Socially Indicated Match Making Approach:

An Alternative Way of Identifying the Right OI Activity

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Abstract

The risk of failure of an Open Innovation project is reduced by developing a new selection proceeding for Open Innovation activities. Only factors such as budget, time and type of ideas have been taken into consideration by the classical proceedings used so far. The new proceeding focuses on employees directly involved in Open Innovation projects. The employees' characteristics are identified and used to select the relevant Open Innovation activity.

Keywords: Open Innovation, Open Innovation activities, selection process, participants, characteristics

1 Introduction

To decide means to make a selection between different alternatives (Schäfer 2011:28). When companies want to carry out an Open Innovation (OI) project, they need to decide what method (here always referred to which OI activity) to use. Till today companies have gathered information about the different activities and the needs for the project and the management decides what activity to use. In the end in many cases the gut feeling often indirectly leads to a decision that has little to do with objective selection. This approach follows the hypothesis of somatic markers by Damasio (2001:237-238). He describes that these markers arise from education and socialization and are learned over the years. When a negative event appears in one's life, it is stored in one's brain. In situations similar to the learned, one has that "strange feeling in the stomach" and it directs the decision.

A big advantage of intuition compared to the analytical, structured approach can be seen in the speed of decision making (Zeuch 2010:24). For experts the process seems to be even faster and with an extremely high accuracy, they cannot rationally explain (:35). The intuitive decision-making process has been developed over thousands of years. However, our brain has not been able to adapt quickly enough with regard to the rapid change in the modern industrial and information society (Traufetter 2007:83). Therefore, there are so-called intuition traps when intuition directs the person in the wrong direction (Zeuch 2010:97):

- expectations that blend our perception
- stick to familiar strategies (even if unsuccessful)
- bias because we cannot undo our first impression
- loss avoidance, because the pain of loss is usually more perceived as a potential profit

As companies are well aware of those traps they are looking for a decision making process in order to select the right OI activity in a rather process orientated and logic way.

2 How the OI activity selection process works today?

In order to establish a reason based selection process to find the suitable OI activity focus has been put on the hard facts in recent years. When looking at companies, different approaches for a reason based selection process can be observed:

- Analysis of literature to gather information about various activities to produce an overview of possible activities
- Brainstorming activity and workshops to generate general acceptance and collect internal knowledge about OI (Wilhelmer/ Reinhart 2013:21)
- SWOT analysis of the company's strengths and weaknesses, opportunities and obstacles can be matched with the individual methods
- company-specific future scenarios to understand which kind of partner is most relevant for further collaboration (:21-22)
- Internet based tools, as the one developed by the RWTH Aachen in a publically funded project. Predefined criteria and their specifications can filter 115 listed activities (also including OI activities). This very systematic approach is strongly connected to the already explained subject of rationality in the decision-making process. The tool uses criteria such as company size, time, application focus and complexity for the selection process. In addition, the activities are connected to different phases of the innovation process: problem definition, idea generation or evaluation, or knowledge management
- Use of external experts such as consulting firms which have already carried out several OI projects (Wilhelmer/ Reinhart 2013:21). They support the innovation process for a while and have an intuitive understanding of what type of activity fits best to the company. The consultant verifies his selection by means of facts to increase the plausibility
- Benchmark method can also be included in the work of consultants (:21). But the approach can also be used independently. Today special companies organize events such as "Innovation

Roundtable"[1] to generate the opportunity of interacting with a variety of companies on a very intimate basis and learn from each other

When talking to various companies, the interview partners always tell the same stories. Mostly all companies are experienced in executing OI projects. The projects themselves are mostly described as successful. But when employees are asked for the OI projects results and in which new products they are included, mostly all answers are negative. The results of OI projects are lost alongside the product development process. One reason might be the OI team at the company side. If it does not advertise the ideas or solutions found in the OI projects within the company, the OI information will never travel alongside the value chain into the newly developed product.

