Integrating the Crowd Through Social Media: How Higher Education Can Profit from Viral Mechanisms

Maximilian Rapp[1,2(✉)], Ken White[3], and Markus Rhomberg[2]

[1] HYVE AG, Munich, Germany
maximilian.rapp@hyve.net
[2] Zeppelin University, Friedrichshafen, Germany
markus.rhomberg@zu.de
[3] College of William & Mary, Williamsburg, USA
Ken.white@mason.wm.edu

Abstract. The use of collaboration platforms with social media mechanisms turned out to be an efficient way to integrate costumers and external experts during the innovation processes in companies through Open Innovation. While the governmental sector more and more jumped on that band wagon, higher education hasn't exploited the full potential yet. In this paper we analyze the project "Tomorrow's MBA" of the Mason School of Business at the College of William & Mary, Virginia, and show success factors on how social media can be used on a collaborative and integrative model. Hereby we show that the communication strategy with its diverse online and offline facets is indispensable and highlight the key success factors on how to execute an open innovation project in higher education.

Keywords: Open government · eGovernment · Open innovation · Open education · Communication management · Universities

1 Introduction and Framing

"Tell me and I forget. Teach me and I remember. Involve me and I learn", said once Benjamin Franklin, one of the Founding Fathers of the United States of America. The former president of Pennsylvania had -similiar to Abraham Lincoln- a very strong opinion about the integration of citizens and people in the scope of political, but also educational and social processes. The liberal and open mind of Abraham Lincoln and the well-known Gettysburg Address is often cited in the academic world, especially by modern researchers focused on the impact of citizensourcing, open government or e-government [1] in a digital world [2]. The potential of opening up organizational boundaries in order to co-develop or co-create new products [3], discuss political codes of practice as well as even political party programs [4], was intensively analyzed by the MIT and spread its academically wings over the last couple of years as it is covered in researches especially across innovation, economics, marketing but also public administration. While economically driven research has analyzed open innovation in various facets, social and political science, in a way, had to wait until the Obama legislation in

2009 to identify a significant number of projects on the integration of citizens in the political process and to analyze their influence on developing collaboratively political and institutional decisions or even political engagement [5]. However, not alone innovative brands and companies integrate creative minds through innovative call for ideas or idea contests as BMW is doing it f.e. to innovate their trunk system or McDonalds to re-invent their Burgers. Instead, historic events show that the public sector used crowdsourcing long before, simply on another level.

Alone in 1869, Napoleon III intended to find a cheaper and more sustainable substitute product for butter to feed his military forces and poor citizens. He engaged the public by initiating an idea contest, which was won by the French chemist Hippolyte Mège-Mouriès by inventing the margarine. As a matter of fact, the government declined any kind of incentive or reward, thus the inventor decided to liquidate his Intellectual Property (IP) to a company called Jurgens, which was later on merged with Unilever. Even a century prior, the British Parliament opened up their demands in order to find a solution to the problem of determining longitude by calling out for ideas under the 1714 Longitude Act [6]. Interestingly enough, the English carpenter and clockmaker John Harrison pocketed 20,000 £ by inventing the marine chronometer, a long-sought after device, which identified the longitude of a ship at sea with a special mechanism for the compensation of temperature fluctuation. It seems with the announcement "A government of the people, by the people and for the people", Lincoln unintendedly transferred this more gamification approach into a normative actuality, into something unexceptional, which passed the status of a theoretical "Leviathan" or "Behemoth" to anchor a bilateral communication flow between top and down or politics and citizens. The major difference more than 150 years later is the medium, as he couldn't know that the integration has potentially been moved or expanded from market place and group of regulars to the Internet with its information and communication technologies (ICTs) or Customer Relationship Management tools (CRM) [1].

However, the new possibilities of government 2.0 or open government have mainly be discussed and identified as an additional channel to integrate and exchange with citizens or people, who are interested, next to more classical platforms like offline workshops, deliberative democracy methods or simply citizen consultation hours. Those still have to be seen as key elements of open integration strategies [7].

Taking a close look on the scholarly literature, it becomes obvious that open innovation and the strategic integration of consumers and citizens are covered closely as such. But, especially the latter leaves various research possibilities open as the public sector has mainly been limited to governments [5] political parties, municipal areas, associations or administration within the Open Government or New Public Management perspective. This excludes the approach and chances of using open innovation regarding another pillar of the public sector, namely educational institutions [8]. While, the discussion about open education in general has led to major findings about the question if higher education should be free of tuition, just a few insights about using open innovation at universities have been delivered [8–10].

