

Moving towards Service Dominant Logic in Manufacturing Sector: Development of a Tool for Inquiry

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Abstract

The successful adoption of a Service Dominant Logic in organizations requires more than the introduction of service offerings; in this paper we argue that it requires a conscious and parallel evolution of the understanding of service, design and users. We suggest how the creation of conversation tools could help organizations become aware of their positioning within this evolution and consider applying relevant strategies. The paper firstly reviews how the understanding of service, design, and users has evolved in the last few decades, identifying three main stages that are then summarized in a theoretical framework. Based on this framework, we developed the first version of a tool for organisational inquiry and applied it to employees in a large global company. We present key findings from this ongoing study¹, discussing how the tool might help an organisation align its vision and understanding across departments.

KEYWORDS: Service Dominant Logic, Manufacturing Sector, Service Innovation, Conversation piece

Introduction

Recent debate in Service Research has focused much attention to the implications and potentials of shifting organisations and their practices from a Goods Dominant Logic to a Service Dominant Logic. Key difference between these two logics has been described as a different way to perceive value, from being embedded within goods and exchanged at the point of delivery, to being co-created with and by customers in their context of use, which implies the adoption of a customer centric approach to innovation and business

¹ This study is part of a Special Interest Group on Service Design of the International Society of Service Innovation Professionals (ISSIP) (<http://www.issip.org>)

development. The implications of this transformation do not concern only service sector organisations, but also manufacturing companies that produce and sell tangible goods.

The journey and challenges of companies moving toward an increased service provision has been discussed within the *servitisation* literature, but the debate around Service Dominant Logic does add a further perspective; most studies on servitisation examine how companies move from a product to service dominant logic through a manufacturing lens. However to make the quantum leap requires a more holistic view of an integrated business, examining how traditional manufacturing capabilities and service activities can be combined to deliver an outcome or experience (Grönroos & Helle, 2010, p. 565). In this paper we aim to look at this journey toward the implementation of a Service Dominant Logic for a manufacturing organisation starting from the perspective that moving toward a Service Dominant Logic requires a change in the way organisations innovate and develop their business. We also suggest how the adoption of this perspective is based not only on a change of perspective on what services are, but also on an evolution of how organisations perceive and engage with design as well as with their users and other stakeholders.

This parallel evolution of Service, Design and User engagement is traced below through three macro stages and proposed as material for reflection for organisations to look into their own transformation journey. We propose this as a *tool for inquiry*, in line with Sabine Junginger's argument (2015) for the need to enhance designers' ability to engage organisations into a conversation about their own *design legacies* and the implications these have on their ability to fulfil their vision or purpose (p. 221). This paper will describe how the tool has been developed and tested with a global company, then reflect on its potential use and development to support manufacturing organisations of different kinds to reflect and act on their own evolution.

Parallel Evolution of Service, Design and User Engagement

Based on literature reviews, we identified three macro stages in the parallel evolution of Service, Design and User engagement as below.

Stage 1. Service as Added Value and Product Design

The interest for services as a sector is a contemporary phenomenon given its only recent impact to the GDP growth of most developed economies. As a result of industrialization, most research and studies have been initially focused on manufacturing and technological innovation. Service companies were considered as “laggards” or a burden on manufacturing and their advent as a manifestation of a risky process of de-industrialization (Miles, 1993). They were described also as not productive, similar to labour cost, which are thought to generate what Baumol and Bowen (1966) called *cost disease*, meaning an increase of salary without an increase in productivity.

This mind-set and perspective centred on manufacturing and products have recently been described as Goods Dominant Logic (GDL) (Vargo & Lusch, 2004). This signifies a business perspective that considers value as embedded and added to physical entities that are then exchanged. A GDL promotes a company-centred perspective, focused on its own resources and technical capabilities as the value is finally determined by the producer.

In this era, the focus of innovation was on products as tangible offerings and manufacturing processes. It concerned technology-driven innovation that could introduce new products in the market or enhance productivity and cost-efficiency in the manufacturing system and logistics. Design had a limited role in this process. Designers worked for “styling” of the new technologies to be visually attractive and well-functioning. According to the Design Ladder model by Danish Design Centre (2003), design as styling is only relevant in terms of aesthetic considerations such as style, appearance and ergonomics.

