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Sustainable management of operation for Functional Products: Which customer values are of interest for marketing and sales?

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Abstract

The paper addresses which customer values, related to sustainable management of operation for Functional Products, are of interest during manufacturing companies' marketing and sales processes. Based on an empirical study covering five manufacturing companies, a set of customer values, which are categorized using Hill's [28] framework in order to understand whether they are important and why, is proposed. The analysis has generated a set of twenty-three potential values, whereof nine are considered as specific for contexts embodying Functional Products. Thus, the findings identify critical values to consider prior to, and when, selling Functional Products. Further, the results have important implications for the design and development of Functional Products in light of ongoing transformations within the manufacturing industry.

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1. Introduction

The current trend in the manufacturing industry to provide highly value-adding customer offerings, often comprising integrated products, services and additional constituents, has attracted substantial interest within the academic literature. There are a number of such offerings ranging from simpler ones to increasingly complex ones. Examples of such offerings, based on different but related business models or concepts, are e.g., solutions [1, 2], servitization [1], Extended Products [3], Through-life Engineering Services (TES) [4], Product-Service Systems/Industrial Product-Service Systems (PSS/IPS²) [5], Functional Sales (FS) [6], and Total Care Products (TCP) [7]. However, in this study we focus on the concept of Functional Products (FP) [7-10]. FP integrate the four main constituents: hardware, software, service-support system and management of operation, into provision of a

function with a guaranteed or agreed-upon level of availability to the customers. The provision of FP normally involves a long-term relationship, sometimes ranging up to twenty or thirty years, between the provider and the customer. The FP concept shares similarities with the above-mentioned concepts regarding the importance of increasing soft parts such as support, service, knowledge, know-how and long-term management. Tukker and Tischner [11] have identified three main categories of PSS i.e., product-oriented, use-oriented, and result-oriented, which are also applicable for many of the other concepts mentioned. FP can be considered as mainly result-oriented by providing a function/result. However, use-oriented can be applicable as well in some contexts depending on the contract set-up. The FP, originating from hardware aspects, have most commonalities with TES, PSS/IPS², FS, and TCP. However, having four main constituents to develop

in parallel, FP add additional complexity to the development process in question [12].

As providers and customers often are interested in a long-term relationship in order to find a sustainable win-win situation and lower the overall total costs, the importance of a smooth and efficient long-term management of operation is key in most cases, as the operational costs commonly many times exceed the initial costs [13]. Thus, for the provider it is of great interest to understand which customer values are related to a sustainable management of operation in order to be able to successfully market and sell FP.

Recent research on customer values related to sustainable management of operation within the FP context includes the following values: total-care [7], productivity and agreed-upon level of availability [14], paying for delivered function only (i.e., no capital expenditure) and risk transfer to provider [15], and risk management [16], which are considered essential by manufacturing companies. Further, PSS/IPS² literature proposes additional values such as: higher quality, asset management, effective utilization, less administration and monitoring, as well as less environmental impact and improved sustainability [17], agreed-upon level of availability or result, eco-efficiency and performance improvement [5]. Thus, the emerging literature indicates some customer values that are important or of interest. However, the research listed above does not provide guidance on why the values are of importance for marketing and sales purposes.

Co-creation of value is seen as a key aspect in FP scenarios to achieve long-term relationships and to create necessary win-win situations [13, 18]. Co-creation of value [19-21] adds new dynamics to the provider/customer relationship by involvement of customers in the production and distribution of value. Thus, the co-creation of value may, for the FP sustainable management of operation, have a greater importance than for a pure service context, since long-term FP contracts may range up to as long as twenty or thirty years.

The FP lifecycle can, according to Lindström et al. [22], be considered as delimited and defined by the perimeters of FP main constituents (and i.e., their respective technical and economic lifecycles). Since the co-creation of value during the FP lifecycle can be considered as tightly linked to a sustainable management of operation, in most cases, this will likely have a large impact on the overall profitability for both the provider and customer sides and thus affects the wanted and necessary long-term win-win situation. This makes it of interest to firstly be able to identify and explain which customer values are linked to the sustainable management of operation in order to subsequently estimate, quantify, visualize and communicate these values to the customers. One of the issues with FP (and many of the additionally complex business models or concepts mentioned earlier) is that the values are increasingly originating from intangibles. The 'intangibility' complicates the identification, explanation, estimation, quantification, visualization and communication to customers, which all need to be addressed in order to be able to market and sell the FP by its customer values originating from both tangible and intangible parts of the offer [23].

To sum up, detailed descriptions of customer value components related to sustainable management of operation

for FP are scarce in the current literature. Therefore, this paper attempts to address this gap by identifying which customer values providers and potential providers of FP consider important in their marketing and sales efforts, and why these are considered important. Further, the study proposes a set of potential customer values deemed important for a sustainable management of operation for FP.

The rest of the paper is organized as follows. First, there is a section describing the research approach, which is followed by a section outlining FP and its management of operation, and a section on the Hill framework. Subsequently, the findings of the study are presented and, finally, the paper is summed up with a conclusions and discussion section.

2. Research Approach

The research approach employed in this study has been based on in-depth qualitative studies with 10 respondents representing five manufacturing companies. The empirical studies were conducted using semi-structured open-ended interviews [24, 25] with respondents working for companies active in the Faste Laboratory at Luleå University of Technology, Sweden, which is a VINNOVA¹ Excellence Centre focusing on FP Innovation. One additional company, Electrolux, which sells functional offers to customers, was also part of the empirical studies. Thus, the respondents were well aware of and knowledgeable regarding FP. The respondents were professionals responsible for marketing, services, strategy, development and sales at four international companies and one Swedish-based company:

1. Gestamp Hardtech AB (one respondent – manager tool design and development)
2. Volvo Car Corporation (two respondents – product strategy and marketing directors)
3. Volvo CE (two respondents – service marketing manager, advanced engineering engineer)
4. Infrafone AB (four respondents – CEO, sales representatives)
5. Electrolux (one respondent – regional category manager)

The purpose of having multiple companies with diverse focus was to ensure an advance in the understanding of the values, related to sustainable management of operation, that are communicated to customers during marketing and sales of FP, considering the similarities and differences between the companies (cf. [26]). Although the companies have different offerings, they all face the common challenge of how to best develop, market and sell FP and/or similar concepts such as PSS/IPS², either as a provider in a partner consortium or as part of their own offerings. The companies are all manufacturing companies with roots in hardware development. However, additional complimentary components have been added to their customer offerings.

¹ VINNOVA – The Swedish Governmental Agency for Innovation Systems

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