Therefore, this paper will focus on the potential benefits and success factors to execute open innovation methods in the scope of higher education, as universities might be private in its origins, but have to be seen as hybrid or assigned to the public agenda.

Hereby, we analyze hands-on data from a project with the public College of William & Mary in Williamsburg, Virginia, USA. The open innovation project focused on co-creating the future of business education through the online idea contest "Tomorrow's MBA". This initiative can be seen as a global pilot in crowdsourcing a strategy outside-the-box, as various target groups have been addressed and integrated during the process. The research data is based on a qualitative approach, as we accompanied the whole process from a scientific point of view and were able to gather qualitative insights, which we highlight in our empirical description. To do so, we first want to achieve a funda-mental theoretical understanding for the topic of open innovation in the public sector. In the end we conclude how this can be successfully applied in higher education by discussing the conclusion and the results of the case "Tomorrow's MBA".

2 Theoretical Background: Using Open Innovation and Crowdsourcing in the Public Sector

The burgeoning literature on open innovation has revitalized firms' interest in purpo-sively opening their business models in order to commercialize not only their own ideas but also external ones. The act of opening up the internal boundaries, f.e. in order to collect consumer insights, collaboratively create new product or service ideas through various online or offline channels, integrate consumers alongside the value chain or outsourcing even product tests to very active users or brand enthusiasts (lead user), leads to an open and more consumer-driven path in innovation (open innovation) [11]. Prom-inent case studies document that companies have discovered the value to be gained from tapping into external sources [12] by referring to empirical evidence that open innovation activities are having a sustainable impact on the companies' success. For instance a survey report by Chesbrough and Brunswicker in 2013 shows that over one third of the surveyed large firms (78 %) have already adopted the approach of innovating openly successfully [13]. In addition, consumers have been found to be valuable partners in gaining need information and creative input [14]. The use cases are different in approach and outcome as examples show; while Bombardier has tried to identify new design concepts for the train of the future, Intel searched together with creative users new use cases for a future technology (Sensing Technology).

Ever since the philosophy of Open Innovation emerged, firms dwelled upon the question which tasks in value creation would be suited for the active integration of consumers (Co-Creation), e.g. through crowdsourcing. Crowdsourcing can be subsumed under the broader concept of co-creation which can be defined as the active, creative and social process, based on collaboration between producers and users that is initiated by the firm to generate value for customers. However, the method itself can be seen as a thriving approach which internalizes a higher level of division of labor engaging external actors in various tasks that had previously been performed by the company itself [15]. In return, participants are incentivized with a reward, which can be intrinsic (f.e. altruism) or extrinsic (f.e. monetary). Hence, researchers dealt with the question of how to successfully design crowdsourcing platforms in the industry context that ignite users' interest in participation, allowing for creative collaboration, and help

to build lively social networks [15]. Additionally, Belz et al. point out that especially idea contests have to be seen as promising tool to integrate experts, consumers or citizens from outside the institutional barriers, as gamification and motivational strategies lead to a broad interest and communicational buzz during the campaign [16]. These insights, deduced from the corporate world may offer valuable hints also for the design and management of co-creation platforms in the public sector, especially for the use within higher education, knowing, they may not be directly applicable since public administration differ significantly from companies.

The international rise of this topic is closely connected to new information and communication technologies like social media solutions, wikis and various topic related online groups as well as mobile application, which offer quick access to a large crowd of creative minds at low cost. Social media are at their core based on participation, openness, conversation, community, and connectedness, allowing any internet user to create and exchange his or her own ideas, experience, and expectation [17]. This supports large-scale communication, information sharing, and the coordination among individual citizen, and enables to quickly gather and integrate knowledge from widely dispersed and formerly unconnected groups of people.

The mega-trend of digitalization and open innovation doesn't hold in at economical boundaries. It becomes obvious that citizens in general are used to the rapidity of the internet, collaborative wikis and other dynamic as well as innovative tools, though new ways have to be found to integrate more interactive and social media driven approaches into everyday politics [18]. Furthermore, they expect the adaption of administrations and politics to this level of communication and speed. This expectation covers also the formulation, interpretation and implementation of policies, where significant changes through open government strategies can be achieved. Therefore, the last couple of years have shown that public management, but also political and social science analyzed the potential of online crowdsourcing within the public sector. The broad opportunities given through new ICT and the internet, led to the thriving of the mobilization perspective, which was among others articulated by Norris [19] to have mainly three mechanisms in its core: (1) Internet lowers the costs of gathering and sharing information about politics and is therefore leading to more participation of the disadvantaged; (2) the collaborative structure of the internet leads to a tighter relationship between disengaged citizens and the political world; and (3) the internet bridges the gap of socioeconomic cleavages.

