

## Dynamics of Openness in SMEs: A Business Model and Innovation Strategy Perspective

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### Abstract

**Purpose:** In order to explore the dynamics of openness within SMEs, this study investigates how business model transformation relates to innovation strategy transformation.

**Design/Methodology/Approach:** This research is conducted as a longitudinal qualitative single case study in order to fully follow transformation as a process.

**Findings:** This research revealed that openness in SMEs is not about continuously increasing the level of openness, but SMEs can also begin to close their innovation strategy, even though the business model stays open. The level of openness varies based on strategic openness.

**Research limitations/implications:** This study emphasizes that openness needs to be viewed as a continuum, where the level of openness may fluctuate during transformation. Furthermore, openness in business models and openness in innovation indeed are separate phenomena.

**Practical implications:** Having an understanding how strategic openness guides business model transformation enables practitioners to better utilize open innovation as an innovation strategy.

**Originality/value:** Through focusing on the relationship between business model transformation and innovation strategy transformation, we broaden the discussion on the dynamics of openness within SMEs.

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Keywords: Classification, case study, openness, business model, open innovation, transformation, SME, internet-based

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## Introduction

The advancement of technologies, shortened product life cycles, changed market forces and consumer behavior have created new kinds of challenges for companies to meet in order to survive in the global competitive landscape (Collins, 2006; Christensen et al., 2005; Bell and Loane, 2010). This new scenario has led firms to become more open to innovative sources outside their organizational boundaries (Ndou et al., 2011). When firms utilize innovation strategies that rely on cooperation with external parties to get access to components, complements and customers, it is referred to as open innovation (Chesbrough et al., 2006). In this respect, open innovation (OI) has been defined as “a distributed innovation process based on purposively managed knowledge flows across organizational boundaries, using pecuniary and non-pecuniary mechanisms in line with the organization’s business model” (Chesbrough et al., 2014).

The purpose of business models is to utilize internal and external ideas to create value for the focal firm, while defining internal mechanisms to claim some portion of that value (Chesbrough, 2012). It is business models that define the requirements for how open innovation processes combine these internal and external ideas together into architectures, systems and platforms (Chesbrough, 2012). Hence open innovation cannot be conceived without business models (Chesbrough et al., 2014, 52). However, despite of the central role of business models in open innovation, quite often these have been ignored in academic literature (West and Bogers, 2014). Moreover, despite the significance of openness and collaboration in modern networked economy, the effects and aspects of openness in relation to business models are not sufficiently understood (Frankenberger et al., 2014, 175). Openness can exist in both innovation and business models: a firm may have an open innovation strategy but a closed business model, or a closed innovation strategy with an open business model (Chesbrough et al., 2014). Openness emerges in varying scopes and intensities (Saebi and Foss, 2015; Enkel and Bader, 2012). Therefore, rather than considering openness as a battle to choose between closed and open, we should view it as a continuum (Chesbrough, 2003). The challenge then is to find the right balance between coordination and openness (Boscherini et al., 2013; Ahokangas and Myllykoski, 2014).

Indeed, the new kinds of challenges in sustaining competitive advantage have resulted in existing firms the need to redesign and transform their business models (Hienerth et al., 2011; Glova et al., 2014). Yet, academic literature has not adequately tackled issues related to business model transformation (Ahokangas and Myllykoski, 2014). Business models reflect the strategic choices of the firm (Saebi and Foss, 2015; Shafer et al., 2005; Chesbrough, 2007), open innovation being one of the possible strategies for creating competitive advantage (Chesbrough et al., 2014). Identification of new business opportunities and business model transformation affects all levels of the organization (Casadesus-Masanell and Ricart, 2010), as transforming the business model means changing the organization. It has been stated that small and medium-sized enterprises (SMEs), in particular, engage in open innovation as a consequence of the changes in the business model for seizing new business opportunities (Vanhaverbeke et al., 2012, 10). Open innovation in the SME context cannot thus be studied separately from the strategic objectives of the firm as a whole (Vanhaverbeke et al., 2012). Therefore, this research investigates transformation both in business models and innovation strategy in order to explore the dynamics of openness in the context of SMEs.

Accordingly, our research question is:

*“How does business model transformation relate to innovation strategy transformation?”*

Our literature review first discusses the role of business models and business model transformation, after which open innovation and innovation strategy transformation are focused on. The last part of the literature review focuses on the peculiarities of transformation in the SME context. In the methodology chapter, we present the rationale for choosing a longitudinal single case study method, after which we present our case and research results. In the final chapter, we reflect these back to theory. We also discuss the academic and managerial implications as well as limitations of this study, and suggest further research directions.

## Business models, open innovation and transformation

### Business model transformation

The business model concept originally emerged within e-business and has most extensively been studied in that context (Ahokangas *et al.*, 2014; Onetti *et al.*, 2012; Amit and Zott, 2001). However, there are no unified definitions of the business model concept (for more thorough discussion see, for instance, Zott *et al.*, 2011; Onetti *et al.*, 2012; Ahokangas *et al.*, 2014). A business model nevertheless represents the firm's core logic and strategic choices for creating value as well as capturing a portion of that value (Shafer *et al.*, 2005; Chesbrough, 2007; Casadesus-Masanell and Ricart, 2010). As a unit of analysis, a business model may portray the firm's value creation arising from multiple sources (Amit and Zott, 2001).