Therefore the selection process should not only focus on the companies needs but also on the needs of the project team. Only if it fits the activity, it will be satisfied with the projects results and finally will advertise the results within the company. In the end traces of the OI information will then be found in the products new on the market. **But how should a proceeding look like to select the optimal OI activity for a designated OI project performer?**

In order to answer the question a large project within a German Automotive Supplier was executed in 2014. The company has performed various OI activities within the last years. Within the company over 35 interviews with various employees were performed in order to collect a solid database. First the criteria for expert selection were defined to make sure that the relevant information can be gathered by so called experts. The following questions had to be answered by the employees of a German automotive supplier in order to gain expert status: What experiences have been made during the selection of OI projects? Was the execution done as expected? Which kind of optimization potential can be identified? How would you describe your role in the OI project? Would you select the OI activity a second time?

The following criteria for the selection of experts can be defined as:

- Broad base of knowledge about selection of OI projects
- High amount of experiences through participation and implementation of OI projects
- Ability for self-reflection and evaluation of one's behaviour during OI projects

[1] *Confer: Innovation Roundtable Events at http://www.innovationroundtable.com/*

Additionally, it was necessary to generate an understanding of the OI activities being performed within the company, the general characteristics and abilities of people working within the OI activities and implementing the OI results.

The interviews were conducted using an interview guide. Thus, the interviewer was able to lead the conversation and control the direction of the interviews. Despite of some guidance, the interviewer also paid attention to objectivity. Only during questions concerning self-reflection, and characteristics help was given in order to give the respondent an idea of possible answers. It is not essential what kind of education, knowledge or training the employee has, practical examples have shown that employees with the same background do not show the same behaviour and do perform at a different level in different situations (Krüger 2013:85).

In the following the development of the new proceeding will be described. After a general overview there will be an introduction to the characterology by an overview of published research in literature focussing on characteristics in OI activities. Afterwards the new proceeding on how to select the optimal OI activity will be described in detail.

3 Development of the proceeding

3.1 General overview

An OI activity can be segmented in three phases:

- Selection
- Execution
- Implementation

In the presented work a new proceeding for the **selection** of the right OI activity is defined. But we have not focused on the selection phase within the OI activity and not on the management, who usually decides for one of the activities in the end. With regard to the employees interacting during the OI activity, the selection phase is not the most active one. Here we will focus on the execution phase because it is the one with the most possibilities to intervene analysing the results. Nevertheless the

implementation phase has a lot of opportunities for interaction, too, but only can lead to success if the previous phase was successful.

The second dimension of the matrix are the different roles. There are **performers**, the ones who execute the OI activity, **sponsors**, the ones who support with money or power, **deciders**, manager who tell the performer what to do and **the responsible,** employees who sign off for budgets or resources. The aim of this work is to reduce the risk of failure of an OI project. Therefore the focus must be on the role that is specifically involved in the execution of the activity and has the most influence on the success or failure. Therefore the focus is put on the role "**performer**" and on the phase "**execution**" (Figure 1).

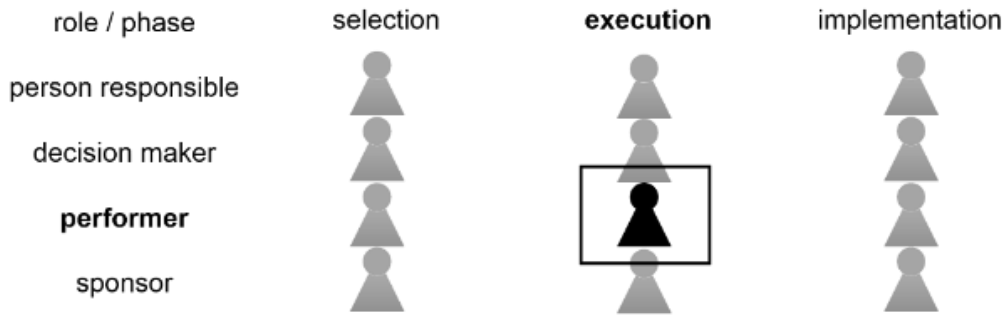

Figure 1: Interaction matrix

First, **general characteristics** based on the characteristics of the interviewed employees are defined, always with two extreme specifications. This is done through the interpretive-reductive analysis of the interviews. This six-step procedure is modified in the present work as explained in the following. In the first step the information of the interviews is summarized. In the next step, the content is sorted by topics, to identify the same behaviour of the respondents. Statements about policies, achieved project success, risk behaviour, communication, goal orientation and schedule control are analysed in detail and compared to the characteristics of the self-analysis of the employees involved.

