

# The Delft Innovation Method

## A Design Thinker's Guide to Innovation

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### Abstract

This paper will introduce a new book on innovating, the process that leads to innovation(s). It is based on the experiences in the innovation and creativity field from the Delft University of Technology as well as from independent consultancy. These experiences are condensed in an overall method for innovating from inside a company. To recognize its origin this method is called *The Delft Innovation Method*.

### Introduction

Most activities inside companies are more or less routine-based. Exploiting existing technologies, addressing existing markets and talking and selling to well known customers and clients covers the majority of actions companies execute. Exploring new things, finding new clients, discovering new needs, developing new technologies are only limited actions. Limited in terms of attention of top management, limited in resources dedicated towards these goals, and limited in terms of recognition of its importance by most people inside companies.

Rationally the notion of innovating is easy to understand, but being part of, or partner in an innovation process is a very emotional experience. Innovating means accepting change. Putting it stronger, innovating will kick you out of your comfort zone. You have to give up the important things you know and trust. So if they can, people will avoid innovating.

To give a better understanding of this complex experience I will give some dichotomies, contrasting and even provocative pairs of words which describe the differences between normal work (*Traditio*) and innovative work (*Innovatio*). The list describes on the one hand the present daily activities (left column *Traditio*) and on the other hand the future new activities (right column *Innovatio*). See Table 1.

Table 1 Thirty contrasting notions between tradition (left) and innovation (right).

<b>Traditio</b>	<b>Innovatio</b>
routine	new
incremental	radical
small changes	big changes
exploitation	exploration
normal	different
efficiency	effectiveness
past & present	future & more

obey rules	change rules
control	chaos
operation	strategy
structured	fuzzy
mechanistic	organic
prediction	serendipity
stable	dynamic
certainty	risk
management	leadership
short-term	long-term
closed	open
standard	exception
dull	excitement
straightforward	schizophrenic
Nth time	1st time
safe	dangerous
inside paradigm	breaking the paradigm
peace	war
connected	separated
continuous	disrupted
earning money	spending money
step	leap
old	new

This impressionist view demonstrates as clearly as possible the mental conflicts which coincide within innovating.

The book *The Delft Innovation Method* is designed for helping companies to become more innovative, to helping that small and ambitious group of people shaking up the company. The *Delft Innovation Method* includes five constituting elements, which work closely together. You need the one to effectively apply the other and vice versa.

The five elements are:

1. a simple model of the corporate innovation process, the so-called *Delft Innovation Model*;
2. a facilitative leadership style;
3. a diversely composed innovation team;
4. the use of creativity techniques;
5. the active connection of the company to the external world.

The innovation model offers a kind of mental image of the innovation field. The team and its facilitative leadership is necessary for executing the innovation process. Creativity techniques are useful tools and the external orientation is an attitude to help the company perform its innovative tasks. All five are important; it is difficult to come up with a ranking. You need all five of them, jointly together. For instance the quality of the team can influence the level of external orientation, it may be necessary

to train team members in the use of creativity techniques, leadership style will have a big influence on team interaction, and a proper understanding of the innovation process will help decide on the necessary steps. [1]. See figure 1 to demonstrate this interdependency.

