

Building a pathway for innovation: Lessons learned from developing an online platform

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Abstract

Companies are constantly being pressured to innovate in order to stay competitive in the short run and have new offerings in the long run. One way of boosting innovation is to develop idea support systems that go beyond the traditional methods and tools. Through a qualitative study, this paper explores the lessons learned from developing an online platform for idea generation, and discusses it in terms of innovation process, climate, and capabilities. The results show that the platform itself is not enough for innovation. The structure and work processes around the platform are as important, which implies the need to design processes and procedures that allow an idea to develop, providing, focus, idea feedback and role clarity.

Keywords: *Innovation, front-end, capability, climate, measurement, online platform*

1 Introduction

Innovation is central to gaining competitive advantage and keeping the company alive in the long run. The company's main capabilities need to be continuously refined; however, they might create core rigidities [1] that prevent innovation to happen. Companies are challenged to identify, develop and incorporate innovative ideas for the long-term, while still innovating within the current production processes and products in the short-term [2-6][15].

Developing a front-end idea generation platform can help to explore ideas for on-going projects, as well as create a key resource for the development of novel insights and ideas for future projects. A multi-national manufacturing company (VCE) created an online platform with an associated process to collect and develop ideas at the front-end of innovation. This paper describes the challenges and lessons learned from the development of the online platform, considering various parts of the idea lifecycle. In addition, the paper discusses the implications of the platform in relation to innovation capabilities, climate and metrics.

Innovation processes are commonly described as a set of stages or phases. The number and names of the phases vary, but idea generation, concept development, prototyping and implementation are usually a part [7][8]. Furthermore, elements like resources, such as time and management support as well as the need for psychological safety, motivation, rewards, and internal and external idea and knowledge sharing are mentioned [25][34-35][37].

Innovation capability can be seen as the capacity to successfully explore new ideas [10-11][6] and turn them into innovations on the market. It includes the capacity to learn, share, create and assimilate knowledge [6][9]. Continuous innovation and dynamic capability theory consider innovation capability to be related to learning [3-6]. The former focuses on the capacity of learning and knowledge sharing in order to make incremental and radical improvements, whereas the latter derives from competence and resource based theory [14]. Both theories also emphasize the influence of culture and climate. Innovation climate is understood as the patterns of behaviours and attitudes that are likely to facilitate innovation and is considered a cultural aspect of an organization. It has a subjective side - individual perceptions, as well as an objective side - collective perception. In this paper we reflect on the platform in relation to Ekvall's model [12-14].

Finally when it comes to measurement, the metrics used within companies are seldom useful for innovation. There is an overreliance on financial indicators, as well as a lack of an overall framework that allows measurement of processes and organizational properties such as flexibility and openness [16]. However, measurement can be used as a tool to promote and support behavior, as opposed to an accounting perspective [17]. In relation to innovation, it is considered a challenging area because innovation is complex, multidimensional, and unpredictable, which creates specific requirements on what and how to measure [18][21], Schreyögg and Kliesch [19] suggest companies need to develop a "capability of monitoring" in order to assess the validity of innovation capabilities in relation to new activities [6].

2 Methods

Four sets of data were gathered during the study. For the first two, the data was collected primarily through participatory observation [30] on meetings and workshops. The first set was collected during tool development meetings (two online workshops and one two-day workshop in person). A company representative responsible for the project, the platform designers and one representative of the research team were present. Platform versions as well as their strength and weaknesses were discussed. Follow-up interviews were conducted in order to clarify and confirm the precision of the information presented in the platform description. The second set was gathered by participating in two annual workshops and monthly meetings with the innovation support group. The group was created to support activities related to the development of the innovation climate within the company and members allocated 10% of their time to do related activities. The group consisted of engineers from different departments and sites around the globe. This set of data allowed for insights into questions, day-to-day use and impact in relation to the last two versions of the platform. The third set is based on interviews with the innovation support teams at the company which focused on assessing the innovation climate in general. Interviews were semi-structured and open-ended, and they were based on the categories of a previously developed framework [23][29]. They helped to get an insight in the general context and challenges in the company. Finally, the last set of data was based on five progress reports for top management from 2010-2012, which allowed a look back into past activities, related results and reflections, and to compare the described challenges with the documented ones.

