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# MANAGEMENT

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## OPERATIONALIZING PRODUCT-SERVICE BUSINESS MODELS

– how considering the interconnection between strategy, business models and tactics can support the implementation of product-service system offerings?

*by Wiebke Reim, Vinit Parida, David Rönnerberg Sjödin and Daniel Örtqvist*



# Operationalizing product-service business models

- how considering the interconnection between strategy, business models and tactics can support the implementation of product-service system offerings?

Sale of integrated product-service systems (PSS) is perceived as a way of securing competitiveness for many previously product-oriented Swedish manufacturing companies. However, most companies struggle with adopting a PSS strategy due to inability to transform and execute their business model. This article presents novel insight into how companies can realize such shortcoming by connecting strategy, business models and tactics in an overarching PSS implementation framework.

by Wiebke Reim, Vinit Parida, David Rönnerberg Sjödin and Daniel Örtqvist

In Sweden, many manufacturing companies are actively working with the integration of PSS into their long-term strategy. Providing product support, remote monitoring, maintenance contracts, and leasing are becoming well-known examples of PSS. Moreover, phrases such as increasing the portion of the revenues that comes from services to a certain level or reaching a certain penetration of products sold together with a service contract are common goals included in the strategies of leading manufacturing companies. Motivations for transition towards PSS are plenty. First, offering services related to physical products is a crucial way to differentiate the company from competitors, especially from low-price competitors because services are hard to imitate and less sensitive to competition. Second, PSS offers extend through the life-time of the physical product, which means that offering services can create opportunity for a recurring stream of revenues during the operation. Third, PSS allows companies to capitalize on their experience based knowledge of their own products as well as their customers operations by optimizing solutions together with customers and generate greater value.

## PSS business models

In order to benefit from a PSS strategy companies need to introduce a new or revise an existing business model. A business model can be described as a conceptual map which shows how value is created, delivered and captured by a company. For a company the adoption of a PSS strategy opens up the possibility to conceptualize and implement multiple PSS business models, because products and services can be combined in many different ways. However, existing research has typically used three broad categories to categorize PSS business models, *product-oriented*, *use-oriented* and *result-oriented* business models.

In the *product-oriented* category of PSS business models, a provider, in addition to selling a product, commits to deliver a service related to the product (e.g. maintenance service). A key characteristic for this category is that the focus remains mainly on selling a product but additional services are added to enhance its market attractiveness. The property rights to the product are transferred to the customer, and the provider is responsible for providing the agreed-upon services.

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In the *use-oriented* category of PSS business models, the product, while still central, is not sold to the customer; rather, the usage or availability (e.g. through leasing or renting agreements) is guaranteed for a certain period during which the provider is paid periodically. The ownership of the product in this case is not transferred to the customer, and the risks and responsibilities for the

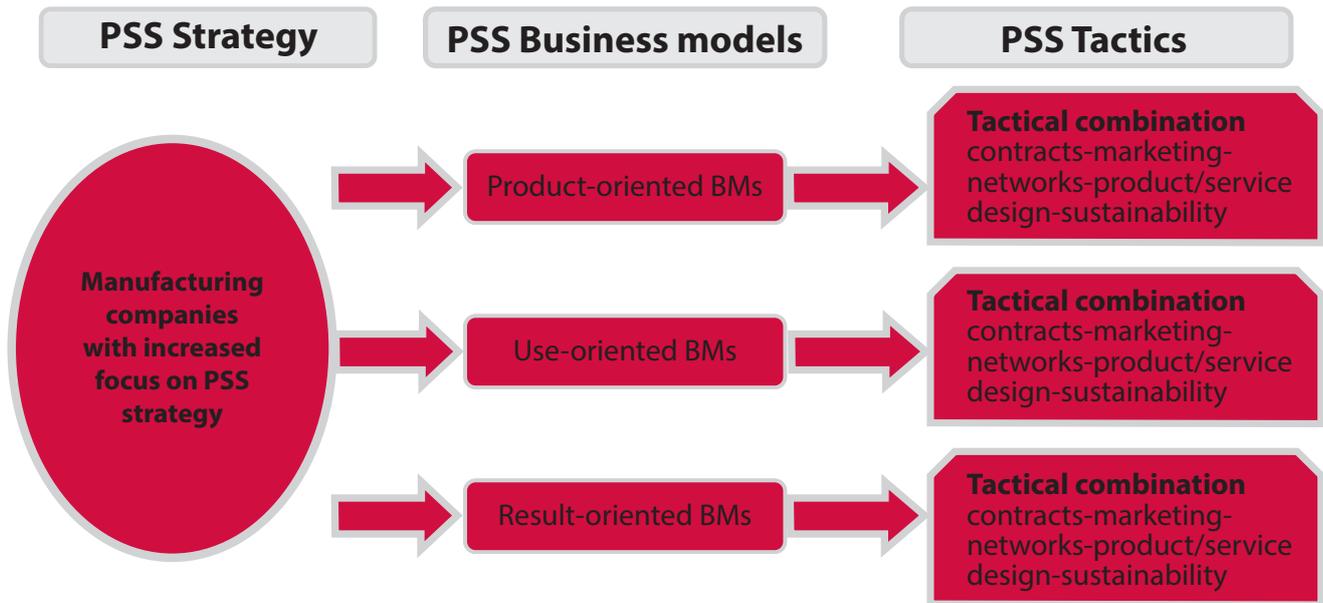


Figure 1: Relationships among strategy, business models, and tactics for PSS

provider increase compared to product-oriented business models.

