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Evaluating Industry Business Model Innovation Stage-Gate Process: Case Massidea.org

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Abstract: The purpose of this study is to apply the first two stages of the industry business model innovation stage-gate process (IBMI-SGP) for the analysis of Massidea.org higher education business model. Our research is based on case study practicing action research principles. As result we found IBMI-SGP approach useful, yet resource intensive. There are also clear indications that IBMI-SGP is iterative process instead of linear process. The paper offers an analysis of the macro and micro environment of Massidea.org and the description of the business model of Massidea.org. Since our case example is from Finland – a country having an advanced educational and innovation system –results should interest both, researchers and practitioners interested higher education development.

Keywords: business model, stage-gate, open innovation, online social network, higher education.

1 Introduction

When wide range of people and their different but complimentary insights are brought together, novel ideas generated by thinking outside the box are possible (Santonen, 2009). Massidea.org is an open innovation community for sharing challenges, ideas and visions (Santonen and Karhu, 2010). It boosts individual and communal creativity by intelligently connecting people, public, private and educational sector organizations and their insights. In Massidea.org, public, private and educational sector organizations and individual users and citizens can collaborate with the wide and global range of masses of people. Technologically Massidea.org is grounded on open source solution (e.g. www.opensource.org).

Online Social Networks (OSNs) such as Massidea.org are generally referring to communities and hosted online services enabling collaboration (Cachia et. al. 2007) and the creation and exchange of user-generated content in which the consumer is the creator, consumer and distributor of publically available content (e.g. OECD 2007, Le Borgne-Bachs Schmidt et. al. 2009). Some authors, including us, argue that in the future business

success will depend more and more on the ability to utilize external resources in the open networks (Chesbrough, 2003). Therefore, not only individuals and organizations must change their current working habits to be more open, but also educational systems must evolve and provide tools to individuals and organizations to effectively operate in the open networked economy (Shapiro and Varian, 1999).

As a result in this study we introducing an open innovation based higher education OSN business model (Cooper, 1988, Smith and Reinertsen, 1991) while evaluate usefulness of novel Industry Business Model Innovation Stage-Gate Process (IBMI-SGP) by Schallmo and Brecht (2010). IBMI-SGP is a stage-gate process for the development of industry business model innovation based on future customer needs (Osterwalder and Pigneur, 2010; Lindgardt et al., 2009; Cooper, 2002, Schallmo and Brecht, 2010).

Our paper is organized as follows. First, in the theoretical background section we will present the current understanding regarding business model literature. Secondly, we present our methodological approach including research objectives and introduction of IBMI-SGP process. Thirdly, we apply the IBMI-SGP process to higher education industry by analyzing Massidea.org business model with help of IBMI-SGP. Finally, we discuss and conclude our findings regarding IBMI-SGP process.

2 Introducing the Theoretical Foundations of Business Model Innovation

2.1 Defining Business Model

In past decade numerous definitions for business models (BM) and the included BM elements have been presented (e.g. Schallmo and Brecht, 2010). Typically these studies describe business models on an industry level by analysing existing business models on a company level and aggregating them (e.g. Timmers, 1998; Gordijn 2001; Weill, 2001; Faber 2003; Schröter 2009) or define various BM elements such as value proposition, customer segments and relationships, channels, revenue streams and cost structure, key activities and partnerships (e.g. Osterwalder and Pigneur 2010). Moreover, similar to the environment of a company (Worthington and Britton, 2009; Porter, 1980; Wirtz, 2010; Osterwalder and Pigneur, 2010) the environment of a business model can be separated into the macro and micro environment. The macro environment identifies future drivers in political, economic, social, technological, environmental and legal dimensions while the micro environment identifies the market forces from a customers' perspective (Schallmo and Brecht, 2010). Based on these considerations we adopted following definition for business models, which is grounded on the previous work of Schallmo and Brecht (2010), yet notices also micro and macro environment point of views.

A business model is a description of how an organization combines a set of elements in micro and macro environments to create value to customers and partners. The value maintains relationships to customers, supports differentiation from competitors and is created with products and services.

2.2 Introducing Business Model Elements

According to our definition, to describe a business model we have to introduce it via a set of elements. In existing literature numerous frameworks for describing business

model elements have been proposed (e.g. Hamel, 2001; Hawkins, 2002; Johnson et al., 2008; Magretta, 2002; Osterwalder and Pigneur, 2010). We evaluated different alternatives and selected following most comprehensive framework by Osterwalder and Pigneur (2010) which includes all occurring elements.

