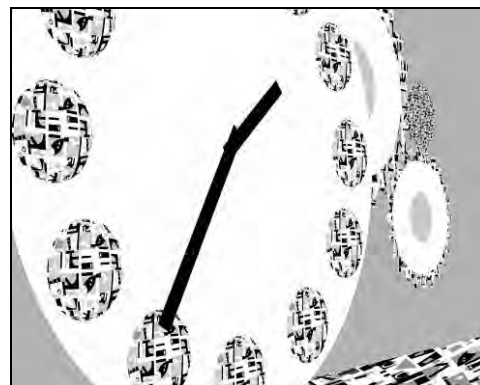


The Power of Disruption: Understanding the Unexpected

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Keywords:
Disruptive Moderation and Facilitation, Innovation Management,
Facilitation of Meetings and Workshops

The Power of Disruption: Understanding the Unexpected

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Snapshot (Quick Learning)



This workshop technique introduces the *power of disruption* to help understand the unexpected. There are different groups of people that might profit from this workshop.

The beginners: people who feel that they would like to improve their innovative performance and reduce failures in their innovation process. They are not aware about different types of innovations nor do they talk about failures as something positive.

The knowledgeable: people who are aware that there are different types of innovation and now would like to understand how to change their incremental way of innovation.

The advanced: people responsible for innovation in different fields or companies who are keen to learn what ‘the Unexpected’ in their innovation processes can tell them as well as to learn from the interpretations of others in their group.

‘Power of Disruption’ is an approach that helps to understand the power of disturbances in innovation processes and that stimulates the productive use of unexpected events in the innovation process.

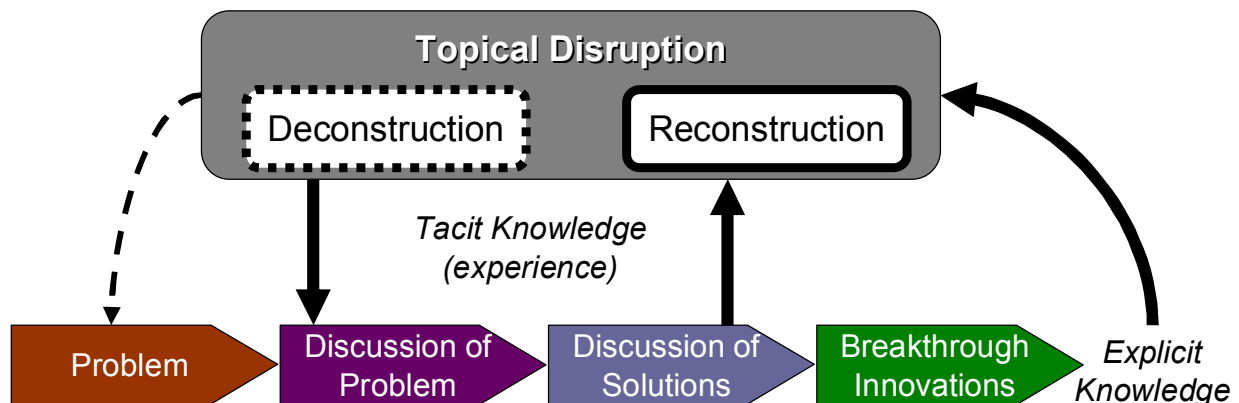


Figure 1: Topical Disruption

The approach creates awareness among participants that innovation usually does not happen in a planned standardised manner. It enables them to see the characteristics and the different ‘faces’ of the ‘Unexpected’ in innovation processes – such as conflicts, surprises, failures, misunderstandings, barriers etc. It provides participants with a method that helps them to reflect on the topic: What can the ‘Unexpected’ tell about the innovation process? ‘Power of Disruption’ supports participants to define actions that might stimulate the occurrence of unexpected elements in their daily work and to utilise the ‘Unexpected’ in a productive way for developing innovations.

Keywords: Disruptive moderation and facilitation, Innovation management, Facilitation of meetings and workshops

Context (Where & What)



All processes in organisations, even the most standardised ones, have the potential to leave the standardised action patterns and to run in another way than the plan foresees. This is especially true for innovation processes. Innovation can be planned only to a minor degree, because the definition of which knowledge would incorporate new products and how the new product as a materialisation of this knowledge will look like is rarely possible (Vollmer & Wehner, accepted). The development of new products often seems to be, at least partly, a fortunate coincidence (Schneider, 2002). Here, we argue that innovation processes thus often run in a different way than they were planned; however, these discrepancies must not be labelled only as breakdowns but should be interpreted to a certain extent as ‘useful and sense making disturbances’. These disturbances point at contradictions between target and actual situation and often comprise learning opportunities.

