Improvement of Customer-Oriented Production Through New Shared Data Sources

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Purpose – Industry 4.0 (Lasi et al. 2014) supports the production of more customer-oriented products. Current research (e.g., Lasi et al. 2014; Schmidt et al. 2015) shows the importance of mass customization based on Industry 4.0 production processes for business. For ensuring the mass customization manufacturing through Industry 4.0, the integration of the customer in the production process is quite important.. New technologies and innovations (e.g., Internet of Things (IoT)) can be a good source to identify and collect customers' needs as well as preferences. The customer shares his data with the manufacturer in terms of value co-creation (Vargo and Lusch, 2004, 2016). The integration can be done via a public cloud driven customer relationship management. Cloud computing (Ambrust et al. 2010) offers a multitude of processing and integrational power to handle unstructured and structured customer data. Therefore, internal customer behavioral data coming from the companies erp system (e.g., customer baskets) can be analyzed together with the customer's shared data coming from IoT devices etc. This results in a better view of the customers needs and preferences and can be shared with the production systems in the industry 4.0 environment. Therefore, customer-oriented production processes and value co-creation can be improved.

Design/Methodology/approach – To develop a first understanding of the use of data coming from new technologies and trends like IoT (Gubbi et al. 2013) to improve customer-oriented production processes and co-cCreation (Vargo and Lusch, 2004, 2016) for production processes, we used a design science research approach according to Gregor and Hevner (2013). First, we developed a framework as an artifact based on the current knowledge base. Furthermore, we did some first descriptive evaluations and presentations of the framework.

Findings - A framework for an elementary understanding of the use of data coming from new technologies and trends like IoT (Gubbi et al. 2013) to improve customer-oriented production processes and co-Creation (Vargo and Lusch, 2004, 2016) for production processes was created. Furthermore, possibilities and challenges were identified.

Research implications – We showed how different data sources can be used for customer-oriented production processes and value co-creation. Future research can build upon our research.

Originality/value – Regarding our findings, we showed how customer data can be collected from new data sources and be integrated as well as processed in a public cloud customer relationship information system. The data can be used for improving co-creation in the mass customization production process through industry 4.0.

Key words – industry 4.0, IoT, crm, mass customization

Paper type – Research paper

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