

Developing a Viable Business Model for Start-ups at the Gruendungsgarage

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Abstract

Developing a viable business model is crucial when founding a start-up. We present a teaching approach based on business model development in the context of the *Gruendungsgarage*. Following a blended learning approach, the business model was developed with the aid of a MOOC, a business model workshop and follow-up activities.

Keywords: Business model development, entrepreneurship, blended learning

Please cite this paper as: Müller et al. (2019), Developing a Viable Business Model for Start-ups at the Gruendungsgarage, Vol. 7, No. 3, pp. 47-56

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Introduction

The scientific interest in the development of business models has been high for quite some time. A discussion regarding the importance of integrating business model development and business model frameworks has recently intensified, and especially their roles as central elements of entrepreneurship education (Snihur *et al.*, 2018). Business models are “an architecture for how a firm creates and delivers value to customers and the mechanisms employed to capture a share of that value” (Teece, 2018, p.1). Their graphical representation, for example, with the aid of the Business Model Canvas (BMC) (Osterwalder and Pigneur, 2010) supports entrepreneurs, allowing them to communicate and discuss topics with potential partners and investors more efficiently (Trimi and Berbegal-Mirabent, 2012). In entrepreneurship education, the business model is presented as an important concept, as the focus shifts from writing business plans to developing business models by trial and error (Snihur *et al.*, 2018). In the *Gruendungsgarage* (GG) initiative, the development of the business model by trial and error also represents a central element. The objective is to achieve a viable business model, i.e., a business model in which all elements have been well-developed and aligned (Sharma and Gutiérrez, 2010) both with one another and the external environment (D'Souza *et al.*, 2015; Malmström and Johansson, 2017).

The GG initiative is an interdisciplinary teaching format that can be used to support start-up projects at an early stage before they have been founded. Participating teams usually enter the GG with a (often vague) business idea that they develop into a viable business model during their time in the GG so they can start their own venture company. The development of the business model is an essential step when founding a company, which takes place shortly after the start-up projects are entered in the GG. Using a blended learning approach, participants are asked to develop an initial version of a viable business model that can be used as a means of communication and discussion (Trimi and Berbegal-Mirabent, 2012) and which facilitates a successful founding process. This business model is refined as the participating teams gain experience (Zalewska-Kurek *et al.*, 2016) during the GG.

Based on several years of practical experience, our goal in this paper is to describe *the development of a viable*

business model based on a blended learning approach in the context of the GG. For this reason, the GG is explained to provide an understanding of the context, but a strong focus is placed on the business model development approach. Furthermore, key insights into the development process are provided through a discussion of the experiences made, challenges encountered and further applications of the teaching approach.

Approach

In this section below, the concept of the GG is explained, the didactic concepts of the GG and the business model teaching approach are described and the business model teaching approach is explained in detail.

The concept of the *Gruendungsgarage*

The GG is an interdisciplinary and inter-university teaching format that has been developed to support students (at the bachelor's, master's and doctoral level) and academic staff, helping them transform their business ideas into viable business models during the program and preparing them to found the start-up. For one semester, participants are supported by university staff who have expertise in entrepreneurship, mentors who have practical experience in these areas and GG alumni who have successfully founded a start-up. The program is officially begun with a kick-off event, during which the team members get to know their assigned mentors and sign target agreements. The core competencies of the assigned mentors need to complement the nature of the specific entrepreneurial venture in order to fulfill the needs of each individual team. Therefore, it is recommended to form a large, heterogeneous pool of mentors who have a wide range of entrepreneurial relevant skills. The mentors in the GG to date have had expertise in business model development, online and growth marketing, intellectual property rights and legal and tax matters.

After the kick-off event, three main phases begin (see Figure 1). The first two weeks of the initiative are generally characterized by a start-up phase during which the teams begin developing the first draft of their business model. The second phase is characterized by a variety of workshops. After six weeks, the teams present a progress report and their initial results in an intermediate presentation. The third phase is the mentoring and

coaching phase that extends over the whole semester. During this phase, the aim is to refine the teams' first business models. At the final presentation which takes place at the end of the semester, the teams present their business models to representatives from business, science and politics, investors, business angels and people from the regional start-up scene.

