

Chapter 18

The Development of Servitization Concept in the Era of Industry 4.0 Through SCM Perspective

Tunca Tabaklar

Izmir University of Economics, Turkey

Cansu Yildirim

Dokuz Eylul University, Turkey

ABSTRACT

The transition from goods-dominant logic to service-dominant logic has captured the attention of industries for decades now. Servitization is one of the concepts that enable organizations to make this transition by providing services along with their products and has become an important competitive strategy for organizations to survive in their ecosystems. Thus, in this chapter, the objective is to increase the understanding of servitization concept in the era of Industry 4.0 from supply chain management perspective. The content analysis methodology is used to examine articles that bring together servitization and supply chain management and to find out where servitization stands with regards to Industry 4.0 applications. The findings show Industry 4.0 applications during servitization operations are yet to develop, and accordingly, the chapter concludes with further research directions in relations to servitization and Industry 4.0 applications in the frame of supply chain management.

INTRODUCTION

Traditionally, it was likely to increase market share through maximization of the tangible quality of a product or through productivity improvements via standardization techniques, nevertheless; globalisation and advances in technology in recent years have altered the business landscape, and this has changed value perception of consumers (Vandermerwe, 1990). As manufacturers have acknowledged that global

DOI: 10.4018/978-1-7998-8548-1.ch018

competition is not just based on price, they tried to create value through altering their orientation towards service (Gremyr et al., 2010), and start adding services to their product offerings (Vandermerwe, 1990).

In order to understand the concepts better, it is essential to start with definitions. A product is defined as anything offered to a market for consumers' attention, acquisition, use or consumption with an aim to satisfy their wants and needs (Kotler & Armstrong, 2006). Taken its roots from Industrial Revolution, the traditional language of exchange was dependent on products in which value was added during manufacturing process, and so on operand resources (tangible, static ones which need changes to make them valuable) (Lusch et al., 2008; Vargo & Lusch, 2008). This traditional paradigm is called goods-dominant logic (GDL), and it idealizes manufacturing and distribution of tangible goods as they can be standardized and inventoried until they are purchased by consumers (Vargo et al., 2010).

A service is, on the other hand, generally defined by not being a product (Baines et al., 2009a). The previous literature gathered the characteristics associated with services under IHIP characteristics which includes Intangibility, Heterogeneity, Inseparability (e.g. simultaneous production and consumption), and Perishability (e.g. non-storable or non-transportable) (Lovelock & Gummesson, 2004). However, the IHIP characteristics harden to study the services within the lenses of GDL (Vargo et al., 2010), thus a need occurs for a new paradigm: service-dominant logic (SDL). SDL emphasizes intangibles, know-how, and skills as the fundamental factor in exchange (Vargo & Lusch, 2004; 2008), hence it highlights operand resources (intangible and dynamic ones that can create value) (Vargo & Lusch, 2008) and a relationship based approach as it is a significant ingredient to form a set of loyal and profitable customers (Miller, et al., 2000).

Nevertheless, after some time, especially with the developments in technology, several scholars (e.g. Araujo & Spring 2006; Goldhar & Berg 2010; Pawar et al. 2009) stated that the IHIP characteristics are *myths* (Vargo & Lusch, 2004a), and there is no crystal-clear distinction between goods and services. Slack et al (2009) even rejected this distinction and supported Levitt (1972) by stating that if the objective of all business is to serve customers, then everybody is in service business. Therefore, it can be stated that every business, whether it is in manufacturing or service business, is providing service to some extent (Yildirim, 2010).

By keeping this argument in mind, as mentioned above, in order to survive in severe global competitive environment, organisations start to place service orientation at the center of their operations (Gremyr et al., 2010). Accordingly, they started to add services to their product offerings to create value (Vandermerwe, 1990), and this strategy is called as servitization (Vandermerwe & Rada, 1988). The aim of this research is to deepen the understanding of the servitization concept by identifying, interpreting, and summarizing the current knowledge in the era of Industry 4.0 through a supply chain management (SCM) perspective, and the subject will be detailed in the next sections.

The chapter is organized as follows: The next section investigates servitization and supply chain management and explains where these two meets. The two subsequent sections explain our research methodology and the findings from the content analysis, respectively. The last two sections present future research directions and the conclusion regarding what we have studied in the chapter.

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