

# Linking Effectuation Logic with Business Model Innovation: An Investigation in the Context of Swiss Startups

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**Abstract:** Over the last decades, business model innovation and effectuation have been widely discussed in the literature. While effectuation represents a behavioural approach for entrepreneurs using available means for founding a start-up, business model innovation represents an approach to creating a business model with long-term competitive advantages. Designing a business model requires to focus on four dimensions: customer, value proposition, value chain and revenue mechanism. A business model innovation is referred to when an innovative characteristic can be attributed to two of the four dimensions. Both effectuation and business model innovation are valuable for entrepreneurs who are pursuing growth in dynamic and uncertain business environments. This paper elaborates on effectuation and its potential effects on business model innovation. The addressed research questions are: Is the effectuation logic a facilitating aspect of business model innovation? And to what extent do entrepreneurs apply effectuation logic and design innovative business models? The underlying data consists of business plans of 25 finalists of a Swiss innovation competition with more than 100 startups from different business sectors every year. First, the chosen sample is reviewed on the extent of the application of effectuation based on selected behavioural criteria. Second, the sample is analysed for evidence of business model innovation based on the above-mentioned business model dimensions and their innovative potential. Third, the link between the two approaches is highlighted to gain insights into the potential influence of the applied decision logic to develop innovative business models, thus providing an understanding of how entrepreneurs could leverage the advantages of effectuation in the context of innovating the business model. Further research will focus on examining critical success factors of entrepreneurial behaviour in the applied business model types and their correlations with business performance.

**Keywords:** Effectuation logic, business model innovation, relationships between entrepreneurial approaches, entrepreneurial behaviour.

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## 1. Introduction

Effectuation and Business model innovation (BMI) have been frequently discussed research topics in the literature. While effectuation is described as entrepreneurial behaviour with a strong emphasis on using currently available means, interacting with the environment and building partnerships and alliances (Read et al, 2009; Sarasvathy, 2001), BMI is considered as a way of creating a business model with long-term competitive advantages (Zott, Amit and Massa, 2011; Spieth, Schneckengerger and Ricart, 2014; Foss et al, 2017; Csik, 2014; Gassmann et al, 2020), and often described as sustainable measure for competitive differentiation (Affenzeller, 2014; Bouwman, Nikou and de Reuver, 2019; Clauss, 2017; Filser et al, 2021; Foss and Saebi, 2018, 2017; Gassmann and Frankenberger, 2016; Schwarz, Krajger and Holzmann, 2016; Sjödin et al, 2020) and key to improve business performance (Chesbrough, 2007; Lindgardt et al, 2009; Freisinger et al, 2021; García-Gutiérrez and Martínez-Borreguero, 2016; Kim, Ku and Lee, 2020; Loon and Quan, 2021; Montemari et al, 2022). Consensus exists among academics and practitioners concerning dimensions of effectual behaviours (e.g., building partnerships and alliances) and dimensions of BMI (e.g., value proposition, value chain). Thus, entrepreneurs often rely on their ecosystems, to gather required resources, design new activities, and create value from an internal as well as external perspective enabling a BMI (Spieth et al, 2021; Berends et al, 2016; Xu, Morrison, de Domenici, 2022). Numerous studies describe effectuation as a decision logic to achieve BMI (Futterer, Schmidt and Heidenreich, 2018; Pati et al, 2021; Berends et al, 2014), which may have a positive impact on BMI (Reymen et al, 2017; Sitoh, Pan and Yu, 2014; Andries et al, 2013) to help start-ups navigating in uncertain environments. This work seeks to examine the extent to which effectuation logic is a facilitating aspect of innovating the business model and investigate the link between these two entrepreneurial approaches. The research investigation has been performed in the context of Swiss start-ups. The paper is structured as follows: First, the relevant literature on effectuation and BMI and the link between them is reviewed. Second, the methodological approach is presented. Third, research results are presented and discussed. Fourth, concluding remarks are made including limitations and avenues for further research are addressed.

## 2. Literature review

The literature on effectuation as well as BMI is reviewed with emphasis on how the application of effectuation can affect elements of business models and BMI.

