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Innovation Contests in Logistics

Birgit von See and Katharina Kalogerakis

Logistics is traditionally driven by operational demands. Therefore innovations are mainly based on direct customer requests. However, logistics service providers (LSPs) have started to realize the importance of proactive innovation to improve competitiveness. As they often lack internal competences and capacities, the open innovation paradigm (e.g. innovation contests) constitutes a promising way to improve their innovativeness.

The aim of this paper is to evaluate the use of innovation contests as an open innovation initiative for LSPs. Opportunities and challenges for LSPs to conduct an innovation contest are analyzed. An in-depth case-study of the company Hermes, a German parcel distribution service provider that has successfully run an innovation contest, is used to derive success factors.

Results indicate that LSPs can benefit from innovation contests, if they consider certain success factors. This study expands the discussion of open innovation to the logistics sector and supports LSPs in evaluating the potential of innovation contests for their business context.

Keywords: Innovation Contest, Logistics, Success Factors, Case Study

1 Introduction

The development of new service concepts enables LSPs to increase customer satisfaction and strengthen their competitiveness (Wagner, 2008, p.215; Wagner and Busse, 2008, p.2). Due to the fact that services cover specific characteristics, their development differs from traditional product development and requires adapted innovation management processes (Brentani, 1989, p. 256f.; Gallouj and Weinstein, 1997, p.540). The production of services usually requires the participation of customers. Furthermore, the presentation of prototypes to convince customers of new developed services is difficult. Hence, customer integration can be seen as a crucial success factor in the process of service innovation.

By now, systematic innovation management approaches in logistics are missing (Kersten, Seidel and Wagenstetter, 2012, p.31). Moreover, empirical studies demonstrate that LSPs in general have deficits in innovation management (Wagner, 2007, p.14). Logistics business is characterized by operational day-to-day business and fierce price competitions. Therefore, methodological expertise and resources needed for the creation of radical innovations are often lacking (Wagner and Busse, 2008, p.7).

Open innovation seems a promising way to overcome the barriers LSPs are facing (Kalogerakis and Wagenstetter, 2014, p.44). The concept of open innovation includes the integration of external resources into the innovation process (Chesbrough, 2006). Thereby, development time and risks can be reduced while the innovativeness of a company rises (Manceau, et al., 2012, p. 46; Poetz and Schreier, 2012, p.251ff.). Originally, the concept of open innovation has been described for the development of tangible products, but has further been expanded to open service innovation (Chesbrough, 2011).

In general, due to their nature service industries are far more open than manufacturing companies (Mina, Bascavusoglu-Moreau and Hughes, 2014, p.862). However, opportunities and challenges of open innovation in the logistics sector are so far not thoroughly understood. A first investigation has shown that the integration of customers as well as technology providers in innovation projects is important for LSPs (Kalogerakis and Wagenstetter, 2014, pp.43f.). Nevertheless, in the context of logistics, open innovation methods need further examination and advancement.

Innovation contests provide an opportunity to integrate external resources into the innovation process and can be classified as an inbound method of open innovation (Hjalmarsson, et al., 2014, p.5; Kalogerakis and Wagenstetter, 2014, p.31). Such contests can be traced back several hundred years (Adamczyk, Bullinger and Möslin, 2012, p.335; Boudreau, Lacetera and Lakhani, 2011, pp.843f.). Nevertheless, supported by the development of web 2.0, they recently gained further attention and application (Bullinger and Möslin, 2010, p.1; Füller, Hutter and Hautz, 2013, p.242). In the German logistics sector, innovation contests have already been run by key players like Deutsche Post DHL, Hermes as well as Lufthansa Cargo. The aim of this paper is to analyze under which circumstances innovation contests in logistics deliver valuable benefit.

In the following section, traditional innovation management processes in logistics are analyzed and the concept of innovation contests is introduced. The research approach described in section three includes a focus group workshop and a case study analysis. Findings are described and analyzed in section four with emphasis on opportunities and challenges as well as

success factors. The paper concludes with a discussion of the results, limitations, and opportunities for further research.

2 Theoretical Background

2.1 Innovation Management in Logistics

Innovation management in logistics is triggered by increasing competition. Although megatrends like globalization and outsourcing offer growing demands in logistics (Anderson, et al., 2011, p. 97; Ellinger, et al., 2008, p.353) only low profit margins exists, because new LSPs are constantly entering the market. In this context, innovations provide LSPs a way to positively distinguish themselves from competitors to increase their market share.

