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The Business Model Matrix: A Kit for Designing and Innovating Business Models

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Abstract

Purpose: How is it possible to systematically develop business model innovations for different domains? This paper provides a novel answer, using a methodological approach called Business Model Matrix (BMM), and addresses business model threats with appropriate strategies and concepts to develop innovative and comprehensive business models.

Design/Methodology/Approach: This paper addresses the idea of a pattern-based development of business models and merges different approaches to offer a business model construction kit for systematic development.

Findings: The approach demonstrates how business models can be developed using relevant issues of a business model that need to be answered (business model questions) with appropriate proposals or patterns that are able to tackle the issues raised (business model answers).

Research limitations / Implications: The method presented here is primarily aimed at modelers who have developed at least a basic concept of a business model and are looking for systematic ways to innovate the developed concept transparently.

Originality/Value: The added value of the presented approach lies in the fact that both a holistic structure for considering all relevant aspects of a business model and suitable choices for each business model aspect are provided.

Keywords: Business Model Innovation, Business Model Patterns, Business Model Dimensions, Construction Kit

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Introduction

Since the late 1990s, various definitions, conceptualizations, frameworks, and perspectives have been presented regarding the meaning and understanding of business models. Content-related aggregations and reflections about the different approaches can be seen in Centobelli et al. (2020), Biloslavo et al. (2018), Wirtz et al. (2016), Nielsen & Lund (2014a), and (2014b). Moreover, Ritter & Lettl (2018), Ivvari et al. (2016), Groth & Nielsen (2015), and Lambert (2015) showed that the theory of business models is even more diffuse when it comes to a commonly accepted classification, taxonomy, and terminology. Due to this heterogeneous and fragmented understanding, many ambiguities exist. On the other hand, a shared understanding and consent are argued by Jensen (2013) regarding three core business model dimensions: value creation, value delivery, and value capture. These dimensions can be found in many definitions and conceptualizations; see, for instance, the business model framework of Amit & Zott (2021), the Value Triangle model of Biloslavo et al. (2018), or the "Magic Triangle" model of Gassmann et al. (2014). Consequently, a business model represents the underlying logic of its business; i.e., to create, deliver, and capture value. Apart from the domain or the market-specific requirements, each business model has to clarify these aspects in order to remain successful on the market (Fielt, 2013; Ovans, 2015; Osterwalder et al., 2005).

The approach presented in this paper uses the identified business model dimensions in combination with some of the most prevalent tools for the development of business models: Business Model Canvas (BMC) and the Business Model Navigator (BMN) (Amit & Zott, 2021; Gassmann et al., 2014; Osterwalder & Pigneur, 2010). BMC provides nine innovative business model blocks with relevant key questions to guide the user by structuring ideas and thoughts (question-oriented triggers). In comparison, BMN provides 55 innovative business model patterns that demonstrate strategies and concepts of successfully established business models as a source of inspiration (answer-oriented triggers). The combination

of the guidance questions of BMC and the innovative business model strategies and concepts of BMN leads to the core approach presented in this paper: a construction kit for the systematic and transparent development of business model innovations. The added value and uniqueness of the presented approach lies in the fact that both a holistic structure for considering all relevant aspects of a business model and suitable choices for each business model aspect are provided. The method presented here is called Business Model Matrix (BMM)¹ and is primarily aimed at modelers who have developed at least a basic concept of a business model and are looking for systematic ways to innovate the developed concept transparently.

Approach

Design of BMM

BMM addresses the idea of Lüttgens & Diener (2016) for pattern-based development of business models. The approach presented by Lüttgens & Diener (2016) offers the idea of allocating the 55 business model patterns identified by Gassmann et al. (2014) to related business model dimensions (value proposition, value creation, and value capture). Therefore, business models can be created by rearranging and composing existing business model patterns. According to Gassmann et al. (2014), 90 percent of business model innovation is based on a recombination of existing business models.

A framework that addresses this pattern-based development should combine (A) relevant issues of a business model that need to be answered (business model questions) with (B) appropriate proposals or patterns that are able to tackle the issues raised (business model answers). To offer this kind of tooling, a construction kit has been developed based on the approaches shown in Figure 1.

¹ This paper provides a novel answer, using a methodological approach called Business Model Matrix (BMM).

