Journal of Business Models (2018), Vol. 6, No. 2, pp. 37-43

JOBM
Journal of Business Models

A Qualitative Approach to Business Model Dynamics

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Abstract

We provide a qualitative approach to assess interaction intensities of business model elements based on expert interviews in the retail industry. Focusing not on the direction but on the intensity of interactions, we identify robust elements as well as elements with an indictor effect, a leverage effect and both effects.

Introduction

In the last two decades, the concept of business models has become popular in theory and practice, where it is connected to the creation of competitive advantage, innovation and growth (*Magretta 2002*; *Johnson et al. 2008*; *Zott and Amit 2008*; *Teece 2010*; *Wirtz et al. 2016*; *Foss and Saebi 2017*). The widespread use and manifold interpretations of the concept have directed the debate on defining the notion (*Wirtz et al. 2016* and *Massa et al. 2017* summarize and condense the debate in their reviews) and deriving key elements of business models (e.g., *Amit and Zott 2001*; *Osterwalder et al. 2005*; *Johnson et al. 2008*; *Casadesus-Masanell and Ricart 2010*). However, despite the interpretation of business models as *'logic of the firm'* (*Casadesus-Masanell and Ricart 2010*, p. 195) whereby scholars assume *'(...) multi-layered dependencies among the elements of a business model such that the 'whole' (business model) is simply not a sum of its parts (elements)' (Sorescu et al. 2011, p. 4*), research about business model dynamics is only at the beginning. Especially, little is known about the interactions of the key elements so far (*Demil and Lecocq 2010*; *Cavalcante et al. 2011*; *Aversa et al. 2015*; *Wirtz et al. 2016*; *Nyström and Mustonen 2017*). We argue that determining the interaction effects between business model elements is essential to understand the interdependencies of a company's decision areas and corresponding logic as well as to predict the effects of business model change and innovation - areas which

Keywords: Business Model Dynamics, Retailing

Please cite this paper as: Haas Y. (2018), A Qualitative Approach to Business Model Dynamics, *Journal of Business Models*, Vol. 6, No. 2, pp. 37-43

scholars consider to be of greatest importance in future business model research (*Wirtz et al. 2016*).

Understanding the company as a complex and dynamic system, which consists of numerous subsystems and elements, all of them with numerous links and feedback effects between them (*Ulrich 1970*), we admit that capturing and describing a company's business model as a formal representation of the logic of that system is a great challenge. We address this challenge by supplementing previous papers about the interactions of business model elements (e.g., *Casadesus-Masanell and Ricart 2010*; *Demil and Lecocq 2010*; *Cosenz and Noto 2018*) with a qualitative approach. The difference of our approach is that we do not focus on the direction but on the intensity of the interactions between business model elements. This means that we do not study *which* other elements or sub-elements are affected by a change in a particular element but *how much* they are, in general, affected by a change in a particular element. To do this, we conducted a qualitative analysis with ten expert interviews in the German retail industry. We chose the retail industry because of its inherent dynamic character (*McNair 1931*; *Kumar et al. 2017*). The dynamics in the retail industry have even more increased by modern challenges such as digitalization and vertical integration (*Sorescu et al. 2011; Cao 2014*), so that there are many business model changes available for studying interaction effects. We chose interviews because we wanted the retailing experts and practitioners to describe business model changes and the corresponding interaction effects of elements unrestrictedly. In this way, we could also assess the background of the effects. In this short-paper, we start with describing our methodology, the data set and the data analysis. We then present and discuss the key findings. We conclude with limitations and future research directions.

Approach (Method and Data)

Adopting a quantitative system analysis approach ('intensity relation-matrix' according to *Vester 2000*; *Ninck 2004*) to the business model context qualitatively, allows us to use it as a framework for estimating interaction intensities between business model (sub-) elements. Figure 1 shows that depending on whether elements are highly or lowly connected within the business model and whether they have a more active or passive character, we classify them into four different categories (cf., figure 1). We distinguish between elements (I) with an indicator effect (this element is affected by changes of many other elements), (II) with leverage and indicator effects (this element is affected by changes of many other elements and leads to changes in many other elements), (III) with a leverage effect (even though this element is affected by only few elements it leads to changes of an over-proportional large number of other elements), and (IV), with overall few effects (robust elements).