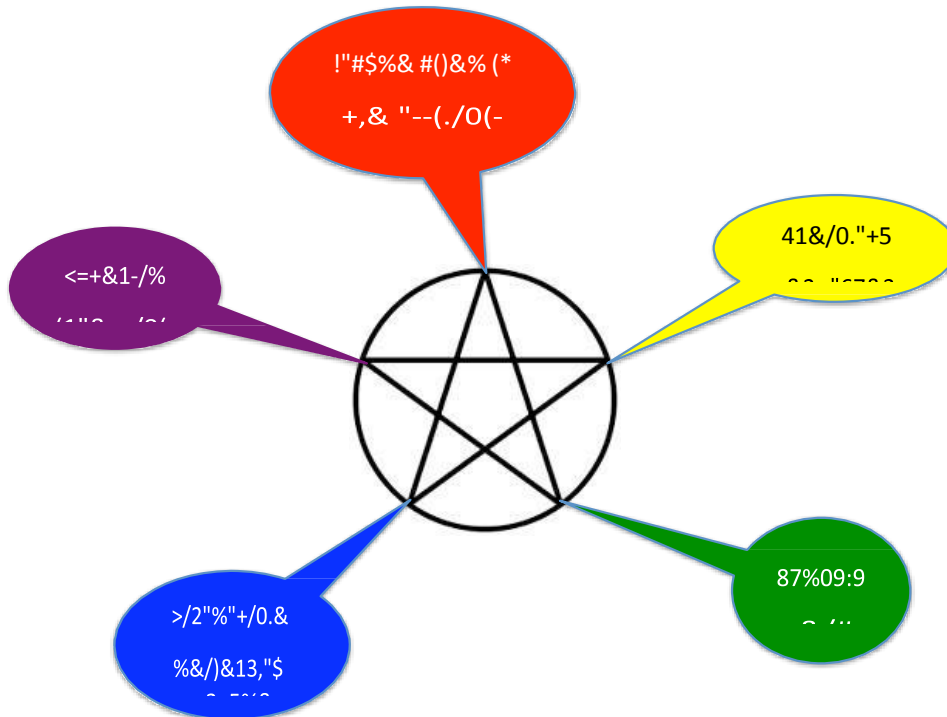


Figure 1. The Interdependency of the five elements of the Delft Innovation Method.

In the following paragraphs the five elements will be dealt with in more details.

### **The Delft Innovation Model.**

It helps to provide people (later to be called the Multi-X-Team) who are going to be involved in an innovation process an overview of the steps and actions they will have to execute. The model offers a kind of easy-to-read map of the new mental territory they are going to explore. This simple map offers guidance for the steps they will go through during this innovation process.

This map, or model, was developed over a long period of time. It started in the mid seventies [2], it was tested on a large scale in the mid eighties [3], and was refined later on in the nineties and early 2000's [4] and is now in its final form [5]. See figure 2.

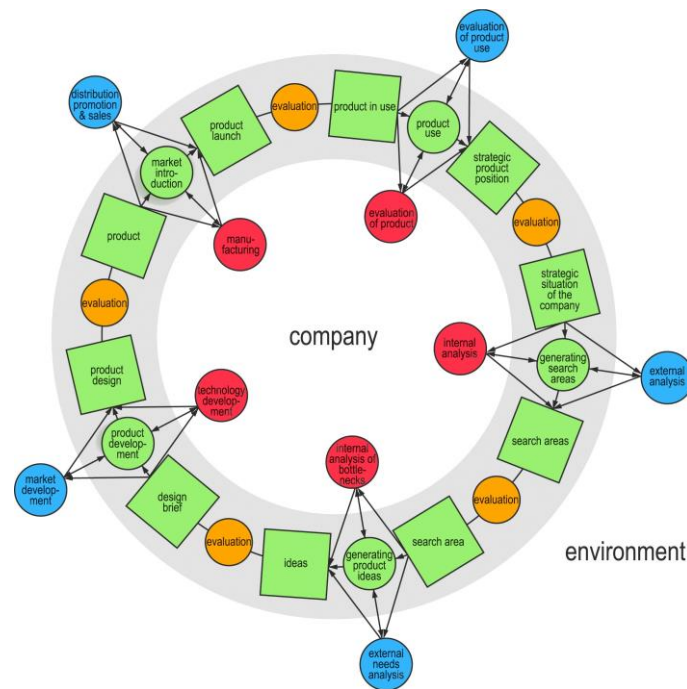


Figure 2. The Delft Innovation Model, edition 2012 [6]

Starting point for this perspective is the innovating company in the middle of the model which is acting in a hostile environment in which active competition and new entrants try to change the attitudes and needs of customers in order to gain their customership, new legislation is pursued and new technologies are being developed, to name but a few of the changing conditions a company has to cope with on a continuous basis. Most of these developments in the competitive environment are out of the 'control scope' of an innovating company.