The aim of the method described here is to intentionally turn the attention to possible sources of (unexpected) incidents in order to open up their potential for improvement and innovation. Vollmer, Lehmann, Ostendorp & Wehner (2003), Wehner & Waibel (1997) and Weick (2001) understand incidents (disturbances, mistakes, conflicts, misunderstandings, etc.) as sources of knowledge and deep insights into organisational structures and processes. Incidents trigger processes of subjective and intersubjective interpretations and interpersonal co-operation. Through studying such incidents, actions for designing innovation processes can be derived. Thus, we are not presenting only a facilitation method but also a meta-process of innovation processes that permanently enables the processes that form the basis of reflection. This meta-process can be conducted either related to specific situations or continuously.

The main objectives are

- to reach an awareness among the participants of the characteristics and potentials of innovation processes, the social constellations involved and the related knowledge flows,
- to develop and improve innovation processes based on learning from experience through the means of reflection and conclusions and
- to pave the way for prospective design and optimisation of innovation processes.

The minimum time needed for a ‘Power of Disruption’ workshop is around 2.5 hours, maximum time one day.

As participants will be split into groups of 7-10 people, the total number of participants depends on the number of facilitators available.

Preparation (The Checklist)



If a company’s innovation processes are to be the topic, these should be prepared to be presented and visualised. It is advisable that participants reflect on their own innovation processes beforehand, especially on ‘what usually goes wrong’.

The moderators should prepare the visualisation of a standard innovation process. Additionally, they should be prepared to tell anecdotes about innovation processes that resulted from unexpected situations.

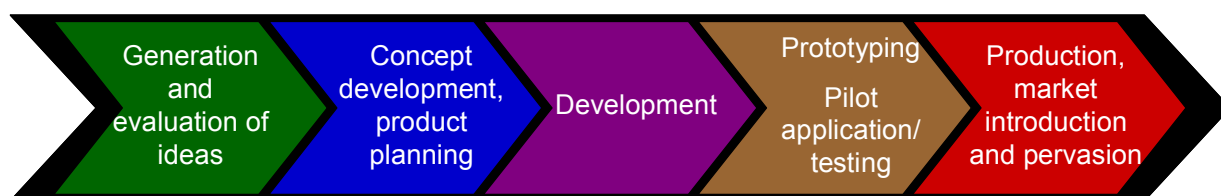


Figure 2: Innovation Process Model (Herstatt & Verwoeren, 2003)

Toolkit (The Essentials)



For this session a large room or several group rooms are needed. Removable chairs are a must.

As far as material is concerned, Metaplan cards, pins and several Metaplan pin boards as well as a pen for every participant are needed.

To facilitate the content:

- Content posters (for visualising theoretical input: innovation process, types of unexpected incidents)
- Definitions and examples of causes for unexpected situations: mistake, disturbance etc.
- Anecdotes on innovations that developed out of unexpected incidents.
- Reflection template.

Making it Happen (The Approach & the Action)



The group will be divided into an even number of subgroups (not more than 12 people per group), i.e. at least two groups. The two groups will have a different workshop design: While group 1 is following a prospective design (deconstruction), group 2 will act upon a retrospective design (reconstruction).

1. Prospective Design (Deconstruction)

The session proper

Step	Duration	Activity
Introduction	10 min	The facilitator opens the session and gives a general overview on agenda, timing and aim of the session. For the prospective design, one of the participants will be asked to present the innovation process of their own company. This presentation should be short and supported by a visualisation of the innovation process.

Step one – Worst Cases

Introduction	5 min	<p>The facilitator introduces the task: Participants are asked to reflect on the following questions:</p> <ul style="list-style-type: none"> • What do you think could go wrong in this process? • Where in the process are points at which unexpected situations are likely to occur? • What can cause unexpected situations, e.g. disturbances, conflicts, misunderstandings etc.? Here, facilitators present some possible causes for unexpected situations as examples: ‘a disturbance is an act of delaying or interrupting the continuity of a process’ or ‘a conflict is a state of disharmony between incompatible or antithetical persons, ideas, or interests’ (Editors of The American Heritage Dictionaries, 2006) etc. Participants then are free to define further causes in the next sub step. • What could happen in the worst case?
Collection of worst cases	20 min	<p>The participants write the worst cases they could imagine on Metaplan cards and indicate the cause type for each of them. Subsequently they present their cards to the whole group. The facilitators pin the cards to a pin board and cluster them thematically with support from the participants.</p>
Headlines	5 min	<p>The participants collectively define headlines for the thematic clusters.</p>