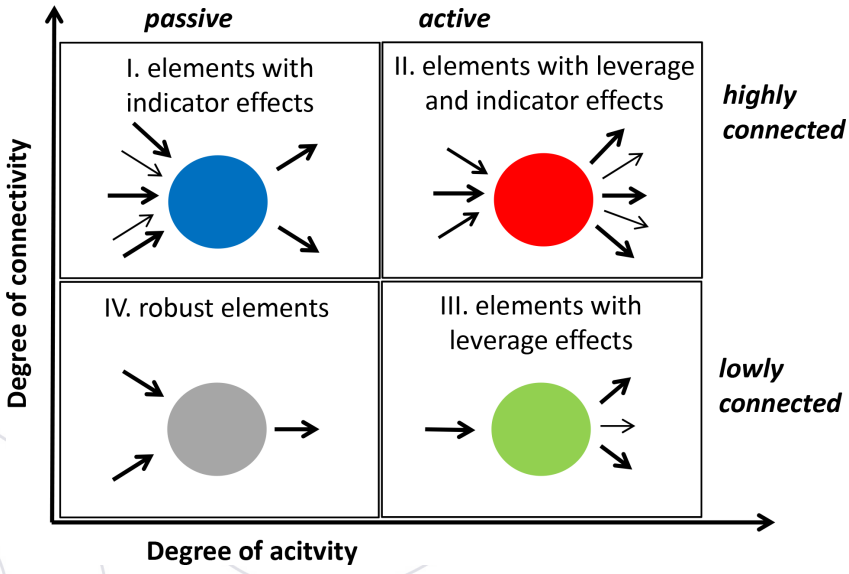


Figure 1: Interaction intensities of business model elements in an intensity-relation-matrix

We collected our qualitative data by conducting ten face-to-face interviews in the German retail industry. Four respondents were leading experts of the German retail industry (the managing director of a retail consultancy, of a scientific retailing institute, a regional department of the German Chamber of Industry and Commerce and an editor-in-chief of a retailing journal) and six were CEOs or board members of German retail companies out of the grocery, textile and furniture sector which had a size of national importance. The interviews lasted around one hour each. They were based on a semi-structured questionnaire and on a generic retail business model framework (RBM) that we have developed in a parallel study *(Haas 2018)*.[1] The questions regarding business model dynamics included which major business model changes the interviewees implemented (for managers) or observed (for industry experts) in the last five years, to which generic (sub-) element they corresponded and which effects on other (sub-)elements they had. We audio-recorded and transcribed all interviews, which yielded a textual data set of 47,730 words.

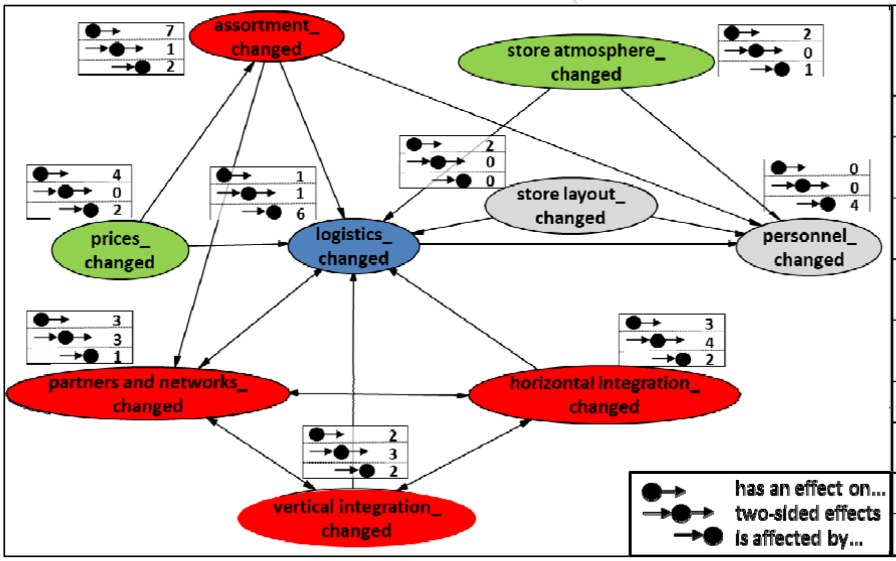
For reducing, condensing and analyzing the data set, we used the qualitative analysis-method GABEK® (GAnzheitliche BEwältigung von Komplexität – holistic processing of complexity) and corresponding software WinRelan® (*Zelger 2000*). In the coding phase, we began by manually dividing the data set in a way that every single line of thought built one text unit (building text units). For every text unit, we coded keywords in a way that they were free of synonyms and represented the semantic content of the text unit (keyword coding). For every keyword, we further specified whether it was mentioned in a positive or negative context (evaluation coding) and whether it was causally related to other keywords in the text unit, e.g., 'the more A, the more B' or 'A is a cause of B' (causal coding). In the analysis phase, we used the causal network-analyses provided by Gabek-Winrelan. Keywords are interconnected in terms of content and frequency, if they appear together in the same text unit. Causal networks consist of those interconnected keywords that are moreover attributed to be in a causal relation.

Key Insights

Figure 2 shows the causal network of all keywords that were attributed to be in a causal relation with a change in logistics (keyword 'logistics_changed'). As the interviewees mentioned these keywords when talking about last major changes in their RBMs, we interpret the keywords as (sub-)elements (hereinafter, elements) of a generic RBM. The points with arrows indicate the amount of one-sided and two-sided effects for every element. The causal network shows that six elements have an effect on 'logistics' (changing them leads to a change in logistics), but the 'logistics' have an effect only on 'personnel' (changing the logistics leads to changes in personnel). Furthermore, there is a two-sided effect between 'logistics' and 'partners and networks' (changing logistics implies changing partners and/or networks and vice versa). In this context, the interviewees frequently mentioned the example that an adoption of an online-shop as a new sales channel ('horizontal integration') necessitates larger warehouses and the introduction of a delivery system ('logistics'). The new challenges of handling an online-shop and a delivery system necessitate hiring employees with different qualifications ('personnel') and starting a cooperation with new shipping partners ('partners and networks').

