ORGANIZING FOR PARTICIPATORY INNOVATION ACROSS COMPOSITE BOUNDARIES & COLLABORATIONS

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ABSTRACT

Leadership and organizing increasingly require focus on innovation processes. The recently published report by OECD (2010: p. 10) clearly highlights that the financial crisis has only increased the need for innovation. The result is an intensified need for new organising across boundaries and collaborations aiming for higher returns on limited resources. The agenda is set to find out how organizing composite boundaries and collaborations can enable participatory innovation.

A process approach relying on action research is employed in eight companies connected to an innovative course, which aims for innovation 'turned on its head'. The main findings reveal an important contribution from designing flexible processes, which support participants to be aware of composite underlying assumptions and utilize collaboration with other students from companies with very different backgrounds. It reveals an insight on flexible participatory designs. A theoretical contribution is provided on the impact on variety and a practical contribution is made on how flexible designs can be organized for participatory innovation in companies.

INTRODUCTION

The research is conducted in an innovative course, called Food Architect^{*}, which aims to turn innovation on its head – 180 degrees. It means to start the innovative idea generation within an everyday customer situation. Through the course a platform is provided for employees from food producing companies to work together and train on innovation within the food sector. The employees are called students in the following. The companies have different sizes and come from very different areas, e.g. convenience food, gourmet food, ingredients and ecological diary. They have very different production, service and sales knowledge as reference for their participation on the course. It means very different business perception and ideas of what e.g. the customer wants and how business has to be done. In this context research on the research question on how organizing composite boundaries and collaborations can enable innovation is of special interest.

The students are participating in five educational modules during about six months. The duration of each module is typically a two-day-seminar, however, the second module is done in Istanbul in order to 'get out of comfort zone'. Here the duration is four days. The students aim to develop an innovative concept in groups and further to develop a company project on innovation and implement it afterwards. They are examined both in the group concept and in the project in own company at the end of the course. However, the examination is mostly emphasized on the group project within the course. An anthropological approach is used in the course to reveal the customers' situation and needs. Customers are hereby present through the 'personas' developed by the students in relation to their idea generation in the course. The participatory innovation is formed through the collaboration of students - and not by integrating customers as such - as prevailing theory recommends (Buhr and Matthews 2008).

This platform for research provides an opportunity for a deeper exploration of the research question on how composite boundaries and collaborations can enable participatory innovation and what implication this will have on design for participatory innovation. Hernes (2004) noted that boundaries are composite, i.e. organizations operate within multiple sets of co-existing boundaries. The notion is that these sets of composite boundaries vary from organization to organization, in strength as well as in substance. In the design for innovation normally some kind of rationality for integrating the customer in the innovation is present. In this paper the participatory innovation is formed by the aim of the students to learn to be innovative. The platform for this research therefore provides a seldom variation on different people, different knowledge, different practical training, different business models and different technical platforms. What the students have in common is their aim to learn how to innovate and use this knowledge in their own company afterwards to enable innovation. Furthermore the innovative course concept forms a common reference for the students.

The outline of the paper is to go through theory, explain the method, reveal data and evaluation of data, explore results and conclude on the findings.

LITERATURE AND THEORY

Innovation is defined by Amabile et al. (1996) as ' ... a successful implementation of creative ideas within an organization. In this view creativity by individuals and teams is a starting point for innovation; the first is necessary but not sufficient condition for the second' (Amabile et al., 1996:1154-1155). In the organizational context Amabile et al's definition highlights the transformation of the creative idea formed by individuals/teams into learning in a multidisciplinary and cross-organizational approach and in the end employs a successful implementation with return on investment. The definition thus calls for participative innovation across the organization and across the whole value chain.

Organizing is defined by Weick (1995) as spanning from concrete individual actions on the new ideas to actions on collective learning and to actions on control of performance on organizational level. This wide span calls for supportive learning frameworks across levels. It means that agency theory as represented by Weick (1995) and his notion on organizing actions across levels call for participatory designs -'bringing diverse stakeholders together who confront each other with very different perspectives on the issues' (Buur & Mathews, 2008:259). As Buur and Mathews also note 'there is still some way to go to move participatory design to participatory innovation. That is, the able development of new products, even in cooperation with users, is not always sufficient to guarantee the (commercial) success of these products'. This paper will make a contribution to this 'still some way to go' by research of implications from very flexible design where the only common thing is an industry; here the food sector and the common aim for innovation in own company by participating in an innovative course. It calls for theory application from other fields. Here especially the organizational field can provide understanding about organizing collective learning and control of performance. Tidd (2001) underpinned this by his understanding of innovation management in context of environment, organisation and performance.

