Open Innovation Meetings Uncovered:

The Identification of Influencing Factors During and After Open Innovation Meetings and Recommended Changes to the Current Concept

Master thesis Business Administration

Specialization: Entrepreneurship, Innovation & Strategy

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Summary: (1) The identification of what is necessary for determined matches during open innovation meetings on innovation campuses to become a success and (2) the identification of how those meetings could be shaped in order to have more successful matches.

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Date: August 23, 2018

In collaboration with:

UNIVERSITEIT TWENTE.

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SMB Facilities & Support in Life Sciences

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Colophon

Title:	Open Innovation Meetings Uncovered
Subtitle:	The Identification of Influencing Factors During and After Open Innovation Meetings and Recommended Changes to the Current Concept
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Date:	08-23-2018

Preface

This research is conducted as part of the master's degree Business Administration at the University of Twente. It covers open innovation meetings on open innovation campuses. This report is the result of that research and describes the methodology, analyses and recommendations. The research is especially relevant for people organizing open innovation meetings or considering to organize it, as well as people who want to conduct research about the open innovation meeting context.

This report starts with a description of the situation. Then, the methodology is explained. Next, the analyses are described in detail. It finishes with a conclusion, the recommendations and a discussion. There is also an appendix at the very end.

To realize this research and report, a few things were needed. In order to obtain a sample, permission to research certain open innovation meetings was crucial. I want to thank Kadans Science Partner for giving me an entrance to the campuses. I want to thank SMB Life Sciences, Novio Tech Campus, Health Valley and Campus Connect for allowing me to research a selection of their open innovation meetings. Special thanks go to Mr. Löwik, who has supervised me from the early beginning of this research until the very end. Without his input, the research would not be of the same quality as it is right now. I also want to thank Mr. Bliek, who joined the process at a later stage. With his additional comments, I was able to improve the quality further.

August 2018

Tim Slijkhuis

Management summary

Situation and goal

Open innovation meetings are organized on open innovation campuses. The goal of such events is to bring people together and give them a networking opportunity. The hope is that this results in an extension of the attendees' network and ultimately in specific collaboration projects. The more specific collaboration projects arise from such events, the more successful the events are. That is, because the main goal is to provide open innovation opportunities. Open innovation means that purposive inflows and outflows of knowledge are used to accelerate internal innovation, and to expand the markets for external use of innovation. Improving the effectiveness of open innovation meetings leads to more specific collaboration projects. The main goal of this research is to identify the factors that play a role before, during and after open innovation meetings. Another goal is to find recommendations that might increase the effectiveness of concerning events.

Methods

A survey has been distributed among open innovation meeting participants of four organizing parties on three different campuses. The goal of this survey was to find out which matchmaking factors play a role during the events. A second survey has been distributed among participants who found a match (i.e. a collaboration intention with a potential partner) during the concerning event. The goal of this survey was to find out which factors play a role during the process. The ones who did not find a match received an invitation for a semi-structured interview to find out why they did not. Information that could not be gathered from the surveys and semi-structured interviews was identified with structured interviews, conducted with people active on one of the three campuses.

Results

Previous collaboration research results are not the same as the results from this research about the open innovation meeting context. During the events, attendees who feel that a new successful collaboration project is important have a slightly bigger chance to find a match. It also positively influences the number of matches they find. Feeling importance means in this case that an attendee thinks that finding a collaboration project contributes to that person's mission, values and high priority goals. Knowledge about the usefulness and adequateness of the things that can be delivered and the way it can be delivered by a potential partner is called professional trust. Recognizing the potential partner's unique competencies that can be leveraged is called technical ability. They respectively mediate the relationship between feeling urgency (pressing matters) and importance for a new successful collaboration on one side, and having a follow-up with a matched person on the other side. Mediation means that a variable influences the mediator variable, which in turn influences another variable.

After the events, collaboration quality mediates the relationships between the collaboration antecedents trust, technological alignment, strategic alignment and relational alignment on one side, and the chance of reaching a specific collaboration project on the other side. The antecedents and mediator are the influencing factors at this stage of the process. The following figure explains what these factors consist of.

