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What is Servitization anyway?

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## 1. Introduction

It has been called a trend (Vandermerwe and Rada, 1988; Lindberg and Nordin, 2008), a generic term (Slack, 2005), a change, a managerial philosophy (De Toni et al., 1994), a model, a concept (Robinson et al., 2002), a strategy (Ahlström and Nordin, 2006; Lindberg and Nordin 2008) a process (Brax, 2005), an innovation

(Neely, 2008) and many other things. The elusive term to which we are referring, is servitization (sometimes referred as servitisation or even servicisation). Even though it is a term coined more than twenty years ago by Vandermerwe and Rada (1988) and one that has been repeatedly referenced in the literature, as the opening sentence of this paragraph clearly indicates, it is also a term with an ambiguous meaning. The intent of this paper is to contribute to the untangling of this complex web of terms, wordings and qualifications and meanings by providing an abstemious approach of the various authors' interpretation of the servitization concept. To that end, we undertake a selective review of journal literature that explicitly refers to the term, and extract the definitions and / or contributions to the servitization dialogue provided therein.

Subsequently, we undertake a summative content analysis approach in order to analyze the extracted contributions. In our findings, we establish that consensus in what servitization is has yet to be reached and that there are two emergent notions, both pertinent to the servitization concept, which so far have seemingly been treated in an aggregate rather than nuanced way. Finally, we propose that these notions may potentially represent significantly different approaches to servitization and therefore warrant individual or at least contingent study. The paper is structured as follows: In section 2 we address methodological issues such as journal paper collection strategy, journal paper selection strategy, contribution extraction strategy and summative content analysis methodology and assumptions. In section 3 we present the various authors' contributions to the servitization dialogue. In section 4, we analyze the identified contributions, report on our findings and provide a basis for their interpretation, and conclude the findings in section 5.

## 2. Methodology

Our objective has been the achievement of a better understanding of the servitization concept. Therefore, our two principle research questions were, ‘What is servitization?’ and ‘What does servitization involve?’. Of further particular interest in our inquiry, was the nature of the relationship between the product, the service(s) and the corporate offering in a servitization context. In more basic terms, we sought to understand what may be potentially offered in the context of servitization (i.e. by a servitized firm).

Guided by our research questions, we recognized that the purpose of the data collection process should be the location of journal papers that provide definitional qualifications and/or viewpoints (both henceforth referred to as contributions) explicitly referring to the servitization concept. At this point, we acknowledge that the literature addressing issues such as service management, after-sales services, integrated solutions, product-service combinations, product-service systems, and many other topics closely or loosely related with servitization, is vast to say the least. However, it is not the purpose of this paper to provide a comprehensive review of large portions of modern marketing, operations and engineering literature. As our objectives revolve around the clarification of what servitization is and to what it is to refer, we have limited our search in journal papers that explicitly refer to the term. For a summary of these fields’ evolution and involvement in the broader servitization dialogue see Pawar et al., 2009 and Sakao et al. 2009.

Thus, we adopted the following strategy in our sample collection. Primarily, we searched a variety of databases such as ABI/Inform, Business Source Premier, Ebsco EJS using the keywords ‘servitization’ and ‘servitisation’ (as it is sometimes worded).

The time frame set for our search spanned the period from 2000 to 2009. This specific time frame was selected in order to yield results that would portray a contemporary view of servitization. The initial search generated 53 papers which were firstly checked for duplicates and secondly reviewed briefly in order to ascertain their content for contributions to servitization. Papers that were not explicitly referencing the term in their main body of text and papers that made no outwardly significant contribution were discarded. In total, our search yielded 16 papers from 10 different journals which are listed in Table 1.

In order to establish a basic cognitive reference point from which all subsequent contributions may be contextualized, we also included in our study Vandermerwe and Rada's (1988) writings, who were the first to coin and make use of the term. In the interest of parsimony, a meticulous though not exhaustive review of that paper is presented in section 3.1. Subsequently, the identified papers were reviewed with particular attention being paid in sections that explicitly referred to servitization in order to extract viewpoints and / or definitions. The aforementioned sections' review is presented in section 3.2. Afterwards, individual contributions were identified and constructed at the level of a sentence through minor syntactical and grammatical modifications (section 4.1). The reconstructed contributions along with their contributing authors are presented in Table 2. Finally, these contributions were used as data in a summative (manifest as well as latent) content analysis (Hsieh and Shannon, 2005) performed in order to explore the existence of any emergent structures.

In utilizing a summative content analysis approach to our study, we acknowledge the following assumptions as per Huff (1990) and Duriau et al. (2007): Analysis of texts permits access to cognitive schemas, groups of words reveal underlying themes and

co-occurrences of keywords may be interpreted as reflecting association between underlying concepts. Two coders were employed (Author 1 and 2) and the coding schemes reported were reached through a reiterative coding process (Weber, 1990) until acceptable inter-coder reliability was achieved. At this point, we note that in our analysis of content the emergence of structure is expressed purely in qualitative rather than quantitative terms. Finally, issues of credibility and internal consistency are addressed through the presentation of the original textual evidence in section 3 (Weber, 1990).

