Industrial Marketing Management 39 (2010) 1278–1290

Contents lists available at ScienceDirect

Industrial Marketing Management

Integrated solutions from a service-centered perspective: Applicability and limitations in the capital goods industry

Charlotta Windahl [a,*], Nicolette Lakemond [b,1]

[a] The University of Auckland, Business School, Department of Marketing, Own G Glenn Building, 12 Grafton Rd, Auckland 1142, New Zealand
[b] Linköping University, Department of Management and Engineering, SE-581 83 Linköping, Sweden

ARTICLE INFO

Article history:
Received 31 January 2007
Received in revised form 25 August 2009
Accepted 11 March 2010
Available online 27 April 2010

Keywords:
Integrated solutions
Goods
Services
Customer–supplier interdependency
capital goods industry

ABSTRACT

Although advanced services, or so called integrated solutions, have increasingly received attention in the literature, no coherent body of literature exists, and the relational dimensions and consequences of integrated solutions are not explored in detail. Based on the emerging literature, we develop a framework identifying four different categories of integrated solutions: rental, maintenance, operational and performance offerings. We also compare and contrast the service- and the goods-centered logics with the logic of integrated solutions, and thereby show how the reciprocal interdependencies increase between customers and suppliers. We explore these interdependencies further in three case studies of firms experimenting with integrated solutions, and identify dependencies related to process knowledge, process optimization, and process operations. The paper shows that rather than moving along a linear continuum from goods to services, firms developing integrated solutions need to balance elements of both goods- and service-logics, as well as manage the increased customer–supplier interdependencies that integrated solutions entail.

1. Introduction

A number of marketing scholars argue for a new dominant logic of marketing, where service provision, rather than goods, is fundamental to economic exchange, and the logic of which is applicable to any type of organization, industry and sector (e.g. Edvardsson, Gustafsson, Johnson, & Sandén, 2000; Edvardsson, Gustafsson, & Roos, 2005; Gronroos, 1994; Gummesson, 1994; Normann, 2000; Vargo & Lusch, 2004). As a consequence, manufacturing firms have been urged to reposition themselves as service organizations and focus on a new set of issues, including the development of customized offerings, increased customer involvement, and even co-production (Gummesson, 1994; Normann, 2000; Vargo & Lusch, 2004). Instead of short-term transactions, long-term relationships with customers are in focus in these 'new' interactions (Gronroos, 1994).

Despite increased emphasis on services in both literature and practice, questions remain about the applicability of findings when it comes to manufacturing firms in the capital goods industry (Grove, et al., 2003; Stauss, 2005). The literature on service development focuses on the services sector and tends to underexpose the goods-manufacturing industry; in addition, most services marketing research focuses on consumer markets rather than industrial markets (Jackson, Neidell, & Lunsford, 1995; Lovelock & Gummesson, 2004). As a result, scholars emphasize the differences between managing firms producing tangible goods and intangible services (Bowen & Ford, 2002; de Brentani, 1989; Vargo & Lusch, 2004), and often overlook a more integrated perspective which may better apply to the capital goods industry. Therefore, insight into how products and services could and should be integrated in the capital goods industry, the challenges connected to this integration, the extent of the service offering, and the factors to consider when deciding on the product–service mix in the capital goods industry is scarce (Grove et al., 2003; Oliva & Kallenberg, 2003). How the manufacturing firms in the capital goods industry operate in the so called service-dominant logic remains an open question.

In this paper, we explore the concept of integrated solutions and its relational consequences, specifically focusing on the capital goods industry. With integrated solutions, a combination of physical products or services, or both, plus knowledge are used to provide a specific outcome fulfilling the customers' needs. In a fully-fledged integrated solution, the supplier retains ownership of the equipment and increases the value for the customer (fulfils the customer's need) by reducing the customer's costs and/or enabling the customer to create new and more competitive offerings (Windahl, 2007). The buyer pays according to the level of usage or in relation to obtained cost savings, and thus the integrated solution becomes a running expense for the buyer rather than an investment (Soderstrom, 2003).

Drawing upon the relatively sparse literature on integrated solutions in the capital goods industry, the first objective of the paper is to create

* Corresponding author. Tel.: +64 9 923 6301; fax: +64 9 9236301.
E-mail addresses: c.windahl@auckland.ac.nz (C. Windahl), nicolette.lakemond@liu.se (N. Lakemond).
[1] +46 13 28 2525.

0019-8501/$ – see front matter © 2010 Elsevier Inc. All rights reserved.
doi:10.1016/j.indmarman.2010.03.001

an understanding of different types of integrated solutions. The second objective of the paper is to develop a framework that deals with relational dimensions and consequences of developing integrated solutions in the capital goods industry. More specifically, we address two research questions: (a) how can the concept of integrated solutions be operationalized, and (b) how do integrated solutions change the interdependencies between suppliers and customers?

2. Perspectives on integrated solutions in the capital goods industry: how can the concept be operationalized?

2.1. A review of existing literature

For firms in the capital goods industry, supplying integrated solutions differ from the traditional and established way of supplying products, spare parts and basic services. The literature describes the change in the offering in numerous ways: from less complete to more complete (Penttinen & Palmer, 2007), from unbundled to bundled (Stremersch, Wuyts & Frambach, 2001), from system to solution (Davies, Brady & Hobday, 2007), from standardized to customized offering (Matthyssens & Vandenbempt, 1998), and from product oriented to process oriented (Oliva & Kallenberg, 2003). The offering is usually connected to an increase in value for customers, and a focus on the customers' specific business rather than on technological needs (Shepherd & Ahmed, 2000).