Step two - Intentional Sabotage

Introduction	5 min	<p>The facilitator introduces the task: The participants are asked to suggest actions that would cause the worst cases. In addition, they will have to indicate the role or position a person needs in order to be able to perform that kind of action, e.g. customer, CEO, etc.</p>
Collection of sabotage actions	15 min	<p>The actions are written down on Metaplan cards and pinned on a pin board in a matrix arrangement that shows the relation of actions to roles and worst cases: The sabotage action matrix (see table 1).</p>

Table 1: Sabotage action matrix

	role 1: customer	role 2: CEO	role n
worst case 1		action 1		action n
worst case 2			action 2	
worst case 3	action 3	action 4		

Step three – Inversion

Introduction 5 min

The facilitator gives a short overview of the effect of disturbances in innovation processes, e.g. by using a poster with the definition of disturbances.

Disturbances in innovation processes are events that don't fit existing organisational processes and (if successful) change them dramatically.

Equally, one could argue that the sabotage actions do have the potential for radical or even disruptive innovation as they are developing and using new action patterns instead of reproducing old ones.

The facilitator presents two anecdotes on so called mistakes that lead to innovation. Example anecdotes are:

The vulcanization of rubber

In the middle of the 18th century, Charles Goodyear made experiments with rubber. He wanted to manufacture rubber boots. The problem was that rubber changed its viscosity according to temperature. In summer the boots lost their shape because the rubber melted. In winter you couldn't put the boots on because the rubber became stiff. Goodyear made experiments, mixing different substances (sulphur, magnesium, nitric acid) with the rubber, but without success. One day in winter a little piece of rubber fell on the hotplate. It didn't melt but got another consistency (it looked like tanned leather). Goodyear was astonished and nailed it on the wall outside his house. The next day he could see that the piece of rubber was as flexible in the cold outside as in the warmth inside the house. This little mistake led him to building equipment for vulcanizing rubber by steaming it. Rubber as we know it today was born.

In search of a refrigerator coolant Teflon was found

At the end of the 1930ies, a young chemist of a big American chemical plant was tasked to create a new coolant for refrigerators. For his experiments he needed a great amount of tetrafluorethylen, a gas he wanted to combine with hydrochloric acid to develop the coolant. He stored it at a temperature of -80° C, and under great pressure in small metal bottles. One day he wanted to use the gas but the bottle seemed to contain no gas. However, the weight of the bottle indicated that it wasn't empty. He opened the bottle. A strange white powder trickled out and the whole inside wall of the bottle was coated with the white substance. He examined this substance and found out that it had specific characteristics, for example it did not react with any other substances. The researcher didn't know what to do with the substance, it was deposited in the archive of the company. Some years later, the leaders of the Manhattan Project needed a substance to protect their technical equipment against galvanic corrosion. They searched for a so-called inert substance and found Teflon, the substance in the archive of the chemical plant nobody knew what to do with – until that moment. The use of Teflon for pans followed years later.

A retractable pencil gives birth to a vibrating toothbrush

In 1998, a developer of electronic components approached the Swiss company Trisa AG and proposed to develop a vibrating toothpick. They disliked the idea, as this would have been a product for a niche market. However, they came up with the analogous idea of a vibrating toothbrush that does not only rotate but additionally would provide a certain pressure through vibration – a product for the mass market.

During the product development phase, the problematic point was to find a solution on how to integrate the motor into the toothbrush. Several ideas were tried, without success. One day, all engineers were sitting desperately around the table and thought about possible solutions. One of the engineers was playing around with a retractable pencil and the motor samples on the table. He plugged one motor on the tip of the pencil, and suddenly he was saying: ‘I can not remove it anymore!’ This was the key to the solution.

Schneider (2006) presents further examples of such unplanned innovations.

The group is then split up into smaller groups of two to three people. The groups will work with the rows or columns of the sabotage action matrix, e.g. group 1 could focus on

- all sabotage actions customers could do or alternatively
- on all actions that are related to worst case 1.