**Table 1 Papers with explicit references to servitization**

Author(s)	Journal
Robinson et al. (2002)	The Service Industries Journal
Slack et al. (2004)	International Journal of Operations & Production Management
Brax (2005)	Managing Service Quality
Slack (2005)	Gestão & Produção
Åhlström and Nordin (2006)	Journal of Purchasing and Supply Management
Nordin (2006)	Leadership & Organization Development Journal
Johnson and Mena (2008)	International Journal of Production Economics
Johnstone et al. (2008)	The Service Industries Journal
Lindberg and Nordin (2008)	Industrial Marketing Management
Neely (2008)	Operations Management Research
Baines et al. (2009a)	Journal of Manufacturing Technology Management
Baines et al. (2009b)	International Journal of Operations & Production Management
Johnstone et al. (2009)	International Journal of Operations & Production Management
Lewis and Howard (2009)	International Journal of Automotive Technology and Management
Pawar et al. (2009)	International Journal of Operations & Production Management
Schmenner (2009)	International Journal of Operations & Production Management

### 3. Contributions to the servitization dialogue

Having discussed the methodological issues of our study, in this section, we focus on the presentation of textual evidence from journal literature that explicitly references and provides a viewpoint of servitization. Primarily, for reasons exhibited in our methodology section, we review the first paper that made use of the term and subsequently we review evidence from contemporary journal literature.

### 3.1 The initial contribution to servitization

In attempting to move towards a better understanding of servitization, and in order to establish a fundamental cognitive reference point, we believe that it is essential to begin with the 'roots' as it were of servitization. Thus, we are directed to the writings of Vandermerwe and Rada (1988), the first authors to coin and make use of the term. Based on interviews of senior executives of both service and manufacturing companies, Vandermerwe and Rada (1988) attempted to articulate the importance of services in the formulation of corporate strategy and endeavoured to illustrate some of the advantages as well as competitive impacts of such a shift in strategy. Their principle argument is that firms should not remain fixed to either a core-product or a core-service approach in their effort to meet their customer's needs. Instead, they argue that the customer's needs should be the basis for the development of the corporate offering which could include products as well as services and other elements that go beyond the firms' core business activities. Following this brief summary of the author's main thesis, we focus on the principle issue of our paper.

According to Vandermerwe and Rada's (1988, p.314) opening statement, the servitization of business is a trend in which "More and more corporations throughout the world are adding value to their core corporate offerings through services". There are two points of interest in this phrase. Primarily, it is the fact that the phrase refers to the servitization of business in general, rather than, say, the servitization of manufacturing in particular. The second notable point is that value is considered to be added to the corporations' core corporate offerings regardless of whether these are

products, services or combinations of them. It is for the same reason that the authors carefully choose their phraseology when referring to a company's principle revenue generating mechanisms as 'core business activities'. Further indicators of this mentality may be observed in the more concise definition of the term offered immediately after the previous proposition. In qualifying their initial statement Vandermerwe and Rada (1988, p.314) propose that servitization is the movement in which "corporations are increasingly offering fuller market packages or 'bundles' of customer-focussed combinations of goods, services, support, self-service, and knowledge. But services are beginning to dominate". Again, there are two points of interest in this qualifying definition. Primarily, it is the fact that servitization is coupled with the process of 'bundling' different possible constituents of a market proposition in order to create a 'fuller' market package. Secondly, it is the fact that by acknowledging the dominance of services in the creation of this 'fuller' market package, they propose that (1) services are different from 'support', 'self-service', 'knowledge' and 'goods' and (2) that services (at least in the end of the 80s) seem to dominate this 'fuller' market package creation process.

At present, it is worthy to note that the leeway and flexibility presented by Vandermerwe and Rada (1988) to manufacturing and service firms alike in creating what they call a 'fuller' market package is extensive to say the least. In order to illustrate this leniency, and without getting into more detail, we simply turn our attention to Vandermerwe and Rada's (1988, p.315) discussion 'On definitions and No-Definitions'. In that section of their paper, the authors primarily recognize the existence of various definitional problems with the word 'services' and subsequently adopt the view that services are intangible and performed while goods are tangible and produced. While they precariously overcome this hindrance as an issue outside

the scope of their study though, they remain adamant on two issues concerning products and services. Firstly, they recognize that there exists a substitutional relationship between goods (products) and services, meaning that one may be substituted by the other (e.g. a barber service being substituted by an electric razor or a bank clerk by an ATM machine as well as a PC being substituted by a Terminal Service). Secondly, they accept that there is that there is ‘total complementarity’ between products and services. As they put it, “It’s hardly necessary to say that essentially all products produce services” and that “Services [can be] built into goods” (Vandermerwe and Rada, 1988, p.315). In order to defend this ‘materialization’ of services process and their subsequent incorporation in goods they put forth the example of “future artificial intelligence (A.I.) [that] will make it possible for firms to anticipate failure and repair the damage without customers knowing that anything went wrong”. Obviously, these future technologies are now well within the grasp of current technologies in the form of Remote Monitoring Systems (RMS) and self-diagnostic mechanisms incorporated in ‘smart products’ (Allmendinger and Lombreglia, 2005).

In summarizing our findings from the initial contribution to the servitization dialogue, we note that:

- The servitization of core business activities (which may be any combination of goods and services) may be performed with any combination of goods, services, support, self-service and knowledge in order to create a ‘fuller’ market package (or better customer value proposition)
- Services are (or may be) distinct from support, self-service, knowledge and goods (depending on definitional assumptions)

- Services may be substituted by products and products by services
- Services may be produced by products
- Services may be incorporated in products

The implications of these findings in our attempt to better understand the nature of servitization can be abridged in stating that the original premise upon which the servitization term was coined is an all-permissive and exceedingly flexible framework where firms are allowed to ‘servitize’ with multiple degrees of freedom.