- *Value proposition*: products and services that create value for a customer segment.
- *Customer segment*: groups of people or organizations a company aims to reach and serve.
- *Channels*: communication of information and distribution of products and services.
- *Customer relationships*: types of relationships a company establishes with customers.
- *Revenue streams*: cash a company generates from a customer segment.
- *Key resources*: important assets which are required.
- *Key activities*: important activities a company needs.
- *Key partnerships*: network of suppliers and partners.
- *Cost structure*: all costs incurred to operate a business model.

2.2 Defining Business Model Innovation

Interestingly the term business model innovation has lately again gained high attention (see Boulton, Libert, Samek, 2000; Papakiriakopoulos, Poylumenakou, Doukidis, 2001; Lindgarth et. al. 2009; Johnson, 2010; Hamel, 2001; Mitchel and Coles, 2003; Chesbrough, 2007; Osterwalder and Pigneur, 2010; Wirtz, 2010). Schallmo and Brecht (2010) evaluated and summarized previous contributions and suggested following definition for business model innovation:

Business model innovation is the development of a new business model that changes an industry. Business model innovation is future and customer-oriented, considers the macro and micro environment and is valid for all business model levels. Business model innovation can be made for one or more element(s) of business model. The target is to have knowledge on future customer needs and to satisfy them in a new way of creating value. Similar to other innovations such as product, service, process, business model innovation should be executed in a structured way.

In the case of higher education, practical examples of business model innovation are rare. Therefore, studies such this covering the educational business model grounded on the future needs and trends of education can be considered valuable.

3 Research Methodology

3.1 Research Objectives

Our objective is to introduce an open innovation based higher education business model while evaluating the usefulness of Industry Business Model Innovation Stage-Gate Process (IBMI-SGP) by Schallmo and Brecht (2010). The IBMI-SGP process has been

developed in order to derive generic Business Model for an industry but it has not yet been tested in a higher education industry.

3.2 Data Collection and Sample Selection

The data collection for this case study (Benbasat, 1987; Eisenhardt, 1989; Stake, 1995) was carried out in Finland while following action research principles (Rapoport, 1970; Checkland, 1991; Avison, 1999; Gummesson, 2000). According to the Global Competitiveness Report 2009-2010 Finland is not only ranked number one in higher education and training indicators but also ranked number three in innovation indicator. Moreover, in year 2008 our higher education business model case sample – Massidea.org – was rewarded as the best school related innovation by the Finnish Inventor Support Association. As result, we argue that this case could be regarded as an extreme sample (Yin, 1994). Extreme cases are able to reveal more information than so called average cases and therefore are important tool to understand a novel phenomenon such as educational business model innovation.

3.3 Defining the Research Framework: Industry Business Model Innovation Stage-Gate Process (IBMI-SGP)

Similar to other typical stage gate processes (e.g. Cooper, 2002); IBMI-SGP process is divided into multiple stages (Schallmo and Brecht 2010). Each stage includes parallel activities and information collection, which are necessary in order to pass the next gate (i.e. gates are checkpoints and control mechanism whether a development project should be continued or stopped). All gates have a common structure and they consist of the deliverables, criteria and outputs elements (see Cooper, 2002): According to Schallmo and Brecht (2010), the development of business model innovation includes following stages:

- *Business model innovation audit*: Analyze current capability of innovation (financial resources, qualified personnel, partners and infrastructure).
- *Stage 1 - Customer needs derivation*: Integrate analyzed drivers (PESTEL), Integrate and check derive forces; Integrate and check challenges and needs.
- *Stage 2 - Business model analysis*: Analyze current business model with elements; Derive gaps within business model.
- *Stage 3 - Business model development*: Integrate ideas from industry business models; Develop business model elements.
- *Stage 4 - Business model test and validation*: Launch business model in test market; Validate business model.
- *Stage 5 - Business model launch*: Launch business model.

Schallmo and Brecht (2010) also presented seven generic business models for business-to-business markets, which can be used as starting point for higher education industry business models. As limitation this evaluation excludes stages 3 to 5.

