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Establishing a continuous corporate business model innovation process: Process antecedents

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Abstract: The concept of business model innovation has gained growing interest in the past years to cope with the demanding challenges of increasingly dynamic market environments and the advent of the network economy. While most research in the field has previously focused on analysis and design of business models, as well as taxonomies, there has been paucity in how to pursue this demanding endeavor systematically and on a continuous basis in a corporate environment. This paper focuses on the exploration of process antecedents. We use data from three firms from different industries to explore this question and identify five antecedents: (1) Sense of need of continuous business model innovation, (2) adoption of a common firm-wide 'language' to develop new business models, (3) process variation based on organizational characteristics and degree of business model innovation, (4) cross-firm facilitation of process and collaboration, and (5) culture of constructive dialogs across management levels and business areas.

Keywords: Business model; business model innovation; corporate business model innovation process; barriers; organizational antecedents; process antecedents; systematic approach; process facilitation; incumbent firms

1. Introduction

Due to increasing globalization, dynamics of markets and competition, managers increasingly feel pressure to continuously explore new ways for value creation and revenue generation to stay in business. To support this endeavor the field of business model innovation (BMI) has gained attention in research and practice since the 1990s (Pohle & Chapman, 2006; Zott, Amit, & Massa, 2011).

Both scholars and practitioners agree that BMI is a new distinct form of innovation (Lindgardt, Reeves, Stalk, & Deimler, 2009; Massa & Tucci, 2013). Both emphasize the importance and the requirement of a continuous effort for incumbent firms to achieve sustainable differentiation and economic success (Amit &

Zott, 2012; Demil & Lecocq, 2010; Mitchell & Bruckner Coles, 2004; Pateli & Giaglis, 2005; Sosna et al. 2010). Despite the increasing attention, there are only few insights in how such a continuous BMI process could be established and managed in incumbent firms (Björkdahl & Holmén, 2013; Schneider & Spieth, 2013; Winterhalter et al. 2014). In addition, a large share of empirical studies in the extant BMI literature focus mostly on outstanding examples, as well as often on disruptive new business models in B2C contexts (Johnson, Christensen, & Kagermann, 2008; Morris, Schindehutte, & Allen, 2005). There are also other, and sometime less obvious forms of BMI (Mitchell & Bruckner Coles, 2004; Santos, Spector, & Van der Heyden, 2009; Sawhney, Wolcott, & Arroniz, 2007).

So far scholarly BMI literature provides suggestions for generic and discrete processes, which are mainly built on insights from innovation and strategic management literature (cf. Bucherer, 2005; Frankenberger et al., 2013). They provide a good basis for a systematic approach, but the described processes are rather of ad-hoc nature and too unspecific to be implemented in incumbent firms (Schallmo, 2013), and there's a lack of sufficient methodology to support establishing such a process (Winterhalter et al., 2014).

To gain a better understanding of requirements supporting the establishment of an appropriate BMI process in incumbent firms, which supports the design and implementation of new business models in an efficient and effective manner, this paper focuses on the question of what process antecedents need to be considered. As 'antecedent' we consider factors, which influence or enable the establishment of such a process.

Due to scarce empirical evidence, an explorative, qualitative research design is chosen (Corley, 2012; Eisenhardt, 1989). Case studies are conducted with three firms from the ICT industry, the energy sector and the media & printing industry.

2. Theoretical background

Continuous business model innovation

Since the 1990s the topic around business models and their innovation, in particular through the rise of new information technologies and the internet boom, attracts growing interest in research and practice, which is highlighted through numerous publications (Baden-Fuller & Haefliger, 2013; Ghaziani & Ventresca, 2005). So far a unified and generally accepted definition of the concept has not evolved from the discourse (Schneider & Spieth, 2013; Zott et al., 2011). That roots partially in its origin in practice and ubiquity in popular press (George & Bock, 2011) as well as in the independent usage and development of the concept in silos by researchers from different domains (Zott et al., 2011). On-going debates around delineation to related concepts provide another hurdle (Klang, Wallnöfer, & Hacklin, 2014). The definition by Teece summarizes core aspects, to which agreement among researchers exists, sufficiently well. It will be used as basis for this work: '[A] business model […] describes the design or architecture

of the value creation, delivery, and capture mechanisms it employs [by a particular business]' (2010, p. 172).

In addition, we follow Doganova & Eyquem-Renault's notion of the utility of a business model as a market device with a narrative and calculative function (2009; cp. also Muniesa, Millo, & Callon, 2007). In that role it can serve as a 'boundary object' (cf. Star & Griesemer, 1989) to facilitate communication and collaboration among stakeholders which participate in the process of creating new business models (Doganova & Eyquem-Renault, 2009; Eppler, Hoffmann, & Bresciani, 2011; Rohrbeck, Konnertz, & Knab, 2013).

BMI can be understood as a process as well as the outcome of such a process (Crossan & Apaydin, 2010). In the context of this research the focus is on establishing a process that aims at fostering the creation of new business models effectively. The novelty of the outcome shall be evaluated from a firms perspective (Björkdahl & Holmén, 2013; Trapp, 2013).

The process of innovating business models can be classified as a management process (Mitchell & Bruckner Coles, 2004). As known from previous research a systematic management process can provide a competitive advantage and contributes to firm performance (Mol & Birkinshaw, 2009). In addition a defined process, even if imperfect or faulty, is known to reduce risks and supports identification of improvements (Euchner & Ganguly, 2014; Mitchell & Bruckner Coles, 2004). In particular for new business opportunities where no data exists yet, a systematic exploration and learning from it is key to form the basis for successful exploitation (Levinthal & March, 1993; March, 1991).