Users play a small or limited role in this design focus. Designers are perceived as creative individuals who use their own style and sensitivity to interpret society’s trends and offer novel solutions with no necessary employment of user studies (Verganti, 2009). Users are considered passive recipients of products and service offerings. The involvement of users in the design process was very limited, if any. Marketing may use statistics on target user segment and market trends as input to design. They may also conduct focus groups or go to public places with visual representations of their new products, asking people’s preferences. For usability testing of new products, users were invited to laboratories and perform given tasks.

Stage 2. The Advent of Service Economy and Service Design

Over the last fifty years there has been a gradual shift in the role and conceptualization of services as a sector within contemporary economy that has led to the introduction of the concepts of a *post-industrial society* (Bell, 1973) or *service economy* (Gershuny & Miles, 1983). During this period, services moved from being considered a peripheral activity to the mainstream manufacturing led economy, to become the main driver for both economic and employment growth in most of the developed countries.

Attention into service innovation started in the ‘80s, with a first acknowledgement of differences in service life cycles (Barras, 1986) and new service development (Edvardsson & Olsson, 1996). These studies emerged and developed to support a shift from manufacturing-centred models of innovation to dedicated ones reflecting the specificity of services such as the emphasis on the soft dimensions of service innovation (Tether, 2005), or its interactive (Djellal & Gallouj, 2001) and *ad hoc* character (Gallouji & Weinstein, 1997).

Design has been gradually shifting its attention towards services in the ‘90s. The object of design in Service Design shifts from products to services whose characteristics are described with the IHIP model (Zeithaml et al., 1985). Service designers design tangible and intangible touch points and the relations of touch points into a journey and a system. The focus of their work here is to design service interactions, which provide better experiences for users.

Consequently, human-centred design process and methods have been adopted in Service Design (Meroni & Sangiorgi, 2011) with industrial and interaction designers entering this new field with their tools and methods. Service designers are involved in the early phase of the innovation project to identify problem areas. They visit the sites where users experience services and observe their behaviours. Service designers could also observe users’ daily life to have a holistic understanding of their needs and desires. Ethnographic methods, such as shadowing, contextual inquiry, or video safaris, are used for this purpose.

Service Design in this approach considers users no longer as passive recipients but as “experts of their own experiences,” providing valuable contributions to the design and innovation process. This view has led to the direct involvement of users in the design process as “co-designers.” Typically, in workshop settings, users share their experiences and express their opinions and ideas with the help of visual and creative techniques (e.g. Sanders & Stappers, 2008).

Stage 3. Service Dominant Logic and Design for Service

Recently the emphasis on distinguishing services as a market offering from products has lost relevance; the interest instead has moved toward integrating studies on products and services into a higher-level framework. As Gummesson suggested, *customers do not buy goods or services: They buy offerings which render services* (Gummesson, 1995, p. 250).

In service innovation studies, this shift is referred to as the Synthesis approach (Droege et al., 2009). This approach recognizes how the learning from studying service companies can illuminate aspects and dimensions of innovation happening within manufacturing, which have been mostly neglected and not measured.

Services in this perspective are proposed as *a conceptual framework within which to think in a different way of value creation and does not entail a distinct set of activities* (Ramirez, 1999, p.54). The original dichotomy between products and services is resolved by proposing a higher-order concept of “service” as a singular term, referring to a way of thinking or logic. Vargo and Lusch (2004) describe this shift with the concept of Service Dominant Logic (SDL) as opposed to a GDL. Grönroos (2008) also introduces what he calls the Service Logic (SL), *a perspective on how, by adopting a service approach, firms can adjust their business strategies and marketing to customers’ service consumption-based value creation* (p. 302). Both terms – SDL and SL – refer to a shift from an offering-oriented and provider-centric perspective on businesses to a value co-creation and customer-dominant one (Heinonen et al., 2010). In this sense the focus they propose is not on what the firm produces as an output, but how it can better serve customers and support their own value-generating processes (Lusch et al., 2007).