Group work 15 min The subgroups discuss, how the sabotage actions could be productive for the innovation process. Productive here means ‘making innovation more innovative’. The question is not ‘how can I get rid of disturbances’ but ‘how can I use these incidents in a productive way for innovation?’

The results of the work of the sub groups are presented in the plenary.

Step three – Take Home Message

Reflection 10 min Participants reflect on lessons learnt using a template. They write down:

- The five most important lessons learnt.
- Two actions for their professional work that result from this session. Concerning these actions, participants make explicit which resources they could use, what barriers and resistances they might face, and what would be indicators that they did achieve the objective of these actions.

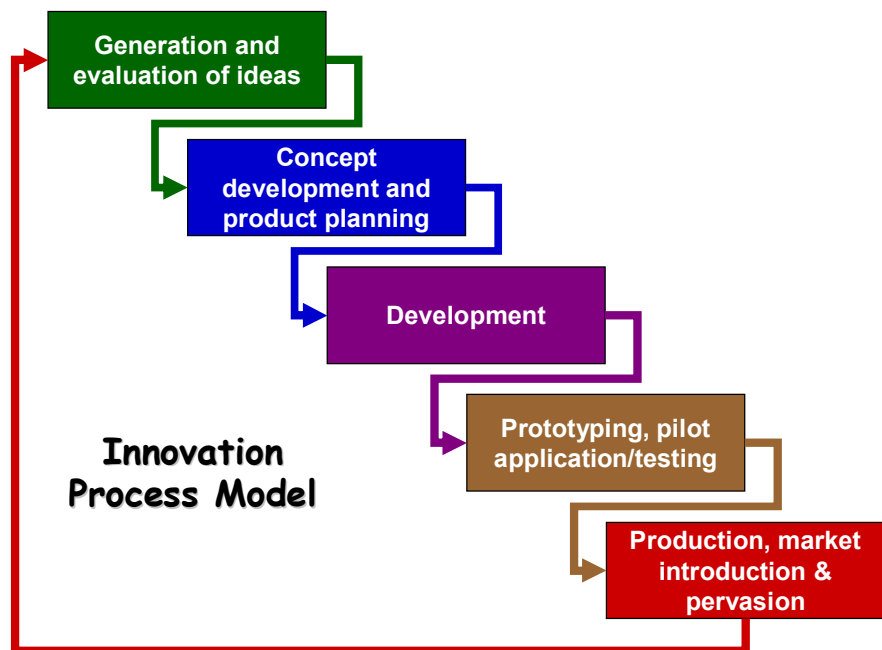
Presentation 20 min At least the owner of the innovation process that has been deconstructed, but ideally everybody, will be asked to present their reflection results shortly.

The prospective design process takes 2 hours.

2. Retrospective Design (Reconstruction)

The session proper

Step	Duration	Activity
Introduction	10 min	After a short general overview on agenda, timing and aim of the session, the facilitator introduces a general model of an innovation process as the basis for the discussion. It is not determined which model from theory should be used. Such a model should be a generic one, so that participants can relate it to their companies' innovation processes. Also, the model should be very easy to understand. The example presented here is as a model for product innovation.



This process model includes different phases from idea generation to market launch and pervasion. Phase 1 deals with the generation of ideas (customer, technology or costs driven), the evaluation of ideas (appeal, risk), the match with existing products, and the reorientation of the product portfolio. Phase 2 includes market analyses, working out a production concept, product planning (volumes, production costs, timing, investments, project costs), as well as the definition of product specifications and the product architecture. In phase 3, interdisciplinary project teams actually develop the product or service according to the intentions of the preceding phase. Phase 4 includes prototyping and testing, market testing, the definite design and the scheduling of the series production. In phase 5 the production is starting, followed by the introduction into the market. After market pervasion the perfective maintenance is a very important step.

Validation of innovation process 20 min

Participants are asked to remind themselves of the most recent innovation process in their company and to very briefly tell the story how this process went. These stories serve as a common validation, adaptation and completion of the process model presented by the moderator.