Factor	Consisting of:	Meaning
Technological alignment	Technical ability	Recognize the potential partner's unique competencies, which can be leveraged
	Technical resource and market knowledge complementarity	Recognize if the potential partner can complement one another for the foreseen opportunity
	Overlapping knowledge bases	Having somewhat similar knowledge bases allows to see the value in the potential partners' competencies
Strategic alignment	Motivation correspondence	The extent to which the potential partners' motives are in correspondence with one another
	Goal correspondence	The prospective partner has noncompeting goals (no threat to the own organization)
Relational alignment	Compatible cultures	To have effective communication and exchange of knowledge, at least a minimum congruence and norms and procedures have to exist
	Propensity to change	The willingness of partners to adapt as requirements of collaboration change
	Long-term orientation	The willingness of the partner to make, if necessary, short-term sacrifices for long-term results
Collaboration quality	Communication	Sufficient, open and efficient information exchange between collaborating actors.
	Coordination	Shared mutual understanding on goals, necessary activities, and contributes needed to be performed by collaborating actors.
	Mutual support	Willingness of collaborating actors to help each other in achieving commonly agreed-upon goals. Existence of mutual flexibility in case of unforeseen incidents and changes.
	Aligned efforts	Alignment of contributions provided by collaborating actors with the expectations of the contributions. The correspondence between actors' priorities in collaboration (e.g., resource usage) and commonly agreed-upon priorities.
	Cohesion	Existence of the collaborative spirit between actors
Trust	Professional trust	Capacity and competence complementarity recognition
	Personal trust	Capability and compatibility recognition
	Integrated trust	Professional and personal trust come together, resulting in reliance

Figure management summary: influencing factors after open innovation meetings

The interviews mainly revealed that participants are to a large extent dependent on coincidence and luck in order to find a match during an event. Also, the format and mentality of the attendees seems to be factors for improvement. They have been taken into account for the recommendations.

Recommendations

In the current format, people are not able to prepare themselves for an upcoming open innovation meeting. The recommendation is that people should be able to create a profile if they want to. Those profiles can be watched by other attendees and profile owners. Profile owners can send each other messages on forehand and afterwards. They can also invite each other for innovation speed dates. These speed dates are at the very beginning of the meetings. People can have up to three speed dates, which have 'technical ability' as central theme. In ten minutes, participants can have a first contact with each other and scan for possibilities. If they conclude that there are indeed possibilities for a collaboration, they have more time to talk after the presentations, at the end of the meeting during the open networking opportunity. The innovation speed dates are an additional service next to the open networking possibilities. It decreases the dependence on coincidence to meet the right people.

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Situation and complication

Campuses are a growing phenomenon in the Netherlands. Buck Consultants International (2015) identified that there were 39 real campuses and campus initiatives in late 2014, while there were 33 of them in mid-2012. Also in mid-2012, 1506 companies were settled at these campuses. Late 2014, that number has increased to 1709. There are several similar terms used to describe a campus, such as “research park”, “technology park”, “science park”, etc. The term I have chosen for this thesis is “open innovation campus”, because the addition of the words “open innovation” distinguish verbally between university campuses and campuses where companies aiming for innovation are settled. The word “open” is also important, because on such campuses, the way of innovation is open rather than closed. Open innovation means in this that purposive inflows and outflows of knowledge are used to accelerate internal innovation, and to expand the markets for external use of innovation. It comprises outside-in and inside-out movements of technologies and ideas (Van de Vrande, De Jong, Vanhaverbeke & De Rochemont, 2009). There seems no uniformly accepted definition for such a campus (Löfsten & Lindelöf, 2002), or at least I could not find it. For this thesis, I have chosen to use the same definition as Buck Consultants International (2015). This definition contains four core elements:

- A campus is a physical location with high-quality opportunities for establishment and research.
- The focus on a campus is on research and development, or knowledge intensive activities.
- On a campus, there is presence of manifest knowledge carriers.
- There is active open innovation on a campus.

On some innovation campuses, open innovation meetings are organized. On such meetings, people from many different companies come together. In general, some of them present or pitch an innovative idea, new developments in specific fields, or the like. After those presentations, but still during the open innovation meeting, there is a possibility for creating matches. These matches arise when two parties get in touch with each other and both conclude that the other party is of sufficient added value for the own party. When the match is determined from both sides, both parties can write down the contact details like names and phone numbers. Sometimes the agreements are only verbally. **A match is defined as the intention between two parties to collaborate in some way, now or in the future**. The two parties will at least look for any possibilities for future collaboration. After these formalities, one might think that it is just a matter of time that the first contact will get a sequel. It is supposed to happen, but sometimes it does not happen.