Different from Service Design that was originally concerned with the shift of the object of design from products to services, Design for implementing a SDL advocates a new approach to innovation. Designers work in a SDL *“when they transcend the kind of output they might generate and focus on the outcome and the approach to innovation, working with and within organisations to help them become more dynamic and customer centric.”* (Sangiorgi et al. 2015, p. 58).

Also the consideration that organisations can only generate value propositions, reinforces the recent idea that designers can only design the conditions for future actions to happen (Manzini, 2011), facilitating users’ own value creation processes. Users’ role in Design for Service extends from contributing information and ideas during the design process to participating in the co-creation of services, while design tools help to collaboratively anticipate and experiment with possible futures (e.g. experience prototyping). Table 1 summarizes the parallel evolution of the understanding on service, design and users from Stage 1 to Stage 3.

	Service	Design	Users
Stage 1: Perceptions on service as added values and product design	Service as an added value to manufacturing	Design for different kinds of products (graphic, communication, manufacturing product, or interactive device)	Users as passive recipients of products and service offerings. Limited involvement as statistic data and prototype tester
Stage 2: Perception on service, design and users in Service Design (with Good Dominant Logic)	Service as a market offer, and as an engine for growth and employment	Conscious Service Design applied to the analysis and ideation of services	Users as experts of their own experiences, having valuable contributions to the design and innovation processes
Stage 3: Perspective in Service Dominant Logic	Service as business logic, a way of thinking and innovating	Design applied as an approach to support organisations to think and innovate in a human centred way	Users as co-creators of value, actively and creatively engaged with their own resources or organisations' resources. Organisations focus on providing support for users' own activities and purposes.

Table 1 Parallel evolution of perceptions on service, design and user

Development of the Tool for Inquiry

When combined, the three stages of the evolution of Service, Design and Users form a framework as a starting point to develop a *tool for inquiry* into organisations' own perception of their practices, identity, and future. We also added to the three categories a fourth one - Vision - to reflect on the existing perspectives on the future of the organisation. For each category we developed more specific questions that would inquire into how the understanding of Service, Design, Users and Vision is actually manifested and operationalised in the organisation. Table 2 shows the questions falling under each category.

Categories	Questions
Service	<ul style="list-style-type: none"> ▪ How do you describe your company? ▪ How do you understand service? ▪ Who is involved in service delivery?
Design	<ul style="list-style-type: none"> ▪ How do you understand design in your organisation? ▪ What role does design play in your organisation? ▪ Who is involved in design for services?
Users	<ul style="list-style-type: none"> ▪ Who are your users? ▪ What is your understanding of users? ▪ How do you interact with users? ▪ What type of information about users do you gather?

	<ul style="list-style-type: none"> How do you engage users in the innovation process?
Vision	<ul style="list-style-type: none"> What is your vision on service innovation? What is the reason for change? Where does the initiative come from? What is the focus of change? What level of organisational support is there for change?

Table 2 Questions under the categories of Service, Design, Users and Vision in the Tool

Answers would then be given by positioning a marker between stage 0 and stage 3: stage 0 referring to a status in which there is no service provision and no direct contact with users or a view of design as related to products, and stage 3 representing a state where a Service Dominant Logic is implemented and manifested in the way Design is used and users and other stakeholders actively engaged and interconnected in value co-creation.