Within participatory innovation in the agricultural sector Veldhuizem, Water-Bayer and Zeeuw (1997) noted that various organizations will have different but closely interaction roles to play. It sets the scene for wide participation of people, organizations and perspectives in the wider food sector.

Further through the need of very different stakeholders and different perspectives on the issues a useful theoretical implication is to employ Ashby's (1962) system approach on the 'Law of requisite variety', which says that 'the variety, which can be adopted in the organization is dependent on the variety in the external world'. Together with Hernes's (2004) thinking on the importance of composite boundaries for innovation and organizational development, a theoretical enhancement can be made on how the composite boundaries and collaborations enable innovation. What is the content of boundaries, which the participants think is important and how they perceive the impact of flow of variety on participatory innovation.

A theoretical contribution is given to how composite boundaries and variety of collaborators can enable innovation. This is useful for organising a flexible design for participatory innovation. The hypothesis in the research in this paper is that a high degree of variety from students will be beneficial for innovation perceived and obtained by the participants. Furthermore that a process approach confronting the participants with high awareness of composite boundaries for the free flow of requisite variety will be beneficial for innovation perceived and obtained by the participants. An underlying assumption here is that perception of beneficial innovation activities will result in innovation and value creation in the end.

DATA AND METHODS

The research employs 'mixed methods' of qualitative and quantitative research with a process approach of an 'inverted classical Lewin' in the action research part. Action research means not only to observe people and actions, but also for the researcher to suggest actions, which the participants can adopt and do themselves or they can drop the suggestion. Action research is closely connected to action learning and was originally noted by Lewin. The reversed Lewin means meetings with a 'freeze' of their behavior patterns. The 'freeze' provides a platform to discuss their future challenges and needed actions for innovation and change. A short note is made of challenges and actions to support the 'rebalance'. Finally the 'unfreeze' is occurring when the student and mentor go back to their daily work and continue the process.

This approach is inspired by Weick and Quinn (1999) and Argyris (1990), pointing out that: 'to freeze continuous change is two make a sequence visible and to show patterns in what is happening'. It involves a process approach, where organizational patterns and boundaries are identified and facilitated by learning in action context. For the sake of an open dialogue the first action research meetings were not recorded. The last meeting is digital recorded. The research material consists of notes from meetings, the short slides and recordings.

The material is qualitatively analyzed in the Nvivo program for identification of similarities and patterns in the data on variety and composite boundaries. (Yin, 2009; Charmaz, 2006). All the action research participants have prior to the action research process answered an online questionnaire about their economy, growth, preferences, relationships, learning, culture and innovation activities. These answers were used as kick off for the action research process. In the 'freeze' the participants are confronted with their answers in relation to what they see as challenges for their business. The questionnaire functions as an integrated process tool to reveal important facts about their business. The participants can hereby easily relate to the importance and contribute with further important facts as they see it themselves. Three meetings of a duration of about three hours for each company were executed. In the meetings the students participate together with a mentor from own company.

EVALUATION OF DATA

The eight case companies in the research have themselves been willing to participate in the action research running parallel to the course. It could mean that the data have an optimistic bias. However, the decision on their participation was done before the course started and they in the end also got very different results of innovation in own company revealed in the research. Some companies in one end had an extremely good impact on innovation; in the other end one company got an employee qualified for innovation, however, none direct product and/or process innovation impact in own company.

All in all the majority of companies have got a very good impact on their own company as they perceive it themselves. During the action research the researcher could look deeper into what actions actually were taken and here a lot of specific activities were revealed, which had impact on top-line and/or bottom- line in the company. The impact cannot be quantified because the impact cannot be isolated from other impacts on top- and bottom- line. But it could be revealed by discussion with the participating students and mentors that these actions would not have taken place without participating in the course or the activities would have been less qualified to enable innovation. Furthermore the participants in be-



Figure 1 Participatory innovation - variety of issues

tween were critical in relation to elements of the course. This shows that the participants were aware of getting 'value for money' through the course. The last meeting were carried through about two to three months after the course was finalized. The aim was here to get comments from the participants when they were 'back in normal business again' to avoid positive bias from the course as much as possible. Here the impact they had perceived of the benefits from the course during the 6 months could be evaluated more neutral.

RESULTS

The collaboration with random and unknown people on a dizzy task within innovation gave fuel to innovation through new perceptions formed by variety, as one of the students from the case companies say: 'Thursday afternoon at 15.00 it began to make sense to us. It's fun to pull something out of a hat' - it is the sport of it that animates me and the group to continue. The more impossible tasks, the more fun it is to see if it can be done'.

