

How Swiss Start-Ups Deal With Business Model Innovation

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Abstract: The term business model innovation refers to the introduction of innovations that differ from state-of-the-art business models in the same field. Current research indicates that business model innovations are more resilient (e.g. to imitation) overall and more successful in the long term compared to traditional types of innovation (e.g. product innovations). Working on business model innovation, therefore, can provide valuable insights, particularly for start-ups looking to grow and scale up under conditions of extreme uncertainty. Business model innovation involves the innovation of two of four core elements of a business model: customer, value proposition, value chain and revenue mechanism. A business model can be described using these four elements in a sophisticated and comprehensive manner. Moreover, these elements help us to determine whether a business model innovation exists. However, do start-ups really use the advantages of business model innovation and to what extent? This research paper addresses this issue and examines the role business model innovation plays for start-ups as well as how it has been implemented. To gain these insights, we examine the business plans of 24 finalists of a Swiss innovation competition in 2021 in a multi-stage process. We systematically reviewed and analysed business plans individually using pre-defined innovation criteria for each of these four elements of a business model. The individual analysis allows a robust assessment to be able to make a comprehensible classification. On reviewing the results, we were surprised by how many of the analysed start-ups are pursuing business model innovations, and that they often innovate more than two elements of their business models. According to our findings, start-ups nowadays deal with business model innovation more often than they did in previous research studies. We can also show that business model innovations are often more complex than they were in the past.

Keywords: business model innovation, start-up, business plans as research sample, entrepreneurship, innovation

1. Introduction

Innovative business models have increasingly become the focus of business research. They are widely recognised as a key factor in competitive differentiation and sustainable business success and find great acceptance (Affenzeller, 2014; Bocken and Snihur, 2020; Bouwman et al., 2019; Clauss, 2017; Filser et al., 2021; Foss and Saebi, 2018, 2017; Gassmann et al., 2013; Schwarz et al., 2016; Sjödin et al., 2020; Wirtz, 2020). One reason is that pure product and process innovation are increasingly seen as insufficient (Bucherer et al., 2014) and business model innovation [BMI] is seen as key to improving performance (Faria et al., 2021; García-Gutiérrez and Martínez-Borreguero, 2016; Kim et al., 2020; Loon and Quan, 2021; Montemari et al., 2022) and is seen as more promising for the future (Amit and Zott, 2012; García-Gutiérrez and Martínez-Borreguero, 2016; Johnson et al., 2008; von den Eichen et al., 2014).

BMI is about finding new ways for companies to create value (Faria et al., 2021). When addressing BMI, the focus is often on established companies (Amit and Zott, 2012; Bouwman et al., 2019; Ghezzi and Cavallo, 2020). However, small and medium-sized companies have also become the subject of research (Bouwman et al., 2019; Ghezzi et al., 2022; Klewitz and Hansen, 2014). The debate between entrepreneurship and BMI is also receiving increasing attention (Faria et al., 2021; Filser et al., 2021; Silva et al., 2020; Spieth et al., 2014). This includes start-ups, which are inherently faced with a very challenging environment, as they focus on developing and marketing new products or services under conditions of great uncertainty (Ries, 2017). As young companies with innovative business ideas and ambitious growth plans, they are likely to engage in business model innovation (Minsch and Can, 2020). This is the starting point of this research, which addresses the following question: How do Swiss start-ups deal with BMI in practice and how do they innovate their business models?

Within the Swiss Innovation Challenge [SIC] an innovation and start-up support programme in Switzerland, we have access to start-ups and their business plans, which serve as the basis for our analysis. The primary focus lies on a BMI classification of SIC 2021 finalists.

The paper is structured as follows: after a brief presentation of the initial situation, i.e. the SIC, there follows a discussion of the literature. The theoretical discussion of the topic creates a basis for the study itself. After this,

the methodological procedure of the research is presented. The above-mentioned questions are explored and answered in the empirical examination. Finally, the overall findings are summarized, along with a discussion of the limitations and further possible future research.