4 Results: Applying Industry Business Model Innovation Stage-Gate Process (IBMI-SGP)

4.1 Business model innovation audit

IBMI-SGP suggestions: According to IBMI-SGP process within the business model innovation audit, the current capability of innovation has to be checked via financial resources, partners, infrastructure and personnel point of views. The main question within this stage is: is the organization able to innovate its existing business model?

Implementing Massidea.org as a part of higher education system has previously been evaluated with the help a historical timeline by Santonen (2009), using Profiting From Innovation approach by Kaivo-oja and Santonen (2010) and by defining the digital business ecosystem (DBE) for Massidea.org by Santonen and Karhu (2010). According to these studies following conclusions can be made regarding audit stage.

Financial resources: Funding at the moment is managed via ESF project funding. So far two Massidea.org related projects have collected over 1.6 MEUR funding from European Social Fund (ESF). Due large number of official project partners, the level of funding per each participant is modest. Therefore, significant part of the project work is integrated as a part of normal duties of the university faculty members without extra costs. Moreover, the main currency for students joining the Massidea.org, is study credits instead of money.

Partners: Project consortium includes over 13 official partner universities from Finland (i.e. organization which are receiving funding). Besides funded organizations, Massidea.org has signed Memorandum of Understanding (MoU) with National institute of Technology, Hamirpur, India (NITH) in order to 1) Launch and support virtual internship studying model, in which NITH students are becoming Massidea.org development team members while performing their studies in NITH, 2) Facilitate student driven content production to Massidea.org online community by activating interactive discussion and studying task between courses in Laurea and NITH, 3) Jointly launch and support marketing and communications activities to other NITs aiming to expand Massidea.org network in India, 4) Jointly seek external funding opportunities and prepare funding application to Finnish, Indian, EU and other funding agencies to support Massidea.org actions. Similar partner negotiations are on process.

Infrastructure and personnel: Previously Massidea.org has been introduced as a digital business ecosystem by Santonen and Karhu (2010). Majority of the technical development for Massidea.org is conducted by university students under coordination of ESF project. Typically students participating development and implementation tasks are performing their studies in their own home university or their work has been paid by the ESF-project. Development is carried out by multiple development teams from different universities in Finland, India and Denmark. As a result the development activities are following a distributed development process in which development is carried out in multiple locations and developers do not see each other face to face on daily bases, while working collaboratively towards the common outcome.

4.2 Stage 1 - Customer needs derivation

IBMI-SGP suggestions: First, within this stage, drivers (Papakiriakopoulos, Poylumenakou, Doukidis, 2001; Hamel, 2001, Wirtz, 2010) based on the six dimensions:

political, economical, social, technological, environmental and legal (Worthington and Britton, 2009) have to be analyzed (i.e. PESTEL). *Secondly* the current and future forces driving industry competition: potential new entrants, buyers bargaining power, substitute products or services, suppliers bargaining power and rivalry among existing firms (see Porter, 1980) have to be derived from the customers' point of view (Schallmo and Brecht, 2010) and represent a customer centric view (Osterwalder and Pigneur, 2010; Hamel, 2001; Johnson, 2010).

PESTEL-analysis: *Political.* Innovations have a major impact on national economies, and are a big factor in creating competitive advantages for nations (Tuomi, 2002). Thus the most competitive countries in the world typically have extensive and sophisticated national innovation systems (e.g. Lundvall, 2007). Since innovation and educational policies are tightly integrated, business models for higher education have to follow the given national innovation policy guidelines. Moreover, EU country such as Finland cannot only rely on national level innovation and educational strategies, but carefully have taken into account also EU level guidelines. According to EU community innovation policy review (2009) innovations have been identified as a key driver for a prosperous future, yet they require continuous attention and better exploitation of the partnership between the EU and its Member States.

Even if Finnish National Innovation System (NIS) has been rated high in comparison studies according to a number of other indicators, Finland's rating has been dropping in the past few years. In order to respond to the changes and challenges in the global environment, the Finnish NIS was recently evaluated by an international panel. The panel published their final report on October 2009 and indicated that Finnish NIS is facing radical reform (Taloustieto Oy, 2009). As a result a set of guidelines and priorities for Finnish Innovation System were defined for 2010 (TEM Innovaatio-osasto, 2009). In practice education and innovation have higher priority in Finland than in other European countries.