According to the study by Squicciarini (2007), the concept of innovation campuses is able to help firms keeping a higher innovative activity over time. This in comparison with firms outside of innovation campuses. The benefits for companies on an innovation campus might increase significantly if more matches (i.e. first contacts with potential) would arise and ultimately become a success (i.e. a collaboration project). To my best knowledge, it is unknown why some matches become a success and others not, and how much are successful (i.e. result in a collaboration) and how much fail (i.e. do not result in a collaboration). After a very thorough search, I did not find any literature aiming to answer this question. Thus, this research will be an attempt to fill that gap. The main goal of this thesis is to identify what is necessary for determined matches during open innovation meetings on innovation campuses to become a success. Another goal is to identify how those meetings could be shaped in order to have more successful matches. A success means in this

case that a match results in an actual collaboration. If it does not result in an actual collaboration, time might have been wasted during the attempts to establish a collaboration (, although that might be not always true. Failed matches might learn people new lessons for the future). After the identification of those aspects, the goal is to propose methods for having more effective open innovation meetings. The main goal of open innovation meetings is to stimulate as much matches as possible. The more matches arise, the more this main goal is served.

It was really worth it to do a research on improving the effectiveness of open innovation meetings. Even a very small improvement might be very beneficial for the concept, because every single innovative collaboration project might lead to useful, significant innovations or innovative breakthroughs. If an improvement would have a very small impact on the meetings itself, it is still possible that the research effort will pay-off when it enables a couple of extra great collaboration projects which would not have existed without the research implications. Therefore, it is really relevant to contribute to the open innovation meeting concept by trying to make it more effective. Collaborative ties foster complex knowledge transfers. At the same time, combining previously unconnected aspects and development ways creates new common knowledge (Dietrich, Eskerod, Dalcher, Sandhawalia, 2010). Therefore, collaboration is a very powerful tool in developing innovations. That means that the more an open innovation meeting is able to bring potential partners together, the more chance there is that collaborations arise. Hence, more people may have access to the powerful innovation tool called collaboration. Those innovations are not necessarily always very useful, but sometimes innovations can be life-saving or even world-improving.

According to Sarkar, Echambadi and Harrison (2001), alliance proactiveness is positively related to market-based performance. In this, alliance proactiveness is defined as the extent to which an organization engages in identifying and responding to partnering opportunities. The matches are in fact partnering opportunities, so if the responses from both parties would be adequate after the meeting, market-based performance of both parties as a result of the open innovation meetings might improve. Ultimately, if it would be possible to bring more matches to a success, it is imaginable that less potentially successful alliances will fail. After all, a match arises with a reason. At the moment of the innovation meeting, two parties saw enough perspectives to form a match. A central research question has been developed in order to give a clear direction to this study. That central question is: how can the effectiveness of open innovation meetings be improved? Next to this central question, there are some sub questions, which are described in the methodology chapter (starting on page 23).

The whole generalized process of an average open innovation meeting, as well as what happens before and after it is important to describe in order to have a complete understanding of what exactly happens. This will be described and visualized in figures at the end of the theory chapter, because the theoretical models play a crucial role in defining the whole process. Before I start with explaining the theories for this research, it is important to mention that the open innovation meetings that will be researched are organized by organizations called SMB Life Sciences, Novio Tech Campus, Campus Connect and Health Valley.

Theory

To be able to answer the central research question and fulfill the research goal, it is important to first understand the process of alliance creation. The matching procedure is the early beginning of a possible collaborative process. In this chapter, relevant theories from the literature are described in order to create a clear picture of the collaboration process, resulting from open innovation meetings, in general. This theory is crucial for the methodology chapter. It functions as the bridge between the central question and the methodology. Additionally, hypotheses are derived from the theories and described in this chapter. Those hypotheses are tested in order to identify if theory and practice are the same, and to what extent. In this chapter, first the applicable theories are explained. Later they are combined into a theoretical framework, which covers the whole process of matchmaking during an open innovation meeting. From that combination, also the hypotheses are derived.

