Measuring the performance of business model configurations: A field study from the medico tech industry

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Configuring Business Model Innovation Routes: A field study from the medico-tech industry

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Extended abstract

Research background and research objectives

Business Model Innovation (BMI) has recently caught the attention of researchers and practitioners alike, as shown by the proliferation of literature dedicated to this topic (Bucherer et al., 2012; Schneider and Spieth, 2013; Lüttgens and Montemari, 2016; Wirtz et al., 2016). This rising attention is due to the fact that managers and practitioners are becoming more and more aware that business models of companies are not static and enduring items; on the contrary, business models have to be changed, refined and innovated on a systematic basis if companies aim to stay competitive over time (Chesbrough, 2010).

BMI has been analysed from different angles (Wirtz et al., 2016): definition and types; design and process; drivers and barriers; frameworks; implementation and operation; performance and controlling. This paper aims to provide a contribution on the BMI research stream which regards design and process. As a matter of fact, despite approaches proposed by prior research are very structured and detailed (e.g. Giesen et al., 2010; Enkel and Mezger, 2013; Girotra and Netessine, 2013; Günzel and Holm, 2013; Eurich et al., 2014; Hoveskog et al., 2015), this BMI research stream needs to be further investigated (Wirtz et al., 2016). In particular, Schneider and Spieth (2013, p. 23) state that one of the main objectives of further research in this field should be to "provide analytical support for BMI's discovery-driven process". This entails investigating processes and conditions that lead to recognize fruitful opportunities for BMI, i.e. effective reconfiguration of business model components to capture market value. This paper takes its point of departure in the Five-V Framework introduced by Taran et al. (2016) and furthered by Nielsen et al. (2017). It explores in a conceptual manner how it is possible to foster BMI using a software-based decision support system that helps in articulating the applied business model configurations of firms. Business model configurations can be defined as "cognitive instruments that embody important understanding of causal links between traditional elements in the firm and those outside" (Baden-Fuller and Mangematin, 2013, p. 418). A business model configuration is a mode of doing business which depends on how the different value drivers are organized in the business model building blocks to achieve overall consistency for the sake of value creation (Taran et al., 2016).

In particular, in view of the above mentioned research gap, the objective of this study is to create connectedness between the business model configurations using the system of primary and secondary value drivers as described by Taran et al. (2016). From this platform of related business model configurations, we use a survey instrument able to identify a given business model configuration from a pattern of answers provided by a company as a basis for analysing BMI routes. By studying the links between survey-answer patterns and business model configurations, the paper discusses the possibilities of automating responses, to create a fully digital decision-support system for corporate managers in their quest for identifying the most relevant BMI for their firms. Thus, our research question is: "How can companies be structurally supported to identify BMI possibilities?" with an additional supporting question: "How does the structured decision-support system enable the process of envisaging new business model opportunities?"

Research methodology

From a methodology perspective, the research will be carried out through a series of steps. Initially, we will apply desk research and we will use a database of 77 empirical examples from the medico-tech industry in order to identify each company's business model configuration using the BM Quant system. A qualitative methodological approach is applied in a field research manner in which we lean against the definition of Anderson and Widener (2007) where field research may function as an effective tool in both developing and testing theory. In consistency with Yin (2009), most field research tends toward building theories rather than testing it. In this research, we recognize the relevance of sustained interaction with sources of data, but leave out of account restrictions on the objective of the study e.g. the mode of data collection, and the number of forms studied.

1. Building database: Business model configurations and their value drivers

From the 71 business model configurations identified by Taran et al. (2016), we will develop a typology of value drivers. While the 71 business model configurations represent abstractions of real life successful companies, we can extract the primary and the secondary driving forces for value creation within each configuration. Each configuration consists several interacting value drivers collectively comprising the individual characteristics. We plan to develop a relational database (the BM Quant database) containing all business model configurations in a semi-open structure allowing for individual linkages among value drivers to be identified.

2. A platform for empirical data collection and a business model mapping tool

The research will incorporate data from 77 companies from the medico-tech industry. The empirical foundation is gathered from the EPIONE project; a large EU funded research project established to accelerate research associated with Phantom Limp Pain (PLP). EPIONE is a consortium of 12 partners from Europe and the US involving clinical, industrial and academic institutions. The project will address the bottlenecks top understanding PLP and strive to deliver innovative solutions that will help translate research into solutions for patients.

The aim will be to identify the business model configurations of each company. We will then apply survey methodology by Dillmann (2011) to develop a web-based questionnaire purposely build to map each of the 77 companies in a consistent manner. Eventually this will allow us to compare

and cluster value drivers and thereby validate the possibilities of quantifying business models (so saying, measuring the performance of business model configurations).

3. Data analysis: Clustering business models and deriving new value drivers

This step will be performed through the principles of explorative case study methodology formulated by Tellis (1997). This is a very traditional type of case study, often used for new or undiscovered topics. The researcher is mostly focused on "what", rather than "how" or "why" questions. Exploratory case studies allow the researcher to explore any phenomenon in the data, which serves as a point of interest. Fieldwork and data collection may be undertaken before propositions are defined. Through the data analysis, the researcher tries to formulate propositions and often these propositions constitute "prologues" for further and more advanced research.
We will then apply pattern matching which is a very common and desirable technique when it comes to case study analysis. In essence, we will compare empirically-based patterns with predicted ones and for every coinciding pattern the internal validity will become stronger (Yin, 2009).

