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The effects of service supply on perceived value proposition under different levels of customer involvement

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ABSTRACT

Based on the resource-based view and service-dominant logic, this paper tries to examine how the process of offering product-centric or knowledge-centric services can integrate heterogeneous resources so as to create customer perceived value. In product-centric service supply, the tangible product itself is central to the provision of an integrated set of services, while in knowledge-centric service supply, intangible knowledge is central to the provision of an integrated set of services. The effects of the two dimensions on customer perceived value are quite different. This paper examines the specific conditions under which these effects arise by highlighting the important role of customer involvement as a way of mobilizing resources between the supplier and the customer. It adopts a large sample survey in the Chinese fine chemical industry. The results show that the two kinds of service supply can yield short-term economic value and technical value to buyers. Long-term relational value, however, can only be achieved through the mediating role of short-term value and only if customers can acquire knowledge-centric services. In addition, the effect of knowledge-centric service supply on technical value is stronger if the customer has a greater rather than lower extent of involvement.

1. Introduction

"Servitization" proposes that all organizations, markets, as well as society-in-general, are fundamentally centered on the exchange of service. For example, in recent years, the global service value-added share of gross domestic product (GDP) is more than 60%, but is over 70% in developed countries, while in developing countries it has reached an average level of 43% (Institute of Finance and Trade Economics, 2008). As the chairman of International Chamber of Commerce (ICC) and Li & Fung Group, Fung (2008), in a presentation entitled "Competing in the Flat World" commented "Companies are expanding their production in more cost-effective locations and developing their businesses in new markets. Their supply chains have become more complex because of their quest to expand product depth and customer base." (p. 2). Thus, competition is no longer solely based on products or services. Since the late 1990s, a range of researchers has studied the adoption, development and implications of servitization as a competitive strategy (Baines, 2011; Neely, 2008; Song, Chatterjee, & Chen, 2011; Vargo & Lusch, 2008; Wise & Baumgartner, 1999).

In order to gain competitiveness from selling products to selling an integrated product and service, service suppliers require processes, guidelines and strategies for their production and operations that differ from those associated with traditional manufacturing. Scholars such as Chase and Garvin (1989) and Wynstra, Axelsson, and Van der Valk (2006) suggest that a servitized firm employs a subtle and distinct mix of service classification and processes. The shift in the primacy of services affects exchange processes, markets, and customers (Vargo & Lusch, 2004). Not only do the production and marketing of services vary across services, so does their buying behavior. Gwinner, Gremler, and Bitner (1998) suggest that the importance and the degree to which customers perceive and receive value depend on the type of service. Distinct service supply mechanisms may have distinct effects on customer perceived value (Lovelock, Patterson, & Walker, 2007). In order to explain service value creation, analysts examine structural factors such as operant or operand resources, asset specificity (Yazdanparast, Manuj, & Swartz, 2010) or collaboration dynamics, organizational leadership, and information systems (Randall, Pohlen, & Hanna, 2010). In addition, it is important to examine the mechanisms underlying the fit between different dimensions of services provided by servitized firms and the value perceived by customers.

This paper draws on the central proposition of the resource-based view and links it to service innovation from not only a service provider's perspective but also from the customer's perspective. This work complements recent studies in three ways. First, this paper uses the heterogeneity assumption of the RBV to explain the two dimensions for classifying service strategies. One is "orientation of resources" based

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on the distinction between tangible or intangible resources (Barney, 1991; Rumelt, 1984; Wernerfelt, 1984), and the other is "integration of resources" based on the argument that the integration process itself creates a resource (Löbler, 2013; Payne, Storbacka, & Frow, 2008; Vargo & Lusch, 2011). This matrix distinguishes between product-centric service supply and knowledge-centric service supply. Second, this paper adopts resource–advantage theory to explain why value to customers matters. The perspective of time duration identifies different kinds of customer perceived value and distinguishes relational value from economic and technical values (e.g., Liu, 2006). The purpose here is to examine the mediating effect of short-term value on the relationship between service supply and long-term value. Third, this paper highlights that mobilization is the primary method of accessing resources (Mouzas & Naude, 2007), which is a process of utilizing relationships to other actors in order to connect resources (Chou & Zolkiewski, 2012). Customers are well-known to be sources of development resources involved in service creation (Carbonell, Rodríguez-Escudero, & Pujari, 2009; Froehle, Roth, Chase, & Voss, 2000; Zomerdijk & Voss, 2011). Thus, the final focus here is to examine when and how the customer's desire to be involved in this process may intensify, attenuate, or have no effect on the value outcome.

2. Theoretical background

2.1. Resource-based view and service-dominant logic

Compared with the early framework of industrial organization economics, the resource-based view (RBV) claims that firm-specific factors explain firm performance better than environmental or industry-structure characteristics. The key proposition of RBV is that firms will develop a competitive advantage by accumulating resources and capabilities that are rare, valuable, non-substitutable, and difficult to imitate (Barney, 1991; Rumelt, 1984; Wernerfelt, 1984). Therefore, firms try to identify distinct bundles of resources that will make them more competitive in the market, and then make use of these resources to achieve the strategic value (Sirmon, Hitt, & Ireland, 2007).