In addition, the findings of the interviewer on the respondent is included. With the help of a catalogue of adjectives and nouns for characterization, more terminology is written down with similar meaning (Baumgarten 1933:60-76). This is done with all interviews. Finally same passages from different interviews are combined and adjusted if necessary. In the end a general classification is made and the approach is complemented with the knowledge gained from the literature.

After defining the characteristics the coding can be started. That means that the defined characteristics are brought together with the conducted OI activities. Finally a questionnaire will be developed that will allow to identify the characteristics and their specification for a specific person, who could be in the project team of the future OI activity. The process can be seen in figure 2.

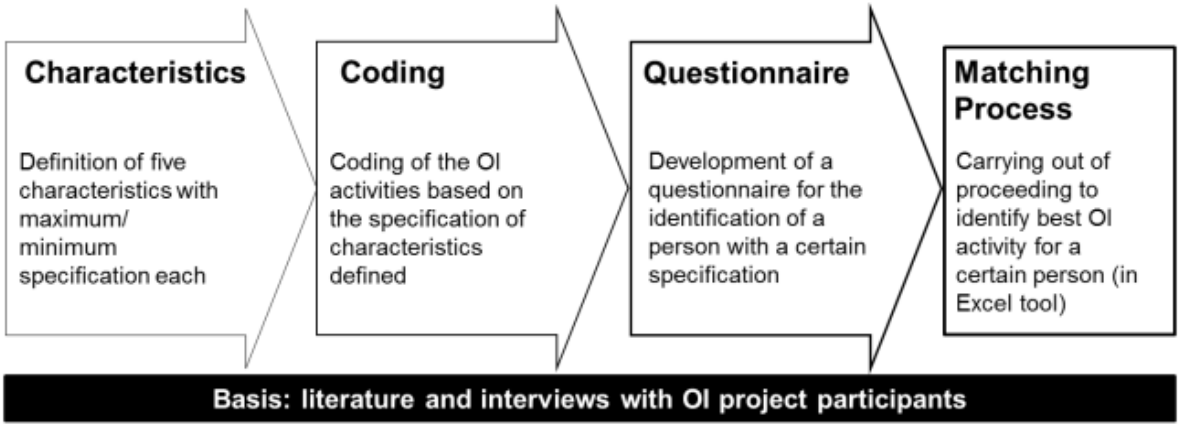

Figure 2: Process of the development of the new proceeding

Finally, it should be noted that the development of the selection method was made on the basis of experience gained in this one particular company. Thus, the method must be modified for a general approach.

3.2 Characteristics from literature

In the literature some characteristics, abilities and capacities of the employees working in and for OI projects for a successful implementation of OI activities have already been defined. Gassmann and Enkel define the following skills (2014:13-14):

- "**absorptive**" for Outside-In processes → means support by employees who are able to take information from the outside and effectively integrate into the company
- "**multiplicative**" for Inside-Out processes → means proper selection of potential partners, an unerring marketing of innovations to the outside and an openness to knowledge transfer success
- "**relational**" for Coupled processes means building relationships with partners, to maintain it and to maintain over time.

Lichtenthaler complement this concept by defining six knowledge capacities sorted by knowledge exploration, knowledge retention and knowledge exploitation (2011:80). These areas are divided into an external and internal capacity that affect the knowledge transfer within the company positively (Table 1).

		Knowledge exploration	Knowledge retention	Knowledge exploitation
internal	capacity attitude	Inventive Not-invented-here	Transformative Not-connected-here	Innovative Not-sold-here
external	capacity attitude	Absorptive Buy-in	Connective Relate-out	Desorptive Sell-out

Table 1: Capacities and attitudes for Open Innovation activities

Detailed information about the capacities discussed by Ili (2011) will be elaborated in the following.