### 3.2 Servitization in contemporary journal literature

Having revisited Vandermerwe and Rada’s (1988) initial paper on the servitization of business, in this section we turn our attention to the explicit references of servitization in our collected sample of journal papers. In the interest of clarity, we present these references principally in chronological order.

Robinson et al. (2002) view servitization (or servitisation as they word it) as an extension of Levitt’s (1969) concept of the ‘augmented product’ and in citing Vandermerwe and Rada, (1988) dub it “[a concept] which goes beyond the traditional approach of providing additional services but considers the total offer to the customer as an integrated bundle consisting of both the goods and the services” (Robinson et al., 2002, p.150).

Slack et al. (2004, p.384), upon contemplating issues surrounding the field of operations management note that “companies ... are becoming aware of the value of the servitization of their products. That is, marketing the capability that their products bring”. In a revisit of the concept shortly thereafter, Slack (2005, p.326) states that

“Servitization is the generic (if somewhat unattractive) term that has come to mean any strategy that seeks to change the way in which product functionality is delivered to its markets”. An almost identical viewpoint is also proposed by Lewis et al. (2004). Contemporarily, upon investigating the transition of a manufacturer to a service provider Brax (2005, p.146) would reportedly adopt Vandermerwe and Rada’s (1988) view of servitization as a process in which “companies [are] adding more and more value to their core offering through services [while] experiencing a shift in their core business”. Shortly after providing this interpretation of the servitization of business, the author (in our view) misconstrues Vandermerwe and Rada’s (1988) possible historical evolution of the servitization of business as a prescriptive stage-like evolutionary process applicable to a single firm. A keen reading of the original paper however, reveals that this is not the case.

Within a business-to-business service provision context and while studying service supply relationships, Ahlström and Nordin, (2006, p.77) draw from Frambach et al.’s (1997) work on proactive product service strategies, and refer to servitization as a manufacturing company’s attempt (perhaps strategy) “to establish service supply relationships to deliver product services [in order] to augment their physical products” and thus “differentiate themselves from the competition by offering a higher level of services than their competitors” (Ahlström and Nordin, 2006, p.78). In the mean time, when referring to a particular company’s goals in the pursuit of servitization (with no identifiable qualifier), Nordin (2006, p.302) includes the provision of “business solutions, full maintenance contracts, and managing customers’ operations” as strategically key objectives all the while leaving services such as “repair, product support, product-oriented training, installation, [and] systems integration” in a rather secondary role.

In studying the provision of complex, long-life servitized products through a Supply Chain Management perspective, Johnson and Mena (2008, p.27) accept Slack et al.'s (2004) view of servitization as a strategy and interpret Vandermerwe and Rada's (1988) approach to servitization as "the bundling of products and services". Subsequently, they accept that "Servitisation involves a customer proposition that includes a product and a range of associated services" (Johnson and Mena, 2008, p.28).

Upon exploring patterns in the process of buying (instead of selling) complex services, Lindberg and Nordin (2008, p.292) adopt a broad and seemingly popularized view of servitization in which they believe it to be the trend where "firms move from manufacturing goods to providing services or integrating products and services into solutions or functions". Interestingly enough, as the researchers approach servitization from the buyer's perspective, they identify "a diametrically opposed logic implying the objectification of services... by materializing, standardizing, specifying or packaging services and making them more tangible" (Lindberg and Nordin, 2008, p.292) especially during the procurement process (for a more detailed discussion of the premises of the 'objectification' of services see Araujo and Spring, 2006).

Upon undertaking a study of the financial consequences of the servitization of manufacturing, Neely (2008, p.104) initially introduces the concept as the movement in which "[Manufacturing firms] move beyond manufacturing and offer services and solutions, often delivered through their products, or at least in association with them". At a later point, a possible definition of servitization is given as "the innovation of an organisation's capabilities and processes so that it can better create mutual value through a shift from selling product[s] to selling Product-Service Systems" (Neely, 2008, p.107) a viewpoint almost identically adopted also in Baines et al. (2009a). At

this point, we may infer that the introductory definition refers to the manufacturing sector as a business segment while the latter definition is destined to refer to the servitization of a firm rather than the servitization of a product or market proposition or offering.

Concurrently, Baines et al. (2009b, p.495), refer to the concept of product-centric servitization as “the phenomena where a portfolio of services is directly coupled to a product offering” as well as the offering of “goods combined with closely related services (e.g. products offered with maintenance, support, finance, etc.)”. At this point, it should be noted that the acknowledgement of a specific type of servitization (product-centric in this case) allows the inference of other possibly existing types of servitization.

While exploring value generation in automotive supply chains, Lewis et al. (2008) and Lewis and Howard (2009), primarily acknowledge servitization to be a strategy in which manufacturers place “a greater emphasis on a whole range of novel product-service combinations”. Currently, it is noteworthy to point out that in their study, they identify two types of servitization strategies, namely: “‘value-creating’ (i.e. intended to be additive in terms of customer perceived value) and ‘efficiency maximising’ (i.e. intended to reduce organisational costs and be largely invisible to customers) servitization strategies” (Lewis et al. 2008). In this sense, servitization may be understood to be deployed along two dimensions. The first would be a perceived-value enhancing or value adding dimension and the second, a customer cost-reducing or outsourcing dimension.