Even though the literature on the use of open innovation in the public sector is growing rapidly, it covers mainly the primary institutions and their need or approach to execute open innovation initiatives like political parties, governments, politicians, administrations or unions. The purpose of this paper, as mentioned above, is to focus on how another institutional backbone of the public service, namely universities, can use the method of crowdsourcing and identify critical success factors. The lack of literature surprises, as you might think the step from opening up companies to consumers or governments to citizens, is logical followed by universities, which are opening up to students or external experts. So, we want to address the following general research question within this paper: (1) How and under which conditions crowdsourcing platforms can be applied to the higher education sector from both a theoretical as well as empirical perspective?

This question is accompanied by seeking answers on (2) factors of success in the process as well as (3) specifications, which have to be considered when implementing open innovation within higher education. Finally, we seek to highlight the objectives that can be reached by realizing a crowdsourcing campaign for universities.

3   Empirical Approach

In order to analyze the research questions we focused on a qualitative approach: the Participatory Action Research Approach [20]. Participatory Action research can be seen as a well-tested and robust method to observe and gain insights on innovation processes. It is defined by trial and error loops that allow for various iterations of planning, acting, observing and reflecting. This process facilitates joint learning among the research team, the participants and other stakeholders that are involved in the research [20]. To gain these insights the research team is accompanying the project team from the William & Mary University from the concept phase to the final evaluation. As part of the participatory approach, qualitative interviews with the project team and responsible persons of the William & Mary University were executed to get in-depth insights about purposes, background, goals, realization, but also implementation of the open innovation project. Additionally, the data given through the registration process on the innovation platform as well as the input from external experts, teaching staff, students etc. through their submissions and input on the platform was analyzed.

This study was conducted over six months and consisted of three phases: (1) the conceptual phase for planning the whole innovation process, (2) the live phase, where the platform was opened up to gather input from the target group and discussion took place and (3) the evaluation phase, where the concept and ideas were condensed and shortlisted for potential implementation. In the following the different phases are described. In order to answer our research questions, we will highlight the success factors as well as the specifications of implementation.

4   Co-creating Tomorrow's MBA

4.1   Conceptual Phase

In 2015, the Mason A. School of Business at the College of William and Mary decided to collaboratively design the future of their MBA. The nucleus of this decision has been the international experience of influential enterprises and organizations, which use co-creation in order to find new trends, innovate their products or improve their services. While different researches have shown that the use of crowdsourcing and methods like innovation contests on social media platforms can be successfully applied in industry and the governmental sector, not many higher education institutions have tested this approach in field and especially for their own use (rather analyzed the data from projects with partners from industry or the public sector). While universities focus on content-driven "products" as the MBA than on physical innovations, the target group differs tremendously from classical open innovation approaches. (Former) MBA students, the

teaching staff, business professionals, academics and contestants should come up with new and innovative ideas how the future of the MBA and business administration could like. To combine this goal with a gamification approach to attract the target group, an Online Community was built up with a professional agency, which helped the organization from planning to evaluation. The consortium forged the concept of a social media driven idea contest, where winning ideas will be picked out in the end by an influential jury from the industry to boost the motivation of the target group (e.g. Michael Medline, CEO of Canadian Tire). The award for the winner was mainly intrinsic motivated: The winner's name will be engraved on a Tomorrow's MBA plaque that will be prominently placed in Miller Hall, home to the Mason A. School of Business at William & Mary in Williamsburg, Virginia. In addition, the winner will be featured on the school's website and in a news release as well as getting an interview for the weekly influential podcast of the School. Therefore, the project setting enabled the research team to include the experts as co-researchers and to conduct the action research practically.