The Delft Innovation Model has five steps or stages. The five stages are, starting from the top and following the clock:

1. *Product Use*,
2. *Strategy Formulation*,
3. *Design Brief Formulation*,
4. *Development*,
5. *Market Introduction*.

This last stage moves smoothly into a next *Product Use* stage as the first step of the following innovation loop. Each innovation is temporary and will cause a new next round of innovating. That is the main reason to visualize the innovation process as a circular model. It bites itself in the tail.

### **Facilitative leadership style**

Leading and managing product innovation projects is a challenging endeavor. Four different aspects have to be managed at the same time:

1. the content of the innovation;

2. the group dynamics inside the *Multi-X-Team*;
3. managing the innovation process as a creative process;
4. the leadership process itself [7].

The content is what drives the innovation process. The *Multi-X-Team* is the acting entity of the innovation process. Innovating and creating come together[8]. It all starts with leadership. This leadership has to balance all these four processes at the same time, without losing contact with the Multi-X-Team. The leader has to be in and out of the process at the same time, and also be aware that the three other processes need constant attention. This type of leadership is often called facilitative leadership.

Both content and process knowledge are crucial for good facilitation. Personally I like to be an active facilitator. I manipulate the processes of the group as much as possible to get out-of-the-box ideas. Knowing *Where* to manipulate is based on process knowledge, knowing *What* to manipulate is content knowledge.

### **Multi-X-team**

The internal *Multi-X-Team* is the engine, the heart and the soul of all innovation projects. They are in the lead. Selecting the key players to become members of the innovation team is essential. *Multi-X* refers to all differences of all characteristics of all participants in an innovation process. More view-points are needed to get a better grip on the developments in the outside world. It is not only about differences in educational background, the traditional disciplinary roots of someone, but also about different genders, different national cultures, ages, experiences, values and different norms.

### **Creativity techniques**

Innovation is about generating something new. In that respect, innovation and creativity are like twins [8]. In 2009 most of the ideas about creative problem solving were summarized and some new elements were added to them [9]. These latest insights come together in *iCPS* (= integrated Creative Problem Solving). There are four intertwined and mutually interdependent sub-processes inside *iCPS*:

1. Project Management,
2. Content Finding,
3. Information Finding,
4. Acceptance Finding.

See figure 3

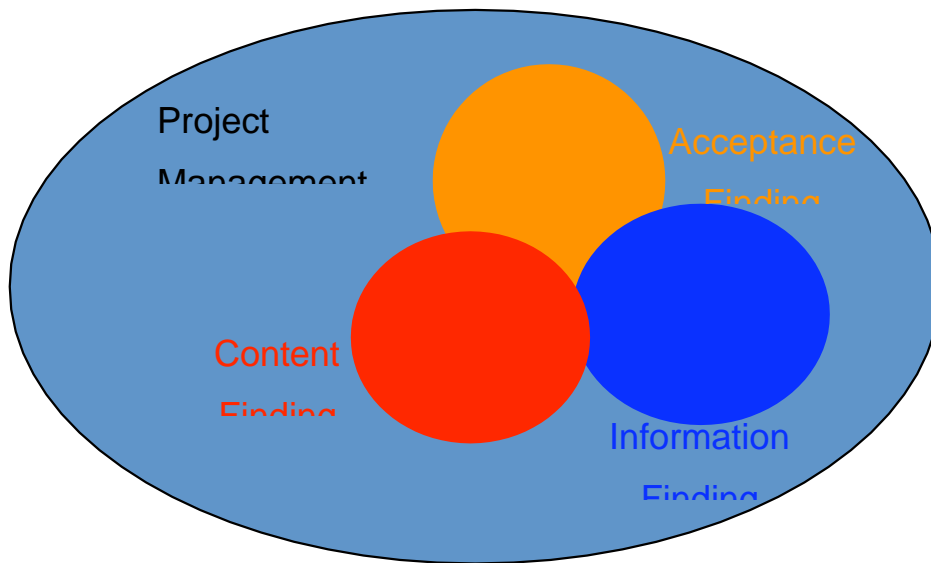


Figure 3. The *iCPS* overview [9].