The didactic concepts

The teaching and learning concept of the GG is based on an *experience-based learning approach* (Williams-Middleton *et al.*, 2014). According to Fayolle and Gailly (2008), "entrepreneurship education is driven by experience more than by systematic teaching approaches" (Williams-Middleton *et al.*, p. 2). Although the classical learning concept is still used in individual theoretical units in GG workshops, *learning-by-doing* is applied predominantly (Pittaway and Thorpe, 2012), because it is considered that participants will only gain experience "by doing, talking, and sensemaking" (Williams-Middleton *et al.*, p. 2) as well as by making mistakes and failures (Pittaway and Thorpe, 2012). Participants of the GG, therefore, play active roles while gaining experiences and reflecting on processes and outcomes. Each workshop and discussion provides the participants with new insights, allowing them to develop their own business ideas and business models. During this time, the teams are encouraged to reflect on their business models. As part of this process, teachers serve as facilitators to foster creativity, which is important in entrepreneurship education (Snihur *et al.*, 2018). Facilitators

also take on roles as counselors, guides, or role models and are asked to support entrepreneurs while they develop their ideas and constantly revise them (Azim and Al-Kahtani, 2014). Scientific staff and mentors in the GG serve as facilitators, and these requirements apply fully to them. Although they have different backgrounds, most of them have experience running a business and/or teaching. The facilitators involved in the business model development have theoretical knowledge and expertise in the practical development of business models, the ability to apply the BMC, critically analyze it and provide appropriate feedback and suggestions for improvements.

The business model teaching approach included in the GG has been modified several times over the last few years as insights and feedback from the participants have been considered and implemented. Thus, the final didactic concept is based on the *blended learning* concept (Garrison and Kanuka, 2004; Lalima and Dangwahl, 2017). Blended learning consists of a combination of face-to-face learning in classrooms combined with online learning experiences (Garrison and Kanuka, 2004; Lalima and Dangwahl, 2017). Among others, the concept incorporates traditional classroom teaching, group discussions, online learning with the aid of videos or audio files and even virtual classrooms (Lalima and Dangwahl, 2017). This concept seems to be a suitable didactic concept that can be used to support the business model teaching approach in the GG because participants can 1) independently familiarize themselves

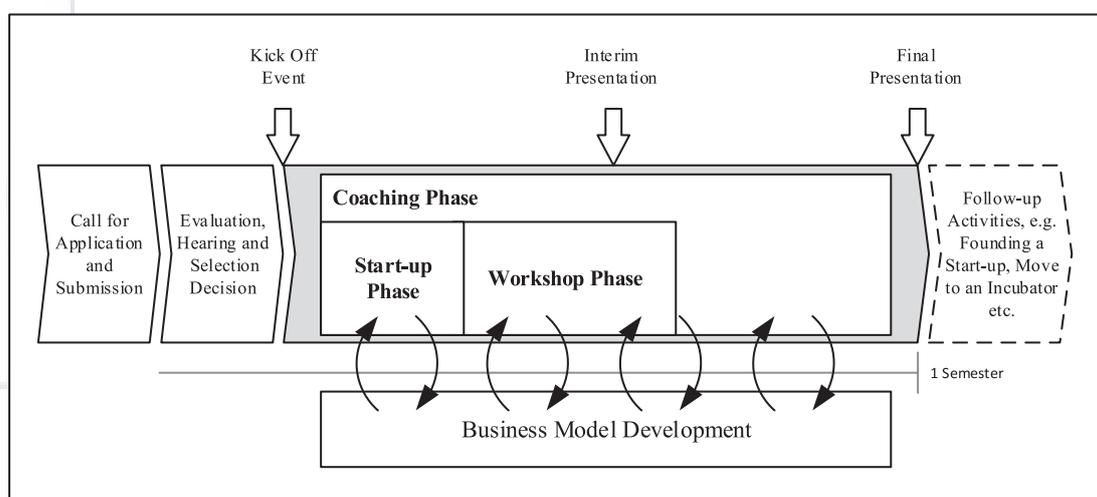


Figure 1: Structure of the GG (based on Vorbach, 2017)