### 2.1 Effectuation

Research on entrepreneurial behaviour discusses effectuation and causation (Sarvasvathy, 2001, 2009) as opposing behavioural logics which entrepreneurs can rely on in making decisions and reacting to business environment changes. Effectuation is considered as a form of entrepreneurial behaviour and effective procedure for founding a start-up with special emphasis on using currently available means. Sarasvathy (2001) defines effectuation as “processes that take a set of means as given and focus on selecting between possible effects that can be created with that set of means”. Causation logic in contrast is defined as “processes that take a particular effect as given and focus on selecting between means to create that effect” (Sarasvathy, 2001). Relying on effectuation, entrepreneurs themselves create and/or co-create business opportunities, recognise, and exploit them (Dew et al, 2008; Read, Song and Smit, 2009; Sarasvathy and Venkataraman, 2011) and implement basically the following main steps (Sarasvathy, 2001, 2004):

- Step 1: Finding “Who am I?”, “What do I know?” and “Whom do I know?” - entrepreneurs use available means, which can be grouped into three main categories: “Who I am” (personality), “What I know” (expertise) and “Whom I know” (social network).
- Step 2: Deciding “What can I do?” and “Affordable loss” - entrepreneurs focus on the downside risk by defining what they can afford to lose at each step, focusing on cost control rather than expected incomes. This basically relates to experimentation in that it represents a criterion upon which entrepreneurs make decisions (Chandler et al, 2011; Chandler, DeTienne and Mumford, 2007; Sarasvathy, 2001).
- Step 3: Interactions with other people - entrepreneurs interact with the external environment and can, to a certain degree, exercise control over the future, making the need to predict it less relevant (Chandler et al, 2011; Sarasvathy, 2001).
- Step 4: Stakeholder commitment - entrepreneurs build partnerships and alliances with self-selecting stakeholders (e.g., customers, suppliers, other companies from the entrepreneur’s network) enabling them to minimize uncertainty and co-create complementary assets (Chandler et al, 2011; Chandler, DeTienne and Mumford, 2007) – thus accessing means and going beyond competitive thinking (Perry, Chandler and Markova, 2012; Read, Song and Smit, 2009).

### 2.2 Business model innovation

BMI has become the focus of business research and is considered a way of creating a business model with long-term competitive advantages (Zott, Amit and Massa, 2011; Spieth, Schneckenberger and Ricart, 2014; Foss et al, 2017; Csik, 2014; Gassmann et al, 2020). It is often seen as key to differentiating from the competition (Affenzeller, 2014; Bouwman, Nikou and de Reuver, 2019; Clauss, 2017; Filser et al, 2021; Foss and Saebi, 2018, 2017; Gassmann and Frankenberger, 2016; Schwarz, Kraijger and Holzmann, 2016; Sjödin et al, 2020) as well as to improve business performance (Chesbrough, 2007; Lindgardt et al, 2009; Freisinger et al, 2021; García-Gutiérrez and Martínez-Borreguero, 2016; Kim, Ku and Lee, 2020; Loon and Quan, 2021; Montemari et al, 2022). The business model as the core of BMI has been a major focus of research for several decades (Asemokha et al, 2021; Baber, Ojala and Martinez, 2019; Belussi, Orsi and Savarese, 2019; Lambert and Davidson, 2013) and attracted attention from both academics and practitioners’ side, thus providing a platform for multiple research streams. Despite this, no consensus exists on how a business model can be exactly defined. It has been characterized as “a statement, description, a representation, an architecture, a conceptual tool, a structural template, a pattern, and a set” (Zott, Amit and Massa, 2011) that abstracts the logic of how a company operates to create value for its stakeholders (Casadesus-Masanell and Ricart, 2010; Amit and Zott, 2012; Zott, Amit and Massa, 2011). Creating value can be achieved through three (Filser et al, 2021; Hock-Doepgen et al, 2021; Trapp, 2014) or four dimensions, including value proposition, customer, value chain, and revenue mechanism (Csik, 2014; Gassmann et al, 2020; Gassmann and Frankenberger, 2016; Lang, 2020). BMI is basically about finding new ways for companies to generate value. According to Foss and Saebi (2017), BMI represents “designed, novel, nontrivial changes to the key elements of a firm’s business model and/or architecture linking these elements”. Consequently, BMI occurs if an innovative characteristic can be attributed to the dimensions of a business model (Spieth and Schneider, 2016; Csik, 2014). BMI might be more challenging than product or process innovation,