However, empirical studies show that practical implementation of innovation management in logistics is lagging behind (Kersten, Seidel and Wagenstetter, 2012, p.31; Wagner, 2007, p.14). A field study by Göpfert and Wellbrock (2014, p.18) reveals that hurdles for efficient innovation management exist due to time and cost restrictions. Logistics innovations are usually developed ad hoc (Göpfert and Wellbrock, 2014, p.8) whenever customers seek for specific solutions (Burnson, 2013, p.64; Wallenburg, 2009, p.78). This reactive approach is often hampered by time pressure and thus far more difficult to manage than a proactive approach (Oke, 2008, p.21). Besides, proactive innovation approaches enable LSPs to develop standardized solutions that can be sold to more than one customer.

Without any doubt the integration of customers into the innovation process seems to be a necessary step to improve the performance of LSPs (Busse and Wallenburg, 2011, p.200f.; Kalogerakis and Wagenstetter, 2014, p.43).

This is especially important as innovation activities in logistics aim at improved or even new services. Furthermore, according to Flint et al. (2005, pp.116f.) customer value constitutes an important element in the innovation process. Due to dynamic changes, integration of customers is essential in order to determine their perceptions and concerns. The identification of future customer needs in logistics can either be based on the demands of multiple customers in order to generate broad knowledge or on direct interaction with single customers aiming at a deeper understanding of their needs (Mota Pedrosa, Blazevic and Jasmand, 2015, p.328). Findings from Wagner and Sutter (2012, p.954) further indicate that LSPs profit from integrating customers, who seek for new solutions, into innovation management practices.

In summary, innovation management of LSPs is hindered by limited resources and the need to successfully integrate customers in the innovation process. Innovation contests as inbound open innovation initiatives constitute a promising way to overcome these hurdles.

2.2 Innovation Contests

Innovation contests aim at integrating innovative users and their expertise into the innovation process (Füller, Hutter and Hautz, 2013, p.241). They can be defined as "IT-based and time-limited competitions arranged by an organization or individual calling on the general public or a specific target group to make use of their expertise, skills or creativity in order to submit a solution for a particular task previously defined by the organizer who strives for an innovative solution" (Adamczyk, Bullinger and Möslin, 2012,

p.335). Especially through the widespread adoption of the internet, innovation contests have become popular and constitute an essential element of open innovation activities. This intensification of use during the last twenty years led to several and diverse contributions in scientific research, but sufficient understanding is still missing (Bullinger and Moeslein, 2010, p.1).

While in literature as well as practice different terminologies like "innovation tournament" (Terwiesch and Ulrich, 2009), "idea competition" (Mortara, Ford and Jaeger, 2013), or "idea contest" (Füller, Hutter and Hautz, 2013) are used, the general term "innovation contest" is applied in this paper. This term is widely spread (Adamczyk, Bullinger and Möselein, 2012, pp. 338f.) and covers contests implemented during the entire innovation process (Hallerstede and Bullinger, 2010, p.2).

Mortara, Ford and Jaeger (2013, p.1564) note that innovation contests have several intersections with crowdsourcing, but can be distinguished due to their innovation focus. While crowdsourcing activities not necessarily focus on innovation topics (e.g. Amazon Mechanical Turk as a platform to outsource small and simple tasks to a crowd), innovation contests aim at solving innovation related questions by a crowd. The general process of crowdsourcing can be classified into five different phases: preparation, initiation, implementation, evaluation and utilization (Gassmann, Friesike and Daiber, 2014, pp.78ff.) as depicted in Figure 1.

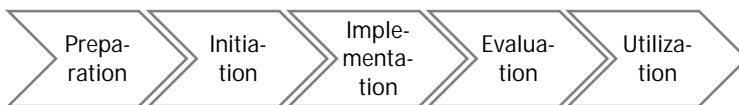


Figure 1 Phases of a crowdsourcing process (modelled after Gassmann, Friesike and Daiber, 2014, p.78)

Based on a literature review, Bullinger and Moeslein (2010, pp.3f.) identified ten elements (media, organizer, task specificity, degree of elaboration, target group, participation, contest period, reward/ motivation, community functionality and evaluation) recommended for the design of innovation contests. Subsequent research has primarily been focusing on these elements as well as their interrelations (Bayus, 2013; Boudreau, Lacetera and Lakhani, 2011; Zheng, Li and Hou, 2011; Armisen and Majchrzak, 2015). Walter and Back (2011, p.9), for example, further investigated effects design elements have on the quality (answer type and market maturity) and quantity (rewards, duration, market maturity and brand-strength) of submitted ideas.