In search for evidence of ‘Product-Service’ in aerospace, construction and engineering, Johnstone et al. (2008, p.862) refer to servitization (among other terms) as “the general trend away from a ‘pure product’ orientation towards a combined P-S

[Product-Service] offering” while Johnstone et al. (2009, p.522) use the terms “a trend towards ‘integrated solutions’, ‘P-Ss’ or ‘PSSs’” and describe servitization as “the increasing attention paid to developing service offerings”. Along those lines, Pawar et al. (2009, p.469) refer to servitization as a phenomenon in which “a transition has been recognized from an emphasis on the manufacture of products to the provision of service” as well as “the trend towards bundles of customer focused combinations, dominated by service” (Pawar et al., 2009, p.474). Shortly, however, (and justifiably) they are quick to point out that different terminologies have been used to describe ‘apparently identical phenomena’ (Pawar et al., 2009, p.469).

Finally, Schmenner (2009), before driving a persuasive argument that servitization has antecedents that stretch back 150 years, draws upon Vandermerwe and Rada’s (1988) initial contribution and treats servitization as a term “coined to capture the innovative services that have been bundled (integrated) with goods by firms that had previously been known strictly as manufacturers” (Schmenner, 2009, p.431)

#### 4. Content analysis and findings

In this section we submit the contributions that were identified in the investigated literature and report on the content analysis and findings.

##### 4.1 Contributions to the servitization dialogue

Having reviewed our sample literature, with particular consideration to the sections of the papers that made explicit references to servitization, we proceeded in constructing a series of contributions extracted from these references. The extraction process

involved the performance of minor syntactical and grammatical modifications that were deemed necessary in order to elicit coherent and meaningful propositions. The resulting reformatted propositions are presented in Table 2 along with their contributing authors.

**Table 2 Identified Contributions to the Servitization Dialogue**

Author(s)	Contributing proposition
Robinson et al., 2002	Servitization is a concept which goes beyond providing additional services but considers the total offer to the customer as an integrated bundle consisting of both the goods and the services
Slack et al. 2004; Lewis et al., 2004; Slack, 2005	Servitization is a strategy that seeks to change the way in which product functionality is delivered to its markets (by marketing the capability rather than the product)
Brax, 2005	Servitization is a process in which companies are adding more and more value to their core offering through services
Ahlström and Nordin, 2006	Servitization is a strategy that seeks to establish service supply relationships to deliver product services in order to augment a physical product
Nordin, 2006	In a Servitization strategy, business solutions, full maintenance contracts, and managing customers' operations are valued over repair, product support, product-oriented training, installation, systems integration
Johnson and Mena, 2008	Servitization is a competitive strategy that involves the bundling of products and services. Servitisation involves a customer proposition that includes a product and a range of associated services
Lindberg and Nordin, 2008	Servitization is the trend where firms move from manufacturing goods to providing services or integrating products and services into solutions or functions
Neely, 2008	Servitization is the movement in which manufacturing firms move beyond manufacturing and offer services and solutions, often delivered through their products, or at least in association with them
Neely, 2008; Baines et al., 2009a	Servitization is the innovation of an organisation's capabilities and processes so that it can better create mutual value through a shift from selling products to selling Product-Service Systems
Baines et al., 2009b	(Product-centric) Servitization is the phenomena where a portfolio of services is directly coupled to a product offering
Baines et al., 2009b	Servitization is the offering of goods combined with closely related services
Lewis et al., 2008	Servitization is a strategy in which manufacturers place a greater emphasis on a whole range of novel product-service combinations
Lewis et al., 2008	Servitization may be either 'value creating' (additive in customer perceived value) or 'efficiency maximizing' (a form of outsourcing)
Johnstone et al., 2008	Servitization is the general trend away from a 'pure product' orientation towards a combined Product-Service offering
Johnstone et al., 2009	Servitization is a trend towards 'integrated solutions', 'P-Ss' or 'PSSs'
Pawar et al., 2009	Servitization is a transition from an emphasis on the manufacture of products to the provision of service
Schmenner, 2009	Servitization is a term coined to capture the innovative services that have been bundled (integrated) with goods by firms that had previously been known strictly as manufacturers

Subsequently, the resulting contributions were subjected to summative content analysis, in accordance with the methodology presented in section 2.

## 4.2 Content analysis of contributions

Guided partially by our initial research questions, concerning the nature and principle function (what does it involve) of servitization, as well as by our study of the textual evidence, we identified three (two manifest and one latent) content categories upon which our coding process would be implemented. The two manifest content categories were named ‘Servitization qualifier’ and ‘Servitization function’. The qualifier category was used to indicate the word utilized for the qualification of servitization, or in other terms the word used to denote a primal meaning to the noun. The function category was used to indicate the primary function of servitization in response to the ‘what does servitization involve?’ research question. The one latent content category that was devised in our coding scheme was named ‘Offering’, and its primary purpose was the exploration of the underlying (or implied) relationship between the product, the service(s) and the final corporate offering. In simpler terms, we asked ourselves ‘What is eventually the final corporate offering?; How is the core product interweaved with service(s) in order to form a corporate offering?’.

In Table 3, we submit our final coding results of the reformatted contributions reported in section 4.1 with regard to the aforementioned two manifest and one latent content code categories. The first manifest content code (the servitization qualifier) was agreed upon among the raters to rely as closely as possible to the original wording of the contributing authors. This confinement was by and large satisfied in an overwhelming majority of our contributions sample, with very few exceptions requiring the uncovering of an implied qualifier (e.g. Nordin, 2006; Schmenner, 2009). In the case of the second manifest content code (the servitization function), emphasis was placed on the identification of a result potentially deriving from the

adoption of a servitization strategy / process, or in the realization of a trend to servitize. Thus, the wording of the codes employed aimed to portray a resulting operation, goal or desirable outcome. Or in more inclusive terms, a function that is the result of servitization. Finally, the latent content category employed, as previously stated, aimed to capture the implied relationship (or even the nature of the implied relationship) between the core product of a manufacturer and the services potentially provided in a servitization process. Hence, the wording of the final codes sought to provide a portrayal of what the corporate offering might be after the application of servitization. In that sense, our guides for the coding of this latent content category were primarily the underlying logic captured in the servitization function manifest content code, as well as the context of the cases explored and studies undertaken by the contributing authors.