Step	Duration	Activity
The Unexpected	15 min	The moderator asks the participants: ‘What has been unexpected in the innovation process of your company?’ They document what was unexpected on Metaplan cards and define the cause for the occurrence of the unexpected situation (as above in ‘prospective design’: disturbances, conflicts...). In addition, they indicate the phase of the innovation process the unexpected situation relates to; the cards are pinned up next to the phases. The facilitator clusters them with the help of the group.
Interpretation	15 min	The group is now split up into smaller groups of two or three people. These subgroups discuss individual unexpected situations or clusters of similar unexpected situations and try to reveal their potential meaning: What does the unexpected want to tell us? What can we learn from it, what is the insight we can get? They write down their insights on Metaplan cards and presented them to the whole group.
External view	15 min	One member of each group is selected. This member receives from the moderator the instruction on the 5 Whys (SixSigma, 2006) <div style="border: 1px solid black; padding: 5px; margin: 5px 0;"> <p><i>By repeatedly asking the question "Why" (five is a good rule of thumb), you can peel away the layers of symptoms which can lead to the root cause of a problem. Very often the ostensible reason for a problem will lead you to another question. Although this technique is called "5 Whys," you may find that you will need to ask the question fewer or more times than five before you find the issue related to a problem.</i></p> </div> <p><i>Example:</i></p> <p><i>Problem Statement: You are on your way home from work and your car stops in the middle of the road.</i></p> <ol style="list-style-type: none"> <i>1. Why did your car stop?</i> <i>- Because it ran out of gas.</i> <i>2. Why did it run out of gas?</i> <i>- Because I didn't buy any gas on my way to work.</i> <i>3. Why didn't you buy any gas this morning?</i> <i>- Because I didn't have any money.</i> <i>4. Why didn't you have any money?</i> <i>- Because I lost it all last night in a poker game.</i> <i>5. Why did you lose your money in last night's poker game?</i> <i>- Because I'm not very good at "bluffing" when I don't have a good hand.</i> <p>With this tool in mind, he goes to another group. The other group presents him their insights, and he has the task to play the devils advocate to them: He gives them an external view on what they did not reflect upon.</p>
Collection and Clustering	15 min	All groups present their final insights. Keywords are noted down, pinned on a wall and clustered.

Step	Duration	Activity
Reflexion	10 min	<p>Participants reflect on lessons learnt using a template. They write down:</p> <ul style="list-style-type: none"> • The five most important lessons learnt. • Two actions for their professional work that result from this session. Concerning these actions, participants make explicit which resources they could use, what barriers and resistances they might face, and what would be indicators that they did achieve the objective of these actions.
Presentation	20 min	<p>At least three participants, but ideally everybody, will be asked to present their reflection results shortly. The variety of insights will help the participants to see that understanding unexpected situations and using their potential does mean to rely very much on personal interpretations as there is no ‘eye of God’, no ‘single truth’ (Baumgartner & Payr, 1997).</p>

The prospective design process takes 2 hours.

3. Plenary

Step	Duration	Activity
Presentation	10 min	<p>Both groups will finish their sessions at the same time and come together in the plenary for a short summary (5 Minutes each group). The summary will be done either by the facilitator or by an elected group member.</p>
Discussion	10 min	<p>The facilitators then stimulate a discussion of the different learning points people from the two sessions identified with reference to the design of the two sessions: While the first group did work with an existing process and prospectively defined actions that potentially might disturb this process in the future, the second group did work on a retrospective interpretation of the meanings of unexpected situations that already happened in innovation processes. However, the insights of both groups resulted into actions that will change the future innovation process.</p>
Feedback and closing	10 min	<p>After this discussion, participants will judge the session design(s) in a short feedback round, To keep it short, they will be asked to do ‘feedback by moving’. Thereafter, the moderators thank the participants for their participation and close the workshop.</p>

The plenary lasts 30 minutes.

The whole process can take longer according to the number of participants, their engagement (e.g. how many stories about own innovation processes they want to tell) and their questions to the innovation process.

Results & Next Steps (The Follow-Up)



‘Power of Disruption’ makes participants aware of the value of disturbances.

Participants have identified 5 core learning points each and have committed themselves on 2 actions for their own everyday work.

While it is unlikely that a single participant from a company would be in a position to implement ‘Power of Disruption’ in their company, process owners of change or innovation processes may well want to build on the lessons they learnt themselves or on some of the insights of fellow participants.

So the facilitators or the hosts of the workshop will produce at least a summary report listing all the lessons learnt, i.e. the five major insights as mentioned by the participants. This report could be published on a website and linked to an online forum or an email discussion list that allow further comments and discussions.

Ideally, participants are asked to approve and comment on this summary. This means that the hosts or facilitators of the workshop would continue to stimulate further reflection on the outcomes of the workshop, e.g. maintaining the momentum in a post-workshop online environment. Thus the workshop could lead to building a community of practice among participants. However, this has to be accounted and planned for at the outset since it is hard to bolt-on some community building effort to the workshop if all resources have been used up when the summary report is made available to participants.