SME motives to form an alliance

Van de Vrande, De Jong, Vanhaverbeke and De Rochemont (2009) did research about motives for SMEs to adopt open innovation practices. They identified eight possible open innovation practices, ten motives to adopt open innovation practices and eleven hampering factors when adopting open innovation practices. In figure 1, all the identified practices, motives and hampering factors are displayed. For the methodology of the thesis, it is useful to know the possible practices, motives and hampering factors of small- and medium-sized enterprises when looking for a collaboration. That is, because these might be factors which play a role in the open innovation meeting context or the process after the meeting. Almost all participants of the researched meetings are representatives of these kinds of organizations. That means, they are working for a company which has at most 500 employees. Some organizations focus on supporting these kind of companies, for example with organizing open innovation meetings. People on an open innovation meeting may try to find out whether there is potential for a match. Working together on an innovative product or service is a form of collaboration. Participants of such a collaboration are (at that moment) in fact at the very beginning of collaboration formation. That beginning means that they are looking for, or open to such a collaboration. At this stage, it is by far not sure if a collaboration will arise. However, people who aim to set up a collaboration have motives for trying to establish one. They also might know already for what kind of collaboration they are aiming or hoping. If a potential collaboration fails, it would be interesting to know what factors hampered the process.

Surveyed open innovation practices

Practice	Definition
Technology exploitation	
Venturing	Starting up new organizations drawing on internal knowledge, and possibly also with finance, human capital and other support services from your enterprise.
Outward IP licensing	Selling or offering licenses or royalty agreements to other organizations to better profit from your intellectual property, such as patents, copyrights or trade marks.
Employee involvement	Leveraging the knowledge and initiatives of employees who are not involved in R&D, for example by taking up suggestions, exempting them to implement ideas, or creating autonomous teams to realize innovations.
Technology exploration	
Customer involvement	Directly involving customers in your innovation processes, for example by active market research to check their needs, or by developing products based on customers' specifications or modifications of products similar like yours.
External networking	Drawing on or collaborating with external network partners to support innovation processes, for example for external knowledge or human capital.
External participation	Equity investments in new or established enterprises in order to gain access to their knowledge or to obtain others synergies.
Outsourcing R&D	Buying R&D services from other organizations, such as universities, public research organizations, commercial engineers or suppliers.
Inward IP licensing	Buying or using intellectual property, such as patents, copyrights or trade marks, of other organizations to benefit from external knowledge.

Motives to adopt open innovation practices

Category	Examples
Control	Increased control over activities, better organization of complex processes
Focus	Fit with core competencies, clear focus of firm activities
Innovation process	Improved product development, process-/ market innovation, integration of new technologies
Knowledge	Gain knowledge, bring expertise to the firm
Costs	Cost management, profitability, efficiency
Capacity	Cannot do it alone, counterbalance lack of capacity
Market	Keep up with current market developments, customers, increase growth and/or market share
Utilization	Optimal use of talents, knowledge, qualities, and initiatives of employees
Policy	Organization principles, management conviction that involvement of employees is desirable
Motivation	Involvement of employees in the innovation process increases their motivation and commitment
Other	

Hampering factors when adopting open innovation practices

Category	Examples
Administration	Bureaucracy, administrative burdens, conflicting rules
Finance	Obtaining financial resources
Knowledge	Lack of technological knowledge, competent personnel, or legal/administrative knowledge
Marketing	Insufficient market intelligence, market affinity, marketing problems of products
Organization/ culture	Balancing innovation and daily tasks, communication problems, aligning partners, organization of innovation
Resources	Costs of innovation, time needed
IPR	Ownership of developed innovations, user rights when different parties cooperate
Quality of partners	Partner does not meet expectations, deadlines are not met
Adoption	Adoption problems, customer requirements misjudged
Demand	Customer demand too specific, innovation appears not to fit the market
Competences	Employees lack knowledge/competences, not enough labor flexibility
Commitment	Lack of employee commitment, resistance to change
Idea management	Employees have too many ideas, no management support
Other	

Figure 1: Open innovation practices, motives and hampering effects (Van de Vrande, De Jong, Vanhaverbeke and De Rochemont, 2009)

Partner selection theory

During open innovation meetings, attendees can come in the position that they have to decide whether they are interested in joining the innovative practices of another party. If one of the attendees communicates his or her interest in the product, service or skills to the other party, that other party must determine whether the interested party can be of added value or not. In other words, both parties determine whether a partnership could be of added value for themselves. In fact, they enter the first formation stage of collaborative new product (or service) development at this point. In order to understand this process, Emden, Calantone and Droge (2006) developed the Emergent Theory of Partner Selection for Creating Product Advantage through Collaboration. This theory is displayed in figure 2.

