A METHOD FOR BUSINESS MODEL DEVELOPMENT IN WEB START-UPS

Technical solution paper

Abstract— In order to profit from innovation, web entrepreneurs should not only excel at product innovation but also at developing a viable business model that suits the product. A method to guide such business model development is therefore needed. In this paper, a method for the development of viable business models in web start-ups is created based on expert interviews and process descriptions from literature. Finally, the resulting business model development method is evaluated in practice by applying it in the case of a Dutch web start-up in the e-learning domain. The general conclusions are that the method is straightforward to use, guides rational business model thinking and fosters the structured development of viable business models.

Keywords: business model development; web start-ups; method engineering;

I. INTRODUCTION

When Xerox in 1959 invented a new way to make photocopies, by using electricity instead of wet chemicals, they tried to find marketing partners to sell the product. The problem however, was that the new technology was very expensive and thus potential marketing partners kept turning Xerox down. Then, Xerox made an important shift. Instead of selling the product, they decided to lease the product and charge a limited fee per set of copies. By this, they made the new copy technology affordable to their customers and profitable for themselves [1].

This example illustrates the importance of choosing the right business model in order to successfully launch a product. A business model can be defined as a conceptual tool that allows expressing the business logic of a firm. A business model depicts the value a company offers to its customers and explains the way this value is created by the company [2]. Adapting a business model can unlock technological potential, as was the case with Xerox’ copy machines. Business model innovation is therefore regarded as a very important aspect for companies to survive in fast changing environments [3].

The internet is such a fast changing environment. It is widely accepted that one of the effects of increased technological potential combined with a high globalization rate is the increase of the uncertainty that organizations have to face [4]. Prior research has introduced the term ‘high-velocity environments’ to characterize such uncertain environments, where fast changes demand continuous business model innovation [5].

In order to profit from innovation, web entrepreneurs should thus not only excel at product innovation but also at business model design, understanding business design options and understanding customer needs [6]. However, no clear method for business model development in web start-ups is available. Therefore, this paper seeks to construct a step-by-step method to guide entrepreneurs at developing a viable business model. The main question used to guide the construction of the method is:

How can a method be constructed that enables web start-ups to develop viable and innovative business models?

To answer the research question a method is constructed that contains both the activities and resulting deliverables which are necessary to develop a viable business model. The method is based on expert suggestions and descriptions of e-business model development processes in literature and is evaluated and improved through expert feedback and through applying it in a case study. To construct the method, the Process Deliverable Diagram (PDD) meta-modeling notation [7] is used. This approach derives from the discipline of Method Engineering. It supports flexibility, adaptability and re-usability of the method or parts thereof.

This paper contributes to the practical field of web-entrepreneurship by providing new start-ups with a method to develop viable business models. Furthermore, such a formal method description can serve as a starting point for (1) the development of comparable methods in other disciplines and (2) the adaptation of the method based on situational factors.

In the next section, the research approach is presented, followed by the theoretical background in section III. In section IV, a first version of the method is presented, based on expert suggestions and processes derived from literature. The expert evaluation and improved method are presented in section V. Section VI presents the practical application of the method. The final conclusions and discussion are presented in section VII.

II. RESEARCH APPROACH

In order to construct a method for the development of viable business models in web start-ups, the design research cycle as proposed by Takeda et al. [8] is followed. The design cycle, containing the research steps presented in this paper, is depicted in Fig.1. The problem and the suggested solution have been presented in the first part of this paper. The next step is to construct a method for the development of viable business models in web start-ups. To do so, a group of experts in the field of business model innovation are asked to provide
suggestions for activities and processes that they consider to be of key importance for business model development in start-ups. Based on the experts’ input, several processes and activities described in literature are combined to generate a complete method.

The resulting method is evaluated by four business modeling experts from the field of business model innovation with different international backgrounds. They are openly asked to criticize the method and are asked which activities they consider to be missing or unnecessary. Based on the feedback provided by the experts, the method is adjusted to a final version. To furthermore evaluate this method, it is partly applied in the case of a Dutch web start-up in the e-learning domain. Finally, a conclusion about the applicability and the effects of the methods is drawn.