Economical: According to recent evaluation of Finnish educational export activities (Juntunen, 2010), most of the players including Massidea.org project consortium have only limited knowledge and experience on the educational export. Moreover, educational sector is exceptional industry, since universities and other educational institutes have major role as an export company. Interestingly, commercialization and export is not their core business and therefore organizational support is not focused on the export. At the moment there are only few key players in Finland which export turnover exceeds over 1 MEUR or even 100.000 EUR. Therefore Tekes – the Finnish Funding Agency for Technology and Innovation, which is the main public funding organization for research, development and innovation in Finland – has launched a new learning environments program. This program's vision is to make Finland as one of the leading knowledge and learning solution economic and increase the export turnover to 200 MEUR by year 2020. In addition Finpro – an association supporting Finnish companies in internationalization – has constructed Future Learning Finland network in order to bring together different actors in Finland and support export activities.

Social and technological: Online Social Networks (OSNs) such as Facebook grounded on technology and new social behaviour have revolutionized the way we collaborate and operate among each other. Therefore we argue that in the future our success will depend more and more on the ability to utilize external resources (Chesbrough, 2003). As a result, not only individuals must change their current working habits to be more open, but also educational systems and strategies must evolve and

provide tools to individuals and organizations to effectively operate in the open networked environment. Thus, OSNs will be critical and a significant part of forthcoming educational and innovation systems.

Environmental: Due to climate change, global warming and growing number of population, environmentally friendly products and services have gained increasing attention also in the field of education. By following OECD classification to educational export activities educational service can be executed 1) in a foreign country while service providers are moving to target country, 2) in a home country when students are moving to host country, 3) via branches which are located in a foreign country or 4) via virtual learning environments. Traditionally educational export has included travelling from one country to another country. This approach is not very environmental friendly and it is difficult to scale. According to Wikipedia “green” or “environmental” technology stands for technology which conserves nature and limits negative impacts of human involvement. “Green” or “environmental friendly” is also synonym for products, services and processes which have minimal or no effect on the environment. The definition of “sustainable development” takes this even a step further: meeting human needs, but preserving the environment for present and future generations. As a result greener innovation and learning process itself should meet all these goals and fulfil the defined requirements. As suggested in evaluation of Finnish educational export activities (REFERECNE) we also believe that without significantly increasing the virtual learning approach, the economical but also the environmental expectation cannot be achieved.

Legal: The higher education system in Finland consists of two complementary sectors (Ministry of Education, 2008 and 2009): *first* universities and *second* universities of applied sciences, which previously were called as polytechnics. In Finnish educational system universities are focusing on research and education based on researches, while universities of applied sciences by the law are training professionals in response to labour market needs and conducting R&D which is supporting instruction and promoting regional development. Our case Massidea.org is developed and maintained mainly by group of universities of applied sciences. Therefore, Massidea.org business model must have a strong integrative approach, which tightly combines R&D, education and regional development approaches. In Finland by the law teaching activities which are leading to degree, are free of charge for students. Maximum of 168 € tuition fee can be collected from adult aimed specialization studies which comprise professional supplementary and further education. These legal restrictions limits the possibilities to define a business model for university of applied sciences lead educational services.

The five forces –analysis: *Potential new entrants:* Massidea.org can be seen as an open innovation community for sharing challenges, ideas and visions, where public, private and educational sector organizations and individual users and citizens can collaborate with the wide and global range of masses of people. If Massidea.org competitive environment is defined only by above aspect, the thread of new market entrants is very high. Currently there are numerous intermediary platforms for open innovation, crowd sourcing and co-creation and there is very low barrier for market entry.

On the other hand Massidea.org is also a global learning environment for students and teachers who want to escape from individual and group learning to open and interdisciplinary networked learning model and collaborate with educational, private and public sector organizations. On the contrary to open innovation intermediary platforms, the market entry barrier to the education sector is typically higher due to the government regulations and law (e.g. especially if educational activity is leading to a degree).

Recently Kaivo-oja and Santonen (2010) evaluated Massidea.org from systemic perspectives and suggested that there are indeed structural barriers for implementing Massidea.org kind of services to higher education. In order to integrate something to educational processes in universities, there should be integration to university specific curriculum. The curriculum integration takes easily years since they are not changed annually. Besides legal restriction, weakness to change quickly the current practices of higher education organizations is creating a strong market entry barrier.

