LITERATURE REVIEW

In recent years the competition among manufacturers has become tighter due to phenomena such as globalization and the increasing request for more customized offers by customers (Tukker, 2004; Lightfoot et al., 2012). Moreover, achieving a great customer experience has become an essential element to enhance customer satisfaction and increase revenues (Rawson, Duncan and Jones, 2013). Considering these new trends, companies have started to change their strategy from the production and sale of products or systems, to the provision of *customer-centric solutions* (Tuli et al. 2007; Davies, Brady and Hobday, 2007; Neely 2009; Storbacka, 2011). There are several works in literature dealing with these issues referring to different concepts, such as: "servitization" (Vandermerwe and Rada, 1988), "transition from products to services" (Oliva and Kallenberg, 2003), "going downstream in the value chain" (Wise and Baumgartner, 1999), "product-service systems" (Tukker, 2004) and "moving towards high-value solutions, integrated solutions and system integration" (Davies, 2004).

Literature has highlighted different enablers for the servitization process: an important one is the technology (and in particular ICT) (Kowalkowski et al. 2013). The diffusion of digitization and the enhancement of digital technologies like the mobile internet, the Internet of Things (IoT), the augmented reality (AR) and the cloud computing have the potentialities to support this transformation. Notable case studies show these trends, e.g Apple which has become the largest worldwide music seller after the creation of the iTunes® store (Cusumano, 2010a) or Rolls Royce that adopts pervasively sensors able to monitor 24/7 the airplane engine status in the TotalCare® program (Ng et al. 2012). In these and other cases, the technology plays an essential role in increasing customer value, providing "smarter" services (Matthyssens and Vandenbempt, 1998), improving service planning and delivery efficiency (Kowalkowski et al. 2013) and enabling deeper customer relationships (Penttinen and Palmer, 2007).

These developments are also paralleled (and often enabled) by the development of ecosystems of actors collaborating in the creation and delivery of the integrated solution through a platform (Cusumano, 2010b; Gawer and Cusumano, 2014). The employment of a platform supported by a business ecosystem gives two important advantages, namely: 1) the possibility to exploit different competences and capabilities in order to enrich the features of the solution provided to the customer; 2) the opportunity for the customer to take advantage of the typical modularisation characteristics of the platform which increases the customizability of the solution.

GOALS

Servitization is a concept analysed in the literature since about 25 years and several papers have been written about this matter but there are some topics that have not been scrutinized yet.

There are some contributions about the role of technology in the transition from a product-oriented offer to a service-oriented one in literature. In particular Kowalkowsi et al. 2013 highlighted the key role that ICT has as a key enabler for new service processes and offerings and Belvedere et al. (2013) carried out a survey aimed at testing whether and how ICTs which enable the adoption of product-service systems, could contribute to value creation. Most of these contributions focuses on the effect of ICT on processes but there are very few contributions about the role of new disruptive technologies enabling smart services in manufacturing sectors although there have been several evidences in few recent years.

Moreover, the relationships among companies in servitized network have always been studied from a supply chain viewpoint, focusing on the competencies needed to effectively deliver services (Paiola et al. 2013; Gebauer et al. 2012). Nevertheless, empirical evidences of companies organised in business ecosystems (Moore, J. 1993) are increasing in parallel with the development of platforms enabled by digital technologies.

The main goal of the research concerns particular aspects on the latter two ones, namely: 1) the role of innovative disruptive technology (e.g. mobile internet, innovative technological devices, cloud technology, Internet-of-things, etc.) in the servitization path, 2) the development and management of business ecosystems aimed to enlarge business offers through bundles of integrated product-service solutions, 3) the role of platforms in enabling customer-centric solution exploiting customization and modularity features.

Thus the general objective of the reaserch program is the analysis of the enabling role of digital technologies, business ecosystems and platforms in the provision of customer-centric solutions by companies (not only manufacturing ones).

METHODOLOGY

The main goal of the research program is to understand and describe the enabling role of digital technologies, business platform and ecosystems in the provision of customer-centric solutions. The research will be carried out according to three different main phases, namely: Literature review, literature case studies and empirical case studies.

Literature review concerns an in-depth analysis of the research streams related to the four literature streams considered in the research program, namely: servitization, digital technologies, business ecosystems and platforms.

The Next step foresees the identification of very important and well-known business case studies which have moved to the provision of customer centric solutions with the help of digital technologies or/and platform and business implementation. It will be necessary to collect data and information focusing on industry sector reports, company annual reports, press release and specific websites. This phase will be useful to improve the framework and to add some elements which actually are not yet considered.

Finally empirical case studies phase concerns the development of business case studies on the field through interviews and/or questionnaires with managers and directors of the chosen companies. This phase will be preceded by the development of an appropriate research protocol.

Furthermore three research questions will be scrutinized (although they are preliminary and will be refined during the study):

- RQ1: How digital technologies enable the provision of CCS?
- RQ2: How business ecosystems and platform amplify the benefits deriving from servitization through the provision of CCS?
- RQ3: How ecosystems and platforms could strengthen the relationship between the provision of CCS and digitization?

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