Business models can be thought of as a focal firm's boundary-spanning transactions with external parties (Zott and Amit, 2007). For instance, Zott and Amit (2010, 42) define business model as a system of interconnected activities that determine the way the company does business with its customers, partners and vendors. This means that a business model is a system of specific activities conducted to satisfy the perceived needs of the market, along with the specification of who does what, whether it is the firm or its partners, and how do these activities link to each other. Hence, through the business model concept, open innovation is differentiated from earlier research on inter-organizational cooperation for innovation (West and Bogers, 2014; Chesbrough *et al.*, 2006; Clausen and Pohjola, 2009).

Indeed, collaboration of the focal firm with its ecosystem is one of the defining factors of business model openness, either as a decisive or novel element (Frankenberger *et al.*, 2014). The business model connects the focal firm with the external business environment, other firms, organizations, communities and individuals (Teece, 2010). Whereas the majority of general business model research is firm-centric (Frankenberger *et al.*, 2014), the field of open business model researches openness independent of its locus. Open business models refer to situations where the firm relies on its

external partners' competencies in joint creation, delivery and capture of value according to agreements negotiated prior to their collaboration (Chesbrough *et al.*, 2014; Saebi and Foss, 2015). As the value is jointly created, partners usually team up throughout the whole product lifecycle (Chesbrough *et al.*, 2014). Hence, value is generated through external relations within the ecosystem (West and Wood, 2008; Jansson *et al.*, 2014).

As Ahokangas *et al.* (2014, 13) write, transformation of an existing business model brings special challenges to the creation stage of a business model. Business model transformation is about transforming an existing organization through repositioning the core business and adapting the current business model into the altered market place (Gilbert *et al.*, 2012; Ahokangas and Myllykoski, 2014). Transforming an organization requires a lot from the management (Giannopoulou *et al.*, 2011) in finding the right balance between coordination and openness (Boscherini *et al.*, 2013; Ahokangas and Myllykoski, 2014). The old ways and the new ways of doing things (Giannopoulou *et al.*, 2011) may become a challenge, as the activities and logic related to the new business model may be incompatible with the status quo (Chesbrough, 2010). Consequently, the business model should always be evaluated against the business context and further calibrated in order to find an optimal fit with the environment (Teece, 2010). It is the context that influences the choices made by firms about their innovation practices (Bellantuono *et al.*, 2013). Similarly, business models become fully comprehensible for firms only through action in the business context where they emerge (Ahokangas and Myllykoski, 2014).

The search for a new business model often requires an extended period of co-existence between the current and new models (Chesbrough, 2010). Thus, a firm does not necessarily have to confine itself to a single business model but can experiment with several models simultaneously (Trimi and Berbegal-Mirabent, 2012). During the transformation of a business, it is not clear what the eventual new business model will turn out to be, but only through experimentation the company can gain the data needed to justify the transformation. However, although business model as a concept includes an underlying assumption of a process, academic literature has not tackled the issues related to

business model transformation (Ahokangas and Myllykoski, 2014). Yet, finding the right level of openness is important, as open and closed business models cannot exist in pure form. A completely closed model does not give enough space for innovation, whereas a completely open model gives insufficient opportunities for generating profit (Soloviev *et al.*, 2010).

### **Innovation strategy transformation**

Critics argue that firms have always practiced openness in one form or another (Trott and Hartmann, 2009; Chesbrough *et al.*, 2014; Herstad *et al.*, 2008; Huizingh, 2011). A large number of firms have experienced complications in their attempts to benefit from external knowhow (Enkel and Bader, 2012). For instance, Birkinshaw *et al.* (2011), state that the adverse effects may include considerable cost increases related to IPR issues, operations and lack of trust (see also Dahlander and Gann, 2010). A response to this is that today's business reality, naturally, cannot be based solely on open innovation (Enkel *et al.*, 2009) but on openness in varying scopes and intensities (Saebi and Foss, 2015; Enkel and Bader, 2012). Too much openness can have a negative impact, as it could lead to loss of control and loss of core competences. The focus should therefore be on whether to opt for a closed or open strategy for finding the right level of openness (Laursen and Salter, 2014; Roper *et al.*, 2013; Dabrowska *et al.*, 2013). Thus, the transformation from closed to open innovation should be seen as a continuum rather than a case of either-or (Chesbrough, 2003).

Open innovation is just one possible strategy for a firm to create a competitive advantage (Chesbrough *et al.* 2014). This means that, in an open business model, the innovation process itself needs to be organizationally decomposed (Lema, 2010). Organizational decomposition of the innovation process is connected with new firm structures, managerial priorities and the firms' boundaries (Lema, 2010, 25). This means that the firms are required to transform their boundaries from closed to semi-permeable, so as to enable innovation to move easily between internal innovation process and external environment (Chiaroni *et al.*, 2010). An important point stressed by Dabrowska *et al.* (2013, 3) is that internal openness to idea generation needs to be differentiated from open innovation as an actual practice of collaborating with external parties. Laursen and Salter

(2006) suggest that firms embracing OI increase both the number of external sources relied upon in innovative activities, i.e., the breath, as well as the extent to which firms draw from different external sources within innovation networks, i.e., the depth. Here, the business model acts as a boundary-spanning unit of analysis (Zott *et al.*, 2011) that defines those boundaries, structures and processes for open innovation (Chesbrough, 2010), and the role of external parties within the firm's activities (Onetti *et al.*, 2012, Zott and Amit, 2010).

