

Transforming companies into Open Organisations to help Open Innovation to succeed at last

Direct Open Innovation, a model to align a company's strategy, organization and processes with Open Innovation approaches

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Abstract

Finding the right information in open innovation projects and integrating this information in the company will reduce the risk in the development process. Those two aspects are combined in the Integrated Open Innovation Mode (IOIM). This paper focuses on the second step, the integration of the information in the companies. Industry studies show that the Integrated Open Innovation Information (OII) decreases in consecutive process step within the product development process. In order to avoid this information drain the company's strategy, organization, culture, process design and enablers need to be able to align to the task of the open innovation project. First evidence in those two industry studies shows that the direct flow of information is one of the key issues for a successful open innovation projects. In future research the exact settings of mentioned parameters have to be defined to reduce flop rates in product development.

1. Introduction

Looking in the B2B industry the partnering between the different actors of the value chain has changed. In recent years especially the larger OEMs have expected their suppliers to pre-develop technologies and products and by doing that taking over the entire cost and risk. B2B companies have built up large departments for their technology push activities. The pre-developed technologies and products are presented on judgment day to the OEM and selected by the purchasing managers. Many of the products/ technologies are rejected in this selection process, just as a new yogurt might be rejected by the end customer in a supermarket. Newly developed B2B technologies just like yogurts do have flop rates. In times with large development budgets, try and error is always an option. If a new

technology does not fit in the market, the next one down the line might. But as budgets have been cut and lean processes have been introduced in recent years, this is not an option anymore.

In order to reduce these flop rates and consequently reducing the risk in the product development / product lifecycle management process many B2B companies aimed at two directions. On the one hand they tried to integrate their direct customers by building up a key account/ product management organization mirroring their customers and on the other hand they tried to integrate market requirements in their organization, just as their counterparts in the consumer industries started to do in the 1950s and 1960s.

Within the last years many of those companies developed quite sophisticated methods of integrating market intelligence. From classical market research to open innovation projects, different approaches were investigated. Unfortunately, the flop rate of the pre-developed products and technologies did not decrease. Two reasons can be identified.

On the one hand previously and during the OI project, companies had often chosen the wrong participants to integrate in the OI projects, the wrong methodology of integration and collaboration, and finally the wrong adaptation of the methodology itself [2].

On the other hand companies had difficulties integrating the market intelligence, the results of the open innovation projects, into their processes – the business development, the product development and the technology development process.

A study conducted between 2008 and 2010 amongst 5 larger German B2B companies showed that intelligence-collectors and intelligence-users have difficulties matching their demands. Among the many reasons for this mismatch, the most important one,

which has been identified is, that there is no mandatory process to use the collected intelligence as well as non trustable relationship between the collector and the user of the information [3].

To sum up, open innovation projects are successful only if both, the gathering and structuring of the information and the integration of the intelligence in the companies are equally well managed.

2. The Integrated Open Innovation Approach

As mentioned above, in order to ensure the success of open innovation projects it is necessary to develop an integrated approach for both phases: the (1) Open Innovation project and the (2) operationalization of the input. At this we propose the new approach of

Results of the study mentioned above show that in many cases companies, in order to integrate the collected Open Innovation Information successfully, need to adjust their strategy, organization and culture, processes and enablers. Consequently, the Integrated Open Innovation approach helps to find the right open innovation information and to integrate the information in the companies. By following the integrated open innovation model the success rate of the open innovation projects will increase and finally the risk within an open innovation project will decrease.