Having completed our coding of the contributions, we then proceeded to the investigation of the emergence of any possible meaningful structures within the codes identified. Since, the second manifest content code would be utilized in the interests of the latent content code, our search for emergent structures was elected to be limited to the 'Servitization qualifier' and 'Offering' categories. Such meaningful structures were indeed identified in both categories and are presented in Table 4. In the qualifier category, three overarching concepts seem to dominate the qualifiers used for the characterization of servitization. These are 'Strategy', 'Process' and 'Trend'. The key point to be made here is that strategy is regarded as an elaborate and systematic plan of action or "a plan designed to achieve a particular long-term aim" (COED, 2010), while a trend may be regarded as a general direction, orientation, tendency or even a fashion or popular taste at a given time (COED, 2010). Clearly, a plausible argument may be made here that these two notions are not representing a common underlying

perception of servitization. Thus, we are inclined to conclude that agreement on what servitization is has yet to be reached.

**Table 3 Content Codes identified in Identified Contributions**

Author(s)	Manifest content codes		Latent content codes
	Serv. qualifier	Serv. function	Offering
Robinson et al., 2002	Concept	Bundling of goods and services beyond additional services	Product with Services beyond additional services
Slack et al. 2004; Lewis et al., 2004; Slack, 2005	Strategy	Alternative mode of product functionality delivery	Product Functionality
Brax, 2005	Process	Adding value to core offering through services	Product and Services
Ahlström and Nordin, 2006	Strategy	Delivery of product services to enhance product	Product with Services
Nordin, 2006	Strategy	Alternative mode of product performance delivery	Product Functionality
Johnson and Mena, 2008	Strategy	Bundling products with associated services	Product and Services
Lindberg and Nordin, 2008	Trend	Integration of products and services in functions	Product Functions or Solutions
Neely, 2008	Trend	Delivery of services through products or with products	Services through Products and Services and Products
Neely, 2008; Baines et al., 2009a	Process	Selling PSS not products	Product with Services or Product and Services
Baines et al., 2009b	Phenomenon	Coupling of a product with various services	Product and Services
Baines et al., 2009b	Process	Offering goods with related services	Product and Services
Lewis et al., 2008	Strategy	Offering product-service combinations	Product with Services
Lewis et al., 2008	Strategy	Adding value or cutting cost	Product and Services or Functionality of product
Johnstone et al., 2008	Trend	Combining product with services	Product with Services
Johnstone et al., 2009	Trend	Providing combinations of product and services	Product with Services
Pawar et al., 2009	Trend	Providing services over products	Product with Services or Product and Services
Schmenner, 2009	Process	bundling services with goods	Product with Services

In our search for structures in the latent content ‘Offering’ category, our investigation yielded a further set of consequential (in our view) results. Again, three overarching themes, or emerging concepts were identified. The first was labeled ‘Product and Services’ and was destined to denote the notion that the offering in a servitization context may consist of an otherwise unaffected core product that is sold as is and to which additional or complementary services may be further offered. The second

overarching theme, was named 'Product with Services' and was intended to signify the notion that the corporate offering consists of a core product that is combined (perhaps non-interactively) or otherwise enhanced with services. The key conceptual difference being established here, perhaps, is that services may be somehow intertwined with the product in a way that each cannot 'stand-alone', as it were, without the other. The third and final overarching theme, presented what we believe to be an even more critical conceptual divergence from the two previous concepts. It was labeled 'Product Functionality' and was slated to denote the notion that the offering in a servitization context may consist of the core product being offered as a service, without the necessary provision of so-called additional services. Again, we hold that a further plausible argument may be made here, in that the provision of additional services besides an otherwise unaffected core product, may be a significantly different approach to servitization than the provision of the core product as a service (effectively being the marketing and selling of the functionality or capability of the product instead of the material artifact).

To conclude this report on our summative content analysis, we provide a final procedural note concerning the sorting process of the contributions in each of the emerging themes. Thus, we underline that while sorting by the 'Servitization qualifier' category, contributions were allowed to enter each category only once, while in sorting the contributions by the 'Offering' category, they were allowed to participate in multiple themes simultaneously. This discrepancy was deemed necessary due to the varying degree of stringency (or leniency) being offered among different contributions.