2. Starting point, the Swiss Innovation Challenge

The SIC is a support programme with an integrated competition aimed at promoting innovation in Switzerland (Swiss Innovation Challenge, 2022). Start-ups are selected based on their innovation rather than their field of activity to encourage the widest possible spectrum and to support as many eligible projects as possible (Kabous et al., 2019; Philippi and von Büren, 2021). The support programme is based on three pillars: knowledge transfer, individual coaching and mentoring, and networking (Anklin et al., 2017). The core of the programme is the competition, which lasts several months and determines the best innovations in an elimination process (Anklin et al., 2017). Participants go through three phases (Anklin et al., 2017): around 100 teams take part in the first phase, of which the jury selects 50 teams for the second phase and 25 finalists for the third phase (Reineke and Philippi, 2017). The disciplined selection process ensures that around 25 innovative and economically promising projects make it into the final round.

3. Theoretical framework

The discussion of business models [BM] has been a topic of business research for several decades (Asemokha et al., 2021; Baber et al., 2019; Belussi et al., 2019). Different definitions of BM can be found in the literature. Foss and Saebi (2018, 2017) have shown that even at a general level, the understanding of what exactly is meant by a BM (Csik, 2014) is limited, and that it is often used without an explicit definition (Bouwman et al., 2019). The simplest definition suggests that a BM describes the logic by which an organisation or company creates, delivers and generates value (Bogers and Jensen, 2017; Osterwalder et al., 2010; Taran et al., 2015; Zott et al., 2011). In addition, three (Filser et al., 2021; Hock-Doepgen et al., 2021; Trapp, 2014) or four elements (Csik, 2014; Gassmann et al., 2017, 2013; Gassmann and Frankenberger, 2016; Lang, 2020) of a BM can be identified:

- Customer Segment: who are the target customers? A precise understanding of the relevant customers or customer segments (Gassmann et al., 2017; Jodlbauer, 2020).
- Value Proposition: what is offered to the customers (Chesbrough, 2010; Rayna and Striukova, 2016)? All the components to satisfy the needs of customers (Gassmann et al., 2017; Rusnjak, 2014; Weis, 2012). Values can be quantitative or qualitative in nature (Osterwalder et al., 2010).
- Value Chain: how is this value proposition created and distributed to the customer? Brings together the resources, capabilities and processes needed to create the value proposition (Abdelkafi et al., 2013; Csik, 2014; Rayna and Striukova, 2016).
- Revenue Model: how is revenue generated and why is it profitable? The relevant mechanisms that lead to the generation of costs, but also to income (Csik, 2014; Jodlbauer, 2020).

3.1 Business model innovation

BMI is recognised as a standalone type of innovation from a terminological and content perspective (Philippi and von Büren, 2021) and has been discussed extensively in research for some time now (Belussi et al., 2019; Filser et al., 2021; Foss and Saebi, 2017; Kukkamalla et al., 2021). This highlights that the topic has lost none of its appeal (Foss and Saebi, 2017; Loon and Quan, 2021; Ramdani et al., 2019).

Despite this attention, BMI has not yet been studied and understood to the same extent as BM (Foss and Saebi, 2017). It is also often pointed out that the theoretical foundation could be further strengthened (Bogers and Jensen, 2017; Casadesus-Masanell and Zhu, 2013; Foss and Saebi, 2017; Taran et al., 2015). This is hardly surprising, considering that research on this topic has only been conducted more intensively since the beginning of the new millennium, following the burst of the internet bubble, which suddenly forced companies to look for new approaches to continue to be successful on the market (Holzmann et al., 2013).

There is still no standard definition for a BMI, (Csik, 2014; Loon and Quan, 2021), but it can basically be understood as the introduction of a completely new BM or the change of an existing BM (Augsten et al., 2017; Casadesus-Masanell and Zhu, 2013; Chesbrough, 2010; Csik, 2014; Dopfer, 2018; Spieth et al., 2014; Zott and Amit, 2015). More specifically, a BMI innovates individual elements of the above-mentioned BM or the entire BM. However, there is disagreement as to which of the four elements of a BM are of greater relevance and how

many elements must be changed to be categorised as BMI (Foss and Saebi, 2017; Lang, 2020). The predominant view is that two of the four elements of a BM need to be innovated to speak of a BMI (Csik, 2014; Lang, 2020; Philippi and von Büren, 2021; Schallmo, 2013); this paper shares this view. The BM elements include customers, value proposition, value chain and revenue mechanisms (Csik, 2014; Gassmann et al., 2017, 2013). Novel products or services are thereby often the core element of a BMI (Foss and Saebi, 2017; Hock-Doepgen et al., 2021). However, BMI is more than just a bundle of other types of innovation; the novelty lies in the consideration of products and processes as well as their interdependencies within the overall system (Schwarz et al., 2016).