Apart from design elements, only a few contributions focus on the challenges of innovation contests (Wikhamn, 2013; Füller, Hutter and Hautz, 2013, p.243ff.) or crowdsourcing (Gassmann, Friesike and Daiber, 2014, pp.84ff.). These include efforts, motivation, compensation, and legal aspects (Gassmann, Friesike and Daiber, 2014, pp.86f.) as well as quality and evaluation of submitted ideas (Füller, Hutter and Hautz, 2013, p.243; Wikhamn, 2013, p.139ff.).

So far, research on innovation contests has been done mostly independently from industrial sectors like IT, manufacturing or logistics. Furthermore, although case studies for service companies exist (Pfeifer and Gebauer, 2013), little is known about differences between innovation contests with a service focus and product oriented innovation contests (Schuhmacher and Kuester, 2012).

As innovation contests have rarely been conducted with a logistics focus, experiences as well as research results are limited. In a previous study conducted in mid-2014, experiences of LSPs with innovation contests were identified. First results are described by Kalogerakis and Wagenstetter (2014, pp.42f.). Although innovation contests are generally well known, none of the interviewed experts had actually conducted one within the company. Managers of LSPs are afraid of problems concerning intellectual property (IP), especially when innovation contests are related to customer specific requests. Nevertheless, some opportunities are also mentioned, as for example PR (public relation) effects and integration of technology providers within a contest.

3 Research Approach

The research design is based on the results of the previous study described above. In order to enter this new field of research a qualitative approach was chosen (Myers, 2013, p5f.). It uses two sources of empirical data - a focus group and a case study (cf. Figure 2).

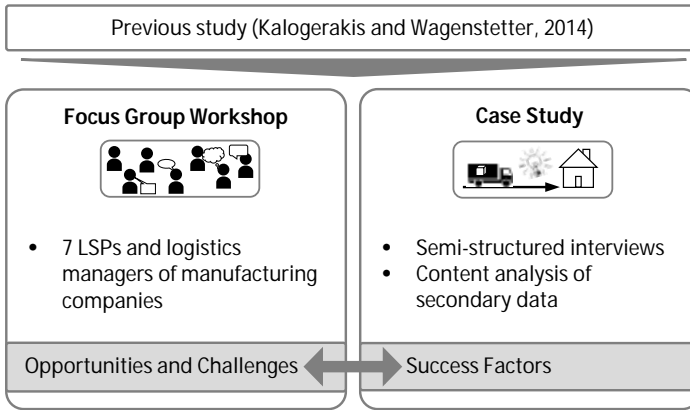


Figure 2 Research design

First, in order to deeper analyze opportunities as well as challenges of innovation contests in logistics a focus group workshop was conducted. This group included a typical amount of seven members who share a similar background (Flick, 2006, p.193) as managers of LSPs or logistics managers from manufacturing companies. In a second step, the Hermes innovation contest "Getting, Delivering... what else" was analyzed as a case study (Yin, 2014) of an already realized innovation contest in logistics. The aim of this case study is to further derive requirements for innovation contests in logistics based on lessons learned. The Hermes case study is premised on a content analysis of secondary data followed by semi-structured interviews with two main internal actors of the contest. From the data captured success factors are deduced.

4 Results

4.1 Focus Group Workshop

The previous study (Kalogerakis and Wagenstetter, 2014, p.42f.) indicated that innovation contests in logistics are rare. Managers of LSPs have, so far, seen more risks than advantages concerning the realization of an innovation contest. Based on this rather reluctant attitude towards innovation contests in logistics a focus group workshop was held. As introduction, some general information about open innovation and successful examples of innovation contests were presented to the participants of the focus group workshop. Afterwards, the participants were asked what kind of opportunities and challenges LSPs could expect from this open innovation effort. While opportunities are recognized in terms of innovation and PR aspects, challenges (e.g. invested resources, quality of ideas, reputation) dominated the discussion (cf. Figure 3).

