

Considering a Taxonomy for Advanced Services

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Introduction

The Digitally Enhanced Advanced Services (DEAS) Network Plus focuses on research into how products or services are used, rather than how they are produced, and the resulting opportunity for innovative new business models that exploit digital innovations to create Digitally Enhanced Advanced Services. Working with academics from computer science, engineering and business, and industry representatives from manufacturing, transport, and finance services, the DEAS Network Plus has produced three research agendas, with a fourth in production (charity/voluntary), that highlights the research priorities for each of the relevant sectors¹.

Based on the research agendas, thirteen associated collaborative research projects between industry and academia have been funded. The research agendas, and review of these projects, have allowed learnings from new sectors (charity/voluntary sector), and established sectors (i.e., manufacturing), producing a two-way exchange between those sectors where servitization is established and those where it is not (e.g., transportation and financial services). This exchange has allowed commonalities to be identified that are important for those who wish to make the servitization journey. These commonalities can form the basis of a taxonomy that allows the servitization process to be explored and understood for all industries and sectors.

Theoretical background

Many existing methods that characterise or classify the servitization process provide a framework or model that focuses on the manufacturing sector.

Based on fourteen case studies from the manufacturing sector, Baines et al (2020) present a model to describe the servitization process. The model considers four 'principal stages of organisational change': exploration, engagement, expansion and exploitation. Forces that can be considered as 'contextual factors' are grouped into five categories: customer pull, technology push, organisational readiness, value network positioning and organisational commitment.

Building on the servitization-focussed transformation model (Ziaee Bigdeli and Baines, 2017), a precursor to the work presented by Baines et al (2020), Dmitrijeva et al (2020) explores the impact for a manufacturer of internal and external factors on the servitization process. Dmitrijeva et al (2020) note that although most researchers appear to investigate contextual factors in isolation, the dependencies must be considered.

We wish to create a taxonomy that is sector agnostic. A taxonomy is a way of classifying entities and the relationships between them. From an ontological point of view, it is 'a hierarchy consisting of terms denoting types linked by subtype relations' where types are based on common features (Arp et al 2015). The initial step in developing a taxonomy is to identify these common features.

Theoretical and practical contribution

The theoretical contribution is the taxonomical base to explore and understand the servitization process independent of industry or sector. The practical contribution is the consideration of a different sectors in its development.

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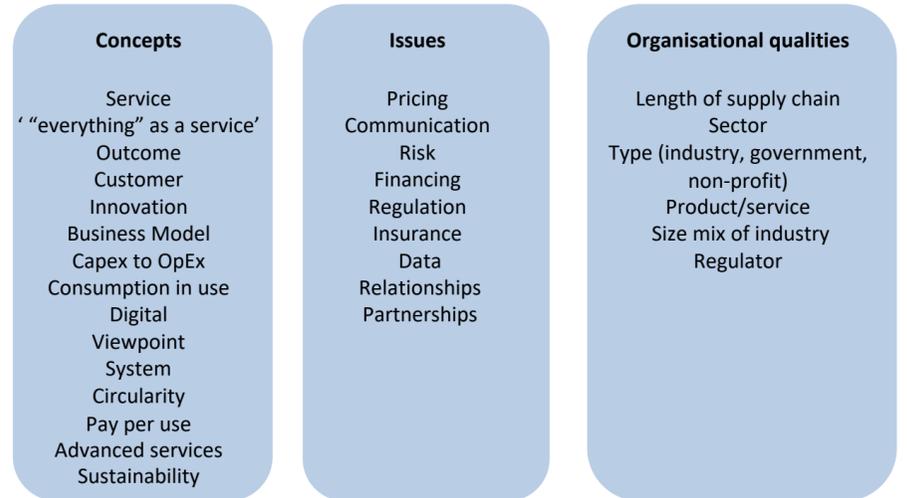


Figure 1: The initial taxonomic features

Findings

A review of the DEAS Network's work-to-date has identified three top-level features that could form the basis of a taxonomy: concepts, issues and sector organisational qualities.

Concepts represent some of the sector agnostic features that must be considered within a servitization business model. Here we consider concepts as 'a unit of thought that can be constituted through abstraction on the basis of characteristics common to a set of objects' (ISO, 2000). Issues represent problems that will need to be overcome. Organisational qualities refer to features that might allow an organisation to be classified; further exploration is needed to identify the relationship between organisational qualities and issues.

Figure 1 indicates some of the items that will need to be considered for each top-level feature. Since we are aiming for a taxonomy, these items will need to be further classified to form a hierarchy.

Future Work

The concepts for an initial taxonomy have been presented, based on the work of the DEAS Network to date, that allows the servitization process to be explored and understood for all industries and sectors (i.e., is sector agnostic). Future work will see the completion of the taxonomy and review by our industry partners. In the development of the taxonomy, an ontology of servitization will also be explored.

Acknowledgments

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