As initially mentioned, the process is never finished and business models need to be optimized and new ones created continuously. This is in particular required in volatile environments with fierce competition and changing customer needs. As an extensive study by Mitchel & Coles emphasizes, firms which continuously improve their business models outperform their competitors (2004).

Barriers and organizational antecedents for business model innovation

BMI literature often mentions the following essential barriers hindering firms innovating their business models: (B1) Conflicts with existing assets and business models (Chesbrough, 2010; Zott et al., 2011), (B2) cognitive barriers and dominant business logics (Bojovic, Sabatier, & Coblence, 2013; Chesbrough & Rosenbloom, 2002; Prahalad & Bettis, 1986), (B3) missing data for future business models and need for experimentation (McGrath, 2010; Thomke, 2003), as well as (B4) gap in leading and managing BMI (Chesbrough, 2007, 2010).

In relation to those barriers and in context of establishing a continuous corporate BMI process, we identified the following organizational antecedents in the extant BMI literature and closely related fields, which shall further guide our research: (O1) Environmental awareness, (O2) willingness to cannibalize, (O3) constructive conflicts, (O4) risk tolerance, and (O5) resource authority. Those organizational antecedents and their assumed relation in regards to establishing a continuous corporate BMI process shall be further outlined as follows:

(O1) Environmental awareness

Due to increasingly dynamic markets it became crucial for firms to scan their environment frequently, to identify threats for their current business models, such as change of technological paradigm or new customer preferences (Christensen & Rosenbloom, 1995; Tellis, Prabhu, & Chandy, 2009), and to detect opportunities for new business models (Chesbrough & Rosenbloom, 2002; Worthington & Britton, 2006). This task is often pursued in organizations by functions such as corporate strategy, innovation management and business development. But information is also gathered individually. For instance by maintaining personal relationships, reading specialist literature or by engaging in extracurricular professional activities (Damanpour, 1991; Hartley, 2006). All of those activities are important to open the employees' eyes for opportunities (Damanpour, 1991; Danneels, 2008) but also to provide a sense of urgency (cp. Kotter, 1995). In relation to above mentioned barriers towards BMI in incumbent firms, it's obvious that there might be a challenge of allowing valid opportunities to be detected and pursued (Aspara, Lamberg, Laukia, & Tikkanen, 2013; Bogers, Sund, & Villarroel, 2014; Chesbrough, 2010).

(O2) Willingness to cannibalize

The exploration of new business models naturally leads to questioning the status quo. In particular in cases of radical BMI this could lead to requirements for new assets and resources as well as abandoning existing business models (George & Bock, 2011; Markides, 2006). Hence, as Chandy and Tellis call it, the question of 'willingness to cannibalize' the actual or potential value of investments in assets and organizational routines is raised (1998). Accordingly, concerned managers and other stakeholders, who are afraid of losing power or perceive other conflicts of interest, will potentially try to fight off attempts of changing or replacing the existing business model (Chesbrough, 2010; Markides & Charitou, 2004). It's obvious that controversies need to be addressed and discussed with relevant stakeholders in order to be able to move BMI initiatives forward. Therefor the willingness to cannibalize is tightly related to the ability to mediate conflicts in a constructive manner (see following paragraph; cf. Danneels, 2008).

(O3) Constructive conflicts

It's evident that ideas are required for any kind of innovation. But they can lead to afore mentioned debates regarding potential cannibalization of existing assets or business models. But forward-looking ideas could also be blocked off due to cognitive barriers (Barr, Stimpert, & Huff, 1992; Bogers et al., 2014; Kaplan, 2011), or not even arise due to industry or product dominant logics which hinder to envision new business models outside the realms (Bettis & Prahalad, 1995; Bojovic et al., 2013; Chesbrough & Rosenbloom, 2002). In any case it's key how ideas are treated and discussed. Past research has found that constructive conflicts, where debates focus openly on issues and opposing views, are beneficial

(Leavy, 2005; Tjosvold, 1985). This leads to better decisions as well as to greater understanding and acceptance (Amason, 1996; Tjosvold, 1985). In addition it induces both diversity (Eisenhardt, Kahwajy, & Bourgeois III, 1997) and cross-fertilization of ideas (McGourty, Tarshis, & Dominick, 1996).

(O4) Risk tolerance

The creation of any new business involves substantial risks, not only for the firm, but also for managers to be blamed for it and with potential career consequences (Chesbrough, 2010). Although an often suggested 'tolerance for failure' may encourage exploration of new business, it may also lead to laxness and undermining the necessity for proper due diligence before taking decisions (Danneels, 2008). In fact, an environment of risk tolerance should be created instead (cp. Mezger, Bader, & Enkel, 2013), fostering controlled experiments to generate the data needed to validate hypotheses at affordable losses (Chesbrough, 2010; Rohrbeck, Günzel, & Uliyanova, 2012; Sosna et al., 2010).

(O5) Resource authority

To engage in entrepreneurial activities and to explore opportunities, a firm must dedicate resources to such tasks (Sharfman, Wolf, Chase, & Tansik, 1988) that are not bound in daily operations and potentially cannot be justified regarding their expected return (Danneels, 2008; Levinthal & March, 1993). Thus, ownership and authority of resources have to be considered when engaging in the process of innovating business models (Chesbrough, 2010; Wolcott & Lippitz, 2007).