In particular, it is important to understand how a service provider can access resources that facilitate service innovation (Rusanen, Halinen, & Jaakkola, 2014). Vandermerwe and Rada (1988) define "servitization" as the practice of offering full packages or "bundles" of customer-focused combinations of goods, services, support, self-service, and knowledge among which services were beginning to dominate. Vargo and Lusch (2004, 2006) propose an alternative perspective of "service-dominant (S-D) logic", which claims that value inherently arises from the "service" that is embedded in all goods—whether tangible or not. This concept is consistent with Penrose's (1959) early idea that resources constitute a bundle of possible services. Thus, during service offering, resources would be used and augmented to generate value outcomes (Spring & Araujo, 2012). Based on the RBV and S-D logic, the following sections will discuss this process of value creation.

2.2. Resource heterogeneity and service supply

In the RBV, the heterogeneity assumption suggests that competing firms may possess distinct bundles of resources (Barney & Arikan, 2001). One dimension on which to distinguish resources is whether they are tangible or intangible assets (Barney, 1991; Rumelt, 1984; Wernerfelt, 1984). The value of tangible and intangible resources also varies. Itami (1987) suggests that physical assets must be present for business operations to take place, but invisible assets are necessary for competitive success. Conventionally, "products" (tangible outputs embedded with value) which are the primary focus of economic exchange and "services" (usually plural) are either a restricted class of (intangible) products (e.g. Wise & Baumgartner, 1999; Desmet, van Dierdonck, & van Looy, 2003); or add-ons that enhance the total value of goods (e.g. Gebauer & Friedli, 2005; Verstrepen, Deschoolmeester, & Van den Berg, 1999).

In order to perform a specific intended activity, resources must interact with other resources (Harrison & Hákansson, 2006), which explains higher performance in firms that combine resources than in those which use resources in isolation (Payne et al., 2008; Vargo & Lusch, 2011). Löbler (2013) concludes that only integrated resources provide *service*. In this sense, "service" is a process of doing something of value for another party, without any necessary reference to goods (or services) and reveals service to be the primary focus of exchange activity (e.g. Lewis, Staudacher, & Slack, 2004; Ren & Gregory, 2007; Vandermerwe & Rada, 1988). Thus, another dimension to distinguish among resources is the degree of integration along the spectrum of offering goods or services separately to offering goods combined with closely related services to combining goods, services, support, self-service and knowledge (Baines, Lightfoot, Benedettini, & Kay, 2009; Vandermerwe & Rada, 1988).

Based on the dimensions of orientation and integration of resources, Fig. 1 depicts four kinds of strategies that suppliers might implement as mechanisms for creating value.

Conventionally, services differ from products based on whether they are tangible or intangible. As the lower left quadrant of Fig. 1 shows, when companies only serve customers with limited integration capability and only a tangible focus, they are engaging in traditional production. Similarly, as the upper left quadrant of Fig. 1 shows, if suppliers provide intangible outputs with limited integration capability, they are engaging in traditional service operations.

The integration level of services transcends this conventional view. As the lower right quadrant of Fig. 1 shows, when a firm provides extensive services closely linked to products or bundled with other materialized objects to create differentiation and potentially generate a services revenue stream (Raddats & Burton, 2011), they are engaging in a kind of servitization, the aim of which is to introduce manufacturing principles to services by materializing, standardizing, specifying or packaging services and making them more tangible (Gebauer, 2008). This kind of servitization constitutes "product-centric service supply" which couples a portfolio of services directly to a product offering. As the upper right quadrant of Fig. 1 shows, another service supply process occurs when a supplier delivers output-based services in a multi-vendor environment, which takes over responsibility for customers' value chain operations. Such a process combines intangible services (expertise, people, etc.) with knowledge-centric processes (a fluid mix of framed experience, values, contextual information, and expert insight) to deliver knowledge-driven solutions (Davenport & Prusak, 1998). In this situation, firms enable customers to co-create value by modeling knowledge, adding intelligence, and enabling learning (Davenport & Prusak, 1998; Nonaka & Takeuchi, 1995). Since knowledge rather than product is

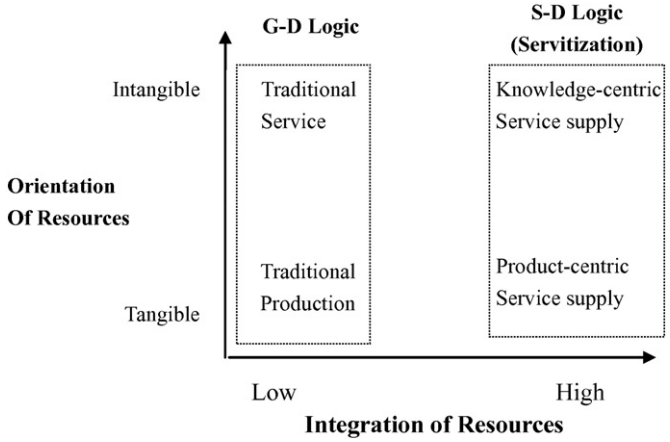

Fig. 1. The classification of service strategies.