Several opportunities are identified concerning the innovative output of innovation contests. As expected from an open innovation initiative, participants of innovation contests bring new perspectives into innovation activities of a company. Hence, it is believed that truly new "out-of-the-box" ideas that are new to the business can be submitted. Thereby, LSPs can gain first mover advantages resulting in an improved competitive position. Furthermore, positive PR effects are anticipated. By conducting an innovation contest the LSP can signal to its customers that it is seeking dialogue with them and position itself as an innovative company.

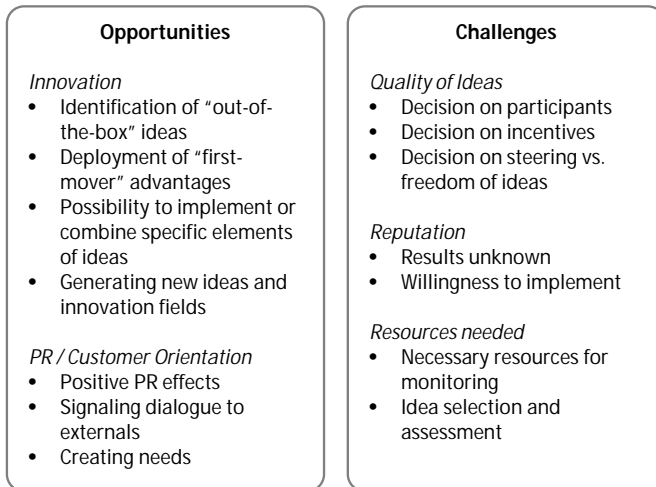


Figure 3 Opportunities and challenges of innovation contests identified by logistics focus group

However, several challenges were also identified. First, doubts exist concerning the quality of incoming ideas. Diverse instruments were discussed that might help to influence the qualitative output of ideas, e.g. which participants to integrate and which incentives to provide. Furthermore, it was discussed what kind of resources are needed to transform an innovation contest into a positive endeavor. Constantly monitoring the contest results increases resources needed, but will probably also increase the usefulness of incoming ideas. A design challenge by the fast-moving consumer good company Henkel for example has shown that contests might lead to PR disasters (Keinz, Hienerth and Lettl, 2012, pp.24f.). Once the idea contest is implemented, the company has to be willing to realize the winning idea. Therefore, thorough preparation as well as monitoring of the contest are seen as essential activities.

4.2 Case Study - Hermes Innovation Contest

The German 2C (to consumer) parcel distribution service provider Hermes Logistik Gruppe Deutschland (Hermes) launched an innovation contest at the beginning of 2013 asking for new ideas about services that facilitate their customers' daily life. The aim of this contest was to discover suggestions for new business models. Hermes incorporated an intermediary, the Innovationskraftwerk, who provided a platform with an existing community of 4.000 innovators and creative people. Additional participants were acquired by Hermes via website and newsletter announcements. In order to attract many participants, incentives in the form of monetary and immaterial rewards were given. In total 377 ideas were submitted in a period of eight weeks. After an intensive assessment and selection process, the ten most promising ideas were judged by a jury, consisting of internal as well as external experts. The final winning idea "Hermes Store In: storage and simultaneous packet delivery" was further developed by a business incubator to a new self-storage concept. By now, the resulting "Send & Store" service has been implemented as a subsidiary of Hermes.

In the following sub-chapters an in-depth analysis of the Hermes innovation contest is provided adhering to the phases of a crowdsourcing initiative (cf. Chapter 2.2). Success factors for each of the phases were derived together with Hermes from a retrospective point of view.

4.2.1 Preparation and Initiation Phase

The preparation phase of the innovation contest started soon after formalizing innovation management at Hermes. This process was supported by

consultants of the Otto Group which is the parent company of Hermes. Investigations, trend analysis and customer insights provided fields for future innovation activities. Nevertheless, the question was raised which new and rather open concept of idea generation could be used in order to expand the Hermes innovation toolbox. The decision in favor of an innovation contest was supported by the management board.

The aim of the contest was to generate new business and service ideas as well as to test this new feature. In order to conduct the innovation contest, no additional organizational structures had to be provided. Nevertheless, one Hermes employee was assigned fulltime to the topic, supported by two consultants from the Otto Group. Furthermore, the innovation contest platform Innovationskraftwerk was chosen as a professional partner to realize the contest. Among other reasons this platform was seen as a suitable partner, because its community is mostly situated in Germany just like most of Hermes customers are.