4. Interconnecting value drivers to configure BMI routes

Finally, we plan our relational database (the BM Quant database) to contain the value drivers of each business model configuration (and the relationships among them) and use this information to derive potential innovation routes for each of the 77 empirical cases that are studied.

Expected outcomes and contributions

Concerning expected outcomes, the paper illustrates the mechanisms needed for creating a software-based decision support system for BMI using pattern-matching algorithms to connect real-life companies to theorized business model configurations in an automated fashion using a survey instrument. Building on the BM Quant database this study illustrates how big data can improve the benchmarking of value creation frameworks and performance measurement systems.
From a theoretical point of view, the paper reports the possibilities and the pitfalls as well as the levers and the barriers encountered in the creation of a software-based decision support system for BMI. In so doing, the paper will also generate knowledge on the process to follow to identify BMI routes in a systematic and holistic way, thus leading to reflect on how to capitalize on levers and to limit barriers that can arise during the process. As said in the first section of the extended abstract, how to provide companies with structured and analytical support for BMI is an area which needs to be further investigated (Schneider and Spieth, 2013; Wirtz et al., 2016).
From a practical perspective, the paper presents a tool useful for companies to map their "as is" business model configurations (backward-looking information); the identification of the primary and the secondary value drivers resulting from the survey-answer patterns will allow companies to assess their current strengths and weaknesses, i.e. the extent to which they are able to manage and dominate the current source of value creation.
Moreover, the tool will also be useful for companies to identify their "to be" business model configurations (forward-looking information); defining possible BMI routes will entail the identification of the future primary and secondary value drivers, and this will allow companies to prepare the ground (assessing resources and competences needed) to "jump" from the "as is" to the "to be" business model configurations.

References

Anderson, S.W., Widener, S.K. (2007), *Doing Quantitative Field Research in management Accounting*, Handbook of Management Accounting Research, Vol 1, Elsevier, pp. 319-349.

Baden-Fuller, C., Mangematin, V. (2013), "Business models: A challenging agenda", *Strategic Organization*, Vol. 11, No. 4, pp. 418–427.

Bucherer, E., Eisert, U., Gassmann, O. (2012), "Towards systematic business model innovation: lessons from product innovation management", *Creativity and Innovation Management*, Vol. 21, No. 2, pp. 183–198.

Chesbrough, H. (2010), "Business model innovation: Opportunities and barriers", *Long Range Planning*, Vol. 43, Nos. 2-3, pp. 354–363.

Dillman, D.A. (2011), *Mail and Internet Surveys – The Tailored Design Method*, Vol. 2, John Wiley & Sons.

Enkel, E., Mezger, F. (2013), "Imitation Processes and their Application for Business Model Innovation. An Explorative Study", *International Journal of Innovation Management*, Vol. 17, No. 1, pp. 1340005-1–34.

Eurich, M., Weiblen, T., Breitenmoser, P. (2014), "A six-step approach to business model innovation", *International Journal of Entrepreneurship and Innovation Management*, Vol. 18, No. 4, pp. 330-348.

Giesen, E., Riddleberger, E., Christner, R., Bell, R. (2010), "When and how to innovate your business model", *Strategy & Leadership*, Vol. 38, No. 4, pp. 17-26.

Girotra, K., Netessine, S. (2013), "Business Model Innovation for Sustainability", *Manufacturing & Service Operations Management*, Vol. 15, No. 4, pp. 537–544.

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*, Vol. 17, No. 1, pp. 1340002-1–34.

Hoveskog, M., Halila, F., Danilovic, M. (2015), "Early Phases of Business Model Innovation: An Ideation Experience Workshop in the Classroom", *Decision Sciences Journal of Innovative Education*, Vol. 13, No. 2, pp. 177–195.

Lüttgens, D., Montemari, M. (2016), "Editorial: New Ways of Developing and Analyzing Business Model Innovation", *Journal of Business Models*, Vol. 4, No. 3, pp. 1-4.

Nielsen, C., Lund, M., Thomsen, P. (2017) "Killing the balanced scorecard to improve internal disclosure", *Journal of Intellectual Capital*, Vol. 18, No. 1, pp.45-62.

Schneider, S., Spieth, P. (2013), "Business Model Innovation. Towards an Integrated Future Research Agenda", *International Journal of Innovation Management*, Vol. 17, No. 1, pp. 134000-1–34.

Taran, Y., Nielsen, C., Montemari, M., Thomsen, P., Paolone, F. (2016). “Business model configurations: A five-V framework to map out potential innovation routes”, *European Journal of Innovation Management*, Vol. 19, No. 4, pp. 492–527.

Tellis, W. (1997), Application of a Case Study Methodology, The Qualitative Report.

Wirtz B., Göttel V., Daiser, P. (2016), “Business Model Innovation: Development, Concept and Future Research Directions”, *Journal of Business Models*, Vol. 4, No. 2, pp. 1-28.

Yin, R. K. (2009), *Case Study research – Design and Methods, Los Angeles CA,* Sage publications.