An emergent stream of researchers from various backgrounds contributes towards an understanding of the opportunities and obstacles involved with supplying integrated solutions. Two main points of departure may be distinguished in this emerging literature: some authors discuss integrated solutions as the most advanced service offerings to the installed base (e.g. Gebauer, Fleisch & Friedli, 2005; Kumar & Kumar, 2004; Mathieu, 2001a; Oliva & Kallenberg, 2003; Stremersch, et al., 2001); other authors discuss integrated solutions as a change of strategy and emphasize the need for organizational changes and for the firm to reposition itself within the value chain (e.g. Davies, 2004; Foote, Galbraith, Hope & Miller, 2001; Galbraith, 2002a; Hax & Wilde, 1999; Phillips, Ochs & Schrock, 1999; Shepherd & Ahmed, 2000; Wise & Baumgartner, 1999).

So far however, there is no coherent body of literature on integrated solutions and a variety of different concepts are used. These include product service (Mathieu, 2001a,b; Phillips, et al., 1999), full service (Stremersch, et al., 2001), functional products (Kumar & Kumar, 2004), solution (Galbraith, 2002a), and integrated solutions (Davies, 2003; Wise & Baumgartner, 1999) (see Table 1). With only a few exceptions, the definitions are rather vague, include both consumer and capital goods, and omit further specifications of 'customer need', and fail to give real-life examples of integrated solutions. This complicates the process of comparing and contrasting findings and conclusions.

Therefore, drawing upon previous research, this section develops a descriptive framework for categorizing integrated solutions in the capital goods industry. In Table 1 we summarize important contributions from the integrated solutions literature specifically focusing on manufacturing and the capital goods industry. The contributions marked in grey are considered to have a main installed base focus. The unmarked contributions discuss integrated solutions from a perspective of changed strategies and organizational designs. In the next two sections, we further discuss these two perspectives.

2.1.1. Integrated solutions: extending the offering to the installed product base

Some scholars describe the move towards integrated solutions as a sequential process where firms in the capital goods industry extend and enhance service offerings to their installed base (e.g. Gebauer & Fleisch, 2007; Gebauer & Friedli, 2005; Kumar & Markeset, 2007; Kumar, Markeset & Kumar, 2006). In this view, the relative importance of services increases and the relative importance of tangible goods decreases when firms move along the product–service continuum. Firms thus move from being product manufacturers to becoming service providers.

Oliva and Kallenberg (2003) provide a useful description of the expansion of the installed base service offerings in the capital goods industry. They describe changes taking place in two dimensions: services change from being *product* oriented to end-user's *process* oriented and the customer interactions change from *transactional* to *relational*. Using these two dimensions, they identify four categories of services in the capital goods sector: basic installed, maintenance, professional and operational services. According to Oliva and Kallenberg (2003) advancing in the two dimensions towards operational services yields the 'pure service organization' — one that assumes operating risk and takes entire responsibility for the end-user's process. They argue that this move is to be taken only after the organization has established itself in the maintenance and service market; and since many firms are still in a current state of being early service providers, Oliva and Kallenberg do not expect an extensive transition towards operational services. Oliva and Kallenberg's study does not however include any firms that actually provide operational services.

Kumar and Kumar (2004) extend the scope of operational services. They discuss functional product contracts as a level of service which provides customers with access to a technology, rather than with the ownership of the equipment. Hence, the product manufacturers are responsible for operations and maintenance, and provide the customers with the opportunity to focus on their core business processes (e.g. production) and avoid expensive investments in operations and maintenance. However, Kumar and Kumar do not give any examples of functional products and they do not discuss challenges and hurdles for applying such a strategy.

Even though Stremersch et al. (2001:2) have an installed base focus, they also build further on including the product in the offering, and define full service as "a comprehensive bundle of products and/or services that fully satisfies the needs and wants of a customer related to a specific event or problem". In their framework for identifying full service, they include the dimensions of bundling (including both services and products) and extension in customer needs. The full service concept, developed by Stremersch et al. (2001), approaches that of a more integrated, strategic perspective on integrated solutions.

2.1.2. Integrated solutions: changing strategies and organizational structures

Authors who use a strategic perspective emphasize that competitive advantage is not only about providing services, but also about combining products and services, changing business models and becoming customer centric (e.g. Davies, et al., 2001; Foote, et al., 2001; Galbraith, 2005; Hax & Wilde, 1999; Miller, et al., 2002; Quinn, 1992; Slywotzky & Morrison, 1997; Penttinen & Saarinen, 2005; Wise & Baumgartner, 1999). This move represents a radical departure from a manufacturing firm's established strategy; it involves a change in expertise and attitudes and challenges conventional ways of thinking (Davies, 2003; Matthyssens & Vandenbempt, 1998). Penttinen and Palmer (2007) describe the move towards integrated solutions as a new strategic positioning which involves a change in the company's offering, from less complete towards more complete, and in the company's relations with its customers, from transactional to relational.

When firms move towards integrated solutions, the boundaries of activities performed by suppliers, customers and partners in the value stream change. Davies (2004) uses Womack and Jones' (1996) definition of the value stream to identify the value-adding activities involved in making, delivering, and using a product to provide services to the end-customers. In this, they include the entire set of value-adding activities in the life cycle of a specific product or service. The firms need to develop competencies within system integration (to design and integrate systems composed of hardware, software and