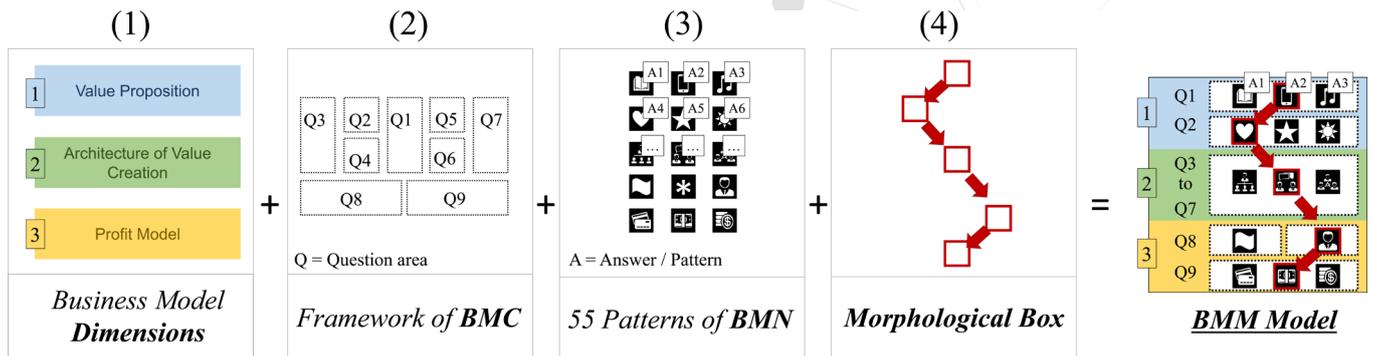


Figure 1: Methodological composition of BMM

The approach shown in Figure 1 is based on four methodical components, (1)-(4), which are described as follows:

1. Business Model Dimensions of Stähler, (2002)

a. Explanation: Stähler described a business model based on three key business model dimensions to address the creation, delivery, and capture of value:

- *Value Proposition:* This describes the added value a business promises its customers with a certain product or service. Without a clear added value, there is no consumption incentive.
- *Architecture of Value Creation:* This describes how value has to be created through the business. Moreover, this dimension contains three additional dimensions:
 - *Product or Service Design:* Width and depth of the product or service offered.
 - *Internal Value Creation:* Structure and arrangement of the core business activities, especially in terms of own effort and relationships to partners.
 - *External Value Creation:* Design of distribution, sales, and marketing channels.
- *Profit Model:* This describes how the created value can be used to generate profit using an appropriate payment, billing, and pricing model.

b. Usage for BMM: BMM is based on these **key dimensions of a business model** that define the overall frame of the model: [1] Value Proposition, [2] Architecture of Value Creation, and [3] Profit Model.

2. Original Business Model Canvas of Osterwalder & Pigneur (2010)

- a. Explanation:** BMC is a strategic tool that facilitates the development of business models. For this purpose, the framework provides nine building blocks with 35 appropriate trigger questions: (Q1) value propositions, (Q2) key activities, (Q3) key partnerships, (Q4) key resources, (Q5) customer relationships, (Q6) channels, (Q7) customer segments, (Q8) cost structure, and (Q9) revenue streams. Examples of these key questions are (Osterwalder & Pigneur, 2010):
- *Key partnerships:* 'Which key activities do partners perform?'
 - *Revenue stream:* 'For what value are our customers really willing to pay?'

b. Usage for BMM: Inspired by the question-oriented structure of BMC, BMM uses **20 business model questions** to address relevant aspects within the three key business model dimensions defined by Stähler.

3. Business Model Navigator of Gassmann et al. (2014)

a. Explanation: BMN is a method that offers 55 descriptions of unique business model patterns that can be used generically to trigger business model innovations for dif-

ferent areas within a business model. Examples of these patterns are (Gassmann et al., 2014):

- #34 *Orchestrator*: 'Within this model, the company's focus is on the core competencies in the value chain. The other value chain segments are outsourced and actively coordinated [...]'
- #35 *Pay Per Use*: [...] 'The customer pays on the basis of what he or she effectively consumes [...]'

b. Usage for BMM: BMM uses the business model patterns to enable innovative answers to the questions raised. The overall model offers **108 business model answers** to address all 20 questions. This means that on average, five answers are offered per question. Furthermore, 38 business model patterns can be selected directly as business model answers. The remaining 17 business model patterns that cannot be selected directly result from combinations of several answer choices. Example: 'Supermarket' (#49) is composed of a *large range of different product variants* and a *large range of different product types* offered. Consequently, the pattern 'Supermarket' cannot be selected directly in BMM, but the breadth and depth of the product range can be set.