3 Overview of the platform

One contextual aspect that gave origin to the platform was a new set-up within the organization. Originally, the organization was site-oriented; now function and products were spread around the globe, and so were the teams. For this reason, the platform was originally envisioned to be a place to exchange and build on each other's ideas and information, a social

network for the employees' activities, interests and ideas. In addition, another aim was to increase interaction in order to spark creativity that would possibly lead to innovative projects and further refine the innovation climate. Moreover, the purpose of the tool was to become the main way through which bottom-up innovation happens. This did not mean that informal and in-person teams were discouraged; on the contrary, they were welcome, but needed to be visible in the tool to enable global collaboration and avoid redundant activities. The idea was to create a lean and fast formal pathway and procedure to develop ideas to become innovations. It was already understood that passionate small teams could create promising solutions, proven over the years in "skunk works", and now was the time to promote such collaborative work in the approved innovation process in addition to the current portfolio.

3.1 Version 0.5

Version 0.5 was built to run one Innovation Jam in 2010 [20]. The topics for the Jam were selected by the executive management team and supported by experts in the company. The platform layout had an introduction to the topics, called injection, with a small description and additional documents for reference and inspiration. Everyone was invited to share ideas: an announcement was spread on the company intranet, aiming to bring everyone onboard. There were also two webcasts from executive management where the importance of innovation was emphasized, encouraging all employees to contribute. The Jam happened in a very specific time frame. After this period no input could be added; the discussion and ideas would proceed to be evaluated by an employee who is an expert in the topic. The expert would analyze, synthesize and suggest ideas for further evaluation and development. The first Jam resulted in 184 ideas, about ten were selected as "winning ideas". For all these ideas further exploration was initiated and funded, and at least some of the ideas were developed into functioning prototypes. The executive manager reports that when the support group was assigned to follow up the investigation projects, the success rate increases [33].



Figure 1: Version 0.5 Jam discussion

3.2 Version 1.0 2011

Encouraged by the results, the Jams continued and were further developed into an innovation area. During the jams it was understood that clear communication about the idea process was needed and a seed/sprout/flower description was created. Every posted idea in the innovation jams was a seed that could develop to a sprout or a flower according to its maturity. Only ideas related to the innovation jam topic were considered and evaluated. Specialists and executive management selected about ten ideas for further exploration.

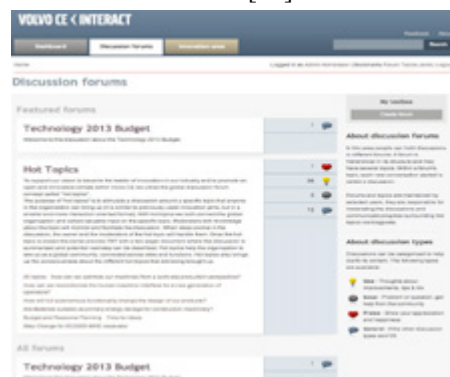


Figure 2: Version 1 topics in discussion area

The results of the two Jams performed in this period were encouraging. However, there was no clear owner/receiver to the output of the Jams (or topics). Hence, challenges within this version related to what happens with the ideas that are shared or posted, within both the

discussion and innovation forum. There were also questions about the criteria for the rating (seed/sprout/flower), and who is responsible to develop it. A process and design challenge was that the difference between sharing ideas and comments within the innovation and discussion area was not clear.

The third Jam had over 500 employees from 11 different sites, gathering 320 postings and 68 ideas. The typical ideator on the platform contributed with more than one idea. Over 50% of the visitors on the portal were new users and around 65% of the users provided new ideas, feedback and “likes”. Nine projects were selected by the support group and further investigated. One member of the support group was assigned as investigation project owner, with the responsibility to assign an investigation project team and follow up on the progress. Two ideas were explored and developed, one into a functioning prototype and the other into a concept that is part of the future strategic plan [32].

A discussion area was added in parallel to the innovation area and the whole platform was named Interact. The purpose of the new area was not only to gather ideas for innovation, but also to enable a “virtual coffee room” to enable chats in the company’s global community and to share company information and trigger discussion. Participants could post anything at anytime. Discussion forums could be created by anyone. Some discussions were initiated by the top management, e.g. about the budgeting process. Other forums reflected current strategic areas and technology development. To make Interact more technology-oriented a forum called ‘Hot Topics’ was created. Here, technology specialists could bring up their areas of expertise and get input from colleagues around the world. The person leading the discussion were selected as a moderator and would after the ‘hot topic’ time period ended create a summary document that was provided to the executive management team.