Firms may choose from an array of different business models and open innovation strategies (Saebi and Foss, 2015). Different types of strategies require different levels of openness in terms of breadth and depth (Saebi and Foss, 2015). However, little is known about how to match business models and OI strategies (Saebi and Foss, 2015). One reason for this is that literature has viewed open innovation and open business models as the same concept (Chesbrough *et al.*, 2014). However, there are major differences between the two. Openness in innovation and openness in business models need to be recognized, understood, and treated as separate phenomena (Frankenberger *et al.*, 2014). According to Chesbrough *et al.* (2014), tapping into external technologies and setting up collaborative deals in OI is usually of temporary nature. Knowledge from external parties is required, but external partners do not necessarily help in creating value. Once the project has been finished, the collaboration comes to an end. The business model has a long-term and more relationship-based stance, as it extends to the commercialization phase of innovations (Chesbrough, 2010; Teece, 2010).

### **Open innovation and business model transformation in SMEs**

It has become increasingly difficult to create innovations 'behind closed doors' in modern, globalized business environment (Herstad *et al.*, 2008). Consequently, also SMEs in various industries have started to open their innovation processes and acquire external resources and capabilities (Wynarczyk *et al.*, 2013; Spithoven *et al.*, 2013). Especially the development of ICT technologies and the rise of the Internet have enabled even smaller and younger firms to access the global business arena (Onetti *et al.*, 2012; Bell and Loane, 2010). In this kind of environment, innovative SMEs

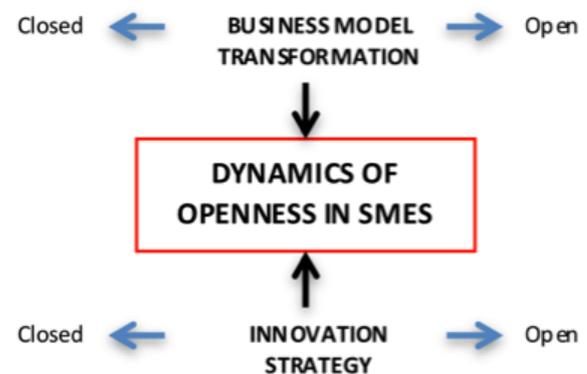
hold a crucial role in local-to-global economic development, dynamism and competitiveness (Lecerf, 2012; Ndou et al., 2011; Hotho and Champion, 2011).

Indeed, SMEs are considered to be both a source and a driver of innovation and new product development (Chesbrough et al., 2014; Wyncarczyk, 2013; Wyncarczyk et al., 2013). New ways to conduct business, communicate ideas and exchange information have resulted in a range of new kinds of services and business models across an ecosystem of partners (Turber and Smiela, 2014; Christensen et al., 2005). Especially the extension of digital technologies to previously non-digital fields, that is, digitalization, has affected both the role of SMEs in modern business as well as the nature of services built on digital platforms (Ministry of Employment and the Economy, 2015; Turber and Smiela, 2014). Business models are often necessitated by technological innovation, which creates a need to bring discoveries to market as well as the opportunity to respond to unmet customer needs (Teece, 2010; Glova et al., 2014). Hence, also the business model itself may act as an example of innovation (Chesbrough, 2010).

However, in open innovation literature, SMEs have started to gain more attention only within the past few years (Chesbrough et al., 2014; Lee et al., 2010; Wyncarczyk, 2013). It is important to acknowledge that the drivers of openness for small firms tend to be different from those for large firms (Lee et al., 2010, 291; Spithoven et al., 2013; Brunswicker and Vanhaverbeke, 2015). Therefore, not all OI research can be directly applied to SME context (Vanhaverbeke et al., 2012). It is important to consider how (internal) organizational and (external) industry factors help or hinder SMEs' decision to open up (Brunswicker and Vanhaverbeke, 2015). For instance, it has been argued that particularly limited resources and capabilities force SMEs to search for different kinds of innovation partners outside their firm boundaries (Brunswicker and Vanhaverbeke, 2015; van de Vrande et al., 2009; Lee et al., 2010). In addition, SMEs use non-internal means of innovation more than large firms do, because the former consider alliances or networks as ways to extend their (technological) competences (Lee et al., 2010, 291; Brunswicker and Vanhaverbeke, 2015). Moreover, small firms often have just one articulated business model, whereas large firms with several business units usually have multiple busi-

ness models (Lema, 2010). Yet, SMEs tend to experiment with multiple OI practices simultaneously when introducing new offerings to the market (Spithoven et al., 2013; Colombo et al., 2014). Hence, the relationship between business models and open innovation is not clear within the SME context.

Research has tended to focus on the role of innovation and business models for start-ups and new technology-based firms (see e.g., Onetti et al., 2012). However, "there is an experiential and time difference between the original creation of the business model and its subsequent transformation or change—even though the basic idea of the business model as a concept remains the same" (Ahokangas and Myllykoski, 2014, 7). Thus, it is important to acknowledge that business model creation in new firms is a process that is different from business model transformation within established firms (Ahokangas and Myllykoski, 2014; Ahokangas et al., 2014). We focus on transformation within established SMEs, which we describe in Figure 1 below.