III. BACKGROUND

In the business model research domain, several definitions for the business model concept exist. Zott, Amit & Massa [9] have selected some of the most prevalent definitions, of which the most cited are attended in this section. Chesbrough & Rosenbloom [1] describe a business model as “the heuristic logic that connects technological potential with the realization of economic value”. According to Amit & Zott [10], a business model “depicts the content, structure and governance of transactions designed so as to create value through the exploitation of business opportunities”. They evolved this definition by conceptualizing a business model as “a system of interdependent activities that transcends the focal firm and spans its boundaries” [11]. Magretta [12] applies a more practical view by defining business models as “stories that explain how enterprises work”. According to Magretta [12], business models should answer Peter Drucker’s questions: “Who is the customer and what does the customer value?” Furthermore it should answer how a company makes money and delivers value at an appropriate cost. One of the most recent definitions depicts a business model as “articulating the logic, data and other evidence that support a value proposition for the customer, and a viable structure of revenues and costs for the enterprise delivering that value” [6].

Business models can thus be considered as high-level representations of how a company captures and creates value within its environment. This is important for entrepreneurs as it forces them to explicitly think about the core of their value creation process [13] and by doing so, to identify potential sources of competitive advantage [14].

Despite the power of the business model concept, research interest on the topic is relatively recent, with much of the research emerging from the field of e-business [15]. Initially, researchers aimed at developing overviews or taxonomies of the possible e-business models that were implemented on the web, but as it became clear that there is an infinite number of possible business models, focus has shifted towards e-business development frameworks [13].

There are several frameworks available to express e-business models. Two of the most important frameworks are the Business Model Ontology (BMO) [16] and the E3-Value Ontology (e3-value) [17]. The BMO expresses the internal logic of how a company creates value by using a canvas containing nine building blocks: key partners, key activities, key resources, value proposition, customer relationships, channels, customer segments, cost structure and revenue streams. The e3-value is a set of concepts to model a value constellation; a number of actors creating, exchanging and consuming things of economic value [18]. The e3-value contains actors, value objects, value ports, value interfaces, value exchanges, value offerings, market segments, composite actors and value activities which are used to model the behavior of actors in relationship to each other.
Both frameworks aim at improving the understanding, analysis, design and management of business models, however they have different focal points. The BMO is firm-centered whereas the e3-value is value constellation-centered. The different strengths of the frameworks thus present opportunities for integration and combination [18].

Because the e3-value notation uses a comprehensive approach and sequentially sometimes lacks clarity, in this paper the notation as used by the Board of Innovation [19] is used as a replacement. This BI notation is developed by a Belgian commercial party concerned with business model innovation in order to support business model thinking. The BI notation allows simply drawing a value constellation by combining six actor types with 10 types of change objects. The combination of the BMO canvas and the BI notation enables the construction of simple, visual models of both the internal business value and the value network constellation.

IV. METHOD PROPOSAL

The construction of a method for business model development in start-ups is based on initial expert suggestions, which are elaborated based on suitable processes found in literature. In this section, the initial method is presented by first explicating the expert suggestions and by additionally presenting several process solutions as found in a literature study.

Four experts are asked to provide suggestions for activities to be included in the business model method. The experts are a business model innovation professional from Switzerland, a start-up coach from India, a consultant on the topic of start-ups and innovation from Finland and a business model innovation consultant from Japan. The experts’ background and experience are summarized in Table 1.

<table>
<thead>
<tr>
<th>#</th>
<th>Title</th>
<th>Country</th>
<th>Experience (years)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>business model innovation consultant</td>
<td>Japan</td>
<td>3</td>
</tr>
<tr>
<td>2</td>
<td>start-up consultant</td>
<td>India</td>
<td>18</td>
</tr>
<tr>
<td>3</td>
<td>business model consultant</td>
<td>Finland</td>
<td>1</td>
</tr>
<tr>
<td>4</td>
<td>business model innovation consultant</td>
<td>Switzerland</td>
<td>10</td>
</tr>
</tbody>
</table>

At first, the experts consider the construction of market knowledge to be a key practice in developing viable business models when it comes to start-ups. They often see start-ups failing because of a lack of market knowledge and therefore, some experts suggest combining business model development with Customer Development. Customer Development is the process that assumes that a business model is nothing more than a set of hypotheses that have to be tested with the market [20]. By timely testing these hypotheses, a start-up can save the time, money and energy that may be wasted by scaling up an unsatisfactory business model. The experts all independently emphasize that business model development should be an iterative process where the best ideas evolve from lively discussions and continuously adapting the designed business models based on new data from the market. Additionally, the experts state that “entrepreneurs have a lot of things to do and that they may have very different talents” Therefore, the development method should be easy, intuitive, quick and light.