- Inventive capacity stands for the ability to internally explore knowledge (:81). The "Not-Invented-Here" attitude reject inventions, even when originating from a nearby departments in the same company (Ili 2013:27).
- Absorptive capacity stands for the ability to explore external knowledge (Lichtenthaler 2011:80-84). The "Buy-In" attitude elaborates from the wish to reduce complexity or to bypass the own competencies which are not sufficient (:83).
- Transformative capacity stands for the ability to internally maintain knowledge over time (:80-84). The "Not-Connected-Here" attitude describes the missing ability to save knowledge internally and to reintegrate the missing in the process (:83).
- Connective capacity stands for the externally maintaining knowledge which does not assume immediate inward knowledge transfer (:83). The "Relate-Out" attitude puts the focus on the core competencies and the purchase of new knowledge from the outside (:83).
- Innovative capacity stands for matching inventions with context from the final market (:80-84). The "Not-Sold-Here" attitude describes the fear to give too much information away to the competitors (:83).
- Desorptive capacity stands for the outward technology transfer, which is complementary to internal knowledge application in a firm's own products (:80-84). The "Sell-Out" attitude

describes the openness to share information with other external partners to get a profitable connection (:83).

Additional capacities and behaviour is defined by different academics:

- "Chance intelligence" to spot new potentials and future trends (Ili 2013:70)
- Entrepreneurial thinking (:70)
- Team work and social interaction (:105)
- Knowledge of the corporate culture and of formal and informal processes (Stern 2010:216-217)

However, these skills are always kept very general and don't focus on specific OI activities. Therefore the approach of the present work tries to close exactly this gap.

3.3 Characteristics and their specifications

In the following the characteristics of the employees and its contrasting specification are defined. It is based on the interviews at the German automotive supplier and sources from literature.

Five characteristics are defined which have to fulfil the following criteria: independent from each other, not connected to each other, not too general and measurable. However, complete independence can't be guaranteed. Furthermore, characteristics such as "trust" and "honesty" are excluded because there is no example where e.g. dishonest people have an advantage in the execution of an OI project.

The first characteristic is the **culture of errors.** It is defined by different subcategories: dealing with errors, desire for structure and organization, dealing with risk and surprises. In summary two contrasting specifications are defined: **avoid errors** and **allow errors**. The first one can be identified at employees who look at errors as a sign of poor quality, believe in logic, integrate OPLs (Open Point Lists) in projects, and are afraid in taking risks.

The second one can be identified at people who see errors as a learning and innovation opportunity, see intuition as a competitive advantage, integrate Lessons Learned in projects, and have an entrepreneurial way of thinking.

The second characteristic is **sluggishness** with the following two specifications: **excitable** and **sluggish**. It is identified through the following behaviour of the participants: dealing with stimuli, act

of decision making, and satisfaction about the status quo. The degree excitable can be seen at people who are able to integrate changes in projects very fast, can pick up signals from their surroundings, take decisions without hesitation and accept their responsibility easily, and have strong faith in themselves.

Employees, who are not able to integrate changes in projects, don't want to walk out of their comfort zone and maintain the Status Quo, and only take decisions if they have to and if they can explain it in detail, can be identified as sluggish.

The third characteristic is the **sociability**. It is defined by the following social-oriented subcategories: dealing with new situations and people and secondly the way of doing conversation. Out of them two contrasting specifications are defined: **secluded** and **sociable**. The specification secluded can be seen at people who don't want to be too close with other colleagues or partners and develop social ties very slowly, have problems to build up networks (internal as well as external), and can't present in front of others very well. Sociable people can be identified easily in the business environment. They are charismatic and like to build up networks, chat with other people, are good listeners as well, and sometimes try to attract attention, too.

The fourth characteristic is **mindfulness** with the following two specifications: **task-oriented** and **goal-oriented**. It is identified through the behaviour of employees when dealing with problems and the resulting solution process. The specification task-oriented can be seen at people who evaluate problems step by step, work hard for milestones in projects, focus on details and feel confused and powerless if confronted with problems at first sight. The other specification was identified at employees who are able to reduce unimportant things when dealing with problems, focus on the overall goal, and often want to ensure to enclose the bigger picture in the result of their work. Therefore these employees always have the corporate vision and culture in mind to have a guideline for their daily work.