Real Cases (As it has Happened)



The method described above was used for the first time at the UnBla.07 conference in Lucerne. Up to now, the authors did apply parts of the methodology autonomously in different settings (see e.g. Vollmer, Lehmann, Ostendorp & Wehner, 2003). They then met and exchanged their experiences with different methods that could stimulate reflection on how to deal with ‘The Unexpected’ in innovation processes. From that, they constructed the overall methodology presented above.

At the start of the workshop, an overview of the methodology was presented to the participants describing the main differences between the prospective and retrospective design approaches (Figure 3). The moderator then split the participants into two subgroups: One to work on innovation processes according to prospective and one on according to the retrospective design. People chose their groups according to their interest: Some of them were interested into deconstructing a given innovation process and learning from that (prospective design), while others were more interested into reflecting on unexpected incidents within their own innovation processes (retrospective design).

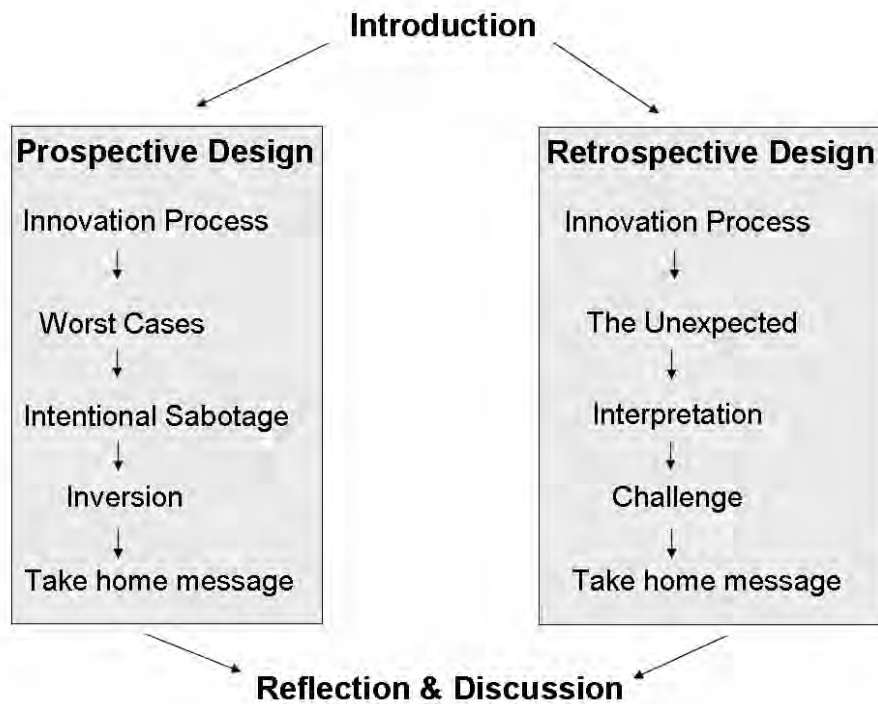


Figure 3. Introduction to Approach

1. Prospective design group

The presenter of the innovation process that was to be deconstructed had prepared his presentation beforehand. He presented the innovation process of his company and informed that when founded in the 1850s the company started with the production of glue. Today, the company is active in the production, trade and research in the sectors of biomaterials for dental and orthopaedic applications, pharmaceuticals (medication) and hydro gels for medical use. Several questions were then asked:

- What could go wrong in this innovation process?
- Where in the process are points at which unexpected situations are likely to occur?
- What can cause unexpected situations (disturbances, conflicts, misunderstandings etc.)?
- What could happen in the worst case?

The deconstruction process then started. The process owner also got into the sabotage mood and helped the others through giving them further information that he did not present beforehand—who in his company likes or dislikes whom, who has to be informally asked before a decision will be made and how one is usually communicating an innovative idea. At the end of the sabotage phase, people were full of energy and power to disturb the given process. The, the moderators needed to at times make an intervention in order to get the crowd back into a more constructive mood.