**Figure 1. Dynamics of openness and transformation**

Here, transformation occurs in the openness continuum both in business models and innovation strategy, our particular interest being on how the relationship between business model transformation and innovation strategy transformation affects the dynamism of openness within SMEs. To summarize, the ability to transform is crucial for the competitiveness of SMEs, especially in constantly changing modern business environment.

## Research Methodology

### Research design

This study was framed as a qualitative single case study (Yin, 1994; Sosna *et al.*, 2010), which is due to the explorative nature of the research question, the limited amount of research conducted in the area of transformation and the unique characteristics of open innovation and business models in the SME context. The case was chosen as the result of strategic sampling (Bergenholtz, 2011). A case study method offers the best tool to research a complex phenomenon in a holistic, process-oriented fashion (Yin, 1994; Eisenhardt, 1989; Hotho and Champion, 2011). Whilst the case study approach is not meant for mass generalization of theoretical and empirical findings, cases can still offer enriching data of intimate nature that is unlikely to be revealed through highly quantitative, hypothesis-based research settings (Denzin and Lincoln, 1994; Creswell, 1998; Yin, 1994). Furthermore, a single case study, rather than a multiple case study, enables the researcher to attain the richness and depth of the processes and dynamics of relations concerned (Bergenholtz, 2011; Dyer and Wilkins, 1991). As the specific focus of the research is to follow a firm's transformation process over time in a specific context, a longitudinal perspective to the case was applied. It can be argued that transformation per definition alone requires a similar perspective to capture its evolution.

### Data collection and analysis

In order to deepen the understanding of transformation as a phenomenon, the researchers carried out a triangulation of sources and adapted several techniques during the data collection process. The types of employed primary data collection techniques included semi-structured interviews, observation, documentation, and community-based research. The data consisted of interview data, email exchanges, project documents, proposals, briefs, meeting memos, budgetary and financial data, and human resource and partner databases. Secondary data mainly included website information and general publicly available digital documents, print media, as well as social and online media. This kind of approach is said to maximize the robustness of the study (Denzin and Lincoln, 1994; Creswell, 1998). The researchers also actively followed the firm's

participation in local business arena in formal and informal seminars and events. The recorded data were analyzed afterwards, based on thematic analysis (Coffey and Atkinson, 1996; Aronson, 1994). To increase the validity and reliability of the research, also analyst triangulation was applied. For instance, during the interviews, one researcher performed questioning, and second researcher acted as a silent observer. Afterwards, their notes were compared and combined. Information was also forwarded to the interviewees for double-checking and confirmation.

Over the period of four years, 11 semi-structured interviews were conducted among the key personnel of the firm (the Founder, the CEO and the Marketing Manager) to elicit in-depth information about open innovation and business model transformation as well as contextual information particular to digital 3D design industry. Interviews were supported by researcher participation in meetings, presentations and seminars. Altogether 22.9 hours of recorded primary data was collected. When no interviews were conducted, the researchers focused on gathering secondary data. The rationale for leaving gaps between the interview dates was to allow a sufficient time for the business model changes to emerge as a strategy put in action rather than as a mere plan, as we claim that openness always has to lead to action in order to be a strategic approach. Hence, the basic interview framework (Appendix 1) was the same in all the interviews, as it allowed us to focus to pinpoint how transformation took place. The following table presents in more detail the recorded data of the study.

**Table 1 - Details of recorded data**

Type of data	Interviewee/event	Time and date
Semi-structured interview	Founder	45min March 18, 2011
Semi-structured interview	CEO	45min March 18, 2011
Semi-structured interview	Marketing Manager	30min March 18, 2011
Semi-structured interview	Assistant	30min March 18, 2011
Semi-structured interview	Founder	56min Sep. 13, 2011
Seminar	International business development seminar	3h45min Sep. 14, 2011
Semi-structured interview	CEO	37min Feb. 21, 2013
Semi-structured interview	Founder	2h5min March 26, 2013
Semi-structured interview	Founder	1h45min Jan. 13, 2014
Seminar	Business model development panel discussion	6,5h Feb. 14, 2014
Semi-structured interview	Founder	46min April 4, 2014
Seminar	International Organization Design	4h April 16, 2014
Semi-structured interview	Founder	March 7, 2015 email interview
Semi-structured interview	Founder	April 22, 2015 email interview

## Case analysis

### Case Description

The case firm of this study, CubiCasa, comes from digital design industry. The company focuses on offering interactive, 3D-technology-based, digital floor plans for real estate agencies. A digital floor plan is a virtual image of a physical floor plan of an apartment or property that is intended for sale or for rent. CubiCasa started operating in 2005, with its main office in Finland and production facilities in Bangladesh. However, in 2008, when the global economic downturn hit, construction industry being one of the worst to

suffer, the firm's business practically ceased and the business was put on hold. In 2011, the management team decided to give the business another chance, and the total transformation of the business model began. In 2013, the new model was launched successfully, and the business started to grow steadily. The firm received venture capital funding in 2014 for boosting access to international real estate markets and for developing business opportunities based on the digitalized floor plan data. In 2015, the firm held 10 percent of the real estate market in Finland, with a monthly growth rate of 15 percent, and has started to expand steadily in the US market.

