent section presents an overview of relevant literature in bundling and online auctions, providing background and stressing the need for research in this area. Next, the methodology is described, followed by a discussion of respondent characteristics. The following section then presents the results, which are split into the four subsections of bundle content, bundle goals, bundle structure, and bundle performance. The next section provides a summary of the research findings and managerial insights, with the last providing conclusions.