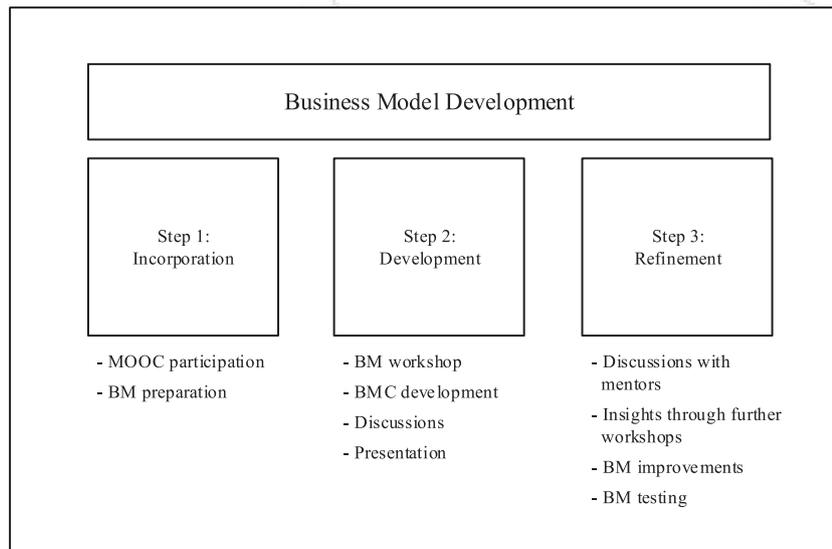


Figure 2: Business model development teaching approach

with the main principles of business model development, 2) prepare an initial draft of their business model at home and 3) mainly use face-to-face learning in the classroom to take part in in-depth discussions, clarifying questions related to business model development and further improvements.

The main learning objective of taking the business model approach is that participating teams should understand the importance of developing a viable business model before they found a business. Furthermore, participants must learn how to describe a business model with its interacting elements, identify well-known business model patterns, learn how to apply these and understand how business models can be designed and tested. In addition, participants create business models based on their own business ideas and refine them on the basis of discussions that take place during the plenary sessions and feedback received from the instructors.

The business model development teaching approach

The business model development is scheduled at the beginning of the GG to teach participants, on the one hand, the basics of business models and their creation and, on the other hand, to provide participants with the opportunity to refine their business models with support from experienced mentors and facilitators during the GG. This support is important because activities related to boundary-spanning and setting up

the organizational structure are important events that occur during the early stages after a business has been founded (Trimi and Berbegal-Mirabent, 2012). The business model can serve as a useful mechanism to provide this support (Zott and Amit, 2007).

The participants enter the GG with a (often vague) business idea; they often have not yet clearly defined their models. By taking our business model development approach, the participants become familiar with the business model concept and learn how to develop a business model. In this way, participants can develop a business model using this approach and improve its viability with the input received in other workshops and from mentors.

The detailed teaching approach used during the business model development is presented in Figure 2 and consists of three steps: 1) incorporation, 2) development and 3) refinement. In the following section, these three steps are explained in detail.

Step 1 - Incorporation

In the first step, participants should become aware of the basic processes associated with developing a business model. Based on the blended learning approach, we decided to develop a Massive Open Online Course (MOOC) to familiarize participants with the business model concept, teach them how to generate a business model and encourage them to think about the business model based on their initial business idea. In a MOOC, lectures

are open to a broader audience rather than only the students enrolled at a particular university. The digitalization and associated technical possibilities enabled in MOOCs allow students to learn both independently and collectively online and manage their own time (Toven-Lindsey *et al.*, 2015). The MOOC *Startup-Journey: Business Model Generation* lecture needs to be attended by all participants of the GG. The MOOC was developed at the Graz University of Technology and is available free of charge via the iMooX.at platform. No prior knowledge is needed to attend the MOOC, which includes a total of ten videos divided into four units: 1) Business Model Patterns and Framework (definitions and basic information about business models), 2) Customer Value (unique selling propositions, customer value as well as methods (e.g., design thinking, empathy map, moodboard, kano model, journey mapping, mockups, wireframing, prototyping)), 3) Business Model Generation (instructions on and examples of how to fill in a BMC and analyses of prior participants' canvases) and 4) Experience Reports (interviews with start-up founders, dos and don'ts when working on a BMC and how to sell the business model briefly in a pitch). Each of the videos in the units has a length of 15 to 30 minutes and ends with a short quiz to evaluate the individual learning progress. Related links in the MOOC provide the students with access to further information. Two additional assignments encourage the participants to reflect on and apply the knowledge gained by designing a BMC for a case company, for which a possible solution is also provided. The overall objective of creating the MOOC was to provide the participants with fundamental information on how to develop a business model, theoretical knowledge and practical examples.