*Project Management* is about organizing all the steps of a creative session. This includes the conditions and contexts as well as the selection of the future participants. This is the prime responsibility of the facilitator. *Content Finding* is the generation of the ideas themselves. *Information Finding* is related to all actions to get extra outside information into the creative session. During a creative session one can only use the actual knowledge and memories of the participants. As soon as they start checking that information by looking in a book, by Googling or by calling a specialist, that action is considered a part of *Information Finding*. *Content-* and *Information Finding* are the main responsibilities of the *Multi-X-Team*. *Acceptance Finding* is about preparing for the implementation of the generated ideas to other relevant stakeholders. There is no standard sequence for these four processes, except that the facilitator always has to start with the project management process.

The interventions which proved to be very effective for getting ideas in *Content Finding* are creativity techniques like *Brainstorming* [10], the *6.3.5.-brainwriting* method [11] or *Synectics*-like procedures [12].

### **External orientation.**

The external orientation of companies is essential for getting innovations. It is not only the starting point of all innovations, but also the conclusion and objective of all innovations, namely commercial success in the market place. External orientation is not only about new technology, competition or legislation; it is as broad as possible. Sometimes novels or movies will reveal something important about changes in society. Shifts in political support can be a sign of other major changes. Connecting all stakeholders in an innovation process with outside activities should become kind of second nature. Be curious, be open, be active, join clubs, be a member of

professional unions, read the newspapers, watch TV, surf on the Internet, buy and scrutinize competitive products, and so on. Successfully innovating companies are permanently linked with their relevant outside world, in all stages of the innovation process.

## Conclusions

This empirical based book offers a proven method how to innovate from within a company. The audience for this book are novices in the innovation field. It is aimed at design and business students, and people inside companies who are going to be involved in innovation processes for the first time. It also hopes to serve their bosses and colleagues as well.

## References:

- [1] Buijs, J., Action Planning for New Product Development Projects. *Creativity and Innovation Management*, vol. 17, number 4, 2008, pp. 319 – 333
- [2] Buijs, J. A., Innovation can be Taught. *Research Policy*, number 16, 1987, pp. 303 – 314
- [3] Buijs, J., Modeling Product Innovation Processes, from Linear Logic to Circular Chaos. *Creativity and Innovation Management*, vol. 12, number 2, June 2003, pp. 76 – 93
- [4] Buijs, J. A. & R. Valkenburg, *Integrale Productontwikkeling*, Utrecht Lemma, 3rd edition, 2005
- [5] Buijs, J. A., The Delft Innovation Model, *Engineering Today*, Malta Chamber of Engineers, March 2010
- [6] Buijs, J. A., *The Delft Innovation Method; a design thinker's guide to innovation*. Den Haag, Eleven International Publishing, 2012
- [7] Buijs, J., Innovation Leaders should be Controlled Schizophrenics. *Creativity and Innovation Management*, vol. 16. number 2, June 2007 pp. 203 - 210
- [8] Nyström, H., *Creativity and Innovation*. Chichester, Wiley, 1979
- [9] Buijs, J. A., F. Smulders & H. Van der Meer, Towards a More Realistic Creative Problem Solving Approach. *Creativity and Innovation Management*, vol. 18, number 4, 2009, pp. 286 – 298
- [10] Osborn, A., *Applied imagination: Principles and Procedures of Creative Problem Solving*. Buffalo, The creative Foundation Press, 3<sup>rd</sup> revised edition, 1993
- [11] Schlicksupp, H., *Kreative Ideenfindung in der Unternehmung*. Berlin, De Gruyter, 1977
- [12] Gordon, W. J. J., *Synectics, the Development of Creative Capacity*. New York, Harper & Row, 1961