but could result in higher returns (Chesbrough, 2007; Lindgardt et al, 2009; Chesbrough, 2010). This, in turn, can provide start-ups with a way to break through, especially in a business environment where competition is intense and sustain competitive advantages.

### 2.3 Effectuation and BMI

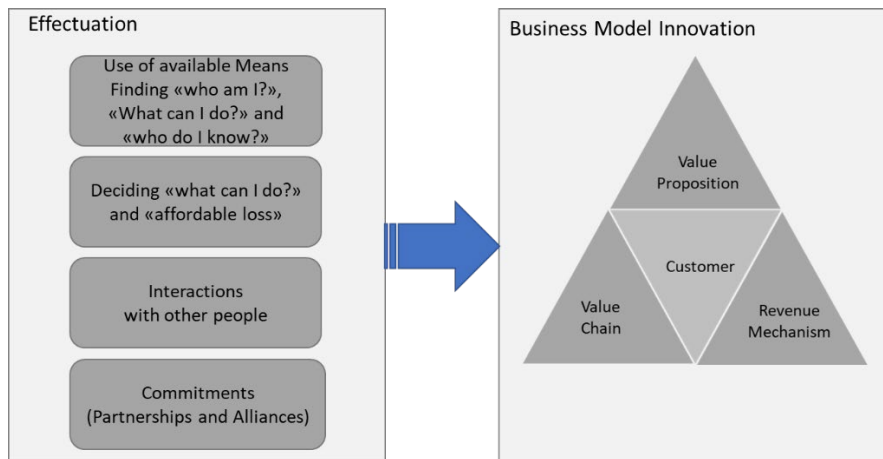
Designing innovative business models requires innovating on at least two dimensions on which a business model is built (Csik, 2014; Gassman et al, 2020). First, innovating the dimension of value proposition aims to meet the currently unsatisfied needs of clearly defined customers/customer groups by offering products and services that fulfill those needs. Second, innovating the value chain consists of creating new value through the company's partner network, its available resources as well as its supplier and distribution network. And third, innovating the revenue mechanism refers to the way a company generates value and creates new ways of capturing value through new revenue and profit-generating streams (Spieth and Schneider, 2016). Futterer, Schmidt and Heidenreich (2018) differentiate between internal and external dimensions in creating value. Internal value creation comprises activities performed within the organization, while external value creation comprises activities in collaboration with external partners, enabling entrepreneurs to overcome resource scarcity and reduce uncertainty (Hollebeek et al, 2022; Yi, Chi and Li, 2022; Xu et al, 2022; Deligianni et al, 2022). Consequently, value creation (in particular the external value) can be affected by applied entrepreneurial behavioural logic such as effectuation. Previous academic research put a strong emphasis on the "causation-effectuation-BMI" interface and focused on the effects of both logics on BMI (Futterer, Schmidt and Heidenreich, 2018; Reymen et al, 2017; Sitoh, Pan and Yu, 2014; Andries, Debackere and Van Looy, 2013). These studies agree that both effectuation and causation have a positive impact on BMI. Other studies emphasize the role of entrepreneurial behaviour on BMI and argue that effectuation is a decision logic to achieve BMI (Berends et al, 2014; Pati et al, 2022; Sha et al, 2022; Deligianni et al, 2022). Xu et al (2022) argue that effectuation has a mediating role in the relationship between the entrepreneurial network and BMI, but do not differentiate between the innovated dimensions of BMI. Other studies (Harms et al, 2021; Reymen et al, 2017) refer to effectuation as a critical predecessor of BMI. Accordingly, it is adequate to infer that effectuation has an impact on BMI. Furthermore, it is necessary to investigate the influence of entrepreneurial behaviour such as effectuation in innovating a business model through empirical research.