2. Retrospective design group

The work in this group started with a short presentation by the facilitator of the innovation model by Herstatt (1999) and a description the activities and events that usually happen in the single phases from idea generation to product launch at the market. Participants were then asked to tell the story of a typical innovation process in their organisation. Several innovation stories were captured from:

- Research Institutes
- Technology Centers
- Research projects
- Consultancy
- Think- Do- Organisation
- Ministry
- Conferencing
- Pharmaceutical industry

While they are shortly presenting their innovation processes, the facilitator captured some keywords from each story. As a next step, participants reflected individually on what was unexpected in their innovation process. They documented the unexpected incidents on Metaplan cards and classified them by type of cause for the unexpected situation (conflict, misunderstanding, and disturbance). The Metaplan cards were then pinned to the pin board next to those phases of innovation process in which they occurred.

It became obvious that there were several people who had either faced unexpected incidents in the same phase of the innovation process or who had been confronted with the same type of unexpected incidents. As soon as the participants recognised this, they started a discussion on their experiences. The facilitator helped them to split into groups of 3-5 people according to their interests and asked them to do an interpretation on the potential insights one could gain from facing this unexpected situation: What does the unexpected want to tell us? What can we learn from it? Overall, there were three groups with one group covering the first two, the second group the third, and the last group the last two phases of the innovation model by Herstatt (1999) shown earlier in Figure 2.

One member of each group was then appointed to play the role of the devils advocate. They were asked to move to a different group and ask this group to present their unexpected incidents and the results. The role of the devils advocate here was to stimulate reflection on what the group did not reflect on. Initially, some group members were convinced that there was no blind spot in their interpretations, but they recognised through the “why” questions from the devils advocate that there were other issues to consider.

After some further discussions within the groups, their findings on the what (conflict, misunderstanding, or disturbance) and the why for different innovation phases was captured and shared with the whole group.

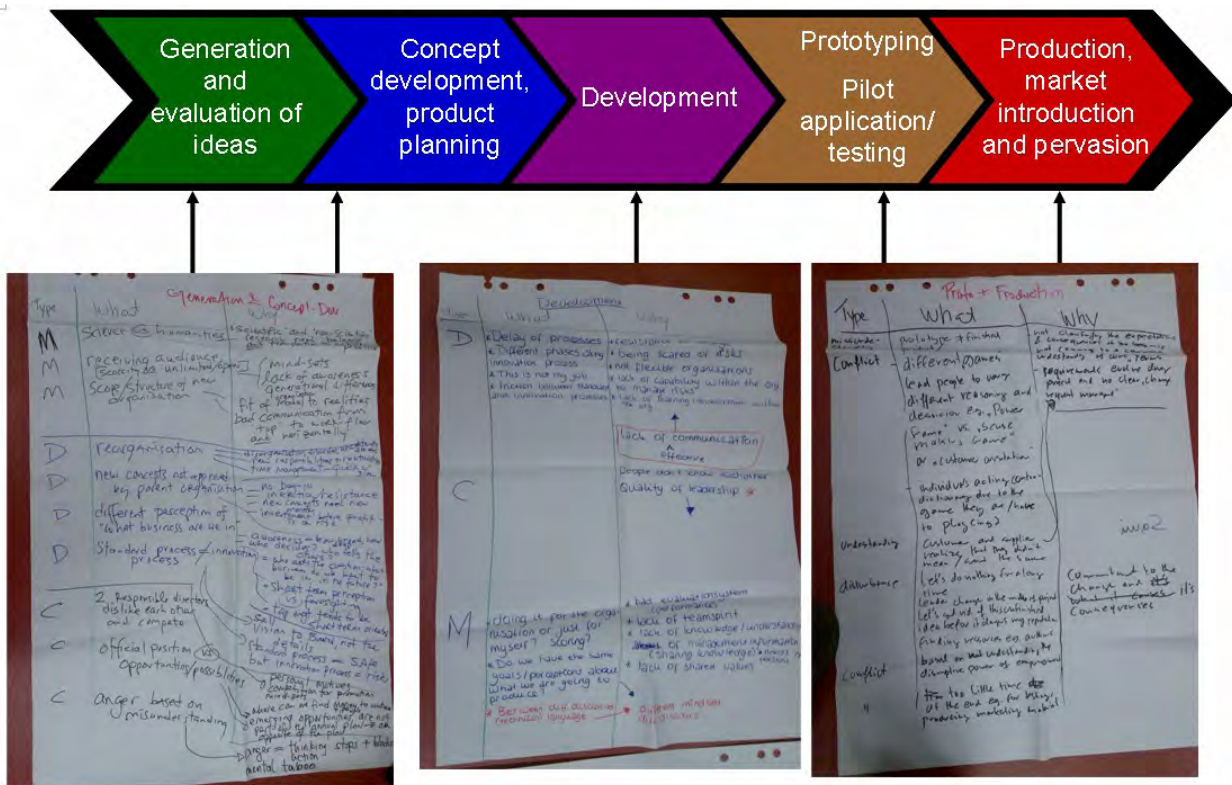


Figure 5: Unexpected incidences (what) and their causes (why) in innovation processes