The degree of innovation can be either incremental or radical and thus fundamentally change the BM (Holzmann et al. 2013; Osterwalder et al., 2010; Schallmo, 2015, 2013). A distinction can be made between a BM that is new to the world, new to the industry/market or new to the company (Stampfl, 2016; Zott and Amit, 2015). BM that are new to the world are extremely rare by now (Gassmann et al., 2012; Stampfl, 2016), while the combination of existing approaches is more common (Casadesus-Masanell and Zhu, 2013; García-Gutiérrez and Martínez-Borreguero, 2016; Silva et al., 2020). In this research, we focus on BMI that are new to an industry/market/sector, which is in line with most of the research (Stampfl, 2016; Trapp, 2014).

3.2 Added value of BM innovation

There is broad consensus in the literature that BMI is of great importance for a firm's survival and economic performance in order to achieve a competitive advantage (Amit and Zott, 2012; Foss and Saebi, 2017; Lindgardt et al., 2012; Ramdani et al., 2019). The appeal of BMI lies primarily in the fact that it allows companies to define new rules in the industry/market/sector. This high differentiation potential is also assessed as the key advantage (Casadesus-Masanell and Zhu, 2013; Csik, 2014; Faria et al., 2021; Zott and Amit, 2015). Moreover, new BMs are more difficult to imitate compared to product or service innovations. Thus, by creating a BMI, companies gain competitive advantages, which differentiates them from competitors and provides higher long-term impact compared to other innovations (Bucherer et al., 2014; Csik, 2014; Lindgardt et al., 2012). Gassmann, Frankenberger and Csik (2013) also point out that, viewed over a period of five years, BMI is on average more profitable than product and service innovations.

In general, established companies only spend a small fraction of innovation budgets on developing new and innovative BM (Gassmann et al., 2013). New, even revolutionary BMs are rarely developed by established companies, but far more often by start-ups. This gives them an advantage over established companies and helps them to differentiate themselves (Zollenkop, 2011).

4. Methodological approach

Business plans of 24 finalists of the SIC in 2021 are reviewed for evidence of BMI. Quality management within SIC has resulted in high-quality business plans.

Many analyses of BMI rely on qualitative methods or case studies (Belussi et al., 2019; Sniukas, 2020) and secondary data often form the foundation (Bouwman et al., 2019). In contrast, available business plans written by start-ups participating in SIC represent interesting primary data. This gives us access to a unique database to gain insights into how start-ups deal with BMI. Many studies often take a retrospective view, looking for changes between a starting point and the current situation (Hock-Doepgen et al., 2021; Trapp, 2014). Given the young age of start-ups, this is hardly ever reflected in their business plans. However, the novelty of their BM can be evaluated by comparing them with industry standards to determine whether a BMI is present or not (Abdelkafi et al., 2013).

The data was collected in a multi-stage process, based on an analysis of the available business plans. The four elements of the BM as shown above were used to classify business plans and to find evidence for BMI. If two of the four elements are classified as innovative, the observed start-up is assumed to pursue BMI.

To evaluate whether an element of the BM has been innovated or not, we analysed the start-up's direct competitors. In doing so, we clarified whether the corresponding BM element follows the common industry logic or differs from it. If we found a discrepancy, the element was classified as innovative. For example, if the typical revenue model in a given industry is mainly based on product sales, while the examined start-up also generated other revenue streams (e.g. rentals), it was classified as an innovative BM element. To further increase validity, the analysis was conducted independently by the research team and consolidated at the end.

Through careful examination of the theory, a basic framework was created that brings about a consistent view of BMI. The validity of the applied criteria (Schöneck and Voss, 2013), has been tested and validated in numerous studies (Csik, 2014; Gassmann et al., 2013; Gassmann and Frankenberger, 2016).

5. Empirical results

The SIC focusses on innovative start-ups. Since the sample studied is made up of finalists, it is not surprising that all start-ups are innovative and can be assigned to an innovation type.