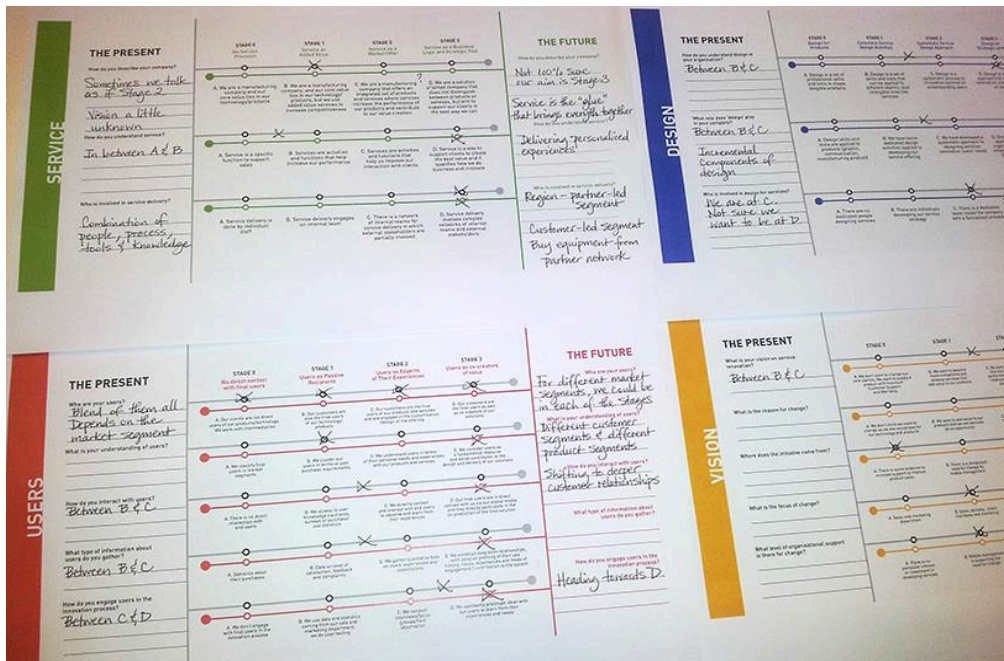


Figure 1 The first version of the Inquiry tool as used with the global company

The first version of the tool for inquiry (see figure 1) can be thought of as a canvas on which the interviewer and the interviewee take notes on and add commentary to the insights that emerge from the conversation. This initial version has been then tested with employees from a global company as described below.

Pilot test

The Tool for Inquiry was piloted with a large, established global business organization. The specifics of the company, interviewees, and business process of the company have been modified to maintain the anonymity of the organization, but this does not materially change or impact the findings. The organization is a product and services company that has embarked on a journey to extend its service offers from traditional product support offers to

those that assist the customer in the setup, configuration, optimization, and evolution of their systems. The company designs, manufactures and sells products and services to a wide customer range from large enterprise customers to smaller commercial customers.

Overall, five interviews were conducted, lasting between 60 and 90 minutes. Three of the interviewees were responsible for the customer product and worked in Customer Product Management; M (Director, owner of core technology requirements and different products that utilize the technology), T (Product Manager, owner of the core technology product focused on customer usage), and A (Program Manager, manager of the overall program for updates and releases of the product). The other two interviewees worked in Service Product Management and were responsible for two different types of service products; S (Director, owner of the service product that is used by partners and utilizes the core technology), and C (Product Manager, owner of the service product that is sold to customers which assists the customer in installing, configuring and using the product for maximum customer benefit). The positions of the five interviewees and description of the product and services they are responsible for are shown in Figure 2.