3. Methodology

Method and approach

With this research we aim at contributing to scarce theory of establishing a continuous BMI process in incumbent firms. Since no prior research on according process antecedents exists, a qualitative research design seems appropriate (Eisenhardt, 1989). To gain rich insights and to support transferability we use a multi case-study design (Yin, 2009) with firms from fast- and slow-moving industries and different market environments (cf. Eisenhardt, 1989). Cases were selected based on theoretical rather than random sampling, as suggested for enhancing or developing theory (Eisenhardt & Graebner, 2007). Firms were chosen based on the following criteria: a medium to large-sized representative of the respective industry, operating multi-businesses and being in the course of establishing, or having established, a corporate BMI process.

Insights gained from existing theory on barriers and organizational antecedents were used as a set of deductive codes to structure and guide the empirical study. Within each case company eight to ten semi-structured interviews were conducted with key individuals from senior management as well as strategy and

innovation management functions. Interviews were transcribed where recording was permitted, or detailed notes were taken and sent to interview partners for verification. In addition, field notes were taken based on observations, talks, phone calls and meetings to enrich the findings and provide some useful data overlap (Eisenhardt, 1989; Miles & Huberman, 1994).

The identified process antecedents result from an iterative process of data collection and within- as well as cross-case analysis. To support the process color coding und tabular displays were applied. The findings were triangulated with secondary data like reports, management handbooks and relevant project documentation (Jick, 1979). Identified antecedents were further reviewed by industry experts to test validity and to reduce potential researcher bias (cp. Eisenhardt, 1989).

The empirical data presented and discussed in this paper was collected between 2013 und 2015.

Case descriptions

SoftCo is a large global provider of enterprise application software. The firm has a long history of successful product and service innovations. The rise and popularity of cloud computing, ubiquity of mobile devices, industry convergence and other industry trends not only increased the pressure of creating new value to customers and partners in a continuous manner but also accelerated the required speed of innovation (Berman et al. 2012; Khanagha, Volberda, & Oshri, 2014). Historically, most BMIs were achieved by acquisitions. The time required integrating those companies and the necessary substantial investments put this strategy more and more in question. On the other hand due to the complexity of the organization and processes, it requires on average one to two years until visionary ideas are implemented. A prerequisite is that creative minds have sufficient access to the required power-structure and the new business idea does not fall victim to the corporate immune system. In 2013, having reached a high level sense of urgency, senior management decided to establish a team which should drive the development of new business models more effectively across board areas.

EnergyCo is a large Swiss utility company with subsidiaries in central Europe. The firm covers the whole supply chain from production, to transport, to sales & distribution of electricity and heat. Key challenges are induced by the energy transition, related increasingly unprofitable central production facilities, regulatory uncertainties and in general hard to predict dynamic market developments (Friedli & Walti, 2010; Hockerts & Wüstenhagen, 2010; Schicht et al., 2012). Due to diminishing returns and declining room for maneuvering the sense of urgency to develop new business models has arrived at all levels of the organization. Compared to many competitors there's a lot of creativity and many initiatives were launched. But there's uncertainty regarding the right orientation and the issue of scattering resources. The lack of sufficient customer knowledge and little cooperation experience with cross-industry partners represent further limita-

tions. To improve their innovation capabilities, a staff department reporting to the CEO was established that is in the course of developing a BMI process.

MediaCo is a medium-sized Swiss printing, publishing and media company. All of their current business models are threatened by digital market trends. In particular the printing division is additionally challenged by substitution of smaller batches by modern office printers, cross-border competition, industry-wide over-capacity and high-investments in state of the art printing equipment (Holm, Günzel, & Ulhøi, 2013; Iselin, 2011; Rothenberg & Zyglidopoulos, 2007). In the past *MediaCo* has continuously invested successfully in process and product innovations but in recent years they came to realize that new business fields outside their realms are required for long-term survival. Together with five industry peers they participated 2013 & 2014 in an academic research project on BMI. As one result, *MediaCo* was able to launch a new business model but also came to realize that this was just the start and they required establishing a continuous process (Villinger & Fischer, 2015).

4. Results and discussion

The following antecedents were identified based on the case studies: (P1) Sense of need of continuous business model innovation, (P2) adoption of a common firm-wide 'language' to develop new business models, (P3) process variation based on organizational characteristics and degree of business model innovation, (P4) cross-firm facilitation of process and collaboration, and (P5) culture of constructive dialogs across management levels and business areas. The findings are discussed in the following paragraphs.

(P1) Sense of need of continuous business model innovation

In all three firms interviewed managers have become aware that their previously applied concepts and approaches to develop new business are not sufficient anymore in the face of increasingly complex and dynamic market environments. *SoftCo* as well as *MediaCo* have explored the meaning of BMI and gained experience with dedicated projects. Management in both firms is convinced of its utility, which extends the innovation perspective onto the whole business logic, and that it must become a continuous effort to achieve sustainable effects (Mitchell & Bruckner Coles, 2004).

Management at *EnergyCo* has only just started to engage into the evaluation of the BMI concept. This is also driven by previously little application of systematic approaches towards innovation, a phenomenon that can be generally observed in the previously static energy sector (cp. Schicht et al., 2012). Based on our analysis we identified new business models for instance in their Italian branch and in a joint initiative with a partner from outside the industry. Due to a lack of a systematic approach those initiatives are prone to stay single events with little cross-fertilization of insights with other initiatives.