## 3. Methodology

The objective of this research is to elaborate on effectuation logic and its enabling potential on BMI. The relevant literature was reviewed with particular emphasis on the link between effectuation and BMI. In search for evidence, an analysis of the potential link between these two entrepreneurial approaches has been examined in the context of Swiss start-ups. The selected cases stem from a startup support programme, Swiss Innovation Challenge (SIC). The underlying primary data of this research consist of 25 business plans of the finalists who participated in the SIC in 2022. Among the 100 start-up teams admitted to the SIC, the selected cases have gone through two selection rounds based on their business plans and assessments thereof to qualify as the 25 finalists.

For the aim of this research, SIC represents a reliable source of innovative start-ups and enables for a consistent data selection for research following a proven process based on consistent evaluation criteria (e.g., grade of innovation, feasibility, qualification of the startup team). Submitted business plans and startup pitches are evaluated by an experienced jury. The process applied by SIC seeks to ensure that the top 25 finalists consist of innovative start-ups with high quality standards. In this work, business plans were chosen because they are frequently used as a selection and initial screening tool in practice, for example in start-up competition juries, investment groups and business angel clubs.

The research procedure for this work consisted of reviewing business plans of the 25 finalists independently by three researchers. The framework (Figure 1) served as a basis to investigate the above-mentioned objective and potential link between the two entrepreneurial approaches.



**Figure 1: Framework linking effectuation logic and BMI (authors' own representation – right-hand diagram adapted from Csik, 2014)**

The data sample has been reviewed on the extent of applying effectuation - despite business plan development and implied causation logic - and how startups deal with BMI and innovation of the business model. Based on a pre-defined set of criteria and following definitions of the relevant literature on effectuation and BMI, business plans were examined for evidence of effectuation in the form of use of available means, interactions with other people, and commitments (partnerships and alliances). The construct “affordable loss” has been neglected in this study since the necessary information was partly lacking for that end in the chosen data sample. In a similar manner, business plans were analysed for evidence of BMI based on the above-mentioned four business model dimensions and their innovative potential. Innovation in a business model has been evaluated based on its novelty degree compared to industry standards including combinations of innovated business model dimensions. With the evidence for effectuation and BMI identified, business plans were analysed for any connections between the application of effectuation and BMI. Finally, results of the three researchers were aggregated and analysed. Thus, enabling an increase in the validity of the analysis results. In the final analysis, we evaluated whether the selected data sample provide useful evidence for widely used entrepreneurial approaches such as effectuation and BMI, as well as connections between them. However, as mentioned in the following sections, for deeper insights further research with other methodological approaches, such as in-depth interviews with start-up teams, should be carried out.