Table 1: Overview of the types of innovation in the research sample

Innovation type	
Business model innovation	41.7%
Product innovation	41.7%
Service innovation	12.5%
Process innovation	4.1%
Social innovation	0.0%
Structural/organisational innovation	0.0%
Marketing innovation	0.0%
Management innovation	0.0%
Market innovation	0.0%
Total	100%

As can be seen in Table 1, BMI and product innovation cases account for around 41% of the cases examined. This translates to 54.2% when we combine product and service innovation. A comparable study conducted on the SIC for the years 2015, 2016 and 2017 shows that 73.1% of cases focused on product and service innovation (Kabous et al., 2019; Philippi and von Büren, 2021; Philippi and Hinz, 2018), while only 18.3% displayed evidence for BMI (Philippi and von Büren, 2021). Our data for 2021 suggests that 41.7% of cases focus on BMI, which is a significant increase. This could relate to the fact that the implementation of BMI requires access to appropriate internal and external knowledge, whereby external knowledge is of great importance, especially for small companies, as well as a certain willingness to take risks (Hock-Doepgen et al., 2021). The observation that start-ups have increasingly focused on BMI over the last few years also suggests that start-ups try to gain access to relevant knowledge. In addition, start-ups often try to compensate for disadvantages due to their small size by developing innovative BM to get competitive advantages (Holzmann et al., 2013), as this enables them to differentiate themselves from established companies competing on the same market (Zollenkop, 2011).

None of the projects were classified as a structural innovation or organisational innovation, marketing innovation or management innovation. This is explained by the fact that these types of innovation are less common and are often not even classified as such by the people who initiate or implement them.

Looking at the elements of BM like target customers, value proposition, value chain and revenue mechanics, BMI is evident in 41.7% of reviewed cases where at least two of these elements are innovated. Figure 1 illustrates which elements of the BM have been innovated.

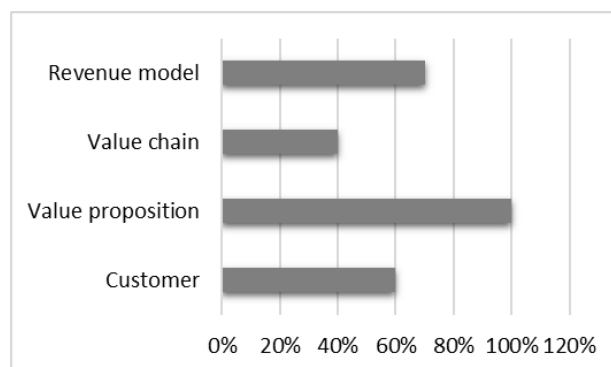


Figure 1: Innovated elements of the business model

In all business plans that could be assigned to the BMI category, the value proposition was classified as innovative (cf. Figure 1). This is not surprising since the innovation of a service or a product is the most common type of innovation, which often coincides with the value proposition. The revenue mechanism was changed in 70% of the BMI cases 10 BMI (see Figure 1). Slightly fewer start-ups developed innovations in the value chain (40%) and with target customers (60%). This shows a clear difference to the earlier study. At that time, both target customers and the value chain were innovated far less frequently (Philippi and Hinz, 2018). This seems to confirm that today's start-ups have greater knowledge in dealing with different levers of BMI.

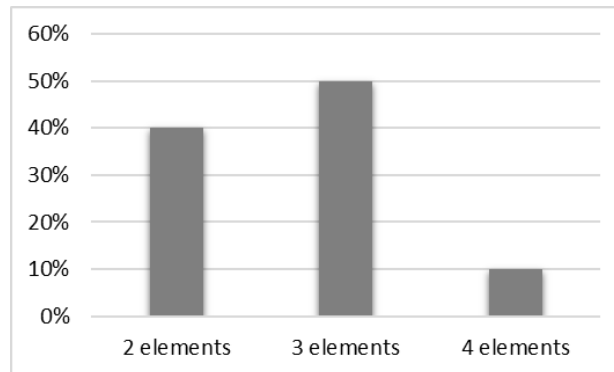


Figure 2: Adaptation in the elements of a business model (% of the BMI cases)

If we look further at how many elements of a BM were the subject of an adaptation or innovation, we see that in most cases three elements of a BM underwent an innovation (cf. Figure 2), four out of ten start-ups (40%) innovated two elements and one start-up even managed a BMI by adapting all four elements. This is surprising, because innovating several elements of the BM is always complex (Csik, 2014). Furthermore, this is a change from the previous study, where most companies innovated two elements and only a few innovated three; no company innovated four elements (Kabous et al., 2019).

