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Conceptualizing business models in industrial networks

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ABSTRACT

This paper is concerned with business model conceptualizations and outlines a framework for their analysis in industrial networks. A literature review suggests that there is a broad range of current conceptualizations of business models. Analyzing them as they pertain to interaction, business relationships, and industrial networks reveals two main explanations for their differences: first, they clearly rely on different basic theoretical assumptions, and second, they seem to address two types of business models. We refer to these as firm-centric and network-embedded business models. Based on this distinction, a scheme of analysis at the levels of the firm, relationship and network is suggested for the two types of business models. Business models are challenging from an analytical as well as managerial perspective. Further research on emerging network-embedded business models is suggested.

1. Introduction

The starting point for addressing business models, and eventually to write this paper, was that we were invited by an automotive OEM to research developing new business models on emerging markets. The many business models identified in the literature spurred our interest in how they can be conceptualized to capture industrial network phenomena, and thus how they can be based on theoretical assumptions of interdependence among interacting firms.

Modelling business activity has always been a key concern for IMP scholars. The interaction model (Håkansson, 1982), the Activities-Resources-Actors framework (Håkansson, 1987), and the analytical scheme of business relationship development effects (Håkansson & Snehota, 1995) are all models of business in industrial networks. However, "business models", as a concept, has only recently received interest from researchers that rely on the industrial network approach (see, e.g., Freytag & Clarke, 2012).

According to most scholars, the concept is poorly defined (see, e.g., Chesbrough & Rosenbloom, 2002; Mahadevan, 2000; Morris, Schindehutte, & Allen, 2005; Zott, Amit, & Massa, 2011). Moreover, a common claim is that current business model conceptualizations are not theoretically grounded (Hedman & Kalling, 2003), and that when business model dynamics are concerned there is a need to learn more about "the forces that facilitate and impede constructive adaptation in the elements of an extant business model" (Chesbrough & Rosenbloom, 2002: 552).

According to Mason and Palo (2012) a key limitation of the main body of business model literature is that it creates a description of the firm at a single point in time and that it fails to consider the influence of the business network. Moreover, Mason and Spring (2011) argue that this literature fails to show the power of business models to bring about change in business networks. While most business model conceptualizations focus on the firm vis-à-vis generalized "markets", Mason and Spring (2011: 1032) note their use in Internet-based businesses in which "firms were being understood from the outset in terms of their position and role in business networks".

Coombes and Nicholson (2013) note that business models have received very little attention from marketing scholars. In particular, they suggest that the IMP Group's focus on interaction and networks could make distinctive contributions to the literature: "The focus within that perspective on the embeddedness of action and relationships across time also offers the potential to develop dynamic open-business models that evolve over time and which are not fixed and static entities…" (Coombes & Nicholson, 2013: 663). In this paper, we inquire further into the notion of "open" business models and how it relates to interaction, business relationships and industrial networks.

Two types of business models are identified: firm-centric and network-embedded. This distinction, together with differences in basic theoretical assumptions, may explain some of the variety among the approaches to the business model concept. Moreover, we inquire into the meaning of "open ends" and suggest that these are relying on interaction between various parties. We conclude that analysis of interaction is vital for the understanding and development of both kinds of business models.

A framework for business models relying on exchange as the smallest unit of analysis is offered. Three levels of analysis, that is, the

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firm, the relationship and the network, are suggested as ways to address the two types of business models. Interaction is identified as the force underlying the emergence of business models since open-ended, interactive interfaces with specific partners permit companies to influence, and to be influenced by, their direction and scope.

The paper is structured as follows: In the next section, we present an overview of some of the most recognized business model conceptualizations. In the third section, we discuss them in view of their theoretical assumptions of "business life" and in relation to the type of model they capture. In the fourth section, we suggest a framework for analysis of business models. In the concluding discussion, we discuss recent developments of business models and make suggestions for further research. In the last section, we point out some managerial implications.

2. Business model conceptualisations

There is a broad range of business model conceptualizations in the literature. In this section, we review the most cited contributions with an emphasis on: (1) definitions and components, (2) theoretical underpinnings, and (3) how network aspects are captured.

2.1. Definitions and components of business models

Based on a literature review, Zott et al. (2011) identify four common themes: (1) business models emerging as a new unit of analysis; (2) business models emphasizing the system level, that is, holistic approaches to explaining how firms "do business", (3) firm activities influencing conceptualizations of proposed business models, and (4) business models seeking to explain how value is created.

Most researchers conceive of a business model as answers to the following questions: How to create value? How to make customers pay for that value? How to convert payment through firm-internal operations into profit? (Chesbrough & Rosenbloom, 2002; Morris et al., 2005; Teece, 2010). Business models have also been described as stories that explain how enterprises work and answer such questions as: Who is the customer? How do we make money? What underlying economic logic explains how we can deliver value to customers at an appropriate cost? (Magretta, 2002: 86).