(P2) Adoption of a common firm-wide 'language' to develop new business models

Undeniably, the understanding of the meaning and content of business models and their innovation is still very diverse (Schneider & Spieth, 2013). This naturally leads to different forms and granularity of representations of business models for discussion and communication. A popular tool in practice is for instance the 'business model canvas' by Osterwalder & Pigneur (Günzel & Holm, 2013; Massa & Tucci, 2013; Osterwalder & Pigneur, 2010; Spieth, Schneckenberg, & Ricart, 2014). Whereas such a business model template is not the only tool required for the design and evaluation of forward-looking business models for specific or future market contexts (cf. De Reuver, Bouwman, & Haaker, 2013; Demil & Lecocq, 2010; Rohrbeck et al., 2013), it's key to agree on a common and accepted ground, i.e. a 'language', to facilitate effectiveness of the process among participants (cf. Eppler et al., 2011; Euchner & Ganguly, 2014; Rohrbeck et al., 2013).

In the past two years *SoftCo* has developed its own BMI methodology that builds in essence on the 'business model canvas' and contains additional templates as well as guidelines to support the development process. In the meantime, the methodology has been rolled out throughout the company and trainings are taking place on a regular basis. It allowed the abundance or alignment of various templates for describing new businesses, prone to singular views. According to interviewed managers it not only clarified discussions but also raised issues or conflicts earlier in the process and thus increased effectiveness.

MediaCo has acquired knowledge of a systematic approach and tools to analyze and design new business models as part of an academic research project in 2013. The application of standardized formats that provide consistent guidance through the whole process, was found very useful to moderate discussions among participants, to identify inconsistent or limited logic and, to support in particular the decision making process (Villinger & Fischer, 2015).

At *EnergyCo* members of the executive board and the new head of innovation management raised in unison the need of establishing company-wide formats to support acceleration and effectiveness of the discussion of new strategic initiatives. In particular due to the complexity of the market and manifold dependencies holistic views need to be supported.

(P3) Process variation based on organizational characteristics and degree of business model innovation

At *SoftCo* the firm-wide rollout and application of standardized formats improved discussions and decision making on new business models substantially. Nevertheless, it took too long for a valid business idea to reach commercialization. Often a creative mind is left alone in finding the right way through the organizational jungle to get access to required resources or assets. In that attempt, not seldom the intrapreneur (a term coined by Pinchot, 1985) finds himself ping ponged between functional areas or frozen in rigor processes. Obviously the more radical an idea is, the more likely the danger to struggle with the corporate

DNA provides another hurdle (cp. Cavalcante, Kesting, & Ulhøi, 2011; O'Reilly III & Tushman, 2004). Thus often ideas without access to suitable power structures didn't survive. As mentioned in the case description, to tackle such issues a team that shall drive initiatives cross-board areas was established in 2013. The team soon realized that a suitable process design needs to consider on the one hand resource authorities (cp. Wolcott & Lippitz, 2007) and on the other hand to link to existing management and operational processes to foster acceptance. In particular the involvement of stakeholders and required process experts need to be carefully orchestrated to drive the development of BMI initiatives. In cases of substantial conflicts with existing business models modes of separation need to be considered (Burgers, Jansen, Van den Bosch, & Volberda, 2009; Markides, 2013). To select the right path the team ensures early on that a business model idea is thoroughly discussed and understood by selected stakeholders. The systematic approach and facilitation of the process has improved so far effectiveness in discussions and led to more transparency in the decision making process.

Prior to 2013 *MediaCo's* business units with printing, publishing and media operated relatively autonomously. Due to market changes mentioned above, in particular the printing business got increasingly under pressure, despite on-going process innovations and investments in digital printing. The sales department ensures that cross-selling is pursued or packages are offered involving all business areas. However, innovations driven by cross-departmental collaboration were rarely realized. The adoption of a systematic business model development process and according tools, led already in first business modeling workshops to an eye-opener for senior management. As one senior manager acclaimed "I didn't realize that we have so much potential at hand by looking at the core logic of our three businesses". Accordingly also hefty discussions regarding resource authorization and delineation ignited, heated by product-driven cultures. To utilize these conflicts constructively it proofed to be crucial to collect relevant topics systematically and to address them as part of design alternatives. We observed that due to discussions with too many stakeholders two rather incremental options were finally selected. Convinced by the utility of the approach, management decided to integrate the process with the yearly strategy formation process and to add additional workshops with key customers and partners to counteract prevalent silo thinking.

At *EnergyCo* there is no systematic approach towards BMI yet. Driven by a high level sense of urgency (cp. Kotter, 1995) and granted space for creativity in departments, there are many projects flourishing. Albeit new ideas are desperately needed there's a lack of clear direction and consistent approaches leading to dissipation of resources (cp. Schicht et al., 2012). Due to little culture of debates at board level as well as across management levels new business ideas are often not sufficiently discussed and overlaps among projects are often detected too late. A systematic approach towards BMI is desperately required. It would channel creativity, facilitate dialogs and integrate perspectives across management levels and departments.

(P4) Cross-firm facilitation of process and collaboration

Due to the complex relationships of BMI to different processes and functions, in particular with corporate strategy, innovation & technology management and information systems, it is difficult to allocate it suitably in an organization (cp. Winterhalter et al., 2014; Zott et al., 2011). Whereas scholars suggest that BMI should be led by the CEO (cp. Doz & Kosonen, 2010; Govindarajan & Trimble, 2011), who has the authority and responsibilities required (cp. Chesbrough, 2007, 2010), is this in practice rarely feasible without the support of a dedicated team and according processes (cp. Winterhalter et al., 2014).