One challenge within this version was that the selected owner of the pre-established topics did not feel accountable for bringing the discussions forward and the contributors did not feel encouraged to continue to spend time on the platform/project. In addition, questions arose about what would happen with the ideas that were shared or posted. Furthermore, it was unclear to users what was expected to happen next and the difference between sharing ideas and comments within the innovation and discussion area was not solidly established.

3.3 Version 2.0 2013

During the exploration of possible user personas, encouraged by the sharing within topics that were promoted by employees, it was decided to experiment with an open-ended platform that had easy accessibility, rapid posting and no pre-established frame of topics. Every starting post was considered a potential idea that could become an innovation. The Jams were put aside and the page layout had no areas. The “topics” in the forums were to be more flexible and so the layout was organized using tags and the user decision to follow specific tags. Those tags would create a feed on a page and could be visualized as an independent topic. Both tag-creators and followers could get notifications in addition to the screen feed. The supporting group was assigned to keep an overall picture and support ideas to develop by indicating its level of maturity. Tagging an idea with the third stage meant that the idea would be ready to be evaluated by a parallel group who was working with assigning grants for “small” exploration projects. Challenges within this version relates to function of the tagging system in the platform; since participants would never use the same tag to discuss similar topics, identifying and following up on topics was hard and it was also difficult to distinguish new and old discussions. In addition, hand-over to the exploration groups and final ownership was not clearly assigned.

4 Findings

In this specific context the company was able to rely on internal motivation of the employees, once supportive conditions were good; however, the points described below add to creating the successful condition for the implementation of the platform and refinement of innovation capabilities and climate.

4.1 Focus and contribution period

An immediate take-away was that an attitude of “everyone contributes when they feel inspired” does not work; instead, a focused and structured method for input is needed. Focus and time delimitation was done within the Jams or in hot topics promoted by employees; both activities created a time frame with a rhythm for postings. The dialogue area, on the other hand, had a more general topic and less defined time period, and did not attract much input. It therefore seems that delimited focus and contribution time impacted the liveliness of the platform positively. Focus is important to spark creativity and provide direction. The literature about team-work and open innovation considers focus a strong requirement for success [36]. Another format to concentrate work that might be explored is for employees to work in co-located or virtual teams and input the results of their activity into the platform for feedback or further development.

4.2 Idea feedback and continuity

The project representatives and support group expressed satisfaction with the jam activities and number of ideas developed within both versions. Dissatisfaction was more related to feedback and continuity. During the interviews one could sense the demotivation in their tone of voice when speaking about feedback and continuity related to the ideas generated. They said that even though the activity was good, feedback was not given to all contributors. “I don’t know if my ideas were good or bad, if I should invest on them or if it is a dead end” [31][28]. This lack of response stalled the idea process and could even have negative impact on the innovative climate in the culture. If ideators don’t know if their idea is appreciated, they might feel like they have wasted their time. In relation to the open-ended areas in version 1.0 and 2.0, one user of the platform said that his frustration with the platform was that no one replied to his post. The platform owner reported to top management that the users need to know “that no idea will go to waste” [32][33].

Feedback is more likely to be received by a team on mid-term and final assessment hence it relates to concept development and selection phases. Continuation speaks to a flow in the process that achieves an outcome, even though this outcome might be rejection. In this sense, feedback and continuity was a challenge in both versions. The support team is aware of this challenge and argued that they need success stories. One of the reasons is that such stories would show employees that innovation could actually happen through this platform, i.e. there is continuity and implementation for the ideas. Such continuity would also work by giving the platform validity, as well as a showcase against peer scepticism. In addition, process and roles to provide feedback also need attention.

4.3 Underlying innovation process

A clear innovation process is the foundation of the platform. It is about what happens in the different phases of idea generation, development and implementation that will lead to innovations. The experience with the platform seems to indicate that clear processes are required in two ways. The first way is about defining which the tools and skills will be required by the different roles at different stages of using the platform; and a point that derives from this process perspective is “who is responsible for doing it” (see roles).