Rivalry among existing firms: Rivalry among academic organization differs significantly comparing to typical private sector companies. Since educational markets are typically limited to certain geographical location, there is not that strong competition e.g. for students especially among publicly funded educational organization. In contrast higher education organization have a tendency to collaborate with each other e.g. by providing exchange programs for students and teachers. Therefore, there is a great possibility for educational sector players to join forces and together provide Massidea.org as a service for open innovation and virtual learning. However, at the same time we must remind that if Massidea.org is seen as a project seeking for external funding from national or EU level funders, there is typically strong competition between different project proposals. In most cases when new funding programs are published, there are more applicants than funder can fund.

Buyers bargaining power: In order to identify the key users of Massidea.org, we ground our definition to the enhanced Triple Helix – model and besides public, private and educational sector organizations, include also the individual users (i.e. citizens and consumers) as a target group for Massidea.org. (Etzkowitz and Laydesdorff, 1999, 2000, Santonen et. al. 2008)). However, since Massidea.org at the moment is especially aimed for learning purposes, the main target group is educational organizations and their students and teachers while other target groups are indirect. Since Massidea.org is free of charge to use for end-users, the teachers and students “pay” with time they spend on Massidea.org and learning new learning approach. In educational sector teachers typically have a significant amount of freedom to decide how they are conducting the course tasks, if the required capabilities and skills defined in the curriculum are met. On the contrary students’ bargain power when participating Massidea.org activities via courses or other official university activities is very limited. If students want to qualify the course, they have to conduct the defined studying tasks. Therefore we can say that user bargaining power is low, but is existing because without teachers and their students, there is not Massidea.org service which enables international collaboration. Users bargain power is mainly affecting on the development activities of Massidea.org (i.e. the aim is to modify Massidea.org in a way that it attracts users).

Suppliers bargaining power: Similar to buyers bargaining power the suppliers bargaining power can also be considered low since the users of Massidea.org represent both, buyers and suppliers. Moreover, since the Massidea.org technology is grounded on open source, the pressure e.g. from technology providers is limited. In sum we can say, that suppliers bargaining power is low and influenced by the benefit the platform creates.

Substitute products or services: Regarding substitute services multiple other open innovation platforms, virtual and traditional learning environments, open source development projects, collaboration networks and organizations providing somewhat similar or substitute service parts is existing. Especially in the case of open innovation platforms and online communities, the variety of service providers is extensive. Likewise, in the case of learning environment and studying task, each teacher at the moment is

providing their own substitute solution. However, the combination of putting all Massidea.org service elements including learning, development and innovation aspect together is rather unique. This although does not necessary provide competitive advantage.

4.3 Stage 2 - Business model analysis:

IBMI-SGP suggestions: Within this stage it is necessary to analyse the current business model (Lindgarth, 2009; Schallmo and Brecht, 2010) and its nine elements proposed by Osterwalder and Pigneur (2010). The current business model of Massidea.org can be described as follows:

Value proposition – products and services that create value for customers: An open innovation community for sharing challenges, ideas and visions. To boosts individual and communal creativity by intelligently connecting people, public, private and educational sector organizations and their insights. Offer multicultural virtual learning environment, which enhance skills for communication, development, networking and critical thinking. In a multicultural and –location distributed development environment carry out meaningful work based tasks which fit within the student’s curriculum.

Customer segment – groups of people or organizations aiming to reach and serve. Main target group is educational sector organizations and their teachers and students. Especially teachers responsible for 1) basic courses relating to innovation and development, 2) internships, 3) project works, 4) thesis supervision and seminars, yet interested to do international collaboration. Indirect target groups include public, private and third sectors organizations, citizens and consumers who are interested to collaborate with students in a open innovation platform.

Channels – communication of information and distribution of products and services. Massidea.org online community and development environments including multiple external services (GitHub, Google Projects, Facebook, Twitter). Massidea workshops, lectures and seminars. Personal sales/marketing efforts via face-to-face, email, phone and web meetings. Network of universitie’s international offices in order to reach new partners.

Customer relationships: types of relationships a company establishes with customers. Massidea.org online community platform requires registration. There is also a possibility read contents without signup, yet adding content will require login. Massidea.org online community platform itself supports the collaboration between users and with massidea.org administration team. Open source developers for Massidea.org platform agrees to publish their code under open source license. Each partner having project funding, signs a project contract, which in detail defines roles, responsibilities and tasks. Partners willing to collaborate or join at organization level, but not yet having external funding, will sign a memorandum of understanding, which establish the nature of collaboration. Massidea.org administration is also maintaining blog and other support/information packages. Customer relationships are also maintained personally via all provided channels.