The **Integrated Open Innovation** approach consists of two main sub-approaches which are linked via appropriate interfaces. In the first phase when open innovation projects are planned, the sub-approach of **Situative Open Innovation (SOI)** addresses the methodical selection of appropriate external and

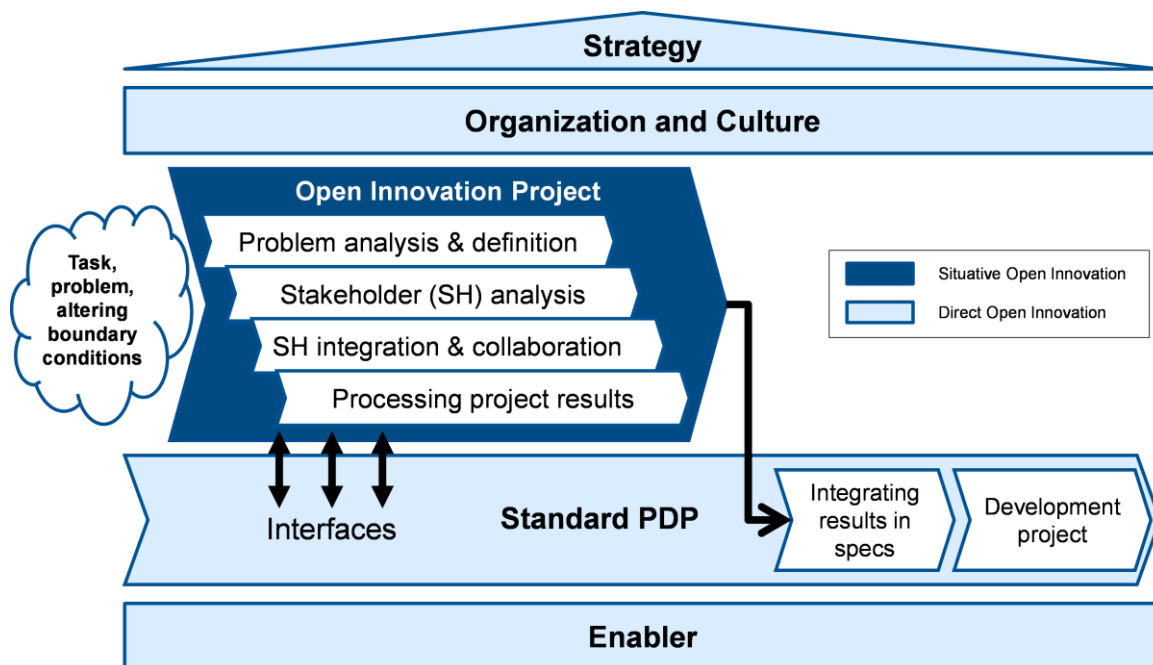


Fig. 1: The model of Integrated **Open Innovation** [1]

Integrated Open Innovation. As illustrated in Fig. 1, it can be roughly divided into two phases: The darker section depicts the open innovation project. The lighter section shows the integration of the collected and structured Open Innovation Information into the company.

The integration includes processing data and transferring it into the company's standard product development process and the further operationalization.

internal actors as well as the selection of appropriate collaboration methods [4]. In the second phase the sub-approach of **Direct Open Innovation (DOI)** addresses the input operationalization: The collected information will be transmitted into the organization and within each process step the information will be mixed with the internal information of the companies, depending on the strategies, processes and culture. The model of Direct Open Innovation describes the best specification of the parameters strategy, organization, culture,

processes and enabler of a company which ensure a maximum output of an open innovation project.

As our study shows, most open innovation projects are started by the top management. Beside the marketing effect of an open innovation project they intend to reduce risk in their product development process. Here risk is understood as the probability multiplied with the consequences relative to the deviation from the expected targets [3]. Among all types of risks in the development process the Integrated Open Innovation approach will target the following:

