Portfolios of buyer–supplier exchange relationships in an online marketplace for IT services

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ABSTRACT

Most studies on the role of IT for economic exchange predicted that under a given set of exchange attributes buyers would choose a certain mode of relationship with suppliers. Our study of an online IT services marketplace revealed that buyers do not have a single, uniformly preferred type of relationship, but rather maintain a portfolio of relationships. Furthermore, different buyers arrange their portfolios of exchange relationships in different ways. We found four clusters of buyers' portfolios of relationships labeled Transactional buyers, Recurrent buyers, Small diversifiers and Large diversifiers, that differ in their usage of auction or negotiation mechanism, their supplier relations as well as their usage of preferred suppliers. Our results thus paint a richer picture of how buyers organize their supplier networks online.

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1. Introduction

There are different perspectives on how IT shapes the way buyers deal with suppliers. These perspectives cover an entire spectrum of buyer–supplier relationships from distant and arms-length to closely intertwined and collaborative [12,26,28]. Early transaction costs analysis of electronic markets and hierarchies saw the main effect of IT as reducing coordination costs of exchange by decreasing asset specificity and complexity of product description [28]. In a number of exchange situations, IT was predicted to initiate a shift from hierarchical governance of transactions towards market procurement of goods from independent suppliers.

A different set of arguments focused on explicit coordination of market transactions, which is costly due to the efforts needed to control transaction risks [12]. IT lowers the costs of explicit coordination by decreasing the specificity of assets required for explicit coordination and diminishing the costs of monitoring. The result is a trend towards long-term outsourcing relationships with a limited number of suppliers, rather than arms-length or hierarchical governance [12]. A complementary approach stressed the importance of suppliers' investments into non-contractible attributes of exchange, such as quality, supplier responsiveness, information sharing and innovation that are needed to create value in many exchange situations [3,4]. The supplier is likely to make such investments only when he can expect to appropriate part of the resulting value, which is less likely to happen when buyer plays a large number of suppliers

against one another. As a result, in situations where the effect of non-contractible attributes is important for value creation, limiting the number of suppliers to few "partners" is the best strategy [3,4].

Empirical studies into this debate have found mixed results that suggest that in practice, the effects of IT on economic exchange are more nuanced. For instance, Holland and Lockett found that rather than sticking exclusively to market or hierarchical governance, firms use both modes in parallel with several exchange partners, and the degree to which one mode prevails depends on market complexity and asset specificity involved [21]. This suggests that it may be fruitful to look at the portfolio of supplier relationships maintained by a buyer. In our study we aim to further this line of inquiry by investigating an online market for IT services, to see if even in this almost perfect market setting, we still find added value from a portfolio approach.

A new impulse into the discussion on the role of suppliers in exchange relationships resulted from the recent wide-spread adoption of online reverse auctions in corporate procurement. A reverse auction is an auction, where suppliers bid for fulfilling buyer's contract [22]. Reverse auctions enable buyers to boost competition among suppliers and considerably cut contract prices as a result [6]. What consequences this has for buyer–supplier relationships is subject of hot debate. Not surprisingly, the party that suffers from the new procurement practice is incumbent suppliers: a number of studies report incumbent suppliers losing their buyer accounts to aggressive new suppliers [15,23]. Reverse auctions do not seem to contribute to good buyer–supplier relationships neither with incumbent suppliers nor with the new ones — both types report increased suspicions of buyer opportunism after taking part in reverse auctions [23]. For the buyer, instead of savings, switching to a new, barely known supplier may result in problems with contract execution, e.g. low quality level [15,40].

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However, other evidence shows that auctions do not necessarily harm buyer–supplier relationships but can be used as a part of sourcing strategy that involves other considerations beyond purchasing price reduction. Jap suggests that buyers often use reverse auctions as a "wake-up call to the complacent supplier base" rather than to obtain a lower price [22] and can allocate long-term contracts via reverse auctions [14]. According to recent studies, incumbent suppliers are much more likely to win contracts than new suppliers and also enjoy price premiums over the latter [14,45].

The diverse results of the studies on the effect of reverse auctions on buyer–supplier exchange relationships highlight the lack of a comprehensive picture. In particular, systematic evidence is needed on how buyers use reverse auctions over multiple transactions [24]. Literature calls for more research in similar directions. For instance, Pinker et al. [31] ask: "How does that option of saving through auctions compare to the option of building a relationship with a supplier and achieving cost reduction through integration?" [31: 1478]. A similar question comes from Elmaghraby [14]: "…if a buyer has used an auction once with success, should she continue to use it regularly, or should auctions be used infrequently and in combination with other procurement mechanisms?" [14: 18–19].

Triggered by the questions posed by the previous studies, we are going to address the following research question: what portfolios of exchange relationships are formed by buyers with their suppliers over multiple transactions involving online reverse auctions?