In 2013 *SoftCo* established a team within the finance & accounting area, reporting to the CFO, motivated to speed up in particular the commercialization of new business models. Soon the team experienced that they needed to facilitate the BMI process from end-to-end and across board areas to gain sufficient leverage for driving initiatives effectively. In particular it had to be ensured that new business ideas brought forward by different parties are documented from the very beginning in pre-defined templates. Thus comprehensiveness can be more easily verified and the documents can also be used for continuous refinement of information along the development process. To increase efficiency the involvement of required stakeholders and experts had to be carefully orchestrated along the process. The installation of a cross-functional and -divisional BMI sounding board soon proved to enhance the decision making process. As additional benefit the cross-fertilization of initiatives improved.

At *MediaCo* the CEO drove the BMI process initially. This supported high attention to initiatives but proofed to be an issue at business peak times. Thus the task was delegated to a newly formed staff position. As a result high attention and timely decision making by the board could be maintained. In addition coordination among initiatives and cross-fertilization could be improved through the dedicated function. Interviewed managers from the three business areas emphasized that it was important to them to leave projects within the departments to support buy-in. But they also appreciate that they are supported by the staff function to moderate cross-departmental collaboration.

At *EnergyCo* strategic initiatives are currently managed within departments and represented in board meetings by the department heads. Thus initiatives are aligned on a strategy level but leverage opportunities or potential conflicts are not sufficiently visible. On a departmental level there are quarterly meetings to coordinate resources and discuss technological developments. Apart from that, promoted by silo thinking, there's little sharing of experience and learning. In the face of the widespread issue of little customer knowledge and lack of orientation in the transition energy sector (cp. Richter, 2013; Schicht et al., 2012), cross-firm sharing of available insights on customer needs and jobs (cf. Johnson, 2010) is crucial.

(P5) Culture of constructive dialogs across management levels and business areas

As illustrated in the theoretical background, constructive conflicts provide an important means when challenging the status quo and developing new business models. In the context of a continuous BMI process we argue that this must become a habit and lead to a continuous 'constructive dialogs' among process participants. A continuous dialog can promote that information on market developments are shared and discussed on a regular basis, lessons learned from initiatives are fed back into the BMI process and new business model options are constructively discussed.

As we observe with *SoftCo*, the establishment of a clearly defined BMI process, facilitated by a dedicated team, seems to foster comprehensive dialogs among process participants and increases transparency in decision-making. As one senior manager emphasized in a steering committee meeting "finally we're able to reduce time-consuming ping-pongs within the organization and are on the road to pursue the right business models faster".

At *EnergyCo* communication gaps between management levels as well as departments hinder comprehensive discussions and understanding of new business models. Based on our analysis this is partially rooted in a lack of suitable formats and process limitations, but the main root of the cause is a lack of culture of debates. This hampers also cross-fertilization of projects and learning from failures, which could support urgently required orientation and finding focus in the complex market.

MediaCo's divisions operated in the past relatively autonomously. Post-adoption of the business model concept interviewed mangers from top and middle management alike confirmed a positive effect on cross-divisional discussions of innovations. But it also raised conflicts around authority and delineation. Unfortunately in a given case, the inadequate handling of the dialog among stakeholders led to the cancellation of the implementation of a promising new business model that a competitor introduced later.

Process antecedents promoting to overcome barriers towards effective development of new business models

In extension to above described process antecedents, our findings from the case studies indicate relationships between barriers and according antecedents, as depicted in the table below. We argue that the careful consideration of identified process antecedents promote overcoming often mentioned barriers towards effective development of new business models in incumbent firms:

Table 1 Process antecedents promoting to overcome barriers towards effective BMI

Barriers for BMI	*Organizational antecedent*	*Process antecedent*
(B1) Conflicts with existing assets and business models	(O2) Willingness to cannibalize (O3) Constructive conflicts	(P1) Sense of need of continuous BMI (P2) Common firm-wide business model 'language' (P5) Culture of constructive dialogs
(B2) Cognitive barriers and dominant business logics	(O1) Environmental awareness (O3) Constructive conflicts	(P1) Sense of need of continuous BMI (P2) Common firm-wide business model 'language' (P5) Culture of constructive dialogs
(B3) Missing data for future business models and need for experimentation	(O1) Environmental awareness (O4) Risk tolerance (O5) Resource authority	(P2) Common firm-wide business model 'language' (P3) Process variation based on organizational characteristics and degree of BMI
(B4) Leadership gap	(O5) Resource authority (O4) Risk tolerance (O3) Constructive conflicts	(P4) Cross-firm facilitation of process and collaboration (P3) Process variation based on organizational characteristics and degree of BMI

Source: Own representation

5. Implications and conclusions

Increasingly dynamic markets and competition require that a firm continuously seeks new business opportunities. In that endeavor scarce resources need to get allocated wisely, in particular in case of high uncertainty and lack of data to rely on. A systematic approach not only fosters effectiveness, orientation and learning (cf. Bingham & Eisenhardt, 2011), it also bears potential to become a competitive advantage (cf. Mol & Birkinshaw, 2009).

The study aims at contributing novel insights to the on-going discussion on BMI processes in corporate environments. We identified five antecedents to be considered when establishing such a process and which can be used for further structuring research on establishing a corporate BMI process.

For practitioners the findings can serve as guiding principles when establishing a corporate BMI process. Special attention shall be raised towards consideration of organizational characteristics, which may potentially hinder process effectiveness if not addressed adequately. In particular establishing a common 'language' for developing new business models and fostering continuous 'constructive dialogs' bear potential to promote opening up perspectives. The involvement of required stakeholders should be carefully orchestrated in relation to the intended degree of the aimed BMI.