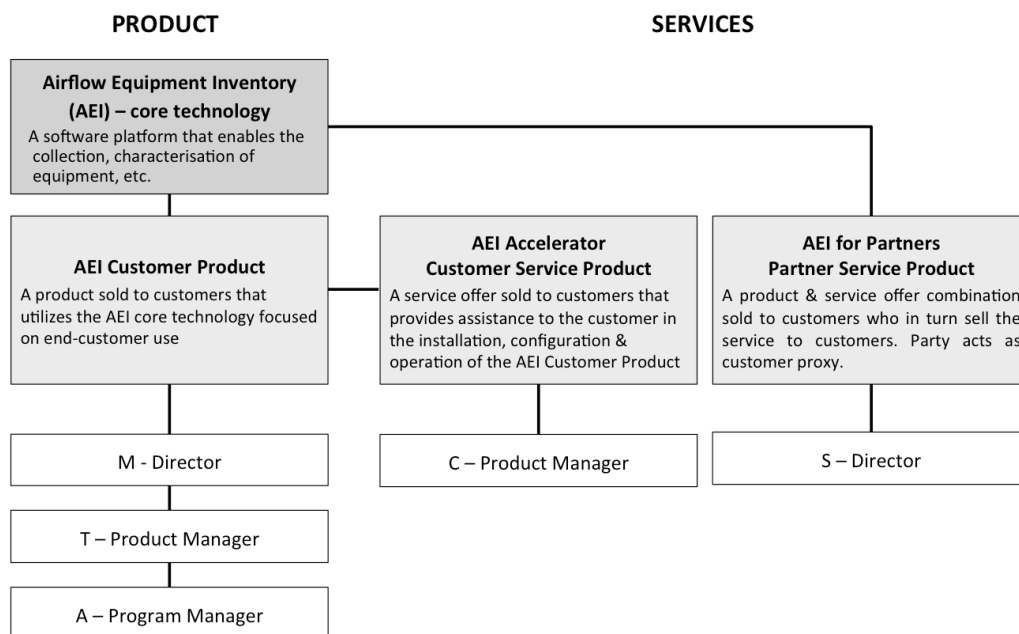


Figure 2 Interviewees’ positions and types of offerings in the global company

The interviewees were asked to choose from the stages in the tool that they think best represents the company’s status and future aspirations. After the choices were made for each question, they could further elaborate on the reasons behind their answers. All interviews were recorded and verbatim transcribed. Transcribed interviews were then analysed with respect to the interrelations of the understanding on service, user and design; looking for differences, patterns and interesting themes in the data.

Findings

We present our key findings from the pilot test of the tool as below.

Overall reaction from the respondents

All respondents commented that going through the stages in the tool was a useful thought-process about the maturity level of the company in terms of service-orientation. The description in each stage seemed to help the respondents make sense of and articulate how they understand what their company is about and is not about. By reading the description in each category, they were able to verbalize thoughts, for example, *“(reading the description) service is a specific function to support sales... we are definitely not in this stage.”* or *“Stage 3... you’re saying ‘design helps our strategy?’ I’m not sure what it means. Actually we have a strategy and then we go into the design.”*

For some questions, the respondents said that it would be better to do “context-setting” at the beginning with respect to the business model, division, or the market segment being assessed. As the company is a large organization with a very diverse range of product and service offerings, they found it challenging to decide which element was going to be the focus. This problem was partially overcome by giving multiple answers to the questions or choosing “in-between” stages. The section that the respondents were most comfortable with in the positioning was “vision”. On the contrary, the part they had the most difficulty with was “design”, due to their uncertainty about which activities and processes could be considered as design.

Different views to service

The respondents in general viewed that the company’s vision for service is to move to Stage 3, i.e. taking service as a business logic and strategic tool. However, their views to the company’s current status diverged. M and T (owners of AEI core technology and products) and C (owner of the AEI accelerator service) positioned the current status of company as a manufacturing company that offers an integrated set of products and services for increasing the product performance and contributing to company’s value creation (Stage 2). A (manager of the overall program of the AIE product) and S (owner of the service product for partners), however, said that the company is still in Stage 1 and their core value lies in the technology and products using added-value services.

S whose job is partner-focused, consistently showed his view of service as an added-value while products are the core focus of the company. According to S, service in the company is currently a specific function to support sales or increase company’s performance (Stage 0 & 1). Whereas the other respondents said that the company clearly wants to move to Stage 3, S thought that the company’s vision is a little unknown.

“...sometimes we talk as if we are at Stage 2...where the company’s vision is; I think it’s a little unknown. I don’t think- I’m not hundred percent sure our ambition is actually Stage 3.” (S – Director of the partner service product)

In elaborating on his answer, S emphasized that the company has a well-established channel model and is very reliant on those channels that comprise a wide range of partners (resellers).

The reason behind the difference in his choice may lie in his belief that becoming “services-led” would disrupt the channel centric business model of the company.

Different views to design

It appears that the company does not have a shared definition of what kind of work is referred to as design. The respondents felt unsure which team or which type of work they could frame as design, as various teams have different types of work for product development and customer involvement. In addition, as the tool appeared to focus on service as a topic of inquiry, the respondents who work in the product team, representatively, M and T, showed uncertainty to answer what role design plays for service and how.