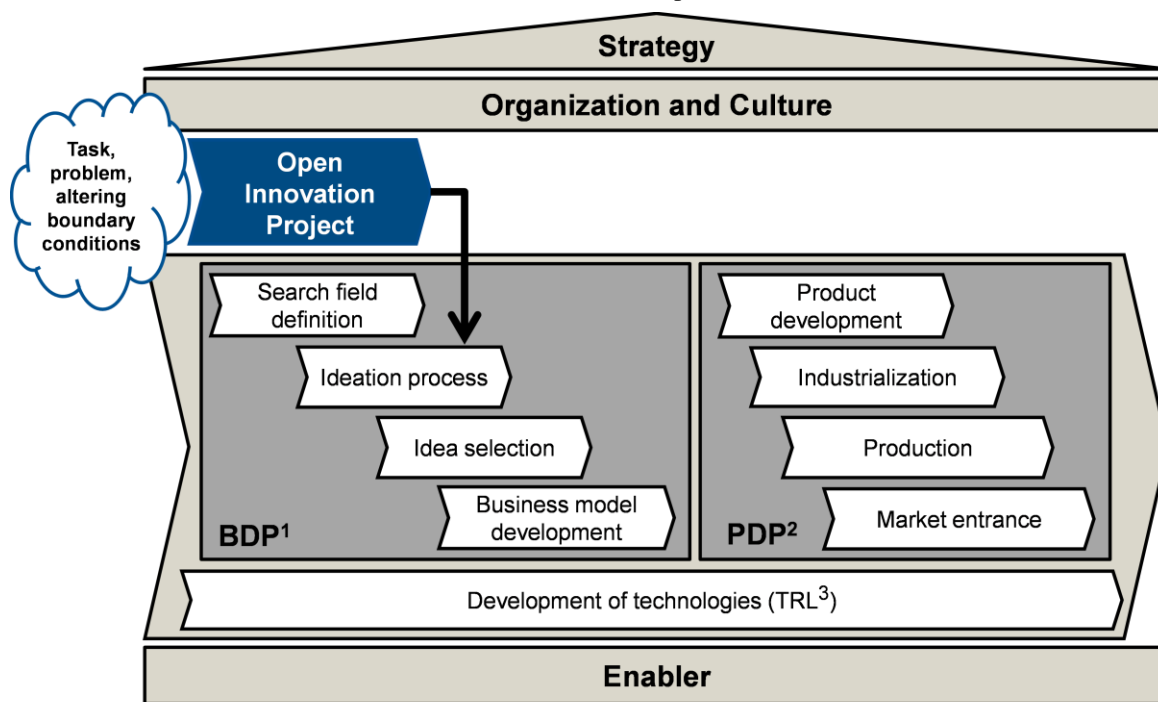
Open innovation projects are started by one project team, gathering the information and handing the information over to another development team. In most cases two different employees lead those teams. The integrated approach optimizes the interface between the teams.

If top management starts an open innovation project by talking to an employee of the R&D department, projects are started very quickly, the methodology used

If a project is started involving the business development department, the integrated approach helps the business development manager to find a receiver for his Open Innovation Information (OII) gathered in the OI project.

With the Integrated Open Innovation approach the right framework for the open innovation project will be developed and the results - the Open Innovation Information (OII) – is delivered to the right interfaces in the business development, product development and technology development process. By doing so the Integrated Open Innovation approach ensures the reduction of internal barriers and consequently reduces the flop rates.

Both sub-approaches are closely linked via appropriate interfaces which are subject to current research. This can be realized e.g. by the integration of employees in the planning of the open innovation projects [3]; process-based exchange between Open Innovation projects and the standard development process; a combined external and internal idea



- 1) BDP: Business development process
- 2) PDP: Product development process
- 3) TRL Technology Readiness levels

Fig. 2: The interface between Direct (grey) and Situative (blue) Open Innovation

to gather the Open Innovation Information is picked randomly. The integrated approach foresees a process step, in which the team picks the methodology by certain criteria.

generation; contact with external idea providers, etc.

This paper addresses the sub-approach of Direct Open Innovation. The overall approach of Integrated Open Innovation, consisting of Situative Open

Innovation and Direct Open Innovation is continuously taken into consideration.

3. Directed Open Innovation

An interview study at two German automotive suppliers and their B2B business in spring 2013, show that integrating the open innovation information in the companies is far more difficult than they had thought at the beginning of the projects.