While we are well aware of potential biases and weaknesses of qualitative research that apply to the study presented, we are confident of having derived use-

ful insights upon which future research can build. In particular we suggest further research on a suitable location of a process management function, in relation to organizational characteristics, and how decision-making can be facilitated along the process. We also encourage further research on how a corporate BMI process needs to be integrated or aligned with existing strategy, innovation management and business development processes.

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References

Amason, A. C. (1996). Distinguishing the effects of functional and dysfunctional conflict on strategic decision making: Resolving a paradox for top management teams. *Academy of Management Journal*, *39*(1), 123–148.

Amit, R., & Zott, C. (2012). Creating value through business model innovation. *MIT Sloan Management Reviews*, *53*(3), 41–49.

Aspara, J., Lamberg, J.-A., Laukia, A., & Tikkanen, H. (2013). Corporate Business Model Transformation and Inter-Organizational Cognition: The Case of Nokia. *Long Range Planning*, *46*(6), 459–474.

Baden-Fuller, C., & Haefliger, S. (2013). Business Models and Technological Innovation. *Long Range Planning*, *46*(6), 419–426.

Barr, P. S., Stimpert, J. L., & Huff, A. S. (1992). Cognitive change, strategic action, and organizational renewal. *Strategic Management Journal*, *13*(S1), 15–36.

Berman, S. J., Kesterson-Townes, L., Marshall, A., & Srivathsa, R. (2012). How cloud computing enables process and business model innovation. *Strategy & Leadership*, *40*(4), 27–35.

Bettis, R. A., & Prahalad, C. K. (1995). The dominant logic: Retrospective and extension. *Strategic Management Journal*, *16*(1), 5–14.

Bingham, C. B., & Eisenhardt, K. M. (2011). Rational heuristics: The "simple rules" that strategists learn from process experience. *Strategic Management Journal*, *32*(13), 1437–1464.

Björkdahl, J., & Holmén, M. (2013). Editorial : Business model innovation – the challenges ahead. *International Journal of Product Development*, *18*(3/4), 213–225.

Bogers, M., Sund, K. J., & Villarroel, J. A. (2014). The Organizational Dimension of Business Model Exploration: Evidence from the European

Postal Industry. In N. J. Foss & T. Saebi (Eds.), *Business Model Innovation: The Organizational Dimension*. Oxford: Oxford University Press.

Bojovic, N., Sabatier, V., & Coblence, E. (2013). Dominant logic transformation and business models renewal insights from a large company in the publishing industry. In *EURAM 2013*. Istanbul.

Bucherer, E. (2005). *Business Model Innovation – Towards a Structured Approach*. *Dissertation of the University of St. Gallen*. Universtity of St. Gallen.

Burgers, J. H., Jansen, J. J. P., Van den Bosch, F. a J., & Volberda, H. W. (2009). Structural differentiation and corporate venturing: The moderating role of formal and informal integration mechanisms. *Journal of Business Venturing*, *24*(3), 206–220.

Cavalcante, S., Kesting, P., & Ulhøi, J. (2011). Business model dynamics and innovation: (re)establishing the missing linkages. *Management Decision*, *49*(8), 1327–1342.

Chandy, R. K., & Tellis, G. J. (1998). Organizing for radical product innovation: The overlooked role of willingness to cannibalize. *Journal of Marketing Research*, *35*(4), 474–487.

Chesbrough, H. (2007). Business model innovation: it's not just about technology anymore. *Strategy & Leadership*, *35*(6), 12–17.

Chesbrough, H. (2010). Business Model Innovation: Opportunities and Barriers. *Long Range Planning*, *43*(2-3), 354–363.

Chesbrough, H., & Rosenbloom, R. S. (2002). The role of the business model in capturing value from innovation: evidence from Xerox Corporation's technology spin-off companies. *Industrial and Corporate Change*, *11*(3), 529–555.

Christensen, C. M., & Rosenbloom, R. S. (1995). Explaining the attacker's advantage: Technological paradigms, organizational dynamics, and the value network. *Research Policy*, *24*(2), 233–257.

Corley, K. (2012). What's Different about Qualitative Research? *Academy of Management Journal*, *55*(3), 509–513.

Crossan, M. M., & Apaydin, M. (2010). A multi-dimensional framework of organizational innovation: A systematic review of the literature. *Journal of Management Studies*, *47*(6), 1154–1191.

Damanpour, F. (1991). Organizational Innovation: a Meta-Analysis of Effects of Determinants and Moderators. *Academy of Management Journal*, *34*(3), 555–590.

Danneels, E. (2008). Organizational antecedents of second-order competences. *Strategic Management Journal*, *29*(5), 519–543.

De Reuver, M., Bouwman, H., & Haaker, T. (2013). Business model roadmapping: A practical approach to come from an existing to a desired business model. *International Journal of Innovation Management*, *17*(1).

Demil, B., & Lecocq, X. (2010). Business Model Evolution: In Search of Dynamic Consistency. *Long Range Planning*, *43*(2), 227–246.

Doganova, L., & Eyquem-Renault, M. (2009). What do business models do? Innovation devices in technology entrepreneurship. *Research Policy*, *38*(10), 1559–1570.

Doz, Y. L., & Kosonen, M. (2010). Embedding Strategic Agility: A Leadership Agenda for Accelerating Business Model Renewal. *Long Range Planning*, *43*(2), 370–382.

Eisenhardt, K. M. (1989). Building theories from case study research. *The academy of management review*, *14*(4), 532–550.

Eisenhardt, K. M., & Graebner, M. E. (2007). Theory building from cases: opportunities and challenges. *The Academy of Management Journal*, *50*(1), 25–32.