Albeit the project's practical manner put some limitations towards the planning and implementation of the action cycles, it allowed the researchers to directly review and perform changes regarding the design of virtual open education platform. Moreover, during the planning phase, different stakeholders from the teaching staff and administration of the college were briefed and decided upon elemental questions like design of the platform, activation and motivation strategy, evaluation process, feedback management or implementation strategies beforehand in a workshop. To guide the community five categories were chosen, where ideas could have been submitted to:

– *Courses, Focus & Skills*: Includes all aspects pertaining to the content in Tomorrow's MBA program or the skills that should be taught and learned in the new Mason A. School MBA program. Relevant content. This could include class offerings, focus or "majors," experiential learning opportunities, partnerships, etc. What should be taught moving forward and what should, no longer, be taught?
– *Formats:* Includes all topics that deal with the fundamental structure of Tomorrow's MBA program. F.e. online, offline or blended model; inclusion of MOOCs or technologies which could be utilized; the academic calendar — semesters, blocks, two-year, one-year, a hybrid, or something new; etc. What should Tomorrow's MBA look like from a format standpoint?
– *Scholarships & Financing*: This includes ideas connected to the steps before students enroll in Tomorrow's MBA program. F.e. new approaches to scholarships; rethinking ways for students and others to finance the program; cost of the program; new and unique ways to raise scholarship funds; etc.
– *Lifelong Learning & Community*: Ideas and innovations that lead to a strong lifelong relationship between each student/graduate and Tomorrow's MBA/the Mason School/William & Mary.
– *Marketing & Branding*: This category includes thoughts, ideas, and innovations pertaining the most effective ways to promote Tomorrow's MBA to prospective students, employers, media and other important audiences. Discussion will include to whom we should communicate and how.

After deciding to launch an eight week ideation campaign on the community (start October 30th with an end on December 23rd 2015), the same group gathered again to submit first ideas on the platform as an initial filling and an additional orientation for the crowd.

4.2   Technical Execution Phase

Based on detailed concept and developed milestones, the online community was finally designed, programmed and eventually tested (Fig. 1).
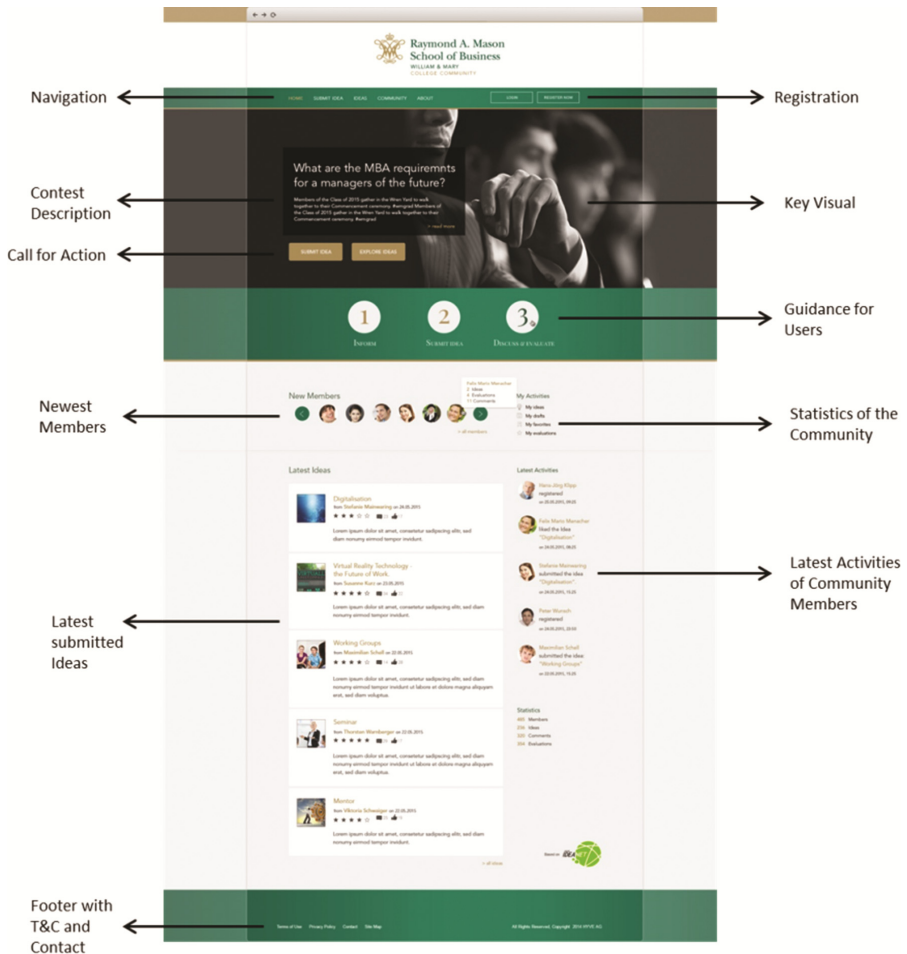