The last characteristic is the **helper syndrome**. This characteristic is also connected to social relationships but focusing more on the exchange of information. Here the two specifications **avoid supporting** and **favour supporting** are defined. If a person avoids supporting, the person doesn't want to explain topics, share information or guarantee a common understanding. Altogether there is no

learning climate between the partners. The other way is a person who favours supporting. Here the learning climate is very good because information is very well explained using easy language, especially for technical problems. Some performers are able to explain their projects very easy, other have problems and have to repeat it again and again.

In the following there is an overview of all characteristics and its contrasting specifications (Table 2).

	Contrasting degrees	Detailed content
CULTURE OF ERRORS	**avoid errors**	➢ error is a sign of poor quality ➢ avoidance of surprises and unpredictable events ➢ confidence in logic, planning and firm rules ➢ search for order and structure ➢ avoidance of risk
	allow errors	➢ mistakes are learning and innovation opportunity ➢ surprises enrich the daily routine ➢ trust in intuition ➢ avoidance of constricting structures ➢ readiness to take risks
SLUGGISHNESS	**excitable**	➢ flexibility ➢ high susceptibility for stimuli ➢ joy to make decisions ➢ enthusiastic and energetic
	sluggish	➢ rigidity ➢ Low sensitivity for stimuli ➢ lack of decisiveness ➢ maintain the status quo
SICIABILITY	**secluded**	➢ heavy adaption to new situations ➢ difficulties in establishing social ties ➢ problems in conversation techniques ➢ hardly facial expressions and gestures in conversations
	sociable	➢ easy adaptation to new situations ➢ no difficulties in establishing social ties ➢ regulation of the conversation ➢ strong facial expressions and gestures
MINDFULNESS	**task-oriented**	➢ narrow scope of attention ➢ focused View ➢ work for milestones ➢ hardly knowledge of corporate vision
	goal-oriented	➢ wide scope of attention ➢ peripheral view ➢ work for the overall objective ➢ constant awareness of corporate vision
HELPER SYNDROME	**avoid supporting**	➢ no development of learning climate with other ➢ difficulties in explaining the context ➢ restricted willingness to help and devotedness
	favour supporting	➢ an obvious development of learning climate with other ➢ ability to easily explain complex things ➢ high willingness to help and devotedness

Table 2: Overview of characteristics and specifications

3.4 Coding the OI activities

In the following the selected OI activities (Table 3) are coded according to the defined characteristics. The goal is to identify which kind of specification of characteristic is relevant for which kind of OI activity.

Activities of…		
Outside-In processes	Inside-Out processes	Coupled processes
Idea Contest	Out-Licensing	Coopetition
Innovation Intermediary	Spin-Off	Out-Licensing
Co-Creation	Business Angel	Strategic Alliances
Licensing-In		
Technology Scouting		

Table 3: Overview of OI Activities

A code out of "0" and "1" is used to describe the specification of the characteristics for the eleven OI activities. The code, in the end a 5 digit number, represents the two specifications for each of the five defined characteristic.

The coding is based on literature review about the OI activities and the interviews at a German automotive supplier. The conducted interviews give hints to what extent personality characteristics influence the success of an OI activity or what kind of characteristics may help or hinder the success. The interviews with the participants of OI activities were taken to identify which of the two specifications were essential for the success of the OI project.

The coding process is shown exemplary on one OI activity, the idea contest. An idea contest depends heavily on the unknown participants, because often there is a public call for ideas and one doesn´t know his partners well before. Therefore the code for the characteristic **culture of errors** is "1" (allow errors). For the second characteristic **sluggishness** the degrees is "0" (excitable) because a person has to be very flexible and has to have great enthusiasm for new ideas. Additionally the person performing the idea contest should enjoy personal meetings because the rating of the ideas within companies require endless meetings with close interaction with colleagues and partners. At the automotive supplier a student contest was conducted and therefore there was communication between the partners very often. So for the characteristic **sociability** the person has to have the degree sociable with the code "1". However, the performer isn't allowed to lose the overall objective of the activity and has to focus on the overall goal. So the code for **mindfulness** is "1" (goal-oriented"). The last code for the

characteristic **helper syndrome** is a "1" for favours supporting, as well. The person has to like to interact with e.g. students and has to enjoy the possibility to teach and explain them difficult technical conditions.