A main task of the initiation phase was the choice of an adequate question to be addressed in the contest. Therefore, Innovationskraftwerk organized a workshop with Hermes in order to decide on an adequate question and a way how to promote the innovation contest. Key questions within this workshop focused on the scope of the question and its link to logistics. As previous customer insights had shown, the shipping process is often seen as a black-box. Hence, the focus of the contest was decided to be on services instead of process innovations. Developing an appropriate question for the contest turned out to be a difficult task, because conflicting objectives existed. On the one hand, openness for new ideas was sought and on the other hand submitted ideas should not drift too far away from the core

business of Hermes. Finally, the question was formulated very open in order to enable a maximum of creativity without excluding ideas by setting the boundaries too tight. Pictures were integrated to stimulate participants' creativity. The contest was realized as a half-open variant - only registered community members were able to read the whole description of ideas - in order to minimize the risk of knowledge transfer to competitors.

4.2.2 Implementation Phase

The implementation phase started with the launch of the innovation contest on the Innovationskraftwerk platform in February 2013. Supported by previous marketing initiatives in terms of customer newsletters, promotion on websites, social media as well as via existing networks (e.g. universities) already on its first day 88 ideas were submitted. During the contest efforts for monitoring and moderation were necessary to ensure high quality as well as quantity of submissions. New ideas were commented on a daily basis by moderators from either the intermediary or Hermes. Although there was an option for participants to comment on ideas posted by others, this was not extensively used by the community.

Already during implementation phase a pre-assessment and selection process was initiated. The preselection included the following criteria: comprehensibility, company fit, novelty and doubling. Community assessment was enabled through a like-function. Weekly winners were voted by the community and awarded with soccer tickets. In total 377 ideas were submitted during the eight weeks of the contest phase by a core group of 129 participants.

4.2.3 Evaluation and Utilization Phase

Preselection already during implementation phase guaranteed that ideas which would not fit with Hermes' business model (19 % of the ideas, e.g. passenger transport) or already existing services were excluded. During the subsequent evaluation phase, ideas were categorized as improvement suggestions (18.5 %), marketing concepts (17.5 %), and service/ product/ business ideas (64 %). Ideas in the field of receiver services, food logistics, packaging, lending models, and data mining concepts dominated. An intensive screening of the submitted ideas was conducted to further analyze whether parts of ideas could be used as an input for innovation management at Hermes. Due to the fact that many ideas were new to Hermes, intensive research was necessary in order to analyze their potential. A further assessment concerning strategic importance and feasibility resulted in ten top ideas. These ideas were then assessed by the official jury of the contest. The jury, consisting of representatives from Hermes and the Otto Group plus an external expert, evaluated their potential and customer value.

Finally, the winning ideas were officially announced and rewarded with monetary prizes as well as a hub visit. The third prize "Hello Neighbor" is a bonus card to reward customers receiving packages for their neighbors with free shipping. In contrast, a product oriented idea won the second prize. The "Hermes Inflatable Package (System)" challenges the problem of unused packaging volume and wasted material in parcel shipping. The winning idea was the service concept "Hermes Store In: storage and simultaneous packet delivery". This concept offers customers the possibility to store boxes temporarily and book individual pick-up and delivery services.

The three winners were invited to present their ideas at an awarding ceremony. During the ceremony Hermes informed them about subsequent utilization and further development of their ideas.

After further internal evaluation, 19 ideas were assigned to the Hermes Innovation Roadmap and given to special departments of Hermes. Additional 10 ideas were taken into the innovation pipeline of the central innovation management team. This team, however, first focused on the winning idea. As internal standard processes seemed not adequate for a fast implementation of the new business concept, an incubator was chosen to realize the idea. LiquidLabs, an incubator of the Otto Group, provided the opportunity to start fast and independently from formal implementation processes. The idea was thus implemented as a lean-startup meaning that a "minimum-viable-product" was tested and gradually expanded with additional features. In the end, the idea was transferred into a business model within a quarter of a year.

Hermes not only utilized the ideas submitted but profited from the whole innovation contest in several instances. Lessons learned are used for further open innovation initiatives, e.g. on co-creation processes using innovation workshops with external experts.

4.2.4 Success Factors

The analysis of the Hermes innovation contest underpins that challenges in conducting an innovation contest exist. Following certain success factors (cf. Figure 4) derived from the case study as well as formulated by Hermes challenges can be mastered.