Eisenhardt, K. M., Kahwajy, J. L., & Bourgeois III, L. J. (1997). How Management Teams Can Have a Good Fight. *Harvard Business Review*, *75*, 77–86.

Eppler, M. J., Hoffmann, F., & Bresciani, S. (2011). New Business Models Through Collaborative Idea Generation. *International Journal of Innovation Management*, *15*(06), 1323–1341.

Euchner, J., & Ganguly, A. (2014). Business model innovation in practice: A systematic appraoch to business model innovation can help captrue value and reduce risks. *Research-Technology Management*, *57*(6), 33–40.

Frankenberger, K., Weiblen, T., Csik, M., & Gassmann, O. (2013). The 4I-framework of business model innovation : a structured view on process phases and challenges. *Internation Journal of Product Development*, *18*(3), 249–273.

Friedli, T., & Walti, N. O. (2010). *Managementguide für Schweizer Energieversorgungsunternehmen (EVU). Herausforderungen des Strommarktwandels richtig begegnen*. Bern: Haupt.

George, G., & Bock, A. J. (2011). The Business Model in Practice and its Implications for Entrepreneurship Research. *Entrepreneurship Theory and Practice*, *35*(1), 83–111.

Ghaziani, A., & Ventresca, M. J. (2005). Keywords and Cultural Change: Frame Analysis of Business Model Public Talk, 1975–2000. *Sociological Forum*, *20*(4), 523–559.

Govindarajan, V., & Trimble, C. (2011). The CEO's role in business model reinvention. *Harvard Business Review*, *89*(1-2).

Günzel, F., & Holm, A. B. (2013). One Size Does Not Fit All — Understanding the Front-End and Back-End of Business Model Innovation. *International Journal of Innovation Management*, *17*(01).

Hartley, J. (2006). *Innovation and its contribution to improvement: A review for policymakers, policy advisers, managers and researchers*. London: Department for Communities and Local Government.

Hockerts, K., & Wüstenhagen, R. (2010). Greening Goliaths versus emerging Davids — Theorizing about the role of incumbents and new entrants in sustainable entrepreneurship. *Journal of Business Venturing*, *25*(5), 481–492.

Holm, A. B., Günzel, F., & Ulhøi, J. P. (2013). Openness in innovation and business models: lessons from the newspaper industry. *International Journal of Technology Management*, *61*(3/4), 324–348.

Iselin, D. (2011). *KOF Branchenstrukturbericht Grafische Industrie*. Zürich.

Johnson, M. W. (2010). *Seizing the White Space - Business Model Innovation for Growth and Renewal*. Boston: Harvard Business Press.

Johnson, M. W., Christensen, C. M., & Kagermann, H. (2008). Reinventing Your Business Model. *Harvard Business Review*, *86*(12), 50–59.

Kaplan, S. (2011). Research in Cognition and Strategy: Reflections on Two Decades of Progress and a Look to the Future. *Journal of Management Studies*, *48*(3), 665–695.

Khanagha, S., Volberda, H., & Oshri, I. (2014). Business model renewal and ambidexterity : structural alteration and strategy formation process during transition to a Cloud business model. *R&D Management*, *44*(3), 322–340.

Klang, D., Wallnöfer, M., & Hacklin, F. (2014). The Business Model Paradox: A Systematic Review and Exploration of Antecedents. *International Journal of Management Reviews*, *16*(4), 454–478.

Kotter, J. P. (1995). Leading change : Why transformation efforts fail. *Harvard Business Review*, *73*(2), 59–67.

Leavy, B. (2005). A leader's guide to creating an innovation culture. *Strategy & Leadership*, *33*(4), 38–45.

Levinthal, D. A., & March, J. G. (1993). The myopia of learning. *Strategic Management Journal*, *14*(S2), 95–112.

Lindgardt, Z., Reeves, M., Stalk, G., & Deimler, M. S. (2009). Business Model Innovation: When the Game Gets Tough, Change the Game. BCG.

March, J. G. (1991). Exploration and Exploitation in Organizational Learning. *Organization Science*, *2*(1), 71–87.

Markides, C. C. (2006). Disruptive Innovation: In Need of Better Theory*. *Journal of Product Innovation Management*, *23*(1), 19–25.

Markides, C. C. (2013). Business Model Innovation: What can the ambidexterity literature teach us? *The Academy of Management Perspectives*, *27*(4), 313–323.

Markides, C. C., & Charitou, C. D. (2004). Competing with dual business models: A contingency approach. *The Academy of Management Executive*, *18*(3), 22–36.

Massa, L., & Tucci, C. L. (2013). Business Model Innovation. In *Oxford Handbook of Innovation Management*. New York: Oxford University Press.

McGourty, J., Tarshis, L. A., & Dominick, P. (1996). Managing innovation: Lessons from world class organizations. *International Journal of Technology Management*, *11*(3), 354–368.

McGrath, R. G. (2010). Business Models: A Discovery Driven Approach. *Long Range Planning*, *43*(2), 247–261.

Mezger, F., Bader, K., & Enkel, E. (2013). Antecedents of business model innovation: Examining the role of corporate culture and environmental turbulence. In *EURAM 2013*.

Miles, M. B., & Huberman, A. M. (1994). *Qualitative Data Analysis* (2nd ed.). Sage.

Mitchell, D. W., & Bruckner Coles, C. (2004). Establishing a continuing business model innovation process. *Journal of Business Strategy*, *25*(3), 39–49.

Mol, M. J., & Birkinshaw, J. (2009). The sources of management innovation: When firms introduce new management practices. *Journal of Business Research*, *62*(12), 1269–1280.