Cultural	Management	Vocational	Strategic	Organiza- tional
'Normally we do not do that kind of things in our organi- zation'	'This is forbid- den according to order or procedures from manage-	'We have not learned it this way' or	'This is not high priority' or	'We are not allowed to interfere with the work of the others'
or	ment'	'lt is not	'We have no time for it'	or
'The others would not like that'	or 'We have not planned that now'	allowed ac- cording to vocational standards'		'The others could steal our good ideas and praxis'

Table 1 Composite boundaries and typical phrases

Cultural	Manage- ment	Vocational	Strategic	Organi- zational

Table 2 Crisscrossing of composite boundaries

Here an example of the full implication of requisite variety is employed and transformed to absorb whatever comes in through different stakeholders and different perspectives on issues. Suddenly all the differences begin to make sense in new forms and create excitement and a deep encouragement by the ability to innovate – described as 'solving the puzzle' and as a sports event of the group beating the impossible. A lot of energy is created here – very fruitful for enabling innovation. The hypothesis about high degree of variety from students will be beneficial for innovation perceived and obtained by the participants is here revealed as an important element within the field of participatory innovation. The variety on a lot of dimensions makes students in a collective process better able to absorb and transform the challenges into innovation.

This is theoretically illustrated in Figure 1, which highlights a composed organizing process with enhanced layers of variety to enable innovation.

Figure 1 shows the variety revealed



Figure 2 Organizing for participatory innovation – designing variety of issues

as positive to enable innovation. The more variety the more challenging and the more the 'sport implication' is fueled.

The practical contribution here is to highlight the need for extremely flexible design, which without purposeful rational goals for the innovation – other than the dizzy outcome of innovation itself – can enable considerable innovation on individual and on organizational level.

The findings in the research show patterns of composite boundaries which can be described in different categories. An overview of the categories revealed is provided in Table 1.

Table 1 shows typical phrases perceived as boundaries for innovation by the participants in the meetings. They can be grouped into five boundaries. The boundaries mentioned and perceived by the participants are embedded in cultural, management, vocational, strategic and organizational issues.

Having revealed the perceived boundaries it will also be interesting to reveal what boundaries the participants have crisscrossed to enable innovation. This can be seen in Table 2.

Table 2 shows the case companies anonymously listed in the rows. It can be seen that they all have met at least one boundary and that many of them have met several boundaries during the course, which underpins the compositeness of boundaries within innovation. They have all crisscrossed the boundaries they talk about. The positive impact on innovation from crisscrossing boundaries is underpinned by all participants. A typical quotation here highlights the perception of this in the case companies: 'It's crazy when you write down how much we really have reached. The training in the course has been able to communicate the innovative vision of our company into specific action on innovation - it has not been possible to do this before. It has been done now. It is thoughtprovoking, but it is true.

It means that value creation from the boundary crisscrossing activities is perceived very positively supporting both strategic innovation and the specific necessary new actions within innovation in the daily work in the company. The hypothesis of an impact from a process approach confronting the participants with high awareness of composite boundaries for the free flow of requisite variety is revealed as important and positive. It is perceived as a benefit to reflect on innovation and to look deeper into actually action on crisscrossing the boundaries.

Theory development can hereby be enhanced to integrate the organizing approach of all the different issues to be acknowledged in the participatory innovation process; furthermore also to add new issues with different approaches into the process whenever it is possible. This is illustrated in Figure 2. Figure 2 shows that openness and not strict definitions on boundaries is of importance. The research question on how organizing composite boundaries and collaborations can enable participatory innovation can then be answered. Participatory innovation is enabled in this research by revealing the boundaries on different levels continuously in the process. Furthermore the openness to new boundaries perceived as barriers are important to be aware of and to challenge through crisscrossing actions.

DISCUSSION

The findings in this paper are gathered in an educational arena, which can make them a bit artificial. However, the action research was done on the spot in own company. The training in the course provides a playground for innovation which is interesting in a participatory innovation approach, because the prevailing emphasis on purposeful customer need is reduced to personas and partly replaced by a very open approach for participation. It means a participatory design characterized by embracing as many differences as possible and support of crisscrossing boundaries and own definitions as much as possible.

This is both interesting in relation to theory and in relation to the practical organizing of design to enable innovation of commercial value. It is not as such the customer participation, which alone fuels innovation. It is the insight of people, who are provoked by variety and their own crisscrossing of perceived boundaries, which can enable considerable innovation. Hereby a new angle is set both theoretically and in practical life on participatory innovation in companies. The research question aims to fill some of the gap between participatory design and participatory innovation for a better commercial value creation. Further research will be needed for a deepening of the understanding of organizing composite boundaries.

The theoretical contribution of this paper is thus provided by a model to reveal the composite boundaries, highlight the awareness of them and act on crisscrossing the boundaries.

The practical contribution is made on how flexible designs can be launched using a training context to enable people to have a playground with different perspectives and different boundaries for crisscrossing. Here the participant can discover their own dedication to the 'sports spirit' within participatory innovation.

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