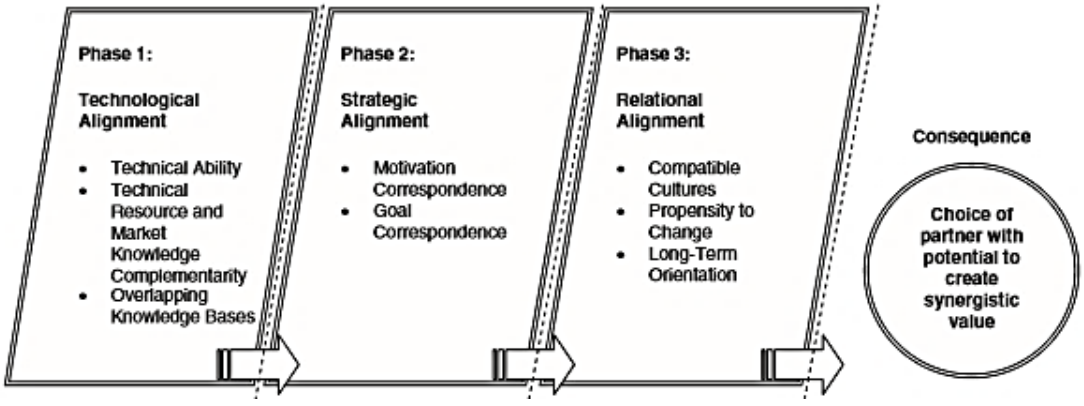


Figure 2: Emergent Theory of Partner Selection for Creating Product Advantage through Collaboration (Emden, Calantone and Droge, 2006)

When a collaboration opportunity arises, both parties start to evaluate the potential. According to Emden, Calantone and Droge, this happens in three phases, which are called technological alignment, strategic alignment and relational alignment. After every phase, a decision is made

whether the collaboration attempt should be continued or not. The three phases have subcategories, like displayed in figure 2. The three subcategories are explained in figure 3.

Phases	Subcategories	Meaning subcategory
1: Technological alignment	Technical ability	Recognize the potential partner's unique competencies, which can be leveraged
	Technical resource and market knowledge complementarity	Recognize if the potential partner can complement one another for the foreseen opportunity
	Overlapping knowledge bases	Having somewhat similar knowledge bases allows to see the value in the potential partners' competencies
2: Strategic alignment	Motivation correspondence	The extent to which the potential partners' motives are in correspondence with one another
	Goal correspondence	The prospective partner has noncompeting goals (no threat to the own organization)
3: Relational alignment	Compatible cultures	To have effective communication and exchange of knowledge, at least a minimum congruence and norms and procedures have to exist
	Propensity to change	The willingness of partners to adapt as requirements of collaboration change
	Long-term orientation	The willingness of the partner to make, if necessary, short-term sacrifices for long-term results

Figure 3: Explanation of subcategories

The whole process starts at phase one, at the technical alignment phase. When there is technical alignment between two parties, there is a trigger for the intention to collaborate. In every phase, all the subcategories are evaluated. If there is too much of a lack on the subcategories for one of the parties in one of the phases, there will probably be no continuation to the next phase. In that case, there will be no collaboration. If this process finalizes phase three with a positive outcome, the potential partnership (normally) becomes definitive.

The social process during collaboration

The previous theory does not include any social processes during the collaborative process. However, a recently conducted research revealed it is important to include this in the research. To be more specific, it is important to include trust. Anderson and Hardwick (2017) researched a social angle of approach. According to them, trust plays an important and moderating role during collaborations. They state that the relationship during a collaborative process transforms from transactional to more personalized and social, and ultimately to an integration of both. Trust among collaborative partners enhances the sharing of knowledge. Building up trust supports the exchange of information and knowledge. In general, the relationship starts with professional trust. Then it evolves to a phase where personal trust is present. In the last phase, professional and personal trust are integrated, which means that there is a complete picture of the other in terms of trust. The first phase is called “Discovering”. This phase is the discovery of potential collaborators and the discovery of what they know. Entering the Discovering stage is the result of a certain degree of entrepreneurial alertness, because there is a response on a partnering opportunity. The second phase is the “Connecting” phase. The Connecting phase is about beginning the relationship and establishing how it could be made useful. Here, human relationships come into play. The last phase is called “Coupling”. In this phase, the collaboration starts to work. Figure 4 summarizes how collaborative relationships socially develop. Like said before, the creation of matches is the early beginning of a collaborative process. A match might fail in a later stage, but to some extent there is already an intention to collaborate.