By the end of the incorporation step, the participants had gained an understanding of the business model concept and how to develop a business model. In the case of the GG, the teams independently developed a version of a business model based on their own business ideas. This process is described in the next step.

Step 2 - Development

A four-hour workshop is subsequently held to place a focus on the further development and fine-tuning of the participants' business models in a face-to-face setting. At this business model workshop, the participants' goal is to complete the development of their business models, usually with the aid of the BMC

(Osterwalder and Pigneur, 2010). According to Trimi and Berbegal-Mirabent (2012), the BMC provides a useful tool for entrepreneurs, as its use 1) allows the visualization of the business model elements and reflection on the content, 2) enhances communication with different stakeholders and facilitates discussion, 3) forces the entrepreneur to consider every business model element individually but also the model as a whole and 4) fosters creativity and innovation.

At the beginning of the workshop, a short theoretical lecture to business model development is presented to repeat and complement basic information provided in the MOOC; a discussion follows, and questions can be asked. The theoretical lecture on business models includes information on the process of business model development, business model patterns, the BMC as well as best-practice examples. A brief introduction to the concept of Value Proposition Design (Osterwalder *et al.*, 2014) supplements the theoretical foundations and encourages further study. Most of the theoretical aspects that have already been presented in the MOOC are only explained in detail if questions remain. After the lecture, the working and discussion phase starts. During this phase, the participants continue to work on their business models and consult the facilitators to have more in-depth discussions. The main topics discussed are the interactions among the business model elements and the effects of alterations in individual elements. The target groups for the products or services offered are often not sufficiently defined (too broad) or the key activities and key resources are not clearly differentiated during the process. Depending on the participant's background and business idea, different challenges arise. For example, participants that lack economic knowledge need help identifying costs or recognizing economic correlations between the BMC elements.

At the end of the workshop, all teams briefly present their BMC and give each other feedback. This serves to stimulate further improvements of the business model during the final step of the GG process.

Step 3 - Refinement

The refinement step of our business model development approach comprises all activities that follow the workshop. These activities include discussions between the participants and their mentors about the

developed business model and the continuing refinements of the BMC, made during additional workshops held as part of the GG. These workshops and coaching sessions can give participants new perspectives on their developed business models, as they learn about design thinking, personas, marketing, tax issues and other topics of interest. With the help of these new insights, the participants can then further develop and improve their business models. Furthermore, participants begin to conduct customer surveys or test their business models in other ways to develop a viable business model by the end of the GG.

Key Insights

Two facts present the facilitators with a challenge regarding the business model teaching approach: 1) The business ideas of participants who enter the GG are at different stages of maturity. This means that some participants present vague, but interesting ideas that can only be developed into business models if a great deal of effort is invested. Other participants have already developed the initial drafts of their business models and understand the business model concept. 2) Participants have different backgrounds. This means that team participants can have engineering backgrounds and enter the GG with a technological business idea (for example, a small hydroelectric power station). Teams of students with medical, educational, or economic backgrounds are also working in the GG on ideas, such as starting up an online pastry shop and confectionery. Technicians that lack economic backgrounds are especially unaccustomed to dealing with business model aspects. Despite these two challenges, the facilitators need to convey the same knowledge to all team members.