Business models reflect the strategic choices of the company, and thus the choice of open innovation requires the firm to “define those ways to create, deliver and capture value in conjunction with external partners that are consistent with open innovation” (Saebi and Foss, 2015, 201). A business model should not only define what to do but also where to do it and by whom (Onetti et al., 2012, 361). Hence, we use the business model as a unit of analysis and apply a business model template that includes external business environment as a unit of analysis and apply a business model template that includes external business environment model (see Ahokangas et al. 2014). This template covers the elements of what the firm is offering, how business is conducted and why the firm thinks the product/service can be executed profitably and, lastly, where this all is to take place - all previous elements can be located internally or externally to the firm, as each part of the business model can be executed with outside parties (Ahokangas et al. 2014, 15).

### Case analysis

In order to illustrate the business model transformation of CubiCasa, we first present its prior business model and then describe the new business model. We then discuss, in more detail, what has changed during the transformation process and why.

#### What - offering, value proposition, customer segments and differentiation

Floor plans are an important but a simple part of property business. The earlier business model focused on offering a range of project-based services for real estate and construction industries. The rationale was to offer a digitalized, animated form of traditional printed floor plans. Hence the business opportunity was built around digital 3D floor plans. Main competition consisted of studios producing non-animated images of houses and apartments. However, as the firm built up their re-entry to the markets, there was very little room for differentiation and the firm struggled to build competitive advantage. The firm needed a new strategy to rely on. The new vision of the founders included launching a genuinely global and virtually functioning web service that would be physically close to customers. The management decided to focus solely on real estate industry and started to build their business model around interactive, high-quality digital

floor plans. In the new business model, the business opportunity was built around interactive indoor spaces concept. This was enabled by the high-quality technology and cloud-based service platform. The basic idea of CubiCasa was that even a floor plan drawn on a napkin can be transformed into a digital form. The offering includes both single projects and on-going subscriptions. The firm states that they have a product that is simple to do, easy to control and fast to sell; “CubiCasa is about letting things go from our grip. Let’s use the power of Internet for the first time in CubiCasa’s history what it is really designed for.”

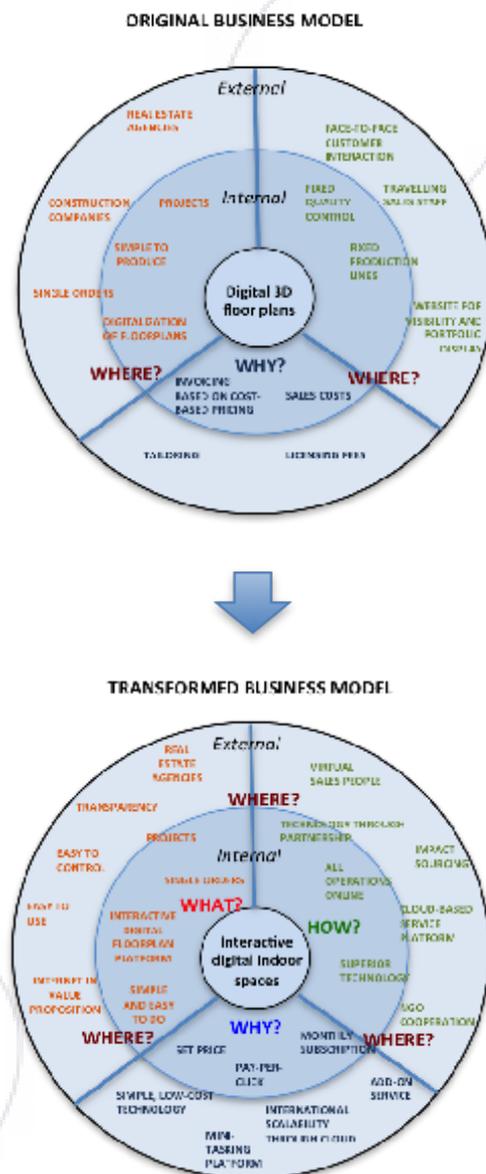


Figure 2. Business model transformation in CubiCasa

### *How – key operations, basis of advantage, mode of delivery, selling and marketing*

The service itself was digital from the start, but, in the old model, sales and marketing was still based on traditional promotion tools, e.g., travelling salesmen, and there was no clear e-business strategy. Last minute changes were difficult to master due to a fixed production system. In the past, the company website was mainly used for portraying product portfolio and did not have an active role in customer interaction.

*“We did manual labor; we were like headless chickens running around. We should have done better project management; better customer ordering system and everything else, and we didn’t do that... Time for traditional sales in this business is over, and we need to be more clever and more clear about web-based businesses.”*

The software was originally licensed from another firm based in Denmark. However, CubiCasa innovated the business idea and its application beyond the scope and breadth of the original technology. The founder acquired the license and partnered up with a local firm in Finland. During this partnership, the digital platform was developed to its peak and is now a crucial part of the current service and its functionality. In the new model, the venture operates completely online. A floor plan can be ordered and paid for by one click, and the delivery is straight to the client’s email within 24 hours. The floor plan design process works through a cloud-based platform, where floor plans are assigned to producers from Bangladesh and Vietnam. A cloud in this context refers to the practice of sharing computer resources by utilizing external servers for connectivity, management and storage of data, rather than using local servers or personal computers. Also quality control and customer support happens through the same platform. The rationale for basing operations in the developed world is in the utilization of “impact sourcing”, which is a social mission for bringing internet-based jobs to disadvantaged communities (A Million Plans, accessed 8.3.2015; ImpactHub, accessed 8.3.2015).