**Table 4 Emergent Structure**

Sorting of contributions by 'Servitization qualifier'		
Strategy	Process	Trend
Slack et al. 2004; Lewis et al., 2004; Slack, 2005	Brax, 2005 Neely, 2008; Baines et al., 2009a	Robinson et al. (2002) Lindberg and Nordin, 2008
Ahlström and Nordin, 2006 Nordin, 2006	Baines et al., 2009b Schmenner, 2009	Neely, 2008 Johnstone et al., 2008
Johnson and Mena, 2008 Lewis et al., 2008 Lewis et al., 2008		Johnstone et al., 2009 Pawar et al., 2009
Sorting of contributions by 'Offering'		
Product and Services	Product with Services	Product Functionality
Brax, 2005 Johnson and Mena, 2008 Neely, 2008	Robinson et al., 2002 Ahlström and Nordin, 2006 Neely, 2008; Baines et al. 2009a	Slack et al. 2004; Lewis et al., 2004; Slack, 2005 Nordin, 2006
Neely, 2008; Baines et al., 2009a Baines et al., 2009b Lewis et al., 2008 Pawar et al., 2009	Lewis et al., 2008 Johnstone et al., 2008 Johnstone et al., 2009 Pawar et al., 2009 Schmenner, 2009	Lindberg and Nordin, 2008 Neely, 2008 Lewis et al., 2008

### 4.3 Interpretation of findings

In this section, we reiterate and summarize our findings, all the while providing a discussion through which a platform for their interpretation is established. From the study of various contributions to the servitization dialogue in contemporary journal literature, we find that:

- a) Servitization may be considered to be a systematic plan designed to achieve a particular long-term aim (strategy), and also that
- b) Servitization may be considered to be an ephemeral tendency or some form of popular general orientation towards a certain direction (trend)

Thus, we conclude that consensus on the characteristics of servitization remains an ongoing and debatable issue. Furthermore, our study has revealed that there may be

three concepts directly related to the functions of servitization, or in other words, that there may be three ways by which servitization may lead to differentiated/better/servitized corporate offerings. These were identified as:

- a) Product and Services: meaning the provision of an otherwise unaffected core product that is sold as is and to which additional or complementary services may be further offered
- b) Product with Services: meaning the provision of a core product that is somehow combined or otherwise enhanced with services
- c) Product Functionality: meaning the provision of a core product's capabilities as a service, without the necessary provision of 'additional services'

In order to provide a platform for the possible interpretation of these findings, we subsequently offer a discussion of a few key arguments being made in contemporary servitization literature.

Before entering the discussion, we find that it would be useful to first view these three cases from a business model and business commentator's perspective. Through that perspective, we may conceive the first case to be a 'Razor & Blades' type of approach to servitization, where the core product may be utilized as a contact point for the provision of additional closely or loosely related services. Subsequently, the second case may be conceived as a 'Bait & Hook' type of approach to servitization, where the core product is combined or enhanced by services in order to 'lock-in' the

customer in a continuing relationship. The third case finally, may be considered to be a 'Total Care' approach to servitization where the product simply becomes the vehicle for the provision of its performance or capability as a service. From a business commentator's perspective, we may note that the first and second cases, though not the third, largely echo the prescripts of what has been dubbed as 'Going downstream', (Wise and Baumgartner, 1999) a proposition involving 'downstream' vertical integration and synergetic initiatives aimed at the exploitation of potentially lucrative Installed Base (IB) market opportunities. From a basic marketing/business perspective, we find that all cases make sense and pass the business model 'narrative test' (Magretta, 2002). Additionally, we find that all three of these cases lead to the provision of services and thus are potential ways to servitize a corporate offering (by virtue of the services being provided).

At present, we enter the discussion of a number of arguments being made in contemporary servitization literature in order to interpret our findings. Pertinent to these arguments, we believe that, there are two key questions begging an answer (1) 'Are these cases compatible with one another?' and (2) 'Should they be treated in an aggregate or nuanced way?'. Concerning the second question presented, by adopting Oliva and Kallenberg's (2003 p.162) product service continuum concept some of the recent servitization literature would suggest that they should (e.g. Brax, 2005; Gebauer et al., 2005; Neu and Brown, 2005; Gebauer et al., 2008; Johnstone et al., 2008; Johnstone et al., 2009; Baines et al., 2009a). In their investigation of eleven German capital equipment manufacturers, Oliva and Kallenberg (2003, p.165) found four stages in the implementation of a servitization strategy (which they call a transition from products to services):

1. Consolidating product-related services
2. Entering the Installed Base service market
- 3a. Expanding to relationship-based services
- 3b. Expanding to process-centred services
4. Taking over the end-user's operation

In an attempt to relate our findings to these propositions, we posit that the 1<sup>st</sup> stage might echo our second identified servitization approach. Stages 2 and 3b might have a bearing to our first identified servitization approach, while finally stages 3a and 4 seem to reflect our third identified servitization approach. In their study, Oliva and Kallenberg (2003) argue that a firm should enter these stages in sequence in order to acquire the capabilities necessary for a successful transition from product to services. The same authors, however, are also quick to point out that there are “intermediate stopping points in the transition spectrum” (Oliva and Kallenberg, 2003, p.171) and that the stages described above “do not always happen in distinct sequence” (Oliva and Kallenberg, 2003, p.170). Furthermore, they acknowledge that certain stages may be incompatible with each other. As they emphasize, in entering the Installed Base service market, firms face a dilemma:

“On one hand, increasing service quality and scope might extend the product's useful life, thus reducing its replacement sales. On the other hand, increasing the quality and durability of products might reduce future service revenues. (Oliva and Kallenberg, 2003, p.164)

If we were to tackle this quandary through the premises of our three identified approaches to servitization, however, we may posit that the dilemma does not hold when a firm chooses the ‘Product Functionality’ approach (in which there are clear incentives for increased quality and durability). Additionally, Spring and Araujo, (2009) identify a further dilemma from the customer’s perspective that again does not seem to hold in all three servitization approaches. They note that when pursuing a ‘bundling’ or what we interpret to be a ‘Products with Services’ approach, in which payment structures do not reflect the provision of capability or performance (i.e. ‘Product Functionality’), “there may be strong incentives for the supplier to behave fraudulently, i.e. carry out (or pretend to carry out) and charge for unnecessary ‘repair’ services” (Spring and Araujo, 2009, p.456; Emons, 1997). Once more, this dilemma seems not to apply when pursuing a ‘Product Functionality’ approach in which performance or capability is marketed.