Based on the suggestions and criteria derived from the experts, suitable processes are identified in a literature study. It is, however, not straightforward to distinguish formal method descriptions in literature. Some high level process descriptions or step-by-step examples serve as inspiration for the development of a complete business model development method for web start-ups. Five papers in particular are interesting for this paper as they describe a business model development process or part of it aimed at e-business or start-up companies. These five approaches complement each other in building a complete method and are elaborated below.

Process 1: Combining business model development with Customer Development [21].

The first process is one of the processes at the highest level. It recognizes the growing complexity and uncertainty of the economic landscape and is therefore especially aimed at web companies. It can be used by both entrepreneurs and company managers. In this process, the assessment of the business model by validating it with customers is central. To support the necessary customer interaction, the business model design process is supplemented with the Customer Development activities as described by Blank [20].

The first step (1) in this high level process is to design several initial business models and select the most appropriate one based on Customer Discovery. The second step (2) is to validate the model with customers and iterate back until a viable business model is reached. These iterations are also called ‘pivots’. The final step (3) is to scale up the business model when it has been validated and approved. This step can be supported by the customer creation and company building activities from the Customer Development process.

Process 2: Generic business model design process [22].

Attached to the presentation of the Business Model Ontology (BMO), Osterwalder & Pigneur [22] introduced a generic process for the design of business models. This process consists of five steps which can all be regarded as sub-steps of the design phase of the first process.

The first step (1) is to mobilize a business model development team. It is important to form a team of multiple persons, preferably with different backgrounds in order to generate as much ideas as possible. Subsequently, an understanding of the current situation and current business model should be created (2). Based on this understanding, a set of different business models should be designed (3) of which the best opportunity will be selected based on specific criteria. It is important to design the business model options before stating the criteria in order to generate as much variable ideas as possible. After a business model has been selected, it should be implemented (4) and the company should be prepared for managing the business model in order to be able to adapt it based on situational changes (5).
Process 3: Design process in the mobile music industry [23].

The third process is derived from an example of designing a new business model for the mobile music industry. The process consist of three general phases, all aimed at creating understanding of the current situation and designing a new business model. The process has been used to draw the current mobile music business model, identify gaps and create a new business model.

The first step (1) is to investigate the existing industry configuration. Subsequently, the potential change factors have to be identified (2). Finally, several possible change business models are proposed and a selection is made (3).

Process 4: Understanding business models [24].

The fourth process aims solely at creating understanding of a current business model situation. It can be used to guide the understanding of a current business model within a more complete process. The process contains four steps and scopes to the level of the value constellation.

The four steps in this process are: (1) identify actors, (2) highlight value flows between actors, (3) identify competitive drivers that drive the actors and (4) construct the feedback chain that guides the industry.

Process 5: Trial and error business modeling [25].

The trial and error business modeling process is based on knowledge management theories and organizational learning. The process shares some characteristics with the first process of combining business modeling with Customer Development in that it aims at assessing a business model by Customer Validation. The process however only focuses on the later stage of the business model development process by targeting at the experimentation and learning phases.

The first step (1) is to design an initial experiment by selecting a potential business model and deciding how it can be validated in practice. Subsequently, the selected business model should be further developed and adapted based on customer feedback (2). After the business model has been nailed, it should be scaled up (3) and the organization should be prepared for sustainable growth (4). This can be achieved by optimizing the organizational learning activities of the organization by capturing both internal and external information and adapting the business model accordingly.

In order to create a complete method, the processes are related to each other by using a method comparison matrix. The mapping of processes is depicted in Table 2. Activities that are selected to be included in the final method are marked grey. Based on the process mappings in Table 2, a method proposal is formulated. At the highest level, the proposal indicates that the Business Model Development Method (BMDM) should consist of four phases. Those phases are (1) create understanding of the situation, (2) design multiple business models and select the most promising, (3) manage and adapt the selected business model based on market feedback and (4) scale up the business model and grow mature.