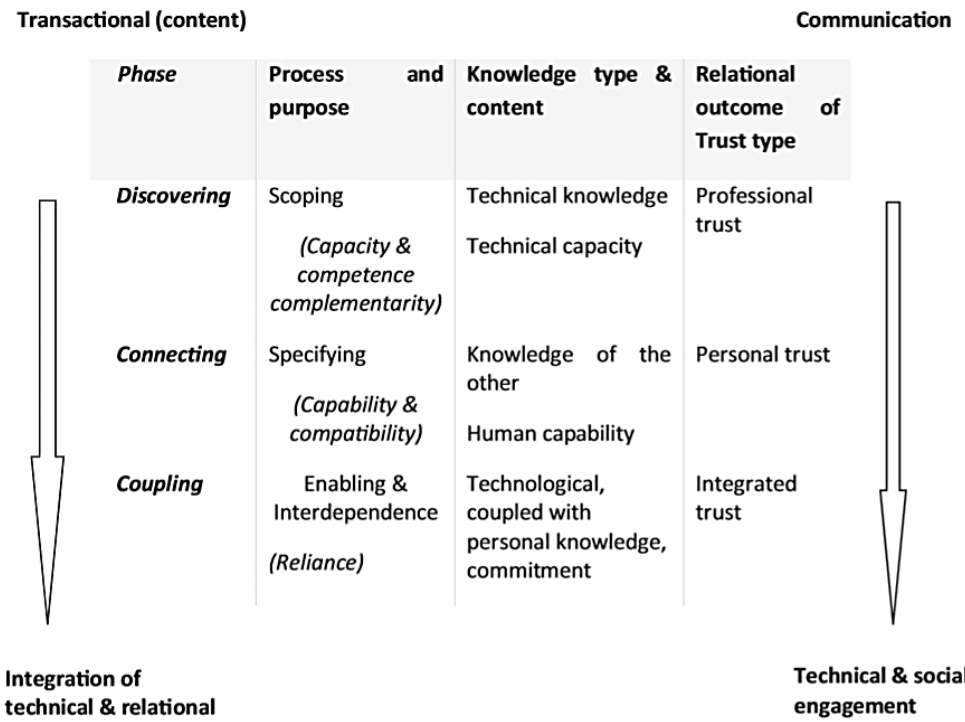


Figure 4: The social process during the collaborative process (Anderson and Hardwick, 2017)

Collaboration quality

Interesting for the research was to know what a collaboration needs in order to be a high-quality collaboration. Dietrich, Eskerod, Dalcher and Sandhawalia (2010) identified a framework for collaboration quality. According to them, there are five factors or elements which enhance collaboration and therefore play a role in the collaboration process. According to them, elements factors mediate the relationship between collaboration antecedents and collaboration outcomes. Collaboration antecedents are discussed in the section about alignments (they are technological, strategic and relational alignment). That is why they need to be included into the research. As identified before, trying to set-up a collaboration is in fact the start of a collaboration. These concerning elements are "communication", "coordination", "mutual support", "aligned efforts" and "cohesion". Through these five elements, the quality of collaboration between different organizations can be assessed. Every element has its own high-quality characteristics. The element and its characteristics are described in figure 5.

Element	High-quality characteristics
Communication	Sufficient, open and efficient information exchange between collaborating actors.
Coordination	Shared mutual understanding on goals, necessary activities, and contributes needed to be performed by collaborating actors.
Mutual support	Willingness of collaborating actors to help each other in achieving commonly agreed-upon goals. Existence of mutual flexibility in case of unforeseen incidents and changes.
Aligned efforts	Alignment of contributions provided by collaborating actors with the expectations of the contributions. The correspondence between actors' priorities in collaboration (e.g., resource usage) and commonly agreed-upon priorities.
Cohesion	Existence of the collaborative spirit between actors

Figure 5: Collaboration quality elements and characteristics (Dietrich, Eskerod, Dalcher and Sandhawalia, 2010)

Time Management Matrix

The last theory for the thesis is the so-called Time Management Matrix (Covey, 1989). This matrix is displayed in figure 6 (Persaud, n.d.). I have included this in my research, because I expect that something stimulates people to try to find a match if they do. As a result of Covey's theory (1989), I think that feeling importance and urgency for getting something leads to proactive actions for getting it. The absence of these factors leads to passivity. Urgency leads to the feeling of pressure, while importance has to do with missions, values and goals. That is why I think these are crucial stimulating factors.