By far the most frequent combination of changed elements of a BM was observed between customer / value proposition / revenue model with 30% of all BMI. Value proposition / revenue model was innovated by two start-ups, while all other combinations occurred only once (cf. Figure 3).

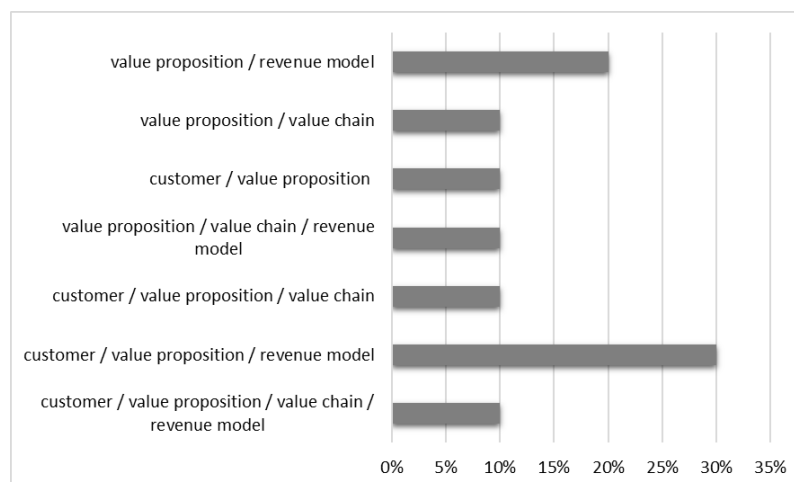


Figure 3: Combinations of the innovative elements of a business model

6. Conclusion and future research

BMI is becoming increasingly important in business, among established companies and especially among start-ups (Bouwman et al., 2019; Faria et al., 2021; Filser et al., 2021; Ghezzi and Cavallo, 2020; Silva et al., 2020). As illustrated, this is due to the fact that product and service innovation is increasingly seen as insufficient (Bucherer et al., 2014) and BMI is seen as key to improving performance (Faria et al., 2021; Kim et al., 2020; Loon and Quan, 2021; Montemari et al., 2022). Through SIC we have access to highly innovative start-ups in Switzerland, enabling us to address the question of how prevalent BMI may be in these contexts.

The aim of the paper was to find out how Swiss start-ups (within the SIC) deal with BMI in practice and how they innovate their business models. In the analysis of 24 cases, BMI accounted for 41.7% and product and service innovation for 54.2%. A similar study on SIC for the years 2015 to 2017 showed that 73.1% of the cases were focused on product and service innovation, while only 18.3% contained references to business model innovation. A significant increase can therefore be observed for the year 2021. This increase is astonishing because research from von den Eichen et. al (2014) has identified various barriers that prevent the step towards BMI from being taken. These include awareness barriers, search barriers, system barriers and logic barriers (von den Eichen et al., 2014). One possible explanation for this growth of BMI is the increased access to knowledge around BMI. This is also confirmed by the finding that many projects innovated not only two out of four elements of a BMI, but slightly more often three, and in one case even four elements. The more elements innovated, the more robust and complex the BMI. During the analysis, it also became apparent that many projects, when analysed more closely, had potential for BMI. We were also able to determine this in the previous study (Kabous et al., 2019; Philippi and von Büren, 2021; Philippi and Hinz, 2018), but this time the number of projects with further potential was significantly lower. The study can clarify the status of BMIs among the start-ups in the final round, especially in the context of SIC. The available data and contacts offer an opportunity to clarify further questions here, above all the examination of how BMIs come about, and which decision-making processes take place in the start-ups. This decision-making process should certainly be considered in future research projects. Likewise, the question remains to what extent BMI differs from other types of innovation in terms of success, longevity, and sustainability. Especially in the context of start-ups, such research promises interesting insights. The competition's solid data base and the prospect of being able to generate further data in the future presents opportunities that should be exploited and that could also make a significant contribution to research in the field of BMI. Several hundred business plans are already available for analysis. Another area that offers opportunities is linking with other approaches such as effectuation or lean start-up.

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