<table>
<thead>
<tr>
<th>Table II. MAPPING THE BM DEVELOPMENT PROCESSES</th>
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<tbody>
<tr>
<td><strong>Customer Dev. [21]</strong></td>
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<tr>
<td>Design &amp; Customer Discovery</td>
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<tr>
<td></td>
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<tr>
<td>Design &amp; select</td>
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<tr>
<td>Scale</td>
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Within these four phases, a number of activities is included to provide guidance on the execution of the method. In the Understanding phase, the current value configuration should be drawn. For this, a value constellation notation such as the e3-value [17] or the BI notation [19] can be used. Process 4 [24] even contains distinct steps to take when drawing an existing value constellation. However, for reasons of clarity, the authors decided to scope the BMDM to a higher level, therefore excluding these activities. After identifying the current value constellation, change factors and missing roles should be identified in order to state hypotheses about business model opportunities and demands. Those hypotheses should subsequently be verified with customers.

In the Design & select phase, a number of different business model configurations is designed. Then, based on a set of criteria one of the designed business model configurations is selected. At the end of the Design & select phase, the start-up should prepare to install the selected business model in order to be ready to validate the business model with the market. Validation of the selected business model takes place in the Manage & adapt phase. First, a validation process is designed, based on which Customer Validation [20] takes place. Iterations are included between the Manage & adapt phase and the Design & select phase in order to be able to re-design a business model based on the outcomes of the Customer Validation activity. Finally, when a business model is verified, the start-up should scale its business processes and prepare learning processes in order to...
continuously identify business model change factors. The start-up then proceeds to the Maturate phase. The complete initial BMDM is depicted in PDD notation in Fig. 2.

Figure 2. Initial Business Model Development Method

V. EXPERT EVALUATION

In order to evaluate the BMDM proposal, several interviews with business modeling experts have been conducted. The interviewees had already been involved in the initial design phase of the method by suggesting activities and processes that had to be included. For the evaluation phase, they are asked whether they think that any important activities are missing or that any activities should be excluded. Furthermore, they respond to issues such as clarity and usefulness of the method.

The experts generally concluded that the method is a clear and useful method to support start-ups at developing viable business models and that “there isn’t anything missing or more actions to be added”. One expert introduced the method to a number of entrepreneurs and mentioned that “they thought that they can use it in their start-up”. He, however, stated that the iterative character of the method should be more emphasized by stating that “the method too much looks like a waterfall method”. This is a remark that has also been placed by some of the other experts, who state that “understanding is often an integral part of the design phase” and that in their projects, they usually “simultaneously review and suggest”. They were for instance unsure about whether it was allowed to iterate between the Understanding and Design & select phases in order to update the identified change factors based on design decisions.

Additionally, the experts had some difficulties with the scope of the identify change factors and identify missing roles activities. They rather see these activities being combined to be a more general activity such as identify market trends and opportunities. Furthermore, after identifying the current market trends and opportunities, an ideation activity should be included in which new ideas are generated based on identified trends and examples from other markets.

One expert suggested further elaborating on the select business model activity by supporting it with scenario building and with an assessment of the financial structure. The expert specifically focuses on capital structure and financing strategy by stating that “it is an important part of the business design”. Furthermore, a clear action plan of how the start-up will “make its first steps” and how it will validate the selected business model should be the result of the Design & select phase or the beginning of the Manage and adapt phase.

Finally, one expert concluded that the integration of the Customer Development [20] approach within the business model development method should be further elaborated. The Customer Development activities, Customer Discovery and Customer Validation, are incorporated in the method as closed activities. However, a more practical guidance on how to integrate these with the method is required. The complete list of improvements as suggested by the experts is depicted in Table 3. Based on the suggested improvements, the BMDM has been further improved. The resulting BMDM is depicted in Fig.3.

TABLE III. SUGGESTED IMPROVEMENTS

<table>
<thead>
<tr>
<th>Improvement</th>
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<tr>
<td>Add more emphasis on iterative character</td>
<td>3</td>
</tr>
<tr>
<td>Add idea generation activity to beginning of design phase</td>
<td>2</td>
</tr>
<tr>
<td>Combine identify change factors and identify missing roles</td>
<td>2</td>
</tr>
<tr>
<td>Add assessment of capital structure and development of scenario’s</td>
<td>1</td>
</tr>
<tr>
<td>Add a clear action plan deliverable</td>
<td>1</td>
</tr>
<tr>
<td>Apply more focus on Customer Development</td>
<td>1</td>
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</table>