Morris, M., Schindehutte, M., & Allen, J. (2005). The entrepreneur's business model: toward a unified perspective. *Journal of Business Research*, *58*(6), 726–735.

Muniesa, F., Millo, Y., & Callon, M. (2007). An introduction to market devices. *Sociological Review*, *55*(s2), 1–12.

O'Reilly III, C. A., & Tushman, M. L. (2004). The Ambidextrous Organization. *Harvard Business Review*, *82*(4), 74–83.

Osterwalder, A., & Pigneur, Y. (2010). *Business Model Generation: A Handbook for Visionaries, Game Changers, and Challengers*. Wiley.

Pateli, A. G., & Giaglis, G. M. (2005). Technology innovation-induced business model change: a contingency approach. *Journal of Organizational Change Management*, *18*(2), 167–183.

Pinchot III, G. (1985). Introducing the "intrapreneur": Successful innovators in large companies sometimes function as in-house entrepreneurs, running projects as independent innovators would. *IEEE*, *22*(4), 74–79.

Pohle, G., & Chapman, M. (2006). IBM's global CEO report 2006: business model innovation matters. *Strategy Leadership*, *34*(5), 34–40.

Prahalad, C. K., & Bettis, R. A. (1986). The Dominant Logic : a New Linkage Between Diversity and Performance. *Strategic Management Journal*, *7*(6), 485–501.

Richter, M. (2013). German utilities and distributed PV: How to overcome barriers to business model innovation. *Renewable Energy*, *55*, 456–466.

Rohrbeck, R., Günzel, F., & Uliyanova, A. (2012). Business Model Innovation: The Role of Experimentation. In *R&D Management Conference 2012* (pp. 1–11). Grenoble.

Rohrbeck, R., Konnertz, L., & Knab, S. (2013). Collaborative business modelling for systemic and sustainable innovations. *International Journal of Technology Management*, *63*(1-2), 4–23.

Rothenberg, S., & Zyglidopoulos, S. C. (2007). Determinants of environmental innovation adoption in the printing industry: the importance of task environment. *Business Strategy and the Environment*, *16*(1), 39–49.

Santos, J., Spector, B., & Van der Heyden, L. (2009). *Toward a theory of business model innovation within incumbent firms*. *INSEAD Faculty & Research Working Paper*. Fontainebleau.

Sawhney, M., Wolcott, R. C., & Arroniz, I. (2007). The 12 different ways for companies to innovate. *IEEE Engineering Management Review*, *35*(3), 75–81.

Schallmo, D. (2013). *Geschäftsmodellinnovation: Grundlagen, bestehende Ansätze, methodisches Vorgehen und B2B-Geschäftsmodelle*. Springer Gabler.

Schicht, R., Müller, M., Niemeyer, C., Frank, M., Muster, S., & Meier, M. (2012). Schweizer Stromwirtschaft zwischen Abwarten und Aktivismus. BCG & VSE.

Schneider, S., & Spieth, P. (2013). Business model innovation: Towards an integrated future research agenda. *International Journal of Innovation Management*, *17*(1).

Sharfman, M. P., Wolf, G., Chase, R. B., & Tansik, D. A. (1988). Antecedents of organizational slack. *Academy of Management Review*, *13*(4), 601–614.

Sosna, M., Trevinyo-Rodríguez, R. N., & Velamuri, S. R. (2010). Business Model Innovation through Trial-and-Error Learning: The Naturhouse Case. *Long Range Planning*, *43*(2-3), 383–407.

Spieth, P., Schneckenberg, D., & Ricart, J. E. (2014). Business model innovation - state of the art and future challenges for the field. *R&D Management*, *44*(3), 237–247.

Star, S. L., & Griesemer, J. R. (1989). Institutional ecology, "Translation" and Boundary Objects: Amateurs and Professionals in Berkeley's Museum of Vertebrate Zoology, 1907-39. *Social Studies of Science*, *19*(3), 387–420.

Teece, D. J. (2010). Business Models, Business Strategy and Innovation. *Long Range Planning*, *43*(2-3), 172–194.

Tellis, G. J., Prabhu, J. C., & Chandy, R. K. (2009). Radical Innovation Across Nations: The Preeminence of Corporate Culture. *Journal of Marketing*, *73*(1), 3–23.

Thomke, S. H. (2003). *Experimentation Matters: Unlocking the Potential of New Technologies for Innovation*. Harvard Business Press.

Tjosvold, D. (1985). Implications of controversy research for management. *Journal of Management*, *11*(3), 21–37.

Trapp, M. (2013). *Realizing Business Model Innovation: A Strategic Approach for Business Unit Managers*. Wiesbaden: Springer Gabler.

Villinger, M., & Fischer, P. (2015). Geschäftsmodellinnovation in der Grafischen Industrie der Schweiz: Und was hat es gebracht? *viscom print & communication*, (3), 10–12.

Winterhalter, S., Weiblen, T., & Wecht, C. H. (2014). Achieving business model innovation in large corporations : Process insights from the chemical industry. In *RADMA 2014*.

Wolcott, R. C., & Lippitz, M. J. (2007). The Four Models of Corporate Entrepreneurship. *MIT Sloan Management Review*, *49*(1), 75–82.

Worthington, I., & Britton, C. (2006). *The Business Environment* (5th ed.). Harlow, UK: Prentice Hall.

Yin, R. K. (2009). *Case Study Research: Design and Methods* (4th ed.). Thousan Oaks, CA: Sage Publications.

Zott, C., Amit, R., & Massa, L. (2011). The Business Model: Recent Developments and Future Research. *Journal of Management*, *37*(4), 1019–1042.