

Measuring Servitization in the Digital Economy

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The increasing opportunities that are offered by new technologies in the Digital Economy has led to companies evolving traditional business models. Methods are needed to identify these new business models and track their evolution; such methods could be used to define the Digital Economy. This abstract describes the latest developments in a computational method that identifies new business models through the analysis of firm's webpages. The developments include more advanced feature engineering based on web-scraping and inclusion of data from social media thus allowing the different business models to be identified more accurately.

The method adopts a basic framework for a business model (Parry and Tasker, 2014), which included three elements of a business: value proposition, realization of value in use, and worth capture. Since the Digital Economy is still ill-defined, the current method is being used to measure the diffusion of service and extent of servitization. Servitization is taken as a change in the business model, from a focus on purely product towards inclusion of service in the value proposition. The method incorporates machine learning, web-scraping, and ontological theory, to produce a general taxonomy of business models; such a taxonomy may lead to classifications that characterize the extent of Digital infusion into business models. The method has been implemented in Python and successfully applied to a sample set of websites: the West Country's 150 biggest businesses (Top 150 Businesses Guide 2014) as listed by Western Daily Press, UK.

The ability to measure the extent of servitization over time, and categorise according to degree of product/service offer, would be of great interest to servitization researchers and provide valuable insight for firms and markets. Previous approaches are time consuming and reliant on databases which are not controlled by the individual firms of interest and may contain inaccuracies (Neely, 2009). The new method uses data that is created and disseminated by the firm themselves who have a direct commercial interest in its timeliness and accuracy. The method is more inclusive since it does not rely on databases where firms must meet a qualification to appear. Due to the dynamic nature of the Digital Economy any method that is developed must be repeatable and allow for change. The method employs computational methods that can be run at minimal time and cost to the research team. The work seeks to provide a regular output that may be of interest to the research community and organisations, tracking trends in the number of firms in a market, their activity and changes in activity from product to service over time.

References list

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