In this study we take an exploratory approach to theory-building. We will aim at developing a taxonomy of buyer–supplier exchange relationships and the accompanying use of online reverse auctions by investigating patterns of exchange relationships that form in practice.

The exploratory approach to empirical research is used along with the confirmatory approach in the literatures on inter-organizational relationships and information systems research. Confirmatory approaches take a taxonomy deduced from extant literature and test for the occurrence of pre-defined constructs and types, whereas exploratory approaches derive the taxonomy inductively from the data and then relate the resulting types back to theory. While traditionally the confirmatory approach has tended to dominate, exploratory approaches have been used effectively as well, particularly, in situations where existing theory was deemed insufficiently detailed to do justice to the richness of the field setting. In the studies on inter-organizational relationships the exploratory approach has been employed to extract and analyze empirical patterns of inter-organizational relationships and sometimes to relate them to their antecedents and performance characteristics [7,9]. In the information systems literature the exploratory approach has been used to develop the taxonomy of eBay bidders and relate buyer types to auction winning likelihood and surplus [5] as well as to develop a taxonomy of industrial bidders at online reverse auctions [45].

The advantage of the exploratory approach over the confirmatory approach is that the former allows for uncovering empirical patterns that can depict the limits of existing theories, while its disadvantage is that often there is little or no theoretical guidance for the selection of variables [7]. This disadvantage of the inductive method will be mitigated in our study by drawing on extant theories in selecting taxonomy dimensions as well as in explaining the resulting configurations and their properties.

By using the exploratory approach in this study we aim at developing an empirical taxonomy of buyers' portfolios of exchange relationships with suppliers at an online marketplace for IT services. Carrying out the empirical study at an online marketplace (specifically, within two categories of services — Web design and Web programming) allows us to control for context factors that are normally believed to affect the boundary of a firm, such as market complexity and asset specificity. This enables us to focus on inherent heterogeneity of buyers' portfolios of supplier relationships.

The scientific contribution of this study consists in revealing the heterogeneity of buyer–supplier exchange relationships and explaining the empirical types of relationships portfolios and the role of online reverse auctions. This provides a valuable addition to the literature on exchange relationships and exchange governance, as most previous studies predicted exchange relationships to be homogenous under a fixed set of exchange attributes. We also find that online reverse auctions are primarily an attribute of arms-length exchange relationships, where buyer stimulates supplier competition and switches suppliers often. In portfolios with more enduring exchange relationships that recur through multiple transactions and where one supplier gets a considerable proportion of buyer's business, non-competitive negotiations are preferred to auctions. However, our findings do not contradict previous studies that suggested that reverse auctions can be used for supplier screening in long-term relationships and for allocation of long-term contracts.

From a managerial perspective, we provide insights into how online markets for IT services could serve exchange relationships that rely on longer-term considerations.

The paper is organized as follows. In the next section, we discuss previous research on buyers' portfolios of supplier relationships. Then, we discuss the taxonomy dimensions as well as antecedents and outcomes of portfolio configurations. This is followed by a discussion of the methodology, data, analytical procedures, and empirical results. Finally, we discuss findings and formulate conclusions and contributions.

2. Portfolios of exchange relationships

The concept of relationships portfolio has been used in marketing for a comprehensive analysis of supplier or customer base of a firm. The portfolio of relationships "captures the fact that relationships, like products, vary in their intensity and in the role that a firm plays relative to its stakeholders in the relationship" [37] p. 316.

Some of the notable applications of the concept of relationships portfolio (and similar approaches) have been analyzing buyer–supplier relationships from the viewpoint of their strategic importance, supplier attractiveness and the strength of supplier relationships [30]; costs and benefits of firm's customers [25,41], management of supplier relationships over time, as well as associated processes and technology [37], maximization of the value from supplier relationships through supplier investments into non-contractible exchange attributes [3,4], as well as to develop a typology of buyer–supplier relationships based on contextual factors and analyze portfolio properties and performance implications [8].

The objective of this paper is to explore empirical configurations of buyer–supplier relationships and buyers' use of exchange mechanisms. Therefore, focusing on buyer's portfolio of supplier relationships as a unit of analysis is a logical option. Using this concept will enable us to capture key dimensions of interest in the taxonomy development.

The portfolio properties we intend to analyze need to reflect the characteristics of exchange relationships, exchange mechanism and underlying business transactions. Reliance on these properties makes the taxonomy dimensions theoretically motivated in light of the literature reviewed above [5]. Below, we discuss the portfolio characteristics used as taxonomy dimensions and elaborate on their theoretical underpinning. We also identify several antecedents of portfolio configurations that are likely to influence portfolio formation and discuss portfolio performance.

2.1. Taxonomy dimensions

2.1.1. Buyer–supplier exchange relationships

Our conceptualization of buyer–supplier exchange relationships is rooted in the studies of the effect of IT on the governance and