In order to find the best specification of the parameter strategy, organization, culture, process and enabler and to combine them in the Direct Open Innovation model, the various types of open innovation projects have to be limited to one certain model. As shown in figure 2, the open innovation information, after gathering and aggregating the information in the open innovation project (dark blue) only integrates into the ideation process step in the business development process. The OI information could be “need

information” on market demands or product ideas generated in an Internet contest. Information on technical solutions, which would typically integrate in the technology development process or the product development process step will not be included in this model.

As already described by [5] and independently within our study in 2011 [3], the reasons for not integrating external information in companies can be divided into five categories.

1. Trust – Trustworthiness of colleagues and reliability of results: 65% of the interviewed R&D employees do not trust the methodologies of OI.
2. Long production times: From the point of project start until the open innovation information is available in form of a final report, 3 – 6 months can easily be calculated. For R&D departments this period was far too long.
3. Enormous external costs: No R&D employee

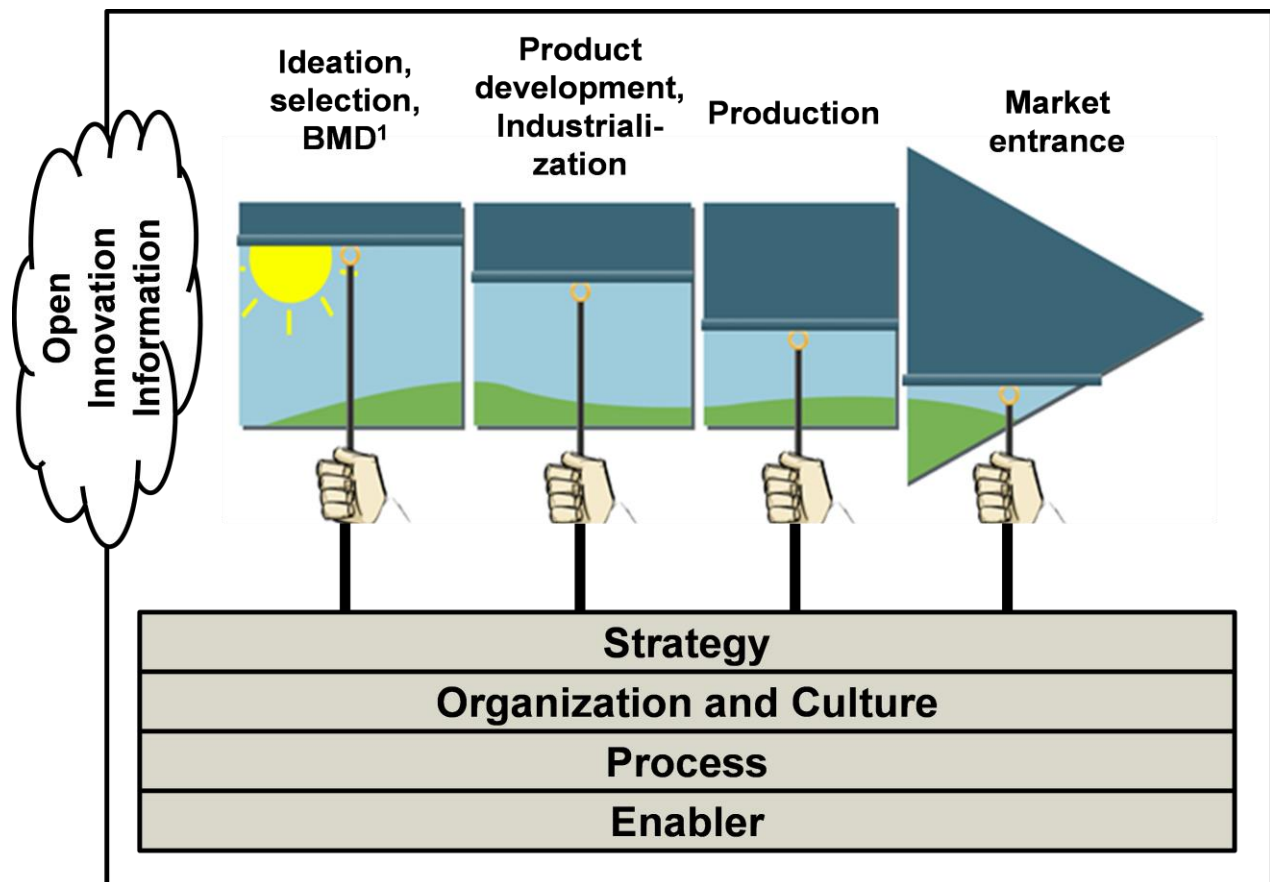


Fig. 3: The model of Direct Open Innovation

reported that they include budgets for market studies in their R&D budget during the planning period. When a market study is essential later on, it has to be carried out with small budgets or entirely new sources to finance the projects have to be found.

4. Conveniences – easiness of result integration: 100% of the interviewed R&D employees stated that they had large difficulties integrating results of market studies into their development process, the results are not analyzed and prepared the way they need the information.
5. Little understanding of the R&D department for the necessity of the collection of OI Information: Only 24% of the R&D employees understand the necessity of an automated process to integrate market studies in the product development process.

All this leads to phenomena that the fraction of OI Information decreases over the project steps. In the first project steps, right after the information was handed over by the project leader of the OI project; most of the OI Information still exists within the project.

Our study shows that in each process step OI Information is substituted by internal solutions, ideas or knowledge. In some products even, when it gets to the market, none of the Open Innovation Information can be found. The process can be described as a window which is closed by a rolling curtain further and further as the process is proceeding from ideation to market entry.

As we explained using the model of Integrated Open Innovation, the risk in product development can be reduced, the more open innovation information will remain in the product over the development process steps. In the picture of the rolling curtain, strategy, organization, culture, process design and enabler are tearing on the curtains to close the window and by doing so, reduce the fraction of open innovation as shown in figure 3.