In the right table, we further indicate how we assigned the present elements to one of the four categories of the intensity-relation-matrix based on the original approach by *Vester 2000*. If the quotient (Q) of effects on other elements (active sum) to effects from other elements (passive sum) was one or more, we assigned the respective element to the active site of the matrix (category II 'red' or III 'green') or vice versa. If the product (P) of active sum and passive sum was ten or more, we assigned the respective element to the highly connected site of the matrix (category I 'blue' or II 'red') or vice versa. All results of the analysis are presented in the right column. For example, we could identify 'logistics' as an indicator element, 'prices' as a leverage element, 'horizontal integration' as a leverage and indicator element and 'personnel' as a robust element.

[1] In a parallel study, we conducted expert interviews in the retail industry and combined our results with theoretical findings about retail business models (*Sorescu et al. 2011*; *Cao 2014*). Based on this, we determined the following elements and sub-elements of a generic RBM (1) value proposition (e.g., assortment, services (including personnel decisions), prices, availability of products, store atmosphere, store layout), (2) customer relations, (3) horizontal integration (choice and integration of communication and sales channels), (4) vertical integration (make-or-buy-decisions including, e.g., contract manufacturing, logistics), (5) partner relations, (6) value appropriation.



(sub-) element	active sum	passive sum	Q= active sum / passive sum	P= active sum x passive sum	Category
logistics	2	7	0,28 < 1	14 ≥ 10	I indicator element
horizontal integration	7	6	1,17 ≥ 1	42 ≥ 10	II leverage + indicator element
vertical integration	5	5	1,00 ≥ 1	25 ≥ 10	II leverage + indicator element
assortment	8	3	2,67 ≥ 1	24 ≥ 10	II leverage + indicator element
partners and networks	6	4	1,50 ≥ 1	24 ≥ 10	II leverage + indicator element
price	4	2	2,00 ≥ 1	8 < 10	III leverage element
store atmosphere	2	1	2,00 ≥ 1	2 < 10	III leverage element
store layout	2	0	0 < 1	0 < 10	IV robust element
personnel	0	4	0 < 1	0 < 10	IV robust element

Figure 2: Causal network of 'logistics_changed' with assigned element categories

Discussion and Conclusions

In this study, we took the example of the retail industry to qualitatively analyze interaction intensities between business model elements. We identified how much a change of a particular business model element affected other elements or was affected by other elements. We presented our key findings drawing on the RBM element 'logistics' and all of its causally related RBM elements. We base the interpretation of our findings on the systems approach of *Vester 2000* and its application to a management context by *Ninck 2004*. Having identified the 'logistics' as an indicator element implies that many changes of the business model became apparent in this element. However, changing the element 'logistics' did not have a substantial effect on the overall model, so it would not have been advisable to start here in terms of problem solving or business model revision. 'Horizontal integration' was an example for an element with both indicator and leverage effects. This means that this element was extensively involved in the overall model so that it could act as a catalyst for developments. In contrast to that, 'personnel' or "store layout" were examples for robust elements. Even though the interviewees considered them as crucial for a business model, they could make staffing or store layout decisions relatively independent from other decisions. Consequently, they did not have a substantial impact on the overall business model. Finally, 'price' was an example for a leverage element. Because of its low interactions but active character, it was suitable as a specific problem solution. This means that changing the 'price' enabled a specific revision of the business model without having unmanageable side effects.

In total, the study contributed to the field of business model dynamics by assessing interaction intensities of business model elements based on qualitative data. In this way, it expanded this mainly theoretical and case study-based research field with an alternative methodological starting point. It further gave insights into business model dynamics in the retail industry by providing retail-specific elements and sub-elements and by explaining the key findings on the example of a change in 'logistics'. A first limitation of the study was the data base of ten interviews in the German retail industry. Even though it is difficult to convince CEOs of big retail companies to talk about sensitive topics like their business models, it would be relevant to substantiate the findings with more interviews in different branches and countries. Furthermore, future research efforts should be directed on identifying the interaction intensities not only on the sub-element 'logistics' but on all elements and sub-elements of a retail business model. A second limitation is that small and big changes of an element may affect the dynamics within a business model differently, which can lead to strongly varying results of a respective study. Taking this into

account, we already asked the interviewees to tell us about business model changes that they considered to be essential for the last five years. Nevertheless, we identified a need for specifying an 'element change' in future studies. A third limitation is that we studied business model dynamics within a fixed timeframe and framework of elements. As business models evolve over time, future research should also examine when and how elements may change their position (e.g., from being a core to a minor element) or their dynamic character (e.g., from being a leverage to an indicator element) within the model.

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