The feedback that has been received from the GG participants directly after the workshop has always been positive. In addition, we asked participants of the GG volume XI to describe their experiences working with the BMC. We also asked them to describe the impact that the workshop and the mentoring had on their business ideas and business models. The results revealed that the participants considered the level of difficulty of the GG to be rather low due to the comprehensive framework of the BMC, which provided them with a good overview. Participants described that the individual building blocks of the BCM and examples helped them to create their

own business models. Most participants considered the description of the value proposition to be straightforward, as the value proposition basically reflected their business ideas. Many of the participants had more difficulties describing the financial aspects (cost structure and revenue streams). They were not often able to support their revenues and costs with numbers and could not describe these building blocks in detail. For this reason, many assumptions had to be made by the participating teams. The majority of the participants mentioned that especially the consultations with mentors had a strong impact in the development of their business model.

Although participants prepared for the face-to-face workshop using the MOOC to develop their business model, they had some difficulties completing the BMC in the workshop. We noticed that some participants seemed to be overwhelmed by detailed information. The task became more challenging for them when they had to consider more highly detailed information and ask the facilitators more questions. These findings revealed that the challenge is not to lose sight of the “big picture” of the BMC and to proceed in a clearly structured manner.

Overall, the evaluation results of the business model teaching approach were positive. The participants appreciated having the opportunity to become familiar with the theoretical concept of business models using the MOOC at their own pace and under their own conditions. They also valued the examples they were given, which helped them think about their own business ideas and prepare for the business model workshop. This allowed participants to use the time in the workshop more effectively to refine their BM and discuss any ambiguities with the facilitator or other participants.

Discussion and Conclusions

The business model has emerged as an important teaching content in entrepreneurial education, which can be used to turn entrepreneurial opportunities into realities (Trimi and Berbegal-Mirabent, 2012; Snihur *et al.*, 2018). To take full advantage of these opportunities, we developed a business model development teaching approach based on the blended learning concept that supports GG participants while they develop a viable business model. The main tool used to develop

and visualize the business model was the BMC, which has proved to be a useful graphical tool for clearly mapping the main elements of a business model (Osterwalder and Pigneur, 2010). Although we teach participants how to further develop and refine their BMC in a clearly structured way, the participants sometimes face difficulties while initially working with it. This is because they become overwhelmed by detailed information and, therefore, are unable to view their model as a whole or do not know how to identify certain business model elements because their business idea is at an early stage of development.

We noticed that participants benefited from the discussions that took place in the mentoring sessions as part of the refinement step of the business model development. Due to the different maturity stages and natures of the business ideas, changes and improvements to the business models varied due to the influence of the mentors and the workshop. Thus, we were not surprised to note that the business models that had been developed by the end of the GG sometimes deviated significantly from the business ideas that had been submitted initially. Some teams entered the GG with well-developed ideas and business models, while other teams altered their original business ideas during the GG process. This process is congruent with learning-by-doing (Pittaway and Thorpe, 2012) and emphasizes the importance of seizing opportunities while developing an individual business model (Teece, 2010). While it is essential to alter the business model at an early stage (Rydehell and Isaksson, 2016), as Shirky (2008) highlighted for technological start-ups, both participants and mentors found it challenging to completely change the initial business idea. In the GG, we observed this type of complete change most frequently for web-based and service-based business ideas, but less frequently for hardware-based product ideas.

The blended learning concept used in the business model development approach can easily be applied in other classroom settings. The approach has already been implemented in two other courses at the Graz University of Technology: Entrepreneurship and Process Management. The Entrepreneurship course is organized in the form of a seminar and lasts for one week. The business model development teaching approach is embedded in the course during that week, whereby students are presented with additional topics and given additional tasks, such as writing a business plan. The course has been developed to teach students the basics of entrepreneurship rather than how to found a company. We predict that students will apply to join the GG at a later stage and present their own ideas. In the Process Management course, students work on a provided business idea. The course lasts an entire semester, during which students link their business models to the process maps of companies. What makes the GG unique is the fact that workshops and mentoring sessions are combined. This offers participants the opportunity to develop business models based on their business ideas over a longer period of time and receive professional support that can help them eventually found their own venture.

We use the format of the blended learning concept within a MOOC to teach business model development, but this concept can also be implemented in other settings or without developing a MOOC. For example, teachers could provide learning materials on business model development via a digital platform or e-mail with instructions and assignments that help prepare the students for the face-to-face workshop. Providing examples of the BMC, case studies, or related links to videos that are freely available online would also support the participants' preparation and learning outcomes.

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