4. Morphological Box of Zwicky (1966)

a. Explanation The morphological box is a one-dimensional classification system for the categorized representation of problem areas and corresponding solution ideas. Through the systematic combination of the different solution ideas within the respective areas, original and novel concepts can be developed.

b. Usage for BMM: The overall model of BMM is structured in the form of a morphological box. Accordingly, all 20 business model questions (inspired by BMC) within each of Stähler's three business model dimensions can be answered by a combination of the 108 business model answers inspired by BMN.

Usage of BMM

BMM is primarily aimed at modelers who have already worked out a basic concept of a business model and are looking for appropriate inspirations to trigger business model adaptations. We recommend that the user should already have used a methodology like BMC (or something similar) to ensure a basic understanding of the considered business model. Since the 22 BMM questions are inspired by the 35 BMC questions, results from BMC can be addressed well with the framework of BMM. Therefore, an individual business model can be developed or adjusted by selecting a single business model answer for a business model question of BMM – similar to a construction kit, the modeler can first get inspired by a range of choices and then choose a suitable variant. An excerpt of BMM's 20 business model questions and 108 associated business model answers can be seen in Table 1.

For each business model question, answers, including business model patterns, are provided in order to get topic-specific inspiration on how to solve the considered business model issue. According to Mettler & Eurich (2012), a business model pattern can be described as an archetypal design solution of a successful business model. Therefore, business model patterns have a reusable and generic character. In this paper, a business model pattern is defined as a proposal or source of inspiration to generate ideas aimed at finding successful ways to solve specific business model issues. Here is an example to illustrate this: In response to question 2 in Figure 1: *How do we develop new products/services?*, the modeler can consider whether it makes sense for the business model to primarily outsource R&D activities regarding *external development* (A11.1), to run *internal R&D* (A11.2) activities, or to use an alternative approach (A11.3-A11.7). This modular approach allows the user to gradually develop and adapt business models.

Key insights

As already shown, BMM is an approach that allows addressing relevant business model issues with appropriate strategies and concepts. For this purpose, the BMM approach assumes that certain components of the 55 business model patterns can be

Table 1.

Question #3: *What kind of value do we deliver to the customer?*

A3.1: <i>Functional Value</i>	A3.2: <i>Economic Value</i>	A3.3: <i>Simplifying Value</i>	A3.4: <i>Hedonistic Value</i>	A3.5: <i>Symbolic Value</i>
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Question #5: *How many different variants of a single product or service are offered to the customer?*

A5.1: <i>Single Variant</i>	A5.2: <i>Small Range</i>	A5.3: <i>Large Range</i>	A5.4: <i>Long Tail (#28 Pattern)</i>
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Question #11: *How do we develop new products or services?*

A11.1: <i>External Development</i>	A11.2: <i>Internal R&D</i>	A11.3: <i>User-Designed (Pattern #54)</i>	A11.4: <i>Reverse Engineering (Pattern #42)</i>	A11.5: <i>Reverse Innovation (Pattern #43)</i>	A11.6: <i>Open Business Model (Pattern #32)</i>	A11.7: <i>Open Source (Pattern #33)</i>
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Question #15: *How are we reaching our customers?*

A15.1: <i>Word-of-Mouth</i>	A15.2: <i>Cross Selling (Pattern #7)</i>	A15.3: <i>Direct Selling (Pattern #12)</i>	A15.4: <i>Ingredient Branding (Pattern #22)</i>	A15.5: <i>Affiliation (Pattern #2)</i>	A15.6: <i>Influencer Barter Deal (Pattern #5)</i>	A15.7: <i>Freemium (Pattern #18)</i>
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Question #18: *How often is the payment made?*

A18.1: <i>One-Time</i>	A18.2: <i>Subscription (Pattern #28)</i>
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Table 1: Example of BMM's business model questions and answers

matched with key areas of a business model, called business model dimensions. Therefore, only a total set of dimension-related answers will lead to a comprehensive description of a business model. First insights can be seen in Figure 2, which shows a simplified version of BMM for the example of Netflix. The complete BMM model in the latest version can be found in Bartels(2019).