Doganova and Eyquem-Renault (2009) show that business models can be analyzed as a "market device", which (with reference to Callon, Millo, & Muniesa, 2007) is, "a market-enabling instrument that operates empirically for the enhancement of socially situated practices of calculation and decision-making" (ibid.: 1561). Doganova and Eyquem-Renault also suggest that business models can be seen as "boundary objects". Chesbrough and Rosenbloom (2002), in turn, argue that business models can be seen as "focusing devices" that mediate between technological development and economic value creation: "The business model provides a coherent framework that takes technological characteristics and potentials as inputs, and converts them through customers and markets into economic outputs" (ibid.: 532). According to Chesbrough and Rosenbloom (2002: 549), the ultimate role of the business model for an innovation is to ensure that its technological core delivers value.

Studies of business models have mainly taken a firm-level perspective, typically with a focus on technology-based and/or entrepreneurial firms (see, e.g., Ghosh, 1998; Gordijn & Akkermans, 2001; Morris et al., 2005). How the firm is assumed to relate to its environment underpins the conceptualizations. Most often the firm is considered in relation to customers (in general) or to "classical marketing thinking" (Håkansson, Harrison, & Waluszewski, 2004). In contrast to such "firm and market" concepts, Mason and Spring (2011) suggest a framework consisting of three main elements: the market offering, the technology, and the network architecture. In their model, the technology element contains four dimensions: product, process, core, and infrastructure. Firms in the network have different degrees of control over these dimensions, but since they are all influencing business models, they should not be treated as "environmental variables", but, "as part of the network of internal and external actors that practice the business model" (ibid.: 1034). Moreover, Mason and Spring suggest four dimensions of network architecture: capabilities, transactions, markets and standards, and relationships. Capabilities include those that a firm can access and utilize indirectly within the wider business network. The ease with which firms can access their counterparts' capabilities is influenced by the existence and development of markets and standards. The structure, content, and governance of transactions (suggested as a definition of business models by Amit and Zott (2001)) link this dimension of network architecture to relationships. In a similar way, Hedman and Kalling (2003) suggest including customers and competitors, the offering, activities and organization, resources and factor market interactions, emphasizing the causal interrelations and longitudinal processes by which business models evolve.

Other alternatives to "firm and market" approaches have been presented. For instance, Mahadevan (2000) suggests that a business model is a unique blend of three "streams" (value, revenue and logistical) that identify the value propositions to the buyers, sellers and other actors. Furthermore, Mahadevan describes "the process of arriving at an appropriate business model" involving choices of "the right mix of alternatives" (ibid.: 66) and points out three factors that affect this choice: the role in the market structure, the physical attributes of the goods traded, and the personal involvement required in the buying/selling process. Mahadevan (2000) expands this concept in the market/network dimension while the technological considerations are limited to the physical attributes. Since Mahadevan addresses *e*-commerce, these attributes are focused on whether or not electronic transfer is possible. Ghosh (1998), also focusing on e-commerce, takes a relational view by suggesting that, "…by allowing for direct, ubiquitous links to anyone anywhere, the Internet lets companies build interactive relationships with customers and suppliers, and deliver new products and services at very low cost." (ibid.: 126).

Another approach to how business models extend the firm boundary has been suggested by Zott and Amit (2010), who conceptualize a system of interdependent activities that transcends the focal firm boundaries. Taking a somewhat broader scope, Zott et al. (2011: 1020) suggest that "the business model is a new unit of analysis that is distinct from the product, the firm, industry, or network; it is centered on a focal firm, but its boundaries are wider than those of the firm…." Moreover, Mason and Palo (2012) describe business models as "frames" that configure multiple components or elements encased by narratives that explain how a business works. Table 1 summarises examples of business model concepts and the contexts for which they have been developed. We have focused on references that include explicit definitions and components.

2.2. Theoretical underpinnings of common conceptualisations

Several authors stress the need to develop theoretically sound business models (see, e.g., Amit & Zott, 2001; Hedman & Kalling, 2003; Mahadevan, 2000; Morris et al., 2005; Porter, 2001; Zott et al., 2011). Amit and Zott (2001) present a model of the "value creation potential" of *e*-businesses, noting that: "no single entrepreneur or strategic management theory can fully explain the value creation potential of e-business. Rather, an integration of the received theoretical perspectives on value creation is needed" (ibid.: 493). In particular, Amit and Zott argue that the value creation in e-business goes beyond the value chain (as conceptualized by Porter, 1985), the strategic networks among firms (Dyer & Singh, 1998), and the exploitation of firm-specific core competences (Barney, 1991). Therefore, their business model is suggested as "a unifying unit of analysis that captures the value creation arising from multiple sources" (Amit & Zott, 2001: 494), and is defined as follows: "A business model depicts the content, structure, and governance of transactions designed so as to create value through the exploitation of business opportunities" (ibid.: 511).

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