The coding for the other activities is done in the same way. An overview of the coding can be seen in the table 4.

		Culture of errors		sluggishness		sociability		mindfulness		Helper syndrome		
		Avoid errors	Allow errors	excitable	sluggish	secluded	sociable	task-oriented	Goal-oriented	Avoid supporting	Favour supporting	
		0	1	0	1	0	1	0	1	0	1	**Code**
OUTSIDE-IN	Idea Contest		X	X			X		X		X	10111
	Innovation Intermediary	X			X		X		X	X		01010
	Co-Creation		X	X		X		X			X	10001
	Licensing-In	X			X	X		X		X		01000
	Technology Scouting	X		X		X			X	X		00010
INSIDE-OUT	Out-Licensing		X		X	X		X		X		11000
	Spin-Off	X		X			X		X	X		00110
	Business Angel		X	X			X	X			X	10101
COUPLED	Coopetition	X		X			X		X		X	00111
	Co-Location		X	X			X		X		X	10111
	Strategic Alliances		X	X		X			X		X	10011

Table 4: Overview of coding

3.5 Questionnaire

A questionnaire for self-diagnosis is seen critical in literature: People can warp the results wittingly or unwittingly, they are not able to reflect themselves, or don't want to make the information visible to others. However, a questionnaire is used as a measuring instrument for characteristics here. To avoid the problems described above the following measures are taken:

- The anonymity of the data given by the employees is assured. Only the person itself can see the answers and find out the appropriate OI activity.
- The questionnaire is voluntarily. Only people who want to fill out the questionnaire and are willing to analyse their own behaviour, will give honest answers.
- Falsification of results by the test person is prevented by mixing the questions.

The questionnaire was developed to identify the specification of the five defined characteristics: "culture of errors", "sluggishness", "sociability", "mindfulness", and "helper syndrome". Therefore, the questionnaire is divided into five sections with five questions per characteristic. To capture the whole of a personality, two questions focus on the business environment (indicated by "B"), two on private environment (indicated by "P") and one last question on an extraordinary life situation (indicated by "E"). The questions can be seen in the following table 5.

„culture of errors"- avoid errors (0)… allow errors (1)
I am getting slightly excited because of new ideas and concepts and like to test them at first. (B)
My workstation / desk is rarely tidy and well structured. (B)
I cook according to a recipe. Bad surprises do not bother me. (P)
I use my navigation device in my car only for completely unknown routes and generally very rarely. (P)
When putting IKEA furniture together I don't need an instruction. I do this always intuitively by trusting my technical knowledge. (E)
„sluggishness" (task-oriented)- excitable (0)… sluggish (1)
I can explain my decisions always accurately and justify these in front of colleagues. (B)
I am critical to the concept of desk-sharing (flexible use of desk). Generally, I prefer to use my own desk at work. (B)
The windows in my apartment are cleaned maximum once a year. (P)
If I need a new wardrobe, the purchasing process takes at least 4 months. (P)
I do not consider myself as a bargain hunter. Discounts often completely miss my attention. (E)
„sociability" (person-oriented)- secluded (0)… sociable (1)
During a business phone call, I use an average of at least 20% of the time for general chatting and personal exchange with my colleagues. (B)
I think spontaneous meetings with work colleagues, for example, at the coffee bar, are a good opportunity to clarify things both professional and private nature. (B)
I am doing a team sport in the club since my childhood and I'm at club events at least 2 times a year to meet friends. (P)
I celebrate my birthdays every year with a large amount of friends (with more than 15 people). (P)