Preparation and initiation of an innovation contest can be seen as crucial steps. These phases include the decision about central questions: Whom are we going to involve? What question are we going to raise? Selection and formulation of an adequate question is challenging (Sieg, Wallin and Krogh, 2010, pp.6f.; Hallerstede, 2013, pp.193ff.). Especially in logistics, these questions need to be discussed in detail. As process experience is missing, customers often only see the result of the service and respectively tend to complain whenever problems occur. Investing adequate effort in problem formulation and visualization of the question can therefore be seen as a key success factor, which was also identified by Lüttgens, et al. (2014, pp.355f.). Based on the experience of the interviewees involving a multi-disciplinary team consisting of representatives from different departments might help to formulate an adequate task for the innovation contest. Furthermore the described process helps in self-reflecting what exactly the aim of the contest is.

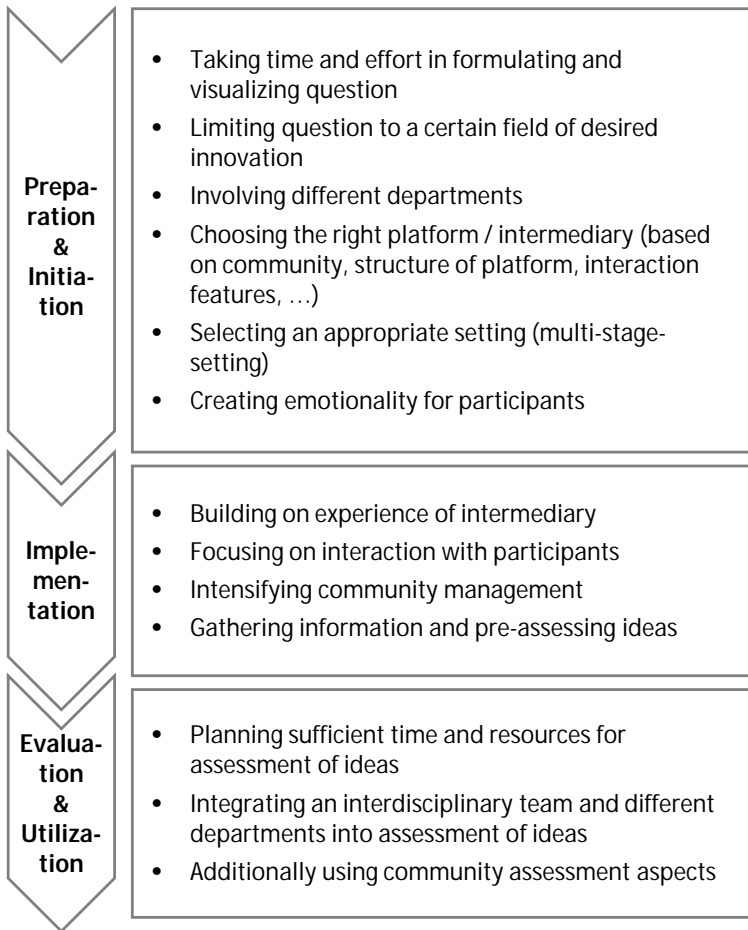


Figure 4 Success Factors in Innovation Contests derived from the Hermes Case Study

After the goal is clear, an adequate platform and setting for the contest has to be chosen. For the execution of the contest involvement of competent partners e.g. intermediaries with broad experience and knowledge in community management seems to be beneficial. In order to choose the right platform an assessment of different options concerning experience, community functionalities and participants should be made.

Using a multi-stage setting is suggested: In a first step ideas are submitted by a crowd and in second step further developed within a smaller group of experts. Terwiesch and Xu (2008, pp.29f.) discuss a similar setting and suggest adapted awarding structures.

Real time interaction with participants during the implementation phase helps to improve submitted concepts and to overcome the challenge that ideas seldom build on previously submitted ones (Füller, Hutter and Hautz, 2013, p.248). It further causes learning effects on both sides - for participants as well as organizers. This phenomenon has also been observed in the "Innovation Challenge" conducted by Lufthansa Cargo (Pfeifer and Gebauer, 2013, p.54). Guidance by the organizer of the innovation contest during implementation phase ensures that previously set goals are met at their best. Furthermore, this interaction with participants can be seen as ideal preparation for the assessment phase. Due to the fact that participants have diverse backgrounds, submitted concepts and ideas are often new to the business. An intensive discussion with participants helps to have an established basis for decision-making. Furthermore, potentials and obstacles are easier identified together with the participants of the contest and an intensive moderation results in further development of submitted ideas by the community. Heterogeneous price structures, e.g. announcing

a price for the most valuable comment and not only for the best ideas, enforce co-creation (Füller, Hutter and Hautz, 2013, p.248).

