

Deep dive: Servitization

The traditional separation of economic activity is changing. It used to be possible to categorize organizations into sectors like agriculture, manufacturing and services and identify distinct differences in the kind of activity taking place there. More important, the nature of innovation would be different, with manufacturing focused on the development and delivery of product innovations while services focused more on the processes required creating a service experience. But there has been considerable convergence in recent years and for many manufacturing businesses the shift towards a much stronger service orientation has become a key component of developing competitiveness.

Providing good service to customers has always been a success factor; industries like the German machine tool sector have survived as major players by providing high levels of support before, during and after sales, building a strong reputation and a loyal customer base. This has helped them defend their position in the face of growing low cost competition.

But an increasing number of manufacturers are fundamentally changing their approach – essentially undertaking business model innovation around a service orientation; this process goes by the somewhat clumsy name of ‘servitization’. It represents a complete rethink of the offering and how it is created and delivered, moving away from one of ‘we design and sell products’ to ‘we work with customers to create value for them’.

For example, the aero engine manufacturer Rolls Royce has moved its business model from ‘we design and sell engines’ to ‘we supply power by the hour’. In order to do this they focus on what their customers value – power to hold aircraft up in flight and move them around the world. How to achieve this requires attention on support, maintenance, condition monitoring and a host of other services which wrap around the core product and they involve Rolls Royce in much more customer interaction. Their revenue model changes as well from a one off purchase to a contract more like a rental agreement where the life of the service partnership may run to thirty or forty years.

In similar fashion Caterpillar now provides a service to its customers who value the functions offered by their trucks and other equipment – essentially movement of rocks and earth by digging and transportation. So their customers now pay for useful hours of availability in Caterpillar equipment and the company has focused extensively on the innovations in product and process needed to provide this.

Andy Neely, professor at Cambridge University, suggests there are four core reasons for manufacturers moving towards service models:

- Economic
- Strategic
- Environmental
- Technological

Economic

Several economic factors play a role. The first is based on a cost and value argument– there are many sources of low cost products around the world and so manufacturers in developed economies try to shift the focus of competition, away from the product towards new, valuable and innovative solutions – including services.

A second economic rationale for servitization is the *installed base* argument. Typically products in capital goods industries, where products have long-life cycles; for example in 2010 Boeing had 19,410 commercial planes in operation and delivered 462 new planes, giving a ratio of 42 operational planes for every new plane delivered. Given that planes have an operating life of thirty- forty years, providing maintenance and support service through the entire product life for the installed base is a significant market opportunity. In general a ratio of 4 to 1 is applicable; if a piece of capital equipment sells for €1 million then typically it will consume around €4 million in spares and consumables through its working life.

The third economic rationale is *stability of revenue*. Whilst selling a product, especially a large item like an aeroplane engine may generate significant revenue it does not happen every day. Ongoing service and support activities provide a more stable revenue stream.

A fourth economic rationale is *service as a pre-sale activity*; this runs counter to the normal view which sees service as an after sales contribution and suggests that service experience helps generate sales, especially in repeat business. This model has underpinned the success of Toyota in the car industry for many years.

Strategic Reasons

Again there are several elements to the strategic rationale for servitizing. First is the opportunity to build close links – lock in – to customers. Products are sold at or slightly above cost, but money is made on the provision of spares and consumables; this is the model use din razor blades or printer cartridges, for example.

This also serves to lock out competitors, especially in sectors where there is a high installed base. The switching costs of an airline moving to a different engine supplier lie in the spares and other elements which make staying loyal to one supplier an important consideration.

A third strategic rationale is *increasing differentiation* - some customers value the stability that service and support contracts offer. A fixed price can mean predictable maintenance costs and a transfer of risk from the customer to the service provider. These benefits provide a differentiation advantage to original equipment manufacturers.

Finally there is strategic pressure from the customer side where there is increasing demand for an overall package including support and service over the while life of the item being purchased. In many defence procurement agencies this has become the model – in some cases going to the extreme where the agency effectively rents the functionality but does not own the asset. The interesting feature of such service-based contracts is that it becomes everyone's interest for the asset to be available and working as the provider of the asset only gets paid when the asset is being used.

A useful report on 'outcome based contracting' can be downloaded here:

http://www.aimresearch.org/uploads/File/Publications/Executive%20Briefings%202/Outcome_based_contracting.pdf

Environmental Reasons for Servitizing

The underlying challenge here is whether people need to own the asset or simply rent its functionality. This is the underlying business model for car sharing schemes, such as StreetCar and ZipCar, or music streaming services like Spotify. Increasingly it is being applied across a wide range of manufactured products and has significant implications for sustainability.

Technological Reasons

At one level technology is simply an enabler of servitization, but as with many technological innovations – the mere existence of the technology means that people will seek to exploit it. As the world becomes more instrumented and ever-greater volumes of data are collected on assets remotely, the potential for new and innovative services grows. Construction equipment is remotely monitored and the data used to make predictions about engine wear and the need for service and support. GE has models that allow it to recommend to customer the routes their airplanes should fly so they extend engine life. When planes fly over deserts the sand causes pitching in the engine, but a different form of wear and tear occurs when planes fly over oceans. So GE now recommends to its customers how long their planes should fly to the Middle East and when they should switch routes and start flying over the ocean to the US. These predictive analytic models are becoming more and more widespread in industrial circles, as well as healthcare, insurance and finance. The technology – and particularly the ability to capture and analyze "big data" opens up some new opportunities for service innovation.

Andy Neely's organization, the Cambridge Service Alliance, offers a rich set of resources around this theme at:

<http://www.cambridgeservicealliance.org/>