Fig. 1. Landing Page of the collaboration platform (Source: www.tomorrowsmba.mason.wm.edu)

The landing page of the online community was designed to be as user-friendly as possible. Under the logo of the Mason A. School of Business to anchor a quick visual realization of the organization, a navigation menu led to the subpages as (1) the submission form for contributing an idea, (2) an idea pool, (3) a community pool, and (4) to information pages like a detailed contest description or background information about the jurors. Furthermore, a video with the Associate Dean of the School was implemented after the go-live to give a visual and audio explanation of the contest topic. In addition, news feeds were displayed on the vivid landing page to show recent activities from community members as they were able to submit ideas for the future of the MBA, but also to leave comments underneath ideas, evaluations to rank them (the "like" of an idea or a 5-star-Likert scale of different dimensions of an idea) or even write personal messages on each other's pin walls. Hence, visitors and users of the platform could (1) inform themselves about the campaign, (2) contribute evaluations and comments to already uploaded ideas and even (3) participate through own ideas and concepts regarding the given five categories. Users were even able to upload additional content and files like Word, PDF, embedded videos or tag their ideas.

On the top of the page a login/registration box was placed through which registered users were able to sign in and new users could access the registration page, where they could register by providing a user name and e-mail address. This method is particularly necessary, because it guarantees the authenticity of the user. After the registration process, the new user had to activate his account through the verification of the e-mail address by clicking a link send to the address. Through this security mechanism only users that actually provided their own e-mail address were able to join the community. However, we also asked during the registration process what kind of professional background the registered users have in order to get insights. To improve the interactive discussions from the beginning, social media (share) functions like forwarding ideas, Facebook Connect for a quick entry (registration) or a "Facebook Likebox" from the College were used in order to create further attention and initiate a viral buzz.

4.3 Activation & Community Phase: The Importance of Communication

While the technical set-up is just the first step into a successful open innovation campaign, the activation and recruitment of the target group has to be seen as a major communication challenge. Especially within the Tomorrow's MBA Challenge, potential idea generators are hard to reach and usually have an academic background. Hence, a mixture of different recruitment strategies has been realized by the project staff, which can mainly be divided into two categories: online and offline strategies:

- *Cooperation with Blogs and Communities (online)*: Beforehand of the contest, a research phase has highlighted major blogs (like Poets & Quants), communities and forums, which deal with the topic of higher education and business administration. After go-live they were contacted by the project team if they want to share the initiative.
- *Social Media Shares and Social Media Groups (online):* Right after the start of the contest phase the executing agency as well as the College were sharing the contest

through various social media channels like Twitter, YouTube, Facebook, LinkedIn, Xing, Google Plus. Moreover, the official webpages of the College were displaying banners with a link to the community. In addition, closed groups within these social media channels were identified and directly contacted with the wish to share the contest URL.

– *Newsletter (online):* Existing network partners and newsletter recipients were informed throughout the contest phase within different newsletters. Especially the alumni network of the Mason A. School of Business was contacted several times.

– *Contest Webpages (online)*: In general, there are existing webpages, which function as distributor for different contest communities worldwide. Those initiatives like Dare2Compete were addressed by the project team and shared the content.

– *Community Management (online):* As soon as a community starts living due to a certain number of registrations, it has to be managed professionally to motivate the users. Welcoming texts for new users were as important as continuous feedback management from experts of the College to submitted ideas or personal motivation texts on the user's pin walls.

– *Info Stands at Universities (offline):* The project staff tried to acquire students and academics at universities to fill out papers with their ideas, which were uploaded later on the community. Universities like the LMU or the TU in Munich in Germany were targeted for instance.

– *Press Releases (offline)*: Major opinion leaders from the press world like the Virginia Gazette were identified and delivered with a press kit about the campaign. Here all important dates were displayed and the opportunity to get more info via interviews shared with the targeted channels.

– *Meet-Ups & Round Table Discussion (offline)s*: In specific spots like Williamsburg (location of the College) and Munich (location of the agency) or Bayreuth in Germany –mainly at Universities- meet-ups with students, Professors, academics and business professionals were held to sit together on a round-table to discuss major trends, ideas and transfer them directly to the online community.

– *Interviews (offline):* During the contest phase the project staff created a list with academics and Professors within their personal network. In a next step a majority of them were called or met personally (telephone or face-to-face interview) and interviewed about their ideas for the future of the MBA. These insights consequently ended up on the community as submitted concepts.