The Time Management Matrix has two dimension: the degree of importance and the degree of urgency. This results in four quadrants. Quadrant 1 consists of the tasks which are important and urgent. Quadrant 2 contains tasks which are important but not urgent. The third contains tasks which are not important but urgent. The last quadrant contains not important and not urgent activities. Examples for each quadrant are given in figure 6.

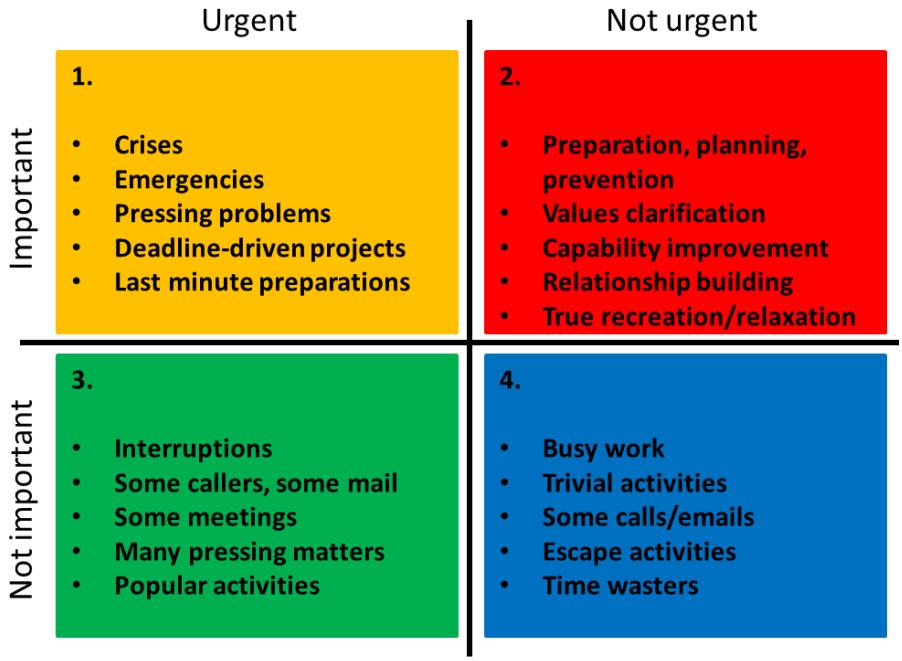


Figure 6: Time Management Matrix (Persaud, n.d.)

Interesting would be to know how important and urgent a new, successful relationship is for the people who visit an open innovation meeting. Importance has to do with results. Important things contribute to someone's mission, values and high priority goals. On the other hand, urgent matters are visible things. They press on people, because they insist on action.

Quadrant 1 activities are problems or crises. People who are dominated by quadrant 1 activities are problem-minded, deadline-driven people. Quadrant 2 is the heart of effective personal management. It contains long-range activities. According to Covey, effective people are not problem-minded, but opportunity-minded. They feed opportunities, starve problems and think preventively. Those people are dominated by quadrant 2 activities. Spending too much time on quadrant 3 and 4 activities leads to irresponsible behavior. They are not important. Quadrant 3 contains the activities which seem important, because they are urgent. In reality, the urgency of those matters is often based on the

priorities and expectations of other people. Quadrant 4 activities are the ones which offer relief in order to escape from pressure from urgent and important matters.