What a model with its parameter strategy, organization, culture, process design and enabler has to look like, so that a company is able to keep the curtains open during the entire development process, will be defined in coming research. Next to the characterization of the parameter mentioned above, one boundary seems to be mandatory.

In the model of Direct Open Innovation information needs to flow directly within the process steps in order to reach all recipients freely, instantly transmitted through the company, displayed directly in the language of the R&D staff, conveniently structured and transparent for every receiver.

In order to make information flow freely the internal participants in Open Innovation projects need to be chosen wisely. In an industry study at a German car supplier, the focus was set on the employees who influence the OI projects the most and add the most value to its success.

In the first step, based on the conducted interviews with experts and with the help of literature, five characteristics with two contrary specifications are defined, which help to identify the right participants of an OI activity:

- Culture of errors, with the specification "avoid errors" and "allow error"
- Sluggishness, with the values "excitable" and "sluggish"
- Sociability, with the values "secluded" and "sociable"
- Mindfulness, with the values "task-oriented" and "goal-oriented"
- Helper syndrome, with the values "avoid supporting" and "favour supporting"

In the next step eleven OI activities, carried out at that particular company are coded according to the same characteristics and their specifications used to classify the employees. It turns out that for each OI activity a distinct combination of specification for the characteristics has been found.

In the following step, a questionnaire is developed to determine the specifications of the characteristics of the employees who want to conduct an OI project.

The questionnaire consists of 25 statements which have to be rated in terms of their fitness by an employee. Five statements relate to one characteristic and its specification. The more a statement is approved, the more the person tends to the specification with the binary code "1". By using the developed Excel Tool the proceeding can easily be implemented in the OI activity selection process. After the rating of the statements by the employees, a priority list is created automatically that lists the relevant OI activities in sequence, starting with the most promising to fit that certain employee.

Nevertheless, it must be noted that the present results and especially the coding and the matching process are based on the analysis of one particular company only.

Summarizing this aspect, employees were grouped in five clusters and open Innovation activities, which are carried out in the companies on daily bases, were prioritized to fit certain employees the best. The five clusters are stated in figure 4.