“What do you mean by design in this area? I don’t know how to answer this section...By design, do we mean my user experience team who are focused on the customer journey mapping or do we mean the architects who are responsible for taking the business requirements, the outcomes in the customer of the journey and mapping it into those areas? I don’t know if either of those fit in design so I’m not quite sure what’s meant by this.” (M)

“You’re asking specifically about service offering, so I don’t have a lot of insight into a service offering that has no tangible product...We have a systematic approach for designing services, but is that centered on user needs? That I would have a hard time giving you insight.” (T)

Although all respondents described design as a systematic approach for the development of offerings in the company, we also found that their understanding on ‘who is / should be involved in design’ diverged. M and T who manage the core technology positioned company’s current status and vision between Stage 2 (“there is a dedicated team inside the company with a formalized process”) and Stage 3 (“we have service oriented innovation process and strategy involving all levels of the company”).

“I think the company is sort of structured in a way that services and product delivery were separate for so long that now it’s hard to say that they’re actually, you know there’s an aspiration for integration but I would say we’re not there yet.” (T)

C whose job focuses on service, described his view of design as a holistic development process, which involves collaboration among different teams (engineering, marketing, product development, sales etc.) and all levels of companies (across executive level and frontline staff - “worker bees” in his terms).

In contrast to the responses described above, S whose job focuses on partner program development seems to understand design as ‘the development of things.’ His understanding of design seems to be product development-oriented where efficiency on development and implementation is important. In S’s opinion, the company does not want to involve a lot of people and resources in the development. To the question of ‘who is/should be involved in design’, S responded, *“We are not at Stage 3 (We have service oriented innovation process and strategy involving all levels of the company) and I’m not hundred percent sure we want to be at Stage 3...’all levels of the company’.”*

Limited Recognition of User Engagement

In their responses to user definition and understanding, the respondents addressed issues related to multiple and relational connotations of the term “user” in the company. This is mainly because the company has a tiered distribution model that deals with different types of customers, including final users and partners (resellers).

“There is a final user of our product in general. But like I said, we have a tier distribution model where we have direct value added resellers who buy directly from the company, but then they resell the product or service to a customer.” (T - owner of the core technology product focused on customer usage)

We found that their different understandings of users are related to the nature of their work. For example, S deals with the service product used by partners that are proxy of final customers consuming the outcomes of the service. S mostly looks at the partners in his work and thus his understanding of the final customers is through these partners. He positioned company’s understanding of users in ‘clustering users in terms of past purchase requirements and market segment.’

Even though the respondents talked about importance of understanding users, they do not seem familiar with the notion of user engagement in the innovation process, what it means in practice and how it benefits. They did envision that users should be co-creators of solutions and services from the company need to support their value creation. However, when it comes to actual practice of user engagement, there was lack of conception on direct user engagement in the solution creation. In other words, users are still conceived as informants that the company employees may meet and gather ‘data’ from. The culture of expert-oriented development seems to remain strong in the company.

“We definitely interact with customers using digital media but they are not directly participating in the co-production of the final solution. We take input, we go out, we produce it, and then they consume it. What we like to do is, as we are in the development process, to get feedback from customers. I’m a product manager, so I work with the developer, we’re getting to the point where through the development process, very iteratively, we get feedback as the product management team. That’s just sort of getting and we would like to transition that at some point to customers as well.”
(T - the product owner of the core technology product focused on customer usage)

C’s answers to user engagement were along similar lines. Whereas C showed a clear vision of the company and service to support customers’ value creation, his understanding of users and user engagement did not seem aligned with his logic to service. According to C, the company understands users through classification by market segments, and his wish is to have understanding of users’ personal needs and experiences (Stage 2), rather than viewing them as contributors to company’s solutions (Stage 3).

Interrelations of the understanding of service, design and user

In identifying differences in respondents’ views to service, design and user engagement, we found that how one understands service is related to his view to design and user engagement. We also found that this interrelation is in line with our framework of the parallel evolution of service, design and user engagement.