The second way in which clear process are required stems from the need for continuity and feedback. It is also related to the perception that creating innovation is difficult, and that only people with high stamina and drive manage to pull it through. When talking about the general innovation climate a support team member said that on some occasions it feels “like throwing ideas” [31], and that “you must be forceful to see ideas implemented into a project”. Another member points out that, facing time pressures and bureaucratic challenges, the process for sharing ideas should be clear and accessible. “People should know where to go with the idea” [31]. From the moderator side the support team “needs to experience that the work is done after the ideas are selected” [33]. Therefore, it seems that having clear processes and roles facilitates both the work of the platform support group and potential users to understand what is required from them.

In the Jam, the stages were clear. Idea generation, evaluation and selection were around pre-defined topics. On the open-ended areas there was a request for generic contribution and a general promise of coaching through a development process that could lead to tangible outcomes. However, the criteria for transitioning between stages (seed sprout and flower) and owners were not sufficiently defined. The same clarity of criteria and process was missing in terms of continuity. During the last two versions there was the possibility to receive grants and time for exploration. However, the connection and procedures to do so was not well communicated and enough defined to be accepted by the line organization.

4.4 Clarity of roles: supporting and receiver and others

The roles aspect is intimately connected within the underlying innovation process, as different process aspects require a specific actor with an adequate skill set. More than one role can be attributed to a single actor; however, the expectations towards who plays which roles need to be agreed upon.

Within the Jam in version 0.5/1.0 the roles were clear. There was an event in which people would be called to participate, focused and probably on a topic of interest for their work, passion or both. Experts would have the role of analysing and selecting ideas. The challenge here was that experts were not available or interested; a turn-around was to try to engage with the idea owner to evaluate the discussion, but in both cases peers justified they had no time (or were not allocated time by line managers) and that they had other priorities. This example illustrates the need of clarifying key roles and have them anchored in the process for effective continuity and feedback.

Within version 1.0/2.0 the supportive team was required to “adopt” ideas, helping them to develop. This is one step that establishes a clear receiver. However, the supporting team expressed difficulty in coaching the ideas in relation to two aspects. One was related to posting they felt they had nothing to contribute with, and would pass by “not adopted”. The other was about the hand-over ideas that reached maturity (see clear process). The supporting team also had questions related to their role. For example, they were aware that it was not good to leave a post unanswered, but “what do I do with a comment no one replied to, and I have nothing to say?” Or, “how can say that I disagree without shooting the idea down?” These kinds of questions indicate that they are trying to grow in their roles, and that they need support and clarity about the possible actions that they can take to facilitate dialogue within the platform. This kind of question suggests that they view support as “content related advice”. Suggestions like helping the person find experts, information or other employee’s interested were given; however, there were still barriers to its adoption. It also shows how

important it is for the supportive team to be acknowledged in the broader organization, in order for it to be possible for them to ask experts to support in the coaching work.

During the check-in meetings about Version 2.0, the support group reported they checked the platform regularly but that there was not much movement. They reported that people did not know about the tool and they suggest improving the communication channels about it. In terms of roles the underlying request was about who spread the word. The supporting group spread the word about the platform through informal channels, but there was no one assigned for such role. It seems that the support group expected someone else to “advertise” the platform as it happened in the Jams; meanwhile others in the management team expected the support groups to communicate on their sites.

Furthermore, scepticism about the possibility to innovate within the company and time-related issues might create a complex set of barriers for participation, as well as, for the engagement of the support group [32]. At this time, supportive processes like grants for idea exploration were being put into place but criteria, procedures and assigned roles connecting to the idea platform were loose. For this reasons, even though a more detailed investigation is needed, it seems that both clarity of process and roles was one of the main factors that contributed to the differences in the first and second version of the tool.

4.5 Time: overwork and priorities.

Interviewees also mentioned time-related challenges like back-to-back meetings and fully allocated hours with no slack; as well as working overtime. Considering that this is likely the perception of other employees, who have no time allocated for innovation, it is to be expected that without an incentive or a push they will not prioritize sharing their ideas on the platform.

During the interviews, the support group members pointed out that even though the wish to promote innovation is clear, innovation was not a priority within the company. Their 3 main focus tasks are current projects, maintenance and efficiency-related initiatives. Hence, one possible explanation for the non-use of the platform is simply that it is not a priority given time constraints. Hence, if the employees are on a tight time line and with specific priorities, and unless the platform either speaks to their priorities, show immediate benefit to their work, or speaks to their passion, participation in the platform will likely be low [25].

