

## Changing role of suppliers-customers and smart technologies: a systematic review on energy management

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**Purpose** – The aim of this research is to adopt the Service-Dominant (S-D) logic lens (Vargo et al., 2008; Akaka & Vargo, 2014) to analyse a particular service industry, namely energy, in order to identify the ongoing and future trajectories. The main empirical contexts analysed in service scholars' studies are usually retail (Willems et al., 2016; Balaji & Roy, 2017), healthcare (McColl-Kennedy et al., 2017), and tourism (Carlson et al., 2016) while energy is mainly studied by engineers with research published in non-service journals. However, energy management is a field of study strictly related to the changing role of suppliers and customers where the concept of prosumer (Chandler & Chen, 2015) is widely adopted (Espe et al., 2018; Zafar et al., 2018). So, the S-D logic can be very useful in order to better understand this phenomenon, stimulating service scholars' attention to energy management as a particular context of analysis for empirical research.

**Methodology** – In line with the conceptual purpose, this research is based on a systematic literature review. We started the literature queries using Web of Science (WOS), as typically used in service research (Eloranta & Turunen, 2015). The search terms identified for the research were “energy management” AND “prosumer\*”. The first database (n. 139 articles) obtained was restricted to the results whose source titles appeared more than 5 times, delimiting the final dataset of 25 articles.

**Findings** – The changing role between producers and customers clearly emerges in the energy management especially thanks to the established role of smart technologies, such as smart grids and micro-grids (Espe et al., 2018; Zafar et al., 2018) that integrate photovoltaic panels, heat pumps and even electric vehicles. Through the S-D logic lens, the smart technologies used for energy production, storage, consumption, and sharing can be explained as operant resources so as an actor in the wider service (eco)system of energy.

**Research limitations/implications** – This paper follows the recent calls for research on the role of technologies in service (Huang & Rust, 2017; Amitrano et al., 2018; Matzner et al., 2018). It allows to explain the concept of prosumer used in the examined papers as non-service scholars' attempt to analyse value co-creation between householders and energy provider companies.

**Practical implications** – This work provides insights into the role of customers as co-creators with energy provider companies, so that the latter can find advices in the development of their policies with the important consideration of the active participation of micro-energy producers in a wider service (eco)system.

**Originality/value** – The main contribution of this paper is to analyse smart energy (eco)system as an empirical context in service research, with the exploration of resource integration between suppliers (i.e., energy provider companies) and customers, namely householders as prosumers. Further, the S-D logic can enhance the analysis of value co-creation in the smart energy management (eco)systems.

**Keywords** (max 5) – Smart technologies; energy management; S-D logic; prosumer.

**Paper type** – Conceptual paper

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