In line with the notation for method increments as proposed by van de Weerd, Brinkkemper & Versendaal [26], the activities and deliverables that have been added or adapted are marked grey. The most important improvements are made in the Manage & adapt phase, where more emphasis is added to the Customer Development activities. The first steps, Test BM with customers and Adapt BM, are part of the Customer Discovery activity, in which the problem/product hypotheses are verified with customers. The latter part of the Manage & adapt phase is part of Customer Validation, in which the product-market fit is validated by building the minimum viable product (MVP) and by setting up the conversion funnel, through which the MVP should be sold. The elaboration of the Customer Development process is based on practical descriptions such as those provided by Maurya [27] and Blank [20].
Figure 3. Improved Business Model Development Method

The method, and especially the Manage & adapt phase, also contain more iterations. During the Manage & adapt phase the selected business model can now be continuously adapted based on new customer insights. There are also more iterations between the Manage & adapt phase and the Understand phase of the method in order to re-understand or re-design business models when new insights arise.

Finally, some activities and deliverables have been added in order to improve the method. The Identify trends and opportunities and Determine criteria and feasibility activities are adjusted to be more generally applicable in order to suit a broader scope of project types. For instance, the determination of selection criteria for selecting a business model in a venture capital-financed start-up may be different from those in a self-financed start-up. Broadening the scope of the selection activity covers these differences. Lastly, an Ideation activity has been added in order to complete the Design & select phase and an Action plan deliverable has been added to the Scale processes activity, in which the steps to take are formulated.

VI. APPLYING THE METHOD IN PRACTICE

To further evaluate the improved BMDM, it is partly applied in a case study at a Dutch web start-up in the e-learning industry. The start-up works on the development of an online platform to support home practice for students in music lessons (e.g. guitar lessons) by providing them with a clear lesson structure, performance monitoring tools and an online communication channel to receive feedback. The challenge is to design a viable business model in order to launch the product idea successfully to the market.

The business model development team consists of the complete, four person, start-up team, which will often be the case for start-up companies. One of the team members is made responsible for the business model development process and takes charge during the different steps. The first step was to draw the general value constellation of the target market in order to create understanding. This value constellation is depicted in Fig.4, using the BI modeling notation.

![Figure 4. Value constellation of the music lesson market](image)

The market for music lessons has a simple structure, in which teachers provide students with lessons of approximately half an hour per week. In the time between the lessons, students take on the exercises that they have learned during the lessons. Sometimes lesson materials are provided by publishers, but teachers may also choose to prepare their lesson materials themselves. The general believe that resulted from first talks with potential customers is that teachers highly value their students’ experience because students provide income, that teachers are afraid of losing students in a changing market and that they see and hear a growing interest in ICT everywhere around but don’t know what to do with it. An important trend in the market for music lessons is the increased use of social networks, mainly by students. Social networks enable the students to be constantly connected with their friends and family. This connectivity is something they also expect from their music lesson experience. Furthermore, increased technological potential and easier user interfaces present opportunities for enriching music lessons with ICT support.

In the Design & select phase, an open brainstorming session has led to a multitude of ideas. Based on these ideas, several initial business models have been drawn. The models vary on revenue streams, channels, cost structure, partners, activities and resources. Out of these initial business models, a selection is made based on the following criteria:

1. Students should be able to use the platform for free
2. The platform should provide ready-to-use content
3. The platform should also provide teachers with the tools to build their own content
4. The platform should be accessible for both big schools and individual teachers
The elaboration of the selected business models has furthermore led to the identification of three dilemmas, which are elaborated below.

**Dilemma 1: Push marketing vs. Pull marketing**

Because the product is a multi-sided platform, there are two main customer segments, students and teachers, whose participation is equally important. When deciding on the distribution channels and types of customer relationships, an important choice is whether to mainly target the teachers, who are the direct paying customers (push marketing), or the students, who are activated to encourage their teachers to start using the platform (pull marketing). Based on the elaboration of several scenarios, push marketing has been chosen as the favorable option because of its honesty, directness and potential effectiveness.

**Dilemma 2: Content store vs. Content market place**

One of the criteria for selecting a business model was that the platform should provide ready-to-use-content. In order to arrange this content, there are two main options: setting up a content store and setting up a content market place. The difference is similar to the difference between the Android app store and the iPhone app store: do we allow everybody to share and sell content (market place) or do we use an approval mechanism to ensure that all content is of sufficient quality (store)? The latter option has been chosen in order to ensure content quality.