5 DISCUSSION

The platform in itself showed good potential for improving innovation climate and capabilities. There is a potential for gathering ideas and enabling discussion. We believe that such aspect can be supported by refining roles and strengthening processes.

5.1 The relation to innovation climate and innovation capability.

In relation to innovation climate, a number of its elements are present in the platform. The Jam and hot topics have shown potential to attract comments that can be channelled into dialogue and idea development. The possibility of having an idea selected and funded for further investigation affirms the freedom teams and individual employee have to search for avenues that are not decided top-down. Time availability, priorities and overwork, as well as, the need for feedback and continuity within the ideas posted, are currently a threatening aspect to the actualization of the platform as an innovative tool.

In relation to innovation capabilities, literature points out the need for internal (as well as external) networking and creating structures and expectations that support the development of

innovations, such as, innovation related process and ways of accessing and budgeting are being build into place [24]. It seems that the development of the platform and related process is going on that direction.

The company has been experimenting with and developing the platform “model” as a hub from which ideas can be developed [22]. In terms of attracting users for idea generation the literature says that both intrinsic and extrinsic motivation are important, as well as reasons for contributing [25]. Within the studied context employees have intrinsic passion for discussing and developing ideas. [28] Hence, one of the main challenges is to align extrinsic motivation by providing time and adequate priorities for the tool to be used and innovation to happen.

The roles related to the process are also relevant. Literature points out the relevance of those roles that bring information from the outside, connect ideas and people, or know the procedures to get things done, among other [22][26-27]. Such roles, if not formally assigned, might give a good indication of the activities and behaviours needed to be taken within the platform. In addition, further refinements related to the innovation process within the tool are likely to influence the outcomes, as well as show management support.

The fact that people log in to see what has been posted and get inspired, means that knowledge is being shared and interest exists. The current study cannot confirm the integration of knowledge for the employees who just follow the discussion. Positive results exist in relation to the capacity to explore new ideas, such as functional prototypes, patent, and a concept that is adopted in future technologies. Hence the effectiveness of the platform seems to depend on how successfully continuity is established.

5.2 The possible relation to Innovation Metrics

It is a beneficial aim to have the platform contributing to build an innovation climate and capability. However, such processes take time and within the day-to-day interaction with the platform, how can one tell that there is progress?

By its nature the platform provides checkpoints to measure activities related to innovation. For example, on the quantitative side, one can explore whether ideas are being shared and how many. A qualitative analysis can explore the depth and meaningfulness of such exchange and related activities. Another entry point for innovation measurement is to check whether the ideas discussed are being developed up to a point where they can be used to apply for exploration grants, as well how many of those are being developed into actual NPD projects. In the long term, one can even check the impact by following how many ideas generated in such platform are actually implemented into current or new products. In addition, such measurement points can tell a bit about how well a company can incorporate (absorptive capacity) and change, incorporating the ideas generated into their main work stream overcoming core rigidities and organizational inertia [19]. Another measurement point can be analysing the profile of projects that move from exploration up to NPD process, we can have a more precise view on the risk-taking capacities.

Using this specific platform has the limitation to measure points that are restricted to the development and ideas outside the current strategic planning of the company. Despite this, it is an essential measurement that can speak to how well a company taps into their employees' creativity and insights. The exception of this rule would be for future focus topics that are introduced based on the strategic planning, within a Jam for example. Therefore, such metrics points would be blind towards the general innovation climate and capabilities within projects.

6 Conclusion

The findings in this paper need further depth and breath for them to be validated and generalized. In synthesis, the number of inputs is higher when there is a specific topic in focus and a delimited time frame. That does not exclude the possibility to have open-ended dialogue supported by a tagging system as way of providing focus. However, it does say that such collaboration needs more other capturing methods and ignition than the platform. In conclusion, more than establishing the “platform structure” is needed in order to impact organization innovation climate and capability. The findings seem to indicate that despite the intrinsic motivation, this internal drive flourish with feedback and continuation of ideas suggested, as well as, adequate time to innovate. Moreover, clarity of process and roles also play its part. In addition, clear expectation and defined processes, focus, roles that are built up adequately to the needs of the platform support its development.

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