So far, in the discussion, we have seen that the three identified approaches to servitization may not be compatible with one another. Furthermore, we have identified some evidence that they do not necessarily have to be adopted in sequence. In defence of this latter point, Spring and Araujo (2009), make a keen observation and notice that in one of the most highly noted cases of servitization, that of Rolls-Royce’s ‘Power by the hour’ model, the supplier does not take over any ‘downstream’ service activities, nor does the firm inevitably complement the offering with a range of associated services. This means that a firm does not necessarily need to first enter the IB market (whose existence in any case depends strictly on the nature of the products and industries involved) before attempting to provide the capability or functionality of the product as a service.

In light of the discussion presented above, we are inclined to infer that there may be inherent compatibility issues between choosing to pursue a ‘Product and Services’ or ‘Product with Services’ approach and engaging in a ‘Product Functionality’ approach to servitization. These compatibility issues seem to stem from intricacies pertinent only in some but not all of the approaches and appear to be contingent to the underlying business models employed in each approach. Such issues may be the formation of different incentives due to payment structures as well as conflicts of interest in attempting to satisfy mutually exclusive markets. Moreover, we have uncovered evidence that these approaches do not necessarily have to happen in sequence and that one is not necessarily the evolution of another (a point better illustrated through a business model perspective).

In concluding this necessarily brief discussion upon which we based the interpretation of our findings, we conclude that:

- The three identified approaches to servitization may not be compatible with one another due to issues arising from the underlying business models employed (e.g. different incentives, conflicts of interest).
- The three identified approaches to servitization do not necessarily contain an inherent evolutionary relationship and may not necessarily have to be adopted in a particular sequence.

## **5. Conclusions**

This study, has explored the servitization concept in contemporary journal literature in an attempt to better understand the underlying notions of the concept. To that end, a selection of papers referring explicitly to servitization were reviewed and analyzed through summative contents analysis. Furthermore, the initial writings on the topic as well as some recent arguments were entered into a discussion relevant to the interpretation of the findings. Due to the sampling methodology employed, the study was limited in its scope and certainly does not provide a comprehensive review of the servitization literature, all the while remaining bound by the assumptions of contents analysis. In the remainder of this section, we conclude our findings and propose an avenue of further research.

From our revision of Vandermerwe and Rada's (1988) initial paper on the 'servitization of business', we concluded that the initial framework upon which the term was coined, is sufficiently broad and all-encompassing in order to include all of the potential avenues that a firm may approach a 'servitization of business offerings'. From our study of explicit contributions to the servitization dialogue, we identified that servitization may be considered both as a systematic plan designed to achieve a particular long-term aim (strategy) as well as an ephemeral tendency (trend). Furthermore, we identified three notions considered to be directly related to the functions of servitization and which may potentially indicate three ways by which servitization could be approached and lead to 'servitized corporate offerings'. These concepts were briefly translated as the provision of a core product with an extension of service offerings ('Product and Services'), the provision of a core product 'enhanced through' or otherwise 'combined with' services ('Product with Services') and the provision of a core product's performance or capability as a service ('Product Functionality').

From a discussion conducted in the interest of interpreting our findings, we identified arguments recommending an aggregate approach to the study of these approaches by placing them along the confines of a conceptual linear continuum. At the same time however, we identified that the three resulting approaches may not be compatible with one another due to the emergence of particular issues (e.g. difference in incentives and conflicts of interest) contingent to each approach. Additionally, it was identified that these approaches may not necessarily have to be adopted in a particular sequence. As such, we argue that an aggregate approach to the study of the identified concepts may hinder the analysis of issues pertinent in some but not all of the potential servitization avenues. Moreover, we put forth that the acknowledgement of a product service continuum depicts a deceptively linear gamut of approaches which are not reflected in theory and practice. Therefore, we conclude that a nuanced rather than aggregate approach to their study is warranted.

To that end, we suggest that a reframing effort of the servitization concept as a whole may be achievable, through the consideration of two key dimensions. The first being a dimension covering the extension or enhancement of the corporate offering (perhaps in terms of scope and complexity of services offered), while the second covering the issues of incentives, payments and rewards (in terms of contractual agreements). Towards the latter dimension, we believe that developments in the debate concerning the nature and typology of services (e.g. Spring and Araujo, 2009) may provide a fruitful avenue for further research.

## **References**

- Åhlström, P., F. Nordin. 2006. Problems of establishing service supply relationships: Evidence from a high-tech manufacturing company. *Journal of Purchasing & Supply Management*, 12(2), 75-89.
- Allmendinger, G., R. Lombreglia. 2005. Four strategies for the age of smart services. *Harvard Business Review*, 83(10), 131-145.
- Araujo, L., M. Spring. 2006. Services, products, and the institutional structure of production. *Industrial Marketing Management*, 35(7), 797-805.
- Baines, T.S., Lightfoot, H.W., Benedettini, O., J.M. Kay. 2009a. The servitization of manufacturing: A review of literature and reflection on future challenges. *Journal of Manufacturing Technology Management*, 20(5), 547-567.
- Baines, T., Lightfoot, H., Peppard, J., Johnson, M., Tiwari, A., Shehab, E., M. Swink. 2009b. Towards an operations strategy for product-centric servitization. *International Journal of Operations & Production Management*, 29(5), 494-519.
- Brax, S. 2005. A manufacturer becoming service provider – challenges and a paradox. *Managing Service Quality*, 15(2), 142-155.
- COED. 2010. Compact Oxford English Dictionary. Oxford University Press.