For example, it would appear that S has a good-dominant logic to company's current status and vision. He described that the company's core value is in their products and services is added-value, as a specific function to support sales and company's performance. His vision for the company remains in the manufacturing company that delivers product-service systems, rather than a solution-oriented company that does not distinguish between products and services. With this view, he understands users through clustering them in terms of past purchase requirements and market segment that the company delivers products and services. S thus considers design as a set of skills and a systematic process for the development of things to meet such requirements by market segment, rather than seeing its role for user engagement. For him, design is done by a dedicated team inside the company compared to holistic approaches involving different levels of the company.

Different from S, it appears that C views a service as an integrated solution for customers to create value and believes that the company should move toward a solution-oriented company. For this, service delivery in company currently involves a complex network of internal teams and external stakeholders, according to C. In fact, C's job responsibility is to manage the customer service product that assists the customer in installing, configuring and using the product for maximum customer benefit. C had a broader, inclusive view to design as systematic approaches that are done to support customers to achieve '*certain outcomes*', which then needs to involve different levels of the company – from '*high-level*' design that sets strategy by managers to '*detail*' design for hardware and software design, delivery and marketing strategies – and different teams – across delivery, engineering, finance, legal, marketing and so on.

Discussion

This first application of the inquiry tool enabled us to identify a possible scope of the tool as a 'conversation piece', which is to explore the level of (mis)alignment of different organisational departments in their understanding of where they are and where they are going to in relation to service design and development. When situations exist like that identified during the pilot the conditions are not conducive to effective development and delivery since there is contention over resources, messaging, and planning.

Correcting this (mis)alignment is particularly relevant to business leaders who have the mission to transform their business from selling products and technology, to delivering customer outcomes through integrated solutions of products and services. The required shift in culture of the organisation cannot be underestimated. The challenge for the business leader is to move away from the *In-Side* out thinking that tends to dominate technical organisations that have excelled in engineering and product design. To succeed in delivering product/service solutions an *Out-Side* in approach must be adopted in order to ensure value creation in the customer's or industry's supply chain. This requires collaboration between product design, the service delivery team, and most importantly the customer who is part of the co-creation process. For product organisations this requires a significant mind-set change. Not only adding service design to their product design expertise but in merging the two disciplines so that outcomes and results are seamlessly and profitably created for the customer and themselves.

This tool can be used as a small part of this mind-set change process by those responsible for delivering this transformational change. The process of taking different groups of an organisation through a structured discussion on the differences in the organisations focus, resources, and capabilities can be identified. Including different management levels and functions in the process can facilitate the development of an organisation's perspective in relation to:

- Role of services with the corporate growth strategy,
- The implications to customer relationships,
- How product service solutions are designed and deployed, and
- Vision and desire for change

This assessment then can act as the catalyst to develop a common vision of the desired state, and a detailed action plan as to how it can be achieved. Indeed the discussion in the case study highlights this very point.

The responses from T and S should be of particular concern to an organization where those responsible for product/service management are also responsible for design. Questioning what design is (T) and the lack of inclusion of users in the design process (S) indicates trouble for a company that intends to grow the business based on Service revenues. There is clear and obvious evidence, both in the literature and in practice, of the impact of including users in the design of things.

From a service design evolution perspective and the difficulty of the participants to use the method provided and position their understanding of design, could be less indicative of the structure of the tool and more representative of their lack of clarity on the company's current services and service design strategy. Or a lack of a concrete, well-articulated overall service design strategy for the company.

This lack of clarity or rooted *worldviews* can be an inevitable condition for a very large organisation that is aiming and working for a significant change in the way they present themselves to and operate within the market; we therefore suggest how the tool could be used to unearth and make these core differences and (mis)alignments visible and more tangible; following dedicated activities could then support the organisation to discuss the implications of these different perceptions across the three interrelated areas of service, design and user engagement. We will use these initial insights to inform the design of these activities, while we aim to refine the tool and use it with other organisations possibly of different size, sector and evolutionary stage.

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