### *Why – base of pricing, way of charging, cost elements and cost drivers*

In the old model, a large part of the budget consisted of sales and travel costs. If amendments to the blueprints

were required, these resulted in additional costs due to the fixed production system. As operational costs were high, also the base of pricing was related to cost-based invoicing. Hence, expenses were vast compared to the small margins that came out of the floor plans. Therefore, value-capture logic required a major overhaul. In the new model, pricing is based on online transactions through the digital platform. The use of cloud computing enables low costs and fast scaling up of production. The base of pricing is the same for each floor plan, the purpose of which is to make it clear for clients what they are paying for. This has been an important factor from the viewpoint of internationalization. The company also offers a subscription-based service for business clientele, with monthly invoicing. The firm provides both 2D and 3D models of the property for all, but subscribed clients also receive a link to an add-on interior design service. Floor plans are created through crowdsourcing via the concept of “minitasking”, which speeds up the delivery and again offers a low-cost way of production, as any of the producers can take an order to process as soon as it appears on the platform. The utilization of impact sourcing enables high-quality floor plans with a competitive price, and the producers earn a commission for each floor plan produced.

### *Where – location of activities/items, internally or externally in the network or ecosystem*

The where-element in the business model is the most central element that implies the role of external environment. What is done in-house, what is executed through collaboration? During the transformation process, partnerships and collaboration became a very important part of the business.

*“For a small firm like us, doing everything from scratch on our own would have been costly, time consuming and quite impossible. We have a good technology and things are going well with our partner so it would have made no sense to do all that on our own! ”*

The core thinking is that the service should be as open as possible, with crowdsourcing (see von Hippel and von Krogh, 2006; Marjanovic, Fry and Chataway, 2012) as an important strategy in both sales and production of floor plans. As nearly everything happens on an Internet-platform between geographically distant

locations, the location of activities is external. The firm is also in active dialogue with different parties of the local business ecosystem, but in every part of the venture's activities external partners are utilized. The company has decided to opt for transparency in describing their operations, with international impact sourcing as an important part of the low-cost but ethical strategy. Not only are they utilizing external parties, the firm is also providing a service where external developers are also able to benefit from CubiCasa's technology and partnership in developing their own services and applications. However, now that the firm is internationalizing actively into North American markets, they have started to build their own intellectual property (IP) with plans to take over the technology completely later on. The rationale is that, as the service is built on digital floor plan data and external developers are able to partake as well, more security and protection is needed.

## Discussion

### Summary of business model transformation

CubiCasa initiated its transformation by re-focusing on a single customer group of real estate business with both residential and commercial real estate markets. They simplified and sophisticated their offering, made it easier to use and easier to produce. The core – high quality 3D floor plans – has not changed, but the offering has been positioned differently around an interactive indoor space concept. Steady turnover generated by floor plans made their business development efforts easier, as the firm is not solely dependent on external funds. They have resources of their own and are not confined by typical resource limitations faced by SMEs, as suggested by literature.

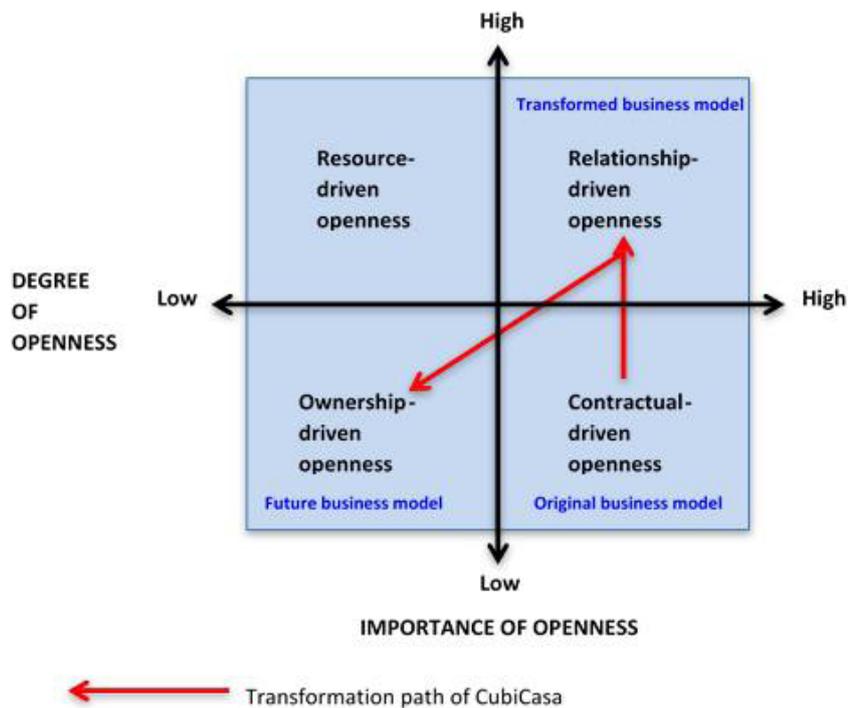
Digitalization in this transformation was one of the most important elements. The firm completely changed the way they operate and built their operations onto an online platform. This extended to all aspects of the business model in terms of the offering itself – rather than using technology and the Internet as a technical addition, the firm decided to differentiate itself through an interactive service. As all key operations were online, their streamlining was easy to handle, from