4. Industry Evaluation

The concept of Direct Open Innovation is based on two studies. In the first study five internationally operating German companies were interviewed between 2008 and 2010. 41 interviews in the industries of: automotive suppliers 29%, health equipment manufacturers 24 %, special vehicles (OE) 15%, semi-finished products 22% and transportation 10% were carried out.

This paper focuses on Direct Open Innovation (DOI) in the context of two industry studies. Here we found that the fraction of the Open Innovation Information (OII) decreases over the consecutive process steps. The model of DOI will help to stop this information drain. First boundary conditions found, are that information needs to flow directly through the different process steps. To further develop the DOI model, we are preparing an enlarged study with 40 German companies.

With the results of the study the characterization of

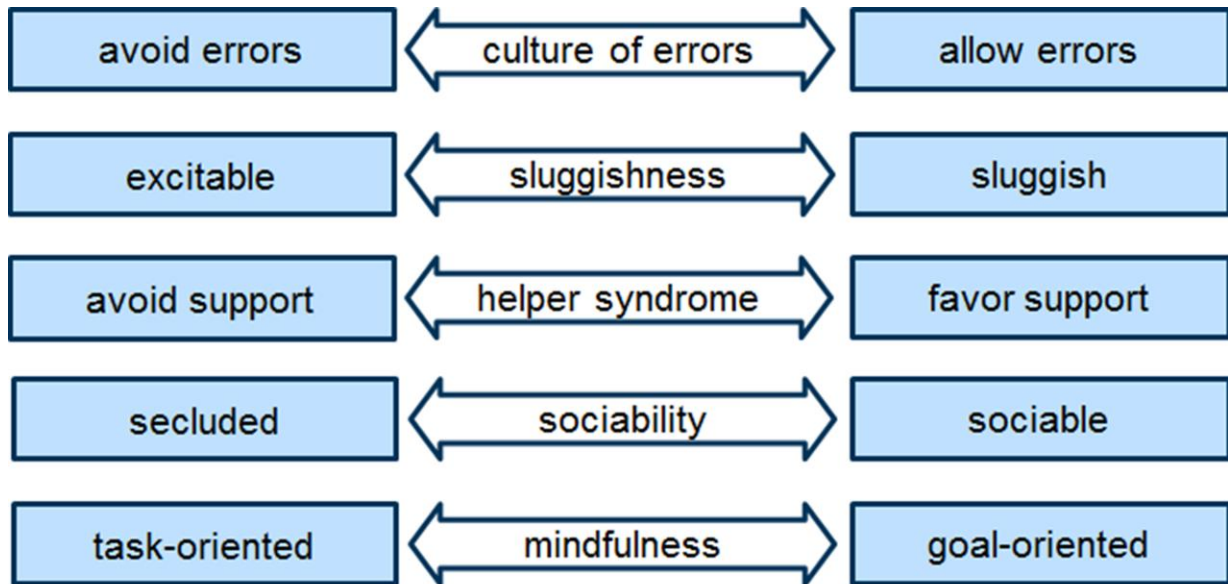


Fig. 4: Clusters to structure the employees within companies

The interviews, which lasted between 60 and 90 minutes, were conducted with employees on different hierarchical levels, from VP R&D to market research team members. The second study within two German automotive suppliers was carried out in 2013. Here 34 interviews with business development, R&D, product management and marketing were analyzed.

the parameters strategy, organization, culture, processes design and enabler can be defined to ensure a setting in which open innovation projects within companies have a higher success potential and due to a higher success potential risk and consequently flop rates in product development can be reduced.

5. Conclusion and Outlook

Risk, as high flop rates, in product development can be reduced by an open innovation approach. However, open innovation itself bears risks. In order to face those and ensure the long-term success of open innovation an integrated approach is necessary. [1]

We propose the approach of Integrated Open Innovation which combines (1) Situative Open Innovation for planning the project including the selection of suitable actors and collaboration methods, and (2) Direct Open Innovation for transferring and embedding the gained input into the company. [1]

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