I have a very large and close circle of friends, which I gathered over the years and is still increasing continually. (E)
„mindfulness“- task-oriented (0)… goal-oriented (1)
I have internalized the company's vision and strategy and they are present in my everyday work. (B)
I know not only my direct colleagues from the department, but also have regular contact with other divisions and hierarchies. (B)
In my sports, team performance is more important than my own performance and satisfaction. (P)
When I do grocery shopping, I always buy food for the entire week, instead of going shopping every day for the individual meals. (P)
When I see an hourglass run, I think more of the interactions of all the grains of sand as of the manner in which each grain of sand falling through sequentially. (E)
„helper syndrome“- avoid supporting (0)… favour supporting (1)
I like to show new colleagues around in the company, show them everything and offer myself as a contact on a regular basis. (B)
I would (and have already) like to try out a position in Sales & Marketing, because I like the direct contact with the customer. (B)
Even at a young age I gave friends and other students extra supporting lessons in different subjects. (P)
When I get a phone call at night a friend asking me to pick him up at the train station, I do that without hesitation. (P)
If I see a lost stranger with a map in his hands, I do not hesitate to go there and offer him my help. (E)

Table 5: Overview of questions for the questionnaire

3.6 Matching process supported by the Excel-Tool

With the developed Excel-Tool, the proceeding how to identify the best OI activity can be supported.

Firstly, the performer of a planned OI activity has to fill out the questionnaire. The employee should pay attention to the following guidelines (Bambeck 1992:25-26), answer the questions honestly and spontaneously, use the full range of evaluation points, try to answer all questions fast but concentrated within 5 minutes. Within the questionnaire the questions are grouped according to the categories “business environment”, “private environment” and “extraordinary life situation”.

Each statement of the questionnaire accounts between 0 and 3 points, by answering the 4 different specifications. For the evaluation the points per characteristic are added together. A score between 0 and 15 is possible. 0 to 7 points show, the tested employee tends to the first specification (binary code 0), 8-15 points he trends to the second specification (binary code 1).

Each of the eleven OI activities has a unique binary code of five digits. In the best case, one of the OI activity code fits perfectly the code of an employee tested. Because of 32 possible combinations, it is rather unlikely that a perfect fit is created. Therefore, in addition to the evaluated specification of the characteristics, the strength of each characteristic and its specification is evaluated as well.

This is done by using the summed score for each characteristic again. Summed scores between 0 and 3 or 12 and 15 symbolize strongly rejected or strongly agreed answers. This indicates a strong tendency toward one of the two forms. Scores between 4 and 11 show an average result. It has to be kept in mind that average scores can also be caused by a high rejection of a statement and a high agreement regarding another statement. This approach helps to sort the OI activities.

4 Summary

The aim of the work presented is to develop a selection proceeding for OI activities, which reduces the risk of failure of OI projects. Here the proceeding does not focus on hard factors such as budget, number of ideas or time available. The proceeding focuses on the person implementing the activity. The relevant activity is now selected because of the personality of the employee.

Seventeen activities carried out at a German automotive supplier within the last years were investigated and described more in detail: Idea Competition, Innovation Intermediary, Co-Creation, Licensing-In, Technology Scouting, Out-Licensing, Spin-Off, Business Angels, Coopetition, Co-Location and Strategic Alliances. These activities and the expert interviews with the involved employees and a literature review are the resources for the new selection proceeding.

Interviews in the company showed that decision-making and selection processes are always made on the basis of hard facts. This also counts for the selection of OI activities. The few scientific findings on the selection process of OI activities lead to the following behaviour in companies. Manager base their decisions on an internal research and analysis of available alternatives, the analysis of best practice examples or the expertise of an external consultant.

Since this way of selection did not always lead to the success of OI activities in the past, the approach is fundamentally revised. Focus is now on the employee who influences the project most and adds 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:

- **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 are coded according to the same characteristics and their specifications used to classify the employees. In this coding process each activity receives a code of 5 digits out of “0” and “1”. 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. A questionnaire for self-diagnosis is certainly risky from a scientific point of view, since a person can manipulate the answers and so the result is falsified. In order to minimalize the risk it is proposed to review the results through external monitoring. This task will not be addressed in the work presented.

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 a particular company only.