customer orders to support and quality control. This improved the visibility of operations but also provided transparency to customers. The utilization of cloud computing further reduced the need to own resources. It also speeded up operation processes, which resulted in new cost structure and better profit margins. This technology also enabled CubiCasa to store floor plan data for future business development purposes. Hence, the data can be used to extend the original business idea of digital 3D floor plans to create and experiment with other concepts and business models.

By analyzing the business model transformation, the relationship to innovation strategy transformation can be exposed. Collaboration with external parties in technology and service development has always been important. The firm has active interactions with other businesses, public organizations and with general public. In the case of CubiCasa, their technology has always been open, first through licensing agreement and then through partnership. An interesting discovery is that only in the verge of internationalization and direction towards more data-reliant Internet of Things –world, the firm has started to develop their own intellectual property. In this sense, they are closing up a part of their innovation strategy. On the other hand, they have built an additional service where external developers are able to use CubiCasa's technology as part of their own services and applications. Hence, CubiCasa is not only taking advantage of the inclusion of external parties in their own innovation process but they have also opened their business model for others to benefit. Hence, in terms of dynamics of openness, we can state that the firm is heading towards a closed innovation strategy but with an open business model.

### Strategic Openness

Even though the business model defines the requirements for open innovation in value creation and capture, our findings highlight that transformation in business models and innovation strategy do not necessarily travel to the same direction. To further clarify, we illustrate the transformation of CubiCasa in Figure 3 below and introduce the concept of strategic openness. We define strategic openness as “a conscious strategic move to incorporate external parties as part of the firm's innovative activities”. Through strategic openness, we are able to demonstrate how the



**Figure 3. Strategic Openness**

relationship between business model transformation and innovation strategy transformation develops. Based on findings of empirical research, we label the horizontal axis as the degree of openness and vertical axis as the importance of openness. These two dimensions determine not only how transformation takes place but also why transformation takes place as a strategic move.

The degree of openness refers to how much the firm relies on external parties for innovation in terms of scope and/or intensity, whereas the importance of openness refers to the role of these external parties within the firm's innovation activities. Ownership-driven openness refers to the traditional, closed innovation model. Here, the strategic decisions are guided by the need or will to protect the firm's own assets and competitive advantage. Therefore, openness is not considered important. As more closed approach to innovation is taken as a strategic move, hence also the degree of openness is small. When the degree of openness is low, but the importance is high, we talk of resource-driven openness. Here, firms are at the verge of openness and may not yet have a wide breadth or depth of external linkages in the

innovation process. Nevertheless, these linkages are considered very important for the survival of the firm. This is typical in case SMEs are constrained by lack of resources, in which case openness is a necessity rather than an option.

When the importance of openness is low, but degree of openness high, firms can rely on contractually-driven openness. It is not so crucial to build relationships for joint innovation activities, as contracts are enough to provide assets the firm needs. When both the importance of openness and the degree of openness are high, we talk of relationship-based openness. Here, close collaboration with other parties characterizes the nature of openness. This is most typical for SMEs that practice open innovation and have managed to pass the need to collaborate to access resources and where formal, distant contracts do not provide enough flexibility for the innovative purposes of the firm. Here, openness relates more to co-creation and co-capture of value. As our purpose is to describe transformation as a process where openness is to be understood as a continuum, we are not aiming to build strict typologies.

As our case illustrates, firms can be positioned on

different points of strategic openness. Furthermore, we do not claim that, for instance, contracts cannot be a way for resource-driven SMEs to access open innovation, but we stress the main drivers behind strategic decision-making, i.e., we refer to openness as a conscious strategic move. The case shows that there is also no clear time for when a business model is “complete”. The strategic choices of the firm guide the business model and determine the course of transformation. For CubiCasa, resource-driven openness has never been the main driver for transformation. The original business model was built around contractual-driven openness, as licensing was a major open innovation strategy for the firm. During the course of transformation, the company moved to relationship-driven openness, where close collaboration became highlighted for many years and co-creation of services was an important part of the collaborating firms’ offering. The most interesting direction is the firm’s strategic move towards ownership-driven openness. CubiCasa’s current business model is still built around relationship-driven openness, but, in the future, the firm intends to start practicing internal R&D that they have not done before. Our results indicate that openness for SMEs is not only about the inclusion of external parties as part of the business model and the innovation strategy but, as a strategic move, the firm can also close up. This is an important implication for viewing open innovation as a continuum. Openness is not only going forward as a continuously increasing level of openness; the degree of openness can also revert back if the strategic direction of the firm requires so. Hence, in terms of the dynamics of openness, it fluctuates both ways.