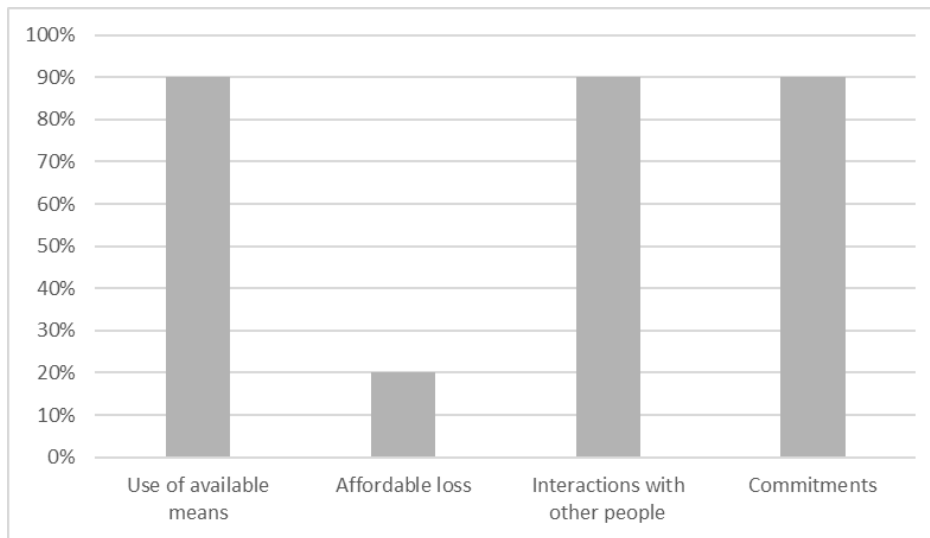
## 4. Results and discussion

Several studies have discussed the importance of the entrepreneurial behaviour and applied logic on BMI (Futterer, Schmidt and Heidenreich, 2018; Reymen et al, 2017; Sitoh, Pan and Yu, 2014; Andries, Debackere and Van Looy, 2013; Berends et al, 2014; Pati et al, 2022; Sha et al, 2022; Deligianni et al, 2022; Xu et al, 2022, Harms et al, 2021; Reymen et al, 2017). This research employs evidence from business plan reviews to assess the applied logic, BMI and potential link between them. In general, this type of evidence can be extracted from sections of the business plan that describe the business model in general, products or services, market and customers, market entry, financial statements, operational processes, team, and implementation plans. Following the literature review and based on the framework (Figure 1), results are presented and discussed pertaining to three clusters: effectuation, BMI, and impact of effectuation on BMI.

### 4.1 Effectuation

Based on the framework shown in Figure 1, the application of effectuation has been investigated as part of the first analysis step. Effectuation has been considered evident in the investigated sample if at least three pre-defined conditions are fulfilled. First, if there are indications that action was taken by the entrepreneurs based on the use of available means (e.g., competencies, contacts). Second, if there are indications that an open approach was taken to interact with other people (e.g., co-working space, competitions, coaching, external support). Third, if there are indications that a cooperative approach (commitments) was taken to build partnerships and alliances with stakeholders (e.g., customers, suppliers, and other companies from the entrepreneur’s network). The data sample shows evidence of using available means, interacting with other people and commitments through partnerships and alliances in 90% of the investigated cases (Figure 2). 20% of

the examined cases show evidence for defining an affordable loss. However, the necessary information on this criterion was partly lacking in the chosen data sample and was therefore neglected in this study.

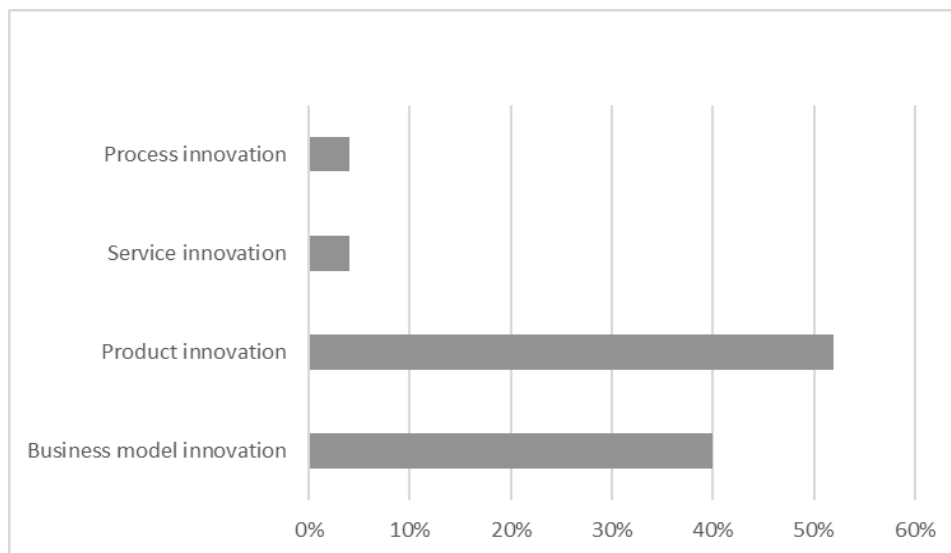


**Figure 2: Application of effectuation in the chosen data sample**

The fulfilment of the three pre-defined conditions as mentioned earlier indicates the evident application of effectuation in the data sample.

