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## Industrial service profiling: Matching service offerings and processes

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### Abstract

Firms using industrial goods as a resource in their own operations need support and services to maintain an efficient use of these resources. Education, spare parts and maintenance are just some examples of services required by many industrial customers. These services make up a large part of many industrial companies purchase budget, but, even more importantly, for the supplier these services often make up a substantial proportion of the company's profit. There is also a trend towards the integration of goods and services. However, there is little help available on strategies for the efficient supply or manufacture of such services. An operations strategy should not be limited to supporting just new sales if the after-sales market of industrial services has a large impact on the company's competitive advantage. A complete operations strategy should therefore be linked not only to the marketing strategy, but also to a service strategy of the company.

In this paper we take the supplier's view on the task of providing industrial services; i.e. the supply of after-sales services, including tangibles such as spare parts and consumables, related to the maintenance of industrial goods. We focus on the positioning of industrial services relative manufacturing, aiming at an integrated approach for manufacturing and service operations management. We extend the product-profiling concept of Hill to service operations, developing the concept of industrial service profiling, providing a detailed analysis of market and service offering characteristics relative production characteristics. The resulting profile reveals possible mismatches in the existing operations, and can also be used to identify areas in need of corrective actions.

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### 1. Introduction

Industrial service is becoming increasingly important to manufacturing firms for a number of reasons. To improve profitability it is not enough to sell just a product; the real impact on profitability comes from exploiting downstream

opportunities, by providing the customers with products such as financing, maintenance, spare parts and consumables (Knecht et al., 1993; Wise and Baumgartner, 1999). Since the majority of manufacturing companies (with industrial customers) not only deliver a tangible product but also serve an after-sales service market, there is a need to ensure that the operations strategy not only supports the new product sales, but also conforms

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to the after-sales service supply. Thus, it is essential to understand and appreciate how the industrial service operations of the firm are related to its manufacturing processes.

Strategy development within the service operations area draws on manufacturing operations management ideas to some extent. However, there are some distinct differences between manufacturing and services. Still, Schmenner (1986, p. 32) states: "service managers who claim that their operations are unique may be left in the dust by those who see their operations as more generic". Thus, there is a need for a structured approach for the strategic positioning of service operations. The positioning of manufacturing processes relative product and market characteristics, as suggested by Hayes and Wheelwright (1979a,b) through the product–process matrix, has been transferred to the service arena, most notably through the customer contact model by Chase (1981), the service process matrix by Schmenner (1986), and the classification schemes by Silvestro et al. (1992), Kellogg and Nie (1995) and Buzacott (2000).

In this paper we deal with industrial service, which is found at the intersection of manufacturing and service, and defined here as: "The supply of after-sales services, including tangibles such as spare parts and consumables, related to the maintenance of industrial goods". After-sales services as such are also commonly referred to as customer support, product support, technical support, and service (Goffin and New, 2001). When positioning case examples in product–process matrices for services we find that industrial service operations are found along the entire spectrum, i.e. industrial service is not one specific type of service in terms of service offering and service process characteristics. Rather we find that industrial service can have a large variety of demand characteristics in terms of, e.g., volume and variety, and that the service process may be designed differently, e.g. either centralised or distributed. Consequently, industrial service as such cannot be positioned in one clear place in a product–process matrix for services. Of the examples provided in the service literature we only find two related to industrial service, i.e. repair shop, typically auto repair (Schmenner, 1986; Wemmerlöv,

1990; Buzacott, 2000) and field engineering service (Silvestro et al., 1992). Thus, there is a need for a more detailed and focused investigation on analysing and positioning industrial services from a strategic point of view.

A detailed tool is developed in this paper for analysing and positioning industrial service, allowing for more aspects on the type of service provided and executed. We extend the product–profiling concept of Hill (2000) for manufacturing operations to industrial service, developing the concept of industrial service profiling (ISP), providing a detailed analysis of service operations characteristics relative market characteristics. First, we review product–process matrix initiatives for service operations, as well as the product–profiling concept for manufacturing operations. Then, we present the result of a broad literature survey in search of the characterising aspects of services and especially of industrial service that are related to different types of service offerings and different types of service processes. Then we create the industrial service profile to allow for an analysis of the fit between the service product and the service process, using a variety of aspects. We also discuss the use of the industrial service profile to indicate which types of analyses that can be performed.

## **2. Product–process matrix for service operations**

Introduced by Hayes and Wheelwright (1979a), the product–process matrix is an established tool for matching a product with its manufacturing process. Hayes and Wheelwright (1979b) also show how companies can use this tool in order to adapt to new situations in a continuously changing environment. Hill (2000) uses a similar approach in his process–volume matrix, and describes how active positioning in the matrix can be used to gain competitiveness, for example by striving for flexibility. There is a strong commonality between the above authors' results; however, they focus on manufacturing systems only; service production is not covered.

For service operations there are a number of matrixes, describing how various characteristics of

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