- De Toni, A., Nassimbeni, G., S. Tonchia. 1994. Service dimensions in the buyer-supplier relationship: A case study. *International Journal of Physical Distribution & Logistics Management*, 24(8), 4-14.
- Duriau, V.J., Reger, R.K., M.D. Pfarrer. 2007. A content analysis of the content analysis literature in organization studies: Research themes, data sources, and methodological refinements. *Organizational Research Methods*, 10(1), 5-34.
- Emons, W. 1997. Credence goods and fraudulent experts. *Rand Journal of Economics*, 28(1), 107-119.
- Frambach, R.T., Wels-Lips, I., A. Gündlach. 1997. Proactive product service strategies: An application in the European health market. *Industrial Marketing Management* 26 (4), 341–352.
- Gebauer, H., Fleisch, E., T. Friedli. 2005. Overcoming the service paradox in manufacturing companies. *European Management Journal*, 23(1), 14-26.
- Gebauer, H., Bravo-Sanchez, C., E. Fleisch. 2008. Service strategies in product manufacturing companies. *Business Strategy Series*, 9(1), 12-20.
- Hsieh, H., S.E. Shannon. 2005. Three approaches to qualitative content analysis. *Qualitative Health Research*, 15(9), 1277-1288.
- Huff, A.S. 1990. Mapping strategic thought. Chichester, NY: John Wiley & Sons.

Johnson, M., C. Mena. 2008. Supply chain management for servitised products: A multi-industry case study. *International Journal of Production Economics*, 114(1), 27-39.

Johnstone, S., Dainty, A., A. Wilkinson. 2008. In search of 'product-service': Evidence from aerospace, construction, and engineering. *The Service Industries Journal*, 28(6), 861-875.

Johnstone, S., Dainty, A., A. Wilkinson. 2009. Integrating products and services through life: An aerospace experience. *International Journal of Operations & Production Management*, 29(5), 520-538.

Levitt, T. 1969. *The marketing mode*. New York: McGraw-Hill.

Lewis, M., Portioli Staudacher, A., N. Slack. 2004. Beyond products and services: Opportunities and threats in servitization. Paper presented at IMS Intl. Forum, Italy.

Lewis M., Howard, M., G. Stone. 2008. Beyond products and services: shifting value generation in the automotive supply chain. Paper presented at 16<sup>th</sup> GERPISA Intl. Colloquium, Italy.

- Lewis M., M. Howard. 2009. Beyond products and services: shifting value generation in the automotive supply chain. *International Journal of Automotive Technology & Management*, 9(1), 4-17.
- Lindberg, N., F. Nordin. 2008. From products to services and back again: Towards new service procurement logic. *Industrial Marketing Management*, 37(3), 292-300.
- Magretta, J. 2002. Why business models matter. *Harvard Business Review*, 80(5), 86-92.
- Neely, A. 2008. Exploring the financial consequences of the servitization of manufacturing. *Operations Management Research*, 1(2), 103-118.
- Neu, W.A., S.W. Brown. 2005. Forming successful business-to-business services in goods-dominant firms. *Journal of Service Research*, 8(1), 3-17.
- Nordin, F. 2006. Outsourcing services in turbulent contexts: Lessons from a multinational systems provider. *Leadership & Organization Development Journal*, 27(4), 296-315.
- Oliva, R., R. Kallenberg. 2003. Managing the transition from products to services. *International Journal of Service Industry Management*, 14(2), 160-172.

- Pawar, K.S., Beltagui, A., J.C.K.H. Riedel. 2009. The PSO triangle: Designing product, service and organisation to create value. *International Journal of Operations & Production Management*, 29(5), 468-493.
- Robinson, T., Clarke-Hill, C.M., R. Clarkson. 2002. Differentiation through service: A perspective from the commodity chemicals sector. *The Service Industries Journal*, 22(3), 149-166.
- Sakao, T., Sandström, G.Ö., D. Matzen. 2009. Framing research for service orientation of manufacturers through PSS approaches. *Journal of Manufacturing Technology Management*, 20(5), 754-778.
- Schmenner, R.W. 2009. Manufacturing, service, and their integration: Some history and theory. *International Journal of Operations & Production Management*, 29(5), 431-443.
- Slack, N., Lewis, M., H. Bates. 2004. The two worlds of operations management research and practice: Can they meet, should they meet?. *International Journal of Operations & Production Management*, 24(4), 372-387.
- Slack, N. 2005. Operations strategy: will it ever realize its potential?. *Gestão & Produção*, 12(3), 323-332.

Spring, M., L. Araujo. 2009. Service, services and products: Rethinking operations strategy. *International Journal of Operations & Production Management*, 29(5), 444-467.

Vandermerwe, S., J. Rada. 1988. Servitization of business: Adding value by adding services. *European Management Journal*, 6(4), 314-324.

Weber, R. 1990. Basis content analysis (2<sup>nd</sup> ed.). Thousand Oaks, CA: Sage Publications.

Wise, R., P. Baumgartner. 1999. Go Downstream: The new profit imperative in manufacturing. *Harvard Business Review*, 77(5), 133-141.