## Conclusions

This study utilized the business model as the unit of analysis in investigating how business model transformation relates to innovation strategy transformation. Within the case company, the important trigger for transformation was the economic downturn the world faced in 2008. This resulted in changes in most elements of the business model, from offering to revenue streams. All changes in how-elements, i.e., delivery of the services and why-elements, i.e., basis of pricing, were subject to the

decision to take full advantage of digitalization and base all operations online ‘in the cloud’ as well as to utilize crowdsourcing to develop the original business idea of high-quality service into an interactive platform. The role of ICT in the case firm’s transformation was therefore central. In the case firm, the dynamics of openness was twofold, as it fluctuated both ways in the openness continuum. The internal and external dynamics of openness vary depending on the degree of openness and the importance of openness for the firm. Therefore, the context SMEs operate should always be taken into account, as it influences the strategic choices firms make about their innovation practices, as pointed out by Bellantuono *et al.* (2013), and Ahokangas and Myllykoski (2014).

## Academic and practical implications

Our results emphasize that openness in business models and innovation indeed needs to be studied as separate phenomena, as stressed by Chesbrough *et al.* (2014). Our case illustrates that, also in the SME context, a closed innovation model does not mean that the firm cannot have an open business model. Reflecting back to literature that states that SMEs utilize external parties due to lack of resources and capabilities (van de Vrande *et al.*, 2009, Lee *et al.*, 2010), it was not the case with this company. Despite being an SME, CubiCasa’s activities are very much directed by strategic decision-making. Hence, we introduced strategic openness as a concept to explain the relationship between business model transformation and innovation strategy transformation. Thus, we contribute to the academic discussions in both open innovation literature and business model literature. Particularly, we aim to increase the body of knowledge in relation to SMEs (Brunswick and Vanhaverbeke, 2015), as well as on the relationship between business models and open innovation (West and Bogers, 2014; Frankenberger *et al.*, 2014).

Having an understanding about the role of the business model enables practitioners to determine the relationship between internal and external dynamics of openness in the firm’s activities, what is done in-house and what is outsourced. Indeed, it is important to understand that openness is not only about opening the organization with no going back but that firms need to be aware on the relationship between business

models and innovation strategy.

### **Limitations and future research directions**

The main limitations relate to utilizing a single case study methodology. The case was only a representation of openness and transformation within an industry-specific SME. The role of digitalization and technology were emphasized in this firm's transformation, but how transformation occurs in non-digital SME field was not addressed. However, this study offers several interesting research possibilities, both quantitative and qualitative in nature. The concept of strategic openness could be used in various contexts to investigate how the relationship between business models and innovation strategy develops.

Literature on open innovation has tended to focus on the need of SMEs to open up due to their lack of resources. Our case revealed that also SMEs can close their innovation strategy. It would be interesting to see further studies on the dynamics of openness from this perspective. The case also shortly discussed the potential of multiple business models in SMEs. This would be a fruitful topic to tackle in future research, as it is not only large organizations with several departments that may have several business models (Lema, 2010). This research discussed transformation, implying that also organizational change is required to fully benefit from openness. More research in this field is needed, as currently there are very few contributions with an organizational change perspective on the adoption of OI (Chiaroni *et al.*, 2010; Boscherini *et al.*, 2013).

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## **Appendix 1. Interview questions to guide thematic interviews**

### **Current strategy and business model**

1. What is your business and industry context like?
2. Do you have a formally drafted strategy and business model?
3. What has the innovation strategy in CubiCasa been so far? How has it worked or not worked?
4. What do you think the reasons for those are?
5. How do you measure success/performance?
6. How well do you know of open innovation as a concept?

### **Strategy and business model transformation**

1. How has your strategy changed and developed?
2. How about your business model, if you compare it to the past, how has it transformed? What were the key reasons for the change?
3. What is the new business model and strategy for CubiCasa?
4. What does openness mean to you in terms of business model, business practices and innovation management?
5. You mentioned that the “old way of doing sales” was over and Internet needed to be better utilized for sales. Can you explain further?
6. What is the role of external collaboration in relation to
  - a. Key Resources (e.g., Internet platform)
  - b. Key Partners (what kind, where)
  - c. Customers (segments, relationships, push, pull, level of collaboration)
7. What are the main open innovation practices and how important are they?
  - a. Information sources for innovation
  - b. Sources for external R&D
  - c. Types of collaborative innovation
  - d. IP protection methods for innovation

8. How systematic is the use of open practices? Are these stated in the strategy “This is how we do it?” “This is important?”
9. What have been the most fruitful types of open innovation practices in terms of validating the new business model and value proposition?
10. Do you think you could have achieved what you have achieved so far if you only did internal development? Why is that?

## **Future forward**

11. What are your views about open innovation as an internationalization strategy?
12. In terms of scaling and internationalizing the business, what are the main issues with external collaboration and innovation?
13. What is your position now in terms of thinking for future strategy? Open or closed innovation, or both? (How and when to be open, when not?)
14. What do you think could be the potential challenges with open innovation strategy? What would be an alternative?
15. Where do you draw the limit on openness? What is too much openness?

## About the author

**Ms. Marika Iivari** (M.Sc. in International Business) is a doctoral candidate at the AACSB accredited Oulu Business School, Finland. She is completing her doctoral dissertation on business models and open innovation in the context of innovation ecosystems. She is currently working on a research project on Industrial Internet, business models and transformation. Previously she has worked on living labs and open innovation ecosystem in the context of integrative urban planning and smart cities.