Investing sufficient resources and building an interdisciplinary team for the evaluation of ideas can be seen as key success factors. Integrating diverse persons into the evaluation process helps to identify ideas already been discussed within the company and to evaluate ideas for which expertise otherwise would be missing (Lüttgens, et al., 2014, p.356).

At last, resources and time necessary to conduct an innovation contest should not be underestimated. Innovation contests are classified by Keinz, Hienerth and Lettl (2012, p.24) as a "harvesting user innovation strategy". The case study presented has shown, however, that the harvest is only as good as the seeds you plant and the care you take during maturity. Following the presented success factors will enable LSPs to minimize challenges and maximize opportunities in conducting an innovation contest.

5 Conclusion

5.1 Contributions and Implications

The aim of this paper was to evaluate the use of innovation contests in logistics. First, a focus group workshop with logistics managers on expected opportunities and challenges in conducting an innovation contest was held. Though opportunities in generating innovative solutions as well as positive PR effects exist, this discussion shows that LSPs see challenges due to several unknown components. These challenges are related to the quality of ideas, resources needed, and effects on their reputation. Not knowing where the journey will take the company seems to be a great barrier.

Second, a deep analysis of the Hermes innovation contest shows how to minimize challenges of innovation contests in logistics and how to profit from positive results. The fuzzy front end of an innovation contest, namely the preparation and initiation phase can thereby be seen as crucial. The case of Hermes has indicated that these early phases have an impact on the effort necessary during later phases of the contest as well as on the output generated.

Logistics can be divided into several subject areas, e.g. distribution and maritime logistics. Each of those requires specific expertise and knowledge. The question within a contest therefore should be articulated goal-oriented and cover a specific field of interest. This will limit broadness of ideas suggested and help in evaluation. An innovation contest can also be used as a source to identify knowledge-carriers.

This paper expands the discussion on innovation contests to the logistics industry. Furthermore, lessons learned were drawn from an in-depth case-study. Resulting success factors will help logistics companies to conduct innovation contests in the future. Besides, the presented success factors will help other logistics companies in deciding on whether to use this open innovation initiative or not.

Though the success factors are derived from an LSP point of view, they seem to be applicable to any service industry, thus emphasizing existing research on innovation contests and expanding discussion on key elements in crowdsourcing processes (Gassmann, Friesike and Daiber, 2014, p.85). This expansion includes the selection of an adequate platform and setting,

pre-assessing ideas already during implementation phase as well as the integration of sufficient resources within the evaluation phase (e.g. interdisciplinary team, community assessment).

Compared to innovation contests focusing on tangible goods, especially the domain of logistics seems to require an intensive elaboration and formulation of the question.

5.2 Limitations and Further Research

Contribution and implications were taken from an explorative, qualitative approach which is why the results have limitations.

Though several instruments have been chosen in favor of construct validity, e.g. triangulation of dataset (multiple interviewees and enrichment through content analysis of secondary data), review by key informants as well as external experts, results cannot be generalized, because findings are based on a single case. The reliability of findings is provided by a case study protocol (Ellram, 1996, pp.104ff.). In order to increase external validity, analysis of further cases of innovation contests in logistics is suggested. The case study presented was focusing on a 2C perspective. Due to the fact that many logistics companies are working in B2B (business to business) context further research should analyze differences between innovation contests in B2B and B2C settings (Kärkkäinen, Jussila and Multasuo, 2012, p.139). Thereby implications for successful implementation of innovation contests in B2B logistics can be derived. While Prandl (2014, p.79) questions the applicability of innovation contests in B2B contexts in general, the Lufthansa Cargo Innovation Challenge has shown that innovation contests in B2B logistics can be successful (Pfeifer and Gebauer, 2013, p.54). First

comparisons indicate that B2B innovation contests in logistics require much more effort in community building as the group of direct customers is limited and special expert knowledge is sought.

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