– *Stakeholder Network & Guest Lectures (offline):* Additionally, the project team arranged various guest lectures at Universities, f.e. at the University of Lübeck or the Fresenius School in Germany to share the content of the contest. Moreover, the academical network -especially in the scope of the MBA sphere- was addressed to share the innovative challenge and to activate certain multiplicators.

4.4   Results

During the eight week ideation phase on the innovation community www.tomor-rowsmba.mason.wm.edu 200 ideas from over 5.000 unique visitors from 78 different countries worldwide were submitted. 307 of them registered actively and shared various

information about their professional background as well as their contact details. Moreover, 265 comments on shared ideas and 537 evaluations have been made by the community. Interestingly, more than 35 striking press releases, newspaper and blog articles or social media postings were shared and led to a remarkable viral buzz. The influential blog "Poets & Quants" alone named the initiative as one of the top ten innovative projects from universities in 2015. The input will be evaluated by the jury and the teaching staff of the School in 2016 to forge the new MBA for the College (Fig. 2).
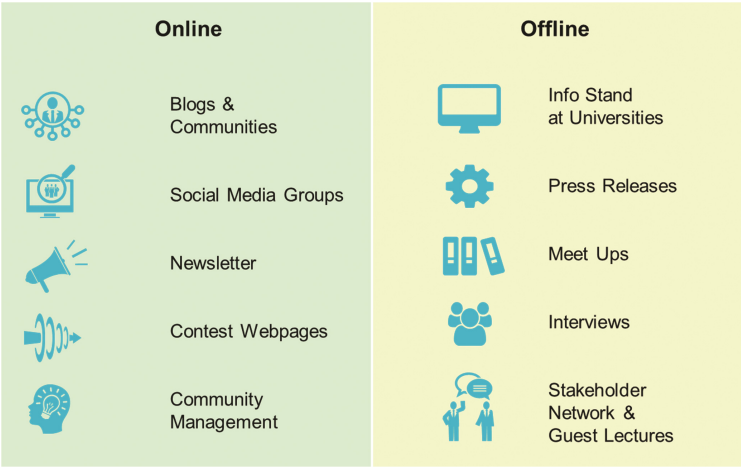

Online	Offline
Blogs & Communities	Info Stand at Universities
Social Media Groups	Press Releases
Newsletter	Meet Ups
Contest Webpages	Interviews
Community Management	Stakeholder Network & Guest Lectures

Fig. 2. Recruitment strategy including social media channels to create viral buzz

5   Conclusion & Further Research

Hence, this research project has shown that the strategic use of social media in a collaborative way leads to a sustainable input from outside the organizational boundaries – with a focus on higher education. Innovative ideas like the use of Hackathons within the MBA program, specific courses for military units, various Apps (e.g. Tinder-App for businesses and students), Learn-how-to-learn modules or future double degree courses described in detail are just a sample of ideas out of 200. In addition, many idea clusters and trends have been spotted through the evaluation process. Here, the faculty was highly involved, as the submitted ideas had to be analyzed and shortlisted to a final top 20 list, which was then discussed with the jury to pick out the winners. As a matter of fact we have seen that even top ideas had to be awarded in the end, the implementation of individual innovative ideas is just half of the success within a competition. All other ideas are still a rich source of inspiration and can be combined, structured or enriched by the faculty and executed as well. In other words: picking out winning ideas through an influential jury doesn't necessarily means that just those ideas could enrich the organization. All others should remain on the radar. Moreover, we highlighted in this paper the various success factors throughout the different phases of the project. While a functioning and user friendly platform is just a small piece of the success jigsaw, the

communication strategy mainly decides upon the final results. Interestingly, online channels and social media play a very important role for the viral buzz and marketing effect of the contest, but are way more sustainable when a fruitful combination with offline channels is created. Analyzing the traffic sources of the platform showed that especially facebook groups, blog articles, social media shares and contest pages had a significant effect on the diffusion. While the outcome can be described as very much quantitative and important for the number of registrations and visitors, the offline channels gathered more qualitative input. More than 50 % (102 out of 200 ideas) of the submitted ideas can be referred to personal interviews, info stands at universities or initiated meet-ups.

While this initiative is still a pilot within higher education, the trend of using open innovation and integrating external experts and students in the sector is from our perspective inexorable. Future research could highlight the comparison to projects from the industry or other public innovation communities. Furthermore, the integration and efforts of the faculty during the ideation process and the influence to the overall outcome seems to be an interesting field to analyze.

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