At the end of the session, the participants identified a series of issues hindering innovation in the various phases of the innovation process. These included mind-sets, lack of mutual understanding, poor leadership, lack of efficient communications, lack of commitment to change, etc. (Figure 6)

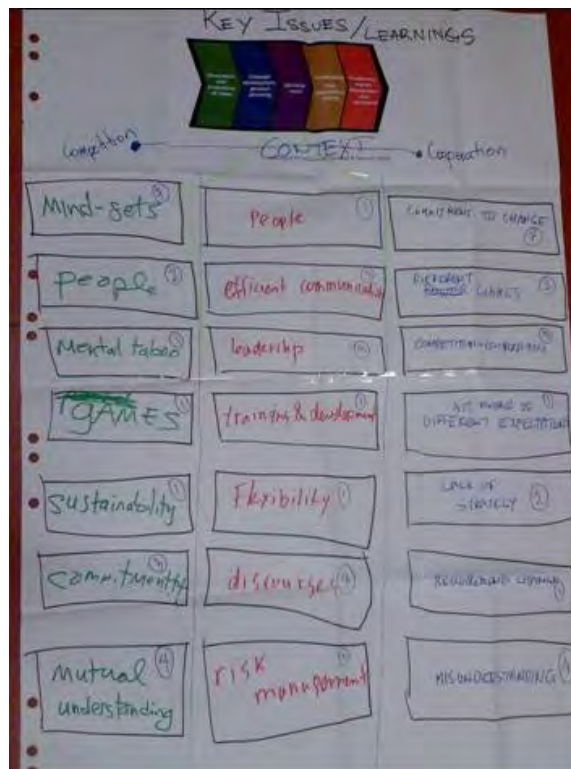


Figure 6: Key issues hindering innovation processes

3. Plenary

The session ended in a plenary where different groups (prospective and retrospective presented their main findings and key learnings. Both groups liked the session a lot and felt that participation was valuable for them: It helped them to look at the unexpected in innovation processes from a new perspective. Both groups were amazed at how much fun both the sabotage actions and the role of the devils advocate was. They were surprised that those actions that looked quite negative in the beginning, destructive and unproductive could build the basis for uncovering hidden productive potential. Both groups liked the variety of ideas and the different perspectives in the group and felt that they profited from them a lot.

Tips & Tricks (To-Do)



- ☑ For the prospective session design, agree with one of the registered participants that he will present a visualisation of his organisation process before the event.
- ☑ For the prospective session design, the transition from the stage of defining sabotage actions to turning them into productive actions needs to be carefully moderated. Defining sabotage action stimulates the disturbing and aggressive potential of the participants very much, they need to get 'down to earth again before they will be able to argue in a rational way. A short theoretical input helps very much to make them understand that this is now serious.
- ☑ If you have only 2.5 hours time, be very restrictive and keep the time plan.
- ☑ Motivate companies to send two or more delegates to the workshop if they actually intend to benefit from the power of disruption

Potholes (Not-to-Do)



- ☒ In the short theoretical parts, don't stick too much to theory but enrich theory with examples. This makes participants feel that the theory has something to do with their practice and that it is thus valuable and relevant for them.
- ☒ Don't give too much room to people who do dominate the group. In contrary, make sure that everybody gets the chance to speak up. This ensures the variety of results from very different perspectives.

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Dr. Peter Troxler works as a management consultant and artistic producer in Europe. His main interests are cross-disciplinary issues at the interface of psychology, IT and engineering, and management science, of academia and the arts.



Dr. Abdul Samad (Sami) Kazi is a Chief Research Scientist at VTT – Technical Research Centre of Finland. His research experience spans more than twenty large scale international industry-driven research projects. Dr. Kazi's expertise and interest areas include inter-enterprise collaboration, knowledge and innovation management, disruptive facilitation, and mobile applications. He has been the lead editor of eight books in the subject areas of knowledge management, construction IT, systemic innovation, and open building manufacturing.