Figure 2 illustrates the allocation between business model questions and business model answers and clarifies the core idea of BMM, meaning the gradual development and adaptation of certain business models.

The model shows that the business model of Netflix is characterized by a number of different intersections within the business model answers. The presented composition of Netflix is based on the description according to BMI Lab (2020) (author's spin-off from BMN) and was simply transferred for this representation:

- A3.3: Netflix's offering is available 24/7 (= #20 Guaranteed Availability).
- A5.4: Netflix offers a wide variety of content on its platform.

- A11.1: Netflix content in the form of movies, shows, etc. is usually produced externally (although they started producing their own shows and movies as well).
- A15.1: Netflix gains viewers by word-of-mouth promotions (Fagerjord & Kueng, 2019).
- A18.2: The Netflix streaming service operates on a monthly subscription model.

It can be seen that the business model of Netflix can potentially be better understood and compared when using BMM. The individual development trajectory of each business model represented within the matrix can be used for a transparent and objective evaluation. BMM is able to provide a structured model that enables unique insights in terms of the allocation of business model innovations. Modelers who want to design a business model from scratch can use BMM to get a detailed overview of relevant business model fields and innovative answers to overcome business model threats. Modelers who have already developed a business model but want to adapt it, can use BMM to get appropriate (and topic-related) patterns to trigger new ideas for assigned business model dimensions. Therefore, BMM can be used primarily to (1) extend existing business models but also to (2) create new ideas for business model innovations.

Business Model Dimensions <i>(inspired by Stahlers definition)</i>		Business Model Questions <i>(inspired by the original BMC and its 35 questions)</i>		Business Model Answers <i>(inspired by 55 business model patterns of BMN)</i>							
Value Proposition		Question #3: What kind of value do we deliver to the customer?	A3.1: Functional Value	A3.2: Economic Value	A3.3: Simplifying Value	A3.4: Hedonistic Value	A3.5: Symbolic Value				
		Question #8: <input type="checkbox"/> How many different variants of a single product or service are offered to the customer?	A5.1: Single Variant	A5.2: Small Range	A5.3: Large Range	A5.4: Long Tail (Pattern #28)					
Architecture of Value Creation	Internal Value Creation	Question #11: How do we develop new products or services?	A11.1: External Development	A11.2: Internal R&D	A11.3: User-Designed (Pattern #54)	A11.4: Reverse Engineering (Pattern #42)	A11.5: Reverse Innovation (Pattern #43)	A11.6: Open Business Model (Pattern #32)	A11.7: Open Source (Pattern #33)		
	External Value Creation	Question #15: How are we reaching our customer?	A15.1: Word-of-Mouth	A15.2: Cross Selling (Pattern #7)	A15.3: Direct Selling (Pattern #12)	A15.4: Ingredient Branding (Pattern #22)	A15.5: Affiliation (Pattern #2)	A15.6: Influencer Barter-Deal (Pattern #5)	A15.7: Freemium (Pattern #18)		
Profit Model		Question #18: How often is the payment made?	A18.1: One-Time	A18.2: Subscription (Pattern #28)							

Figure 2: Presentation of an excerpt from BMM using Netflix as an example

Discussion and Conclusions

The BMM approach described in this paper is an attempt to demonstrate the idea of pattern-based development of business models in terms of a combination of a question-based framework (inspired by BMC) with innovative triggers (using BMN). Based on this systematic usage of a pattern-based approach, the overall development effort can be reduced, as can the risk of developing dysfunctional business models. The modeler can react more precisely to changing conditions through the transparent representation of the modeled pattern combinations (Lüttgens & Dieler, 2016). Future work needs to focus on the improvement and guidance of BMM – a new version of Bartels (2019) is currently being revised. Moreover, the allocation between patterns and dimensions has to be critically reviewed and improved, especially regarding the fact that sophisticated business model patterns such as ‘Digitalization’ (#11) mix different aspects – depending on the point of view, a novel business model can target various digitalization aspects, such as the digitalization of current sales channels, broad payment infrastructure, or single product features. The same applies to other patterns with different issues, like ‘Open Business Model’ (#32) or ‘E-Commerce’ (#13). Future work should extract these aspects in order to represent them separately in BMM. Another aim is to modify the model so that only one selection can be made per subdimension. In the future, the developed BMM model could offer a generic business model kit that enables fully transparent and understandable business model development and reproduction of existing business models to enable cross-industry innovations.

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