Revenue streams: funding or turnover generated from activities. Revenue for Massidea.org activities are mainly generated from external project funding (at the moment European Social Fund funding). Participant universities are also devoting man-hours and facilities for faculty members and students to participate on Massidea.org activities.

Key activities: important activities a company needs. Build and document service infrastructure for open innovation community and learning environment by 1) providing multicultural virtual learning environment for students on innovations and development activities, 2) giving support for participating teachers for new ways of learning, 3) managing distributed technical and concept development processes in which development is carried out in multiple geographical locations, 4) applying external funding from national, EU and other funding agencies and 5) building up new partner networks.

Key resources: important assets that are required. Know-how on 1) providing multicultural virtual learning experiences for students on innovations and development activities, 2) personnel and support structure for partners and especially for teachers, 3) project funding for covering key activities.

Key partnerships: network of suppliers and partners. A network of 13 Finnish universities and universities of applied sciences, which are participating in the Massidea.org development or implementation project, and are receiving external funding. International universities partners such as National Institute of Technology Hamirpur (India) for implementing Massidea.org to India and

Cost structure: all costs incurred to operate a business model. Cost arise from concept and technology development, Massidea.org service production, personnel and maintenance of technical platform.

4.4 Evaluation of usefulness of IBMI-SGP

In the following we evaluate the usefulness of the first two stages of the IBMI-SGP. Stage 1: The analysis of the macro environment (PESTEL) in the case of educational business model development appears to be valuable and provide good insight. In practice it will define the major guidelines for later development and more easily reveal e.g. “show stopper“ or must have elements, which will prevent or make certain business model solutions possible. On the other hand, the number and extent of each variable, makes work time consuming. Interestingly, in the case of educational sector, there are plenty of relevant materials available, which genuinely are helping to define business model and is publicly and easily accessible. In the case of business models, where even part of revenue is expected come from public funding sources, should in deep analyze EU/national level innovation and educational strategies, which are closely related to political and economic dimensions.

Similar to the macro environment, the analysis of the micro environment (industry forces) is also very time consuming, yet includes another barrier: the access to information. In practice one should have some level understanding of forthcoming business model, since without that definition of micro environment becomes too blurry and do not offer accurate enough information for practical development. Therefore, it is suggested that industry forces analysis, will be updated or at least verified after business model becomes more accurate. It is expected that first round five forces analysis will even significantly differ even comparing to later analysis based on more detailed description of business model. Also it is assumed that proper evaluation of five forces most likely will require surveys or similar additional researches, grounded on the business model under development. Due to workload and need of multiple viewpoints for PESTEL and five forces, it is suggested that stage 1 will be conducted by a group instead of individual specialist. This will help to divide the workload, but also increase the

validity of analysis, since team of people can better consider all relevant aspects. Especially in the case of complex business model such as Massidea.org which includes nested business models, team work approach is mandatory.

Stage 2: The analysis of the Massidea.org Business Model elements appeared to be easy to conduct, because the business model is already existing. In practice the development of Massidea.org business model is a result of numerous discussions and workshops with partner network and end-users. The previous development has not been guided by as strong structure as suggested in nine elements of IBMI-SGP. It is assumed that more structured development approach would have helped or at least increased the coverage of development activities.

To summarize we found IBMI-SGP approach useful, yet resource intensive. Moreover, there are clear indications that IBMI-SGP is actually iterative process instead of linear process. In practical development, developers most likely sometimes have go back multiple stages, instead of just redoing the current stage

5 Conclusions

Extreme and complex cases such as Massidea.org can reveal previously inaccessible information and therefore are important tools to increase our understanding on higher education business model innovations in general. Moreover, the usefulness of the recently introduced Industry Business Model Innovation Stage-Gate Process (IBMI-SGP) is now applied and evaluated also in the higher education industry. Therefore, this study will also provide valuable information to developers of generic business model innovation processes. The benefits are improved and verified theoretical aspects of business model innovation development. Furthermore, we contribute by analysing challenging environment for virtual learning based education export service. Practitioners can also look for hands-on guidelines how to implement complex business models and business model processes in practice. Finally, since our example is coming from a country having an advanced educational and innovation system, our results will help other countries to have a glance where leading countries are heading in the field of higher education.

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