**Dilemma 3: Pay for content vs. Pay for subscription**

The third dilemma is also related to the criterion of providing ready-to-use content. This content will be part of the platform cost structure and therefore has to be paid for. Furthermore, the value of the content store is highest when there is a lot of content available, which is only possible when there are sufficient amounts of users. An option, therefore, is to allow teachers to use the platform for free, but to charge for the use of content for the store. By providing the platform for free, a bigger user group can be attracted, which improves the income generated by content sales. Another way to provide income for the platform is by selling subscriptions that enable teachers to make unlimited use of content from the store. In order to comply best with the fourth criterion, supporting both small and bigger schools, both options are offered. Teachers can thus use the platform for free and buy content from the store or they can choose to pay a monthly subscription fee in order to have unlimited access to the content store items.

The resulting business model that has been selected and adapted based on the criteria and dilemmas is depicted in Fig.5. The left side of the model contains the regular costs, resources and activities that come with developing and maintaining a web platform, accompanied by the costs, partners and activities related to providing content. The platform offers value to both teachers and students and promotes and delivers this value through an online blog, get-togethers with music teachers and direct web access. Teachers can decide to use the platform for free, which forces them to pay per store item used or they can decide to pay a monthly fee in order to have unlimited access to the store items.

As the final deliverable of the Design & select phase, the business model is then introduced to two music teachers in order to verify the set of hypotheses. The teachers agreed that the platform should be provided to students for free and that the choice for a push strategy was a good one. Both music teachers were positive about the product and the model behind it. Currently, the team is finishing its MVP. The MVP contains functionality such as setting up curricula and it supports communication between teachers and students. During the process of building the MVP, the team continuously iterates with customer feedback. When the MVP is finished, the team will start with setting up the conversion funnel. This is, however, outside the time scope of this research and is therefore not included in this paper.

Although the last part of the method has not yet been applied in this case study, several conclusions can already be drawn. At first, the method was easy and straightforward to use and provided clear guidance on the creation of a business model for a new product idea. The different activities that have been performed contributed to achieve a decent understanding of the current market situation and fostered the creation of alternative business models within this situation. More specifically, the method led to the identification of three dilemmas that can mean the difference between succeeding and failing as a start-up. In this, explicitly setting up criteria for the selection of a business model, followed by open discussions in which these criteria provide guidance is regarded as a good practice. An important part of the method’s contribution is the inclusion of customer feedback by performing Customer Discovery and Validation. This early customer feedback can, when positive, be a major boost in the start-up team’s motivation or can enable the early identification of discrepancies between market and idea, thus saving time and money in an early stage.

**VII. CONCLUSION & DISCUSSION**

In this paper, a method for the development of viable business models in web start-ups is constructed. At first, a group of experts has been asked to provide input for activities that they consider being vital in a business model development method. Important conclusions were that early customer feedback was vital in order to avoid scaling up a failing
business model, that the method should be iterative and that the method should be easy, intuitive, quick and light to use in order to be applicable in start-up companies. Based on the experts’ input, several business model development process descriptions are selected from literature. The combination of these process parts led to the first version of the BMDM, which has been evaluated with the experts again. This led to several changes in the BMDM. The resulting, adapted version has been applied in the case of a Dutch web start-up in the e-learning domain. From this case study, it can be concluded that the method is easy to use, provides clear guidance on the creation of a business model and supports rational business model thinking (e.g. by setting up criteria and identifying dilemmas). Validating the method with customers can sometimes take significant effort but can on the other hand be a good touch with reality for the start-up team.

For a start-up, making the right business model choices determines the difference between success and failure. By creating the BMDM, this paper contributes to the practical field of web entrepreneurship by providing start-ups with a set of activities to be performed in order to develop a viable business model. This can in general lead to higher success rates in start-ups. Furthermore, the BMDM can serve as a starting point for (1) the development of comparable methods in other disciplines and (2) the adaptation of the method based on situational factors.

Due to time constraints and due to the current situation of the examined start-up company, not the complete method has been evaluated in practice. Furthermore, the evaluation of the method has been limited to only one start-up company. In order to state conclusions about the general applicability of the method, it should be applied in multiple start-up projects. Furthermore, the method will be implemented in the 2012 edition of the ICT-Entrepreneurship course at Utrecht University, where student ICT start-ups are promoted and supported to fulfill their potential.

ACKNOWLEDGMENTS

We would like to thank the experts for their valuable input regarding the BMDM. Furthermore, we would like to thank the team members of the Dutch start-up MultiCoen for taking the time and patience to evaluate the BMDM in practice.

REFERENCES