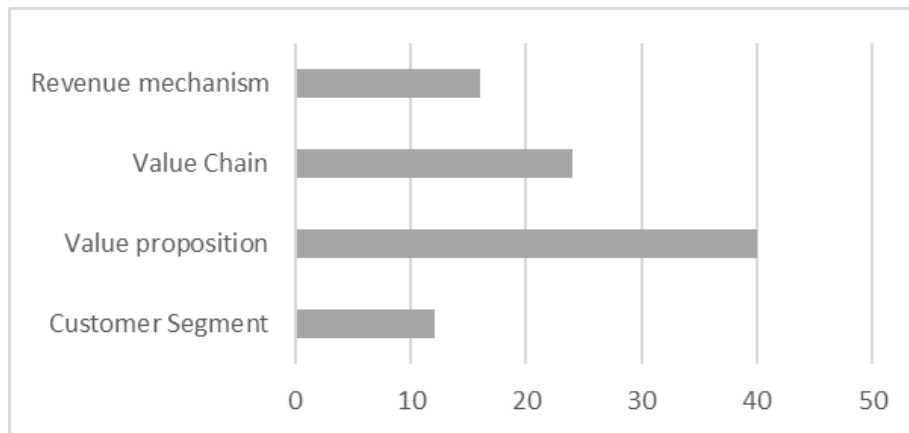
#### 4.2 BMI

Investigating BMI evidence in the chosen data sample was the second step of the analysis. Figure 3 shows that 40% of the data sample shows evidence of BMI. Whereas 52% show evidence of product innovation and 4% of other types of innovation (such as service innovation and process innovation).



**Figure 3: Types of innovation in the research sample**

With a focus on BMI, the dimensions of each innovated business model in the data sample have been analysed. If an innovative characteristic has been attributed to at least two of the four dimensions of a business model (Csik, 2014), this has been categorized as BMI in the research sample. Figure 4 shows that value proposition has been the most innovated dimension (40%). The results also suggest that in all reviewed cases, innovation focuses on the value proposition of products and services which is in line with the literature (Foss and Saebi, 2017; Hock-Doepgen et al, 2021; Philippi, Hinz and Kabous, 2022). This is not surprising as participating startups in the SIC, must have an innovative offering. The second innovated dimension is value chain (24%), followed by revenue mechanism (16%) and customer segment (12%).

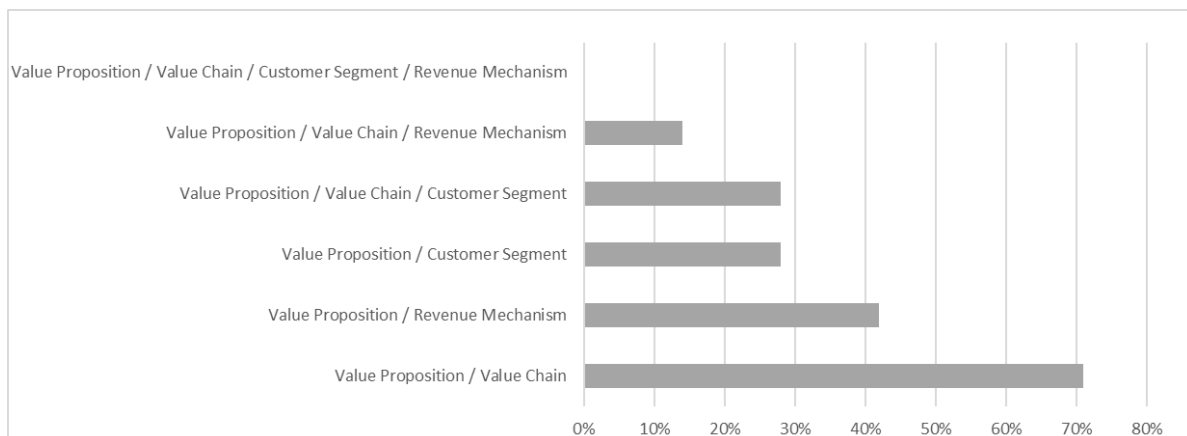


**Figure 4: BMI and Innovated dimensions of the business model**

Previous studies show that over the last few years startups, who have participated in SIC, are focussing on innovation and BMI (Philippi and Hinz, 2018; Kabous, Loosli and Philippi, 2019; Philippi and von Büren, 2021; Philippi, Hinz and Kabous, 2022). This is mainly triggered by the need to gain a competitive advantage and compensate for the limited resources in early stages (Philippi, Hinz and Kabous, 2022).