5 Future Research

Follow-up studies regarding the proceeding are, firstly, a validation at the analysed supplier and an adaptation of the methodology to other companies and its validation as well. A long-term study could be conducted to review different activities and measure their success. It is also possible to extend the proceeding and integrate the approach of hard-factor-selection afterwards. Since the definition of the characteristics and their specification and the questionnaire were made without extensive focus on

psychological knowledge, there are also additional opportunities to optimize the proceeding. Further research is required especially for the specification of the characteristics and to their independence.

Another idea is to use this proceeding in the opposite way: Choose an OI activity and train the employees concerning the characteristics and the relevant specifications afterwards (Figure 3).

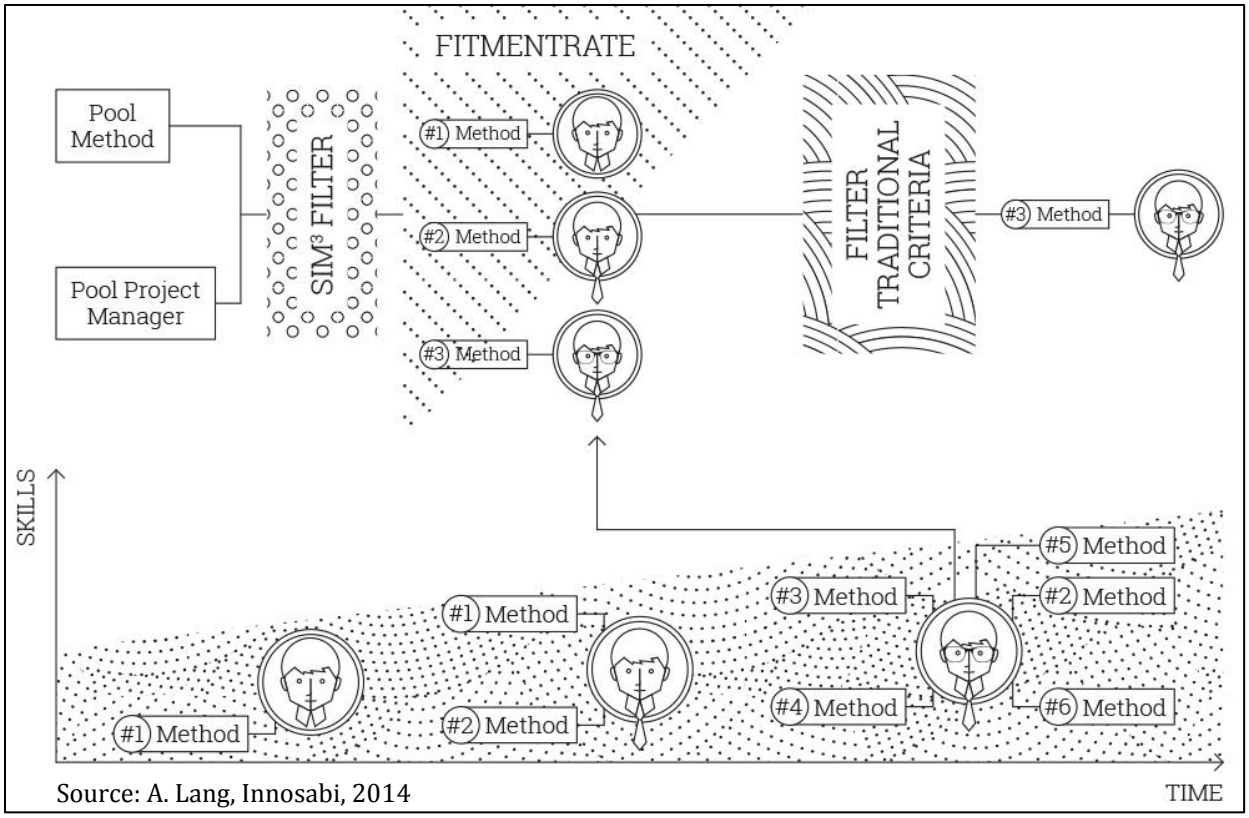

Figure 3: The next step in selecting the right OI activity. Training the project team helps to reduce risk.

Or search for the best people outside of the company. The outside implementer of the outside knowledge; a completely new interpretation of the OI approach.

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