Finally, in the *result-oriented* (RO) category of PSS business models, no specific product is necessarily involved; rather, the provider gets paid for a result, for which the provider is totally responsible (e.g. pay-per-unit service). The property rights stay with the provider, and the customer pays only for the agreed-upon result. In this case, the complete responsibility falls on the provider.

These three categories provide an idea of the range of the different PSS business models that a company could implement to fulfil a PSS strategy. Choosing the most appropriate business model is crucial for the success of the PSS. However, the business model mainly tells how value is create and captured, but there are certain operational practices that will influence how much value is created. These practices can be called tactics and will be specific for a certain business model.

### PSS tactics

After having decided which business model should be implemented and how value should be created, delivered and captured, there a still a lot of remaining choices to make. The choices can be clustered into operational tactics which will by their composition determine how much value is created, delivered and captured. In the context of PSS business models five tactics can be identified by investigating the research published in this field: *Contracts, Marketing, Networks, Product and Service Design*, as well as *Sustainability*.

The first of the five tactic areas, *contracts*, is addressed in studies that describe how rights and liabilities are distributed among the involved parties (e.g., provider and customer). Contracts define the responsibilities of each party during a specific contractual period. Clear and comprehensive contracts are argued to be particularly important for PSS because of the increased responsibility and risk that the provider assumes. A good balance is needed as too complex contracts may scare of customers and too loose contract may open up for opportunistic behaviour.

The *marketing* tactic describes how PSS providers interact, communicate, and use customer and market insights to implement

their PSS business model. Implementing a PSS business model has important implications for the company's marketing activities as the customer may not understand the value adding elements of a PSS. For example, different customers have different needs or a new customer segment should be attracted. In addition, the long-term relationship ensures increased insight into the customer's operations and an understanding of their needs and preferences. Such insights are extremely valuable for developing new PSS offers.

The *network* tactic describes how the PSS providers use their network relationships with external partners to ensure PSS business models are implemented successfully. Providing services adds several new tasks to the operations of manufacturing companies. Because the companies cannot perform these tasks independently, they must develop relationships and interactions with different external stakeholders (e.g., customers, dealers, service partners, and suppliers).

*Product and service design* concerns the development activities required to meet the diverse needs of customers. Product and service requirements change along with the various types of services provided as companies offer PSS solutions. To meet new product and service design requirements, special emphasis is placed on aligning physical product characteristics with service offer characteristics and vice versa. Several preferable product properties (e.g., the ability to be maintained, upgraded, and reused easily) can be identified, which will increase the value creation of the PSS business model.

*Sustainability* represents an important and final tactical area. Most PSS studies take for granted that implementing PSS entails environmental benefits. However, recent studies have acknowledged that PSS business models in some cases can even have a negative effect on the environment (e.g. rebound effects) while maintaining only economic benefits. The highest potential for sustainability improvements results from either increased resource utilization or innovations that make the production or delivery process more sustainable.

### Linking strategy, business models and tactics

This paper displays the critical link between PSS strategies, business models and tactics, linking strategic-level decisions to operational-level actions (see Figure 1). To consider and select variations of the presented operational tactics it is crucial to implement a PSS business model. However, because each company has a unique business model, they are likely to combine and deploy the five operational tactics in a customized way to maximize the outcome. For example, a manufacturing company that offers a leasing solution compared to a company that intends to offer a machine availability solution, are likely to use operational tactics differently. In addition, the relationship between PSS business models and tactics can be influenced by internal and external organizational conditions such as particular customer needs, or differences in business cultures globally.

### Conclusion

Striving of an increased service degree is a common trend in today's manufacturing companies. But to operationalize this strategy involves many critical choices that need to be well-thought-out and fit the rest of the organisation. Introduction of a new or changed business model is the first step on the way to implement a more service oriented strategy. But in order to maximize the value created and captured from the employed business models, careful consideration of which operational tactics to use is required. Considering the connections between strategy-business model-tactics provides a conceptual framework for simultaneously considering the development, delivery and sales of product service systems. ●

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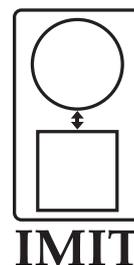
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