### 4.3 Impact of effectuation on BMI

The question is whether there is evidence in the analysed data set that links effectuation and BMI. In total, 40% of sample data show evidence of BMI by innovating at least two dimensions of the business model and where entrepreneurs have applied effectuation - meaning acting based on the available means, interacting with their environment, building partnerships and alliances, and creating new value through network (incl. supplier and distribution). Results as shown in Figure 5 suggests 71% have innovated the dimensions “value proposition/value chain”, 42% have innovated the dimensions “value proposition/revenue mechanism”, 28% innovated the dimensions “value proposition/customer segment” and 14% innovated the dimensions “value proposition/value chain/revenue mechanism”. The results show that innovation on all four dimensions of a business model in combination with effectuation did not take place.



**Figure 5: BMI and innovated dimensions of the business model by type and application of effectuation**

As the results show, entrepreneurs use available means, shape new opportunities, collaborate with external partners to create value which in turn lead to optimize business ideas, innovate business model, and thus promote BMI (Read et al, 2009; Guo, 2019). Based on these results, effectuation can be seen as a facilitating aspect, particularly in the creation of external value (e.g., innovating the value proposition and value chain). In this case, the decision logic of entrepreneurs can be considered as pivotal in leveraging available means, connecting them with external resources and thus innovating the business model (Spieth and Schneider, 2016; Futterer, Schmidt and Heidenreich, 2018). The results of the investigated data sample provide an indication of the link between effectuation and BMI but should be supported by conducting further research through in-depth interviews with start-up teams.

## 5. Conclusion

This research seeks to contribute to a better understanding on the facilitating aspect of effectuation in designing innovative business models. In search of evidence, 25 business plans of Swiss startups participating in the noted competition have been investigated using empirical research. Three main conclusions were reached. First, effectuation has been applied by 90% of the investigated Swiss startups, where entrepreneurs took actions using available means, interacting with their environment and taking a cooperative approach to build partnerships and alliances. Effectuation has been adopted due to limited resources and enables to manage those effectively (Reymen et al, 2017; Yang, Wie and Zhao, 2020; Guo, Cail and Zhang, 2016). Second, there is clear evidence of BMI among the investigated startups. 40% of the investigated Swiss startups from SIC 2022 have innovated their business models where at least two dimensions have been adapted and innovated. These results are compliant with studies from previous years (Philippi and Hinz, 2018; Kabous, Loosli and Philippi, 2019; Philippi and von Büren, 2021; Philippi and von Büren, 2021; Philippi, Hinz and Kabous, 2022). The most innovated dimensions are “value proposition/value chain” offering innovative products and creating new value through the entrepreneur’s network. The innovated business models are a key differentiating factor (Affenzeller, 2014; Bouwman, Nikou and de Reuver, 2019; Clauss, 2017; Filser et al, 2021; Foss and Saebi, 2018, 2017; Gassmann et al, 2020; Schwarz, Krajger and Holzmann, 2016; Sjödin et al, 2020). Third, the results show that the application of effectuation can have a positive impact on innovating the business model dimensions especially those relating to value proposition and creation comprising activities in collaboration with external partners to overcome resource scarcity and reduce uncertainty (Hollebeek et al, 2022; Yi, Chi and Li, 2022; Xu et al, 2022; Deligianni et al, 2022). The findings show that effectuation can be considered as facilitating logic for designing innovative business models based on the investigated data sample. However, as the review of investigated sample is based on strict pre-defined criteria and insights with respect to affordable loss are not explicitly described in the business plans, it becomes obvious that the chosen methodology does not provide insights to full extent. For deeper insights further research with other methodological approaches, such as in-depth interviews with start-up teams, should be carried out. The available data from the annually held SIC offer an opportunity to shed more light on this.

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