Learning, signaling, and convincing: The role of experimentation in the business modeling process

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ABSTRACT

This study examines experimentation in the business modeling process, unpacking three different roles of experimentation: learning, signaling, and convincing. Learning is an inherent role of experimentation, as managers typically experiment to engage with the environment and to obtain knowledge. This study uncovers another set of roles, which have a symbolic nature. These roles show that experimentation is not just a learning process, but also a strategic legitimation process, aimed at enacting the environment. Experimentation serves the purpose of signaling to potential customers and other stakeholders, and of convincing them to embrace the business model. Furthermore, this study shows that experimentation takes two forms—purposeful interactions and experimental projects—and that these forms can support the different roles of experimentation.

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Introduction

The business modeling process is crucial and challenging for managers, as it has a major impact on the company's performance and survival (Zott and Amit, 2007, 2010). It also poses challenges for scholars, as it is not always easy to understand and express how business models emerge, and how organizations use them (Mangematin and Baden-Fuller, 2015; Rumble and Mangematin, 2015). One can broadly define "business modeling" as a set of activities to create value for consumers and the company (Teece, 2010). Cognitive aspects of business modeling are becoming an important avenue of research in strategy (e.g., Baden-Fuller and Morgan, 2010; Martins et al., 2015; Mikhalkina and Cabantous, 2015). In line with these contributions, some authors emphasize that business modeling is dependent on managers' cognition, and on mental representations of the business (Aversa et al., 2015; Martins et al., 2015).

Scholars have started to raise the importance of experimentation in the business modeling process (Andries et al., 2013; McGrath, 2010; Morris et al., 2005). The literature on experimentation in strategy shows that experimentation helps managers to learn actively about their environment (Andries et al., 2013; Berends et al., 2016; Murray and Tripsas, 2004), and to probe the future and new markets (Brown and Eisenhardt, 1997). Some authors argue that experimentation allows the innovation of business models (Berends et al., 2016; Doz and Kosonen, 2010; McGrath, 2010; Sosna et al., 2010). Experimentation remains an emerging subject; we do not know yet exactly what roles it may play and what forms it may take in the

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business modeling process. The question that guided this research is: What are the roles of experimentation in the business modeling process? Furthermore, we explored how different forms of experimentation can support these roles.

To explore these issues, we adopted a qualitative approach to examine the micro-processes of experimentation. We utilized a processual perspective to obtain a deeper understanding of this phenomenon (Langley, 1999; Langley et al., 2013; Sandberg et al., 2015). We studied the business modeling process in two start-up companies in their early years, which allowed us to characterize two forms of experimentation: purposeful interactions (small-scale, potentially continuous experimentation with one kind of partner or an individual customer) and experimentation projects (large-scale, time-bound experimentation with one partner or multiple partners). Moreover, this qualitative and inductive study enabled us to discover two roles played by experimentation beyond learning.

Our data confirmed the learning role of experimentation (Berends et al., 2016): Experimentation allows managers to investigate the environment, test hypotheses, and develop skills and competences in the business modeling process. For example, one of the companies engaged in purposeful interactions with doctors and hospital managers to understand their needs and constraints. This approach offered a way to learn about the potential market; as a result, the management team decided to abandon the business model because of the external conditions linked to its implementation.

However, the data revealed two other roles of experimentation that we could not interpret through the lens of existing work on experimentation and business models. We realized that experimental projects could play a role in signaling value or intention, and in convincing other parties to engage in a relationship with the firm. Both signaling and convincing are involved in the strategic legitimation process. The literature on strategic legitimation in nascent ventures suggests that new ventures' strategic actions can enhance legitimacy (Zimmerman and Zeitz, 2002), and that a nascent organization's actions are crucial in explaining organizational emergence (Tornikoski and Newbert, 2007). We argue here that experimentation in the business modeling process plays an important role in signaling, and in convincing other parties of the business model and of the nascent firm's legitimacy. Business modeling is both a cognitive and an experimental process—and so a way to gain legitimacy.

This paper is organized as follows. First, we present the theoretical background for the study. Next, we explain the research design and methodology. We then describe the study results. Finally, the discussion section highlights contributions to existing theories, implications for managers, limitations of the study, and avenues for further research.

Theoretical background

Process of business modeling

Recent research has begun to investigate the business modeling process, i.e. modeling a business model (Aversa et al., 2015; Mangematin and Baden-Fuller, 2015; Rumble and Mangematin, 2015). Aversa et al. (2015, p. 153) define "business modeling" as "the set of activities that cognitively manipulate the business model to evaluate alternative ways in which it could be designed." This processual view on business models is closely related to other terms used in business model literature—such as business model "design," "evolution," "renewal," and "innovation"—as it acts as their antecedent (Aversa et al., 2015).

In business modeling, managers are involved in cognitive processes. They may rely on analogical reasoning (accepting similarities between two systems to support the conclusion that some further similarity exists) or conceptual combining (creating a new concept by combining target and source concepts) (Martins et al., 2015), and they may imitate iconic business models (such as Google or Airbnb) as representations of what they aspire to become (Mikhalkina and Cabantous, 2015). Managers are involved in the process of modeling different conditions, evaluating their potential and deciding how the business model will create and capture value (Lubik and Garnsey, 2016). In so doing, they cognitively explore different scenarios, and different outcomes of strategic decisions.

In addition to this exploration, managers are also involved in experimentation, which sometimes plays a central role in the business modeling process (Baden-Fuller and Morgan, 2010; Chesbrough, 2007, 2010; McGrath, 2010). Experimentation processes are different from cognitive processes, as they follow a different logic. While the aim of cognitive processes is to build models to represent the world, experimentation has processes of intervening, aiming to change the world (Hacking, 1983). Aversa et al. (2015, p. 153) argue that the turn to business modeling reflects the importance of understanding the underlying dynamics related to business model experimentation and manipulation. Morris et al. (2005) propose that business modeling in entrepreneurial companies is a process that involves the evolution of a model from fairly implicit to informal, intertwined with processes of trial-and-error learning and experimentation. Business modeling requires significant experimentation and learning, as well as a repertoire of leadership actions (Doz and Kosonen, 2010; Svejenova et al., 2010).

Experimentation in business modeling: definition, roles, and forms

Experimentation refers to deliberate and purposeful actions to gain knowledge about the environment or to validate existing knowledge through small tests in relatively controlled situations (Berends et al., 2016; Bingham and Davis, 2012). Bingham and Davis (2012, p. 632) found that even though scholars hold a common view about how to conduct experimentation in controlled conditions to test causal propositions, experimentation in uncertain environments also frequently occurs in a way that requires managers to try variations of practices and products deliberately as they go along. Murray and