Combining the theories and derivation of hypotheses

Combining all the previous theories, I come to the following theoretical framework that can be used to describe an average open innovation meeting. People who are looking for a collaboration opportunity have certain motives (**theory about SME motives to form an alliance**), which drive them to be entrepreneurially proactive together with other reasons to attend the innovation meeting. This proactiveness may lead to attending an open innovation meeting. Every person has a degree of how important and how urgent it is to find a collaboration partner (**Time Management Matrix theory**). The reasons, motives and degrees of urgency and importance lead to a degree of potential to establish a match with someone else. On the meeting, people meet each other. From here, a social process starts (**the theory about the social process during a collaboration**). This social process moderates, and will continue until the parties leave the entire process, or when a specific collaboration project is the final result. Next, they become acquainted with each other. The last step is that the two parties evaluate each other's potential. Meeting each other, becoming acquainted with each other and evaluating each other's potential forms the discovering phase. After this phase, both parties should make a decision whether there is sufficient collaboration potential recognized at this point. This decision is based on an input, which is the output of the discovering phase: is there sufficient partial technological alignment (**partner selection theory**), which is moderated by professional trust (**the social process during collaboration**)? The technological alignment can be partial and does not need to be complete, because it is almost impossible to get complete technological alignment on such a short event like an open innovation meeting. If both parties have reached partial technological alignment, they continue to the connecting phase. In all other cases, the collaboration attempt will not continue. In the follow-up, when potential partners go through the process, the motives and urgency and importance might change during every phase (**Time Management Matrix** and **SME motives to form an alliance**). The connecting phase starts when both parties arrange one or more follow-up contacts. This step is logically followed by the follow-up contacts themself. During the follow-up contacts, both parties try to get complete technological alignment, as well as strategic alignment (**continuation of the partner selection theory**). What also happens during the connecting phase is the development of personal trust. That will moderate the relationship between technological alignment and strategic alignment on one side and collaboration quality on the other side. After the connecting phase, a similar decision moment takes place like before. Again, the question is if there is sufficient potential to continue in the Open Innovation Meeting Process. The input for making the decision is this time threefold: is there sufficient technological alignment (this time complete and not partial), is there sufficient strategic alignment (moderated by personal trust) (**partner selection theory** and **the social process**) and is the collaboration quality sufficiently high enough? The collaboration quality mediates the collaboration antecedents (which are the alignment phases). This last decision factor means that a collaboration will have a certain degree of quality (**theory about the collaboration quality**), which depends on five elements: communication, coordination, mutual support, aligned efforts and cohesion. The final collaboration itself is outside the scope of this research, but the theory is still relevant for this research for two reasons: (1) the five elements are already present in the open innovation meeting process, during the part after the innovation meeting. Also, (2) the part of the open innovation meeting process after the innovation meeting can be seen as the very beginning of a collaboration,

because it is the startup of the collaboration. It sounds very plausible that two parties have for example professional trust in each other, or they reach strategic alignment, but then bad communication or coordination ruins the potential of a collaboration. That is the reason why it was important to include this theory in the model and the research methodology. The decision is again positive if both sides recognize sufficient potential. In that case, the potential partners go to the coupling phase. There, they try to get relational alignment (**last part of the partner selection theory**). When the tasks are divided and all the other agreements are made, the last decision will be made, which is again the same as before. Integrated trust is here the moderator for the decision factors (**social process**),while relational alignment and collaboration quality are the decision factors for the determination of whether the whole process finally ends with a positive outcome or not. If the answer is yes, it means that both parties will start, or soon will start with at least one collaboration project. According to the theory, the whole process will develop into a specific collaboration project if, and only if all the activities in the process are finished and all the decisions have a positive outcome. This means that both parties must continue to the next phase (discovering, connecting, coupling) together, and not see a reason to step out of the process during one of the decision activities. In cases that at least one of the parties does not progress to the next phase, the whole process stops. This is the case when one of the parties does not see enough perspective to collaborate. The whole conceptual process is visualized in figure 7a. It is called the Open Innovation Meeting Process Concept and it is created by myself with help from the used theories. With colors is shown which part of the process is covered by which theory. Also is shown in the model at which point a match has arisen. The model is a flow, in which activities take place during the Discovering, Connecting and Coupling phase. Every phase generates output (the diamond shaped factors), which is input for a decision. Important to mention is that this Open Innovation Meeting Process is based on theory. That theory is not necessarily about the open innovation meeting context, so it is extended to the Open Innovation Meeting Process. In other words, it will be interesting to see whether the existing literature can be extended completely to the open innovation meeting context or not. That will be one of the contributions of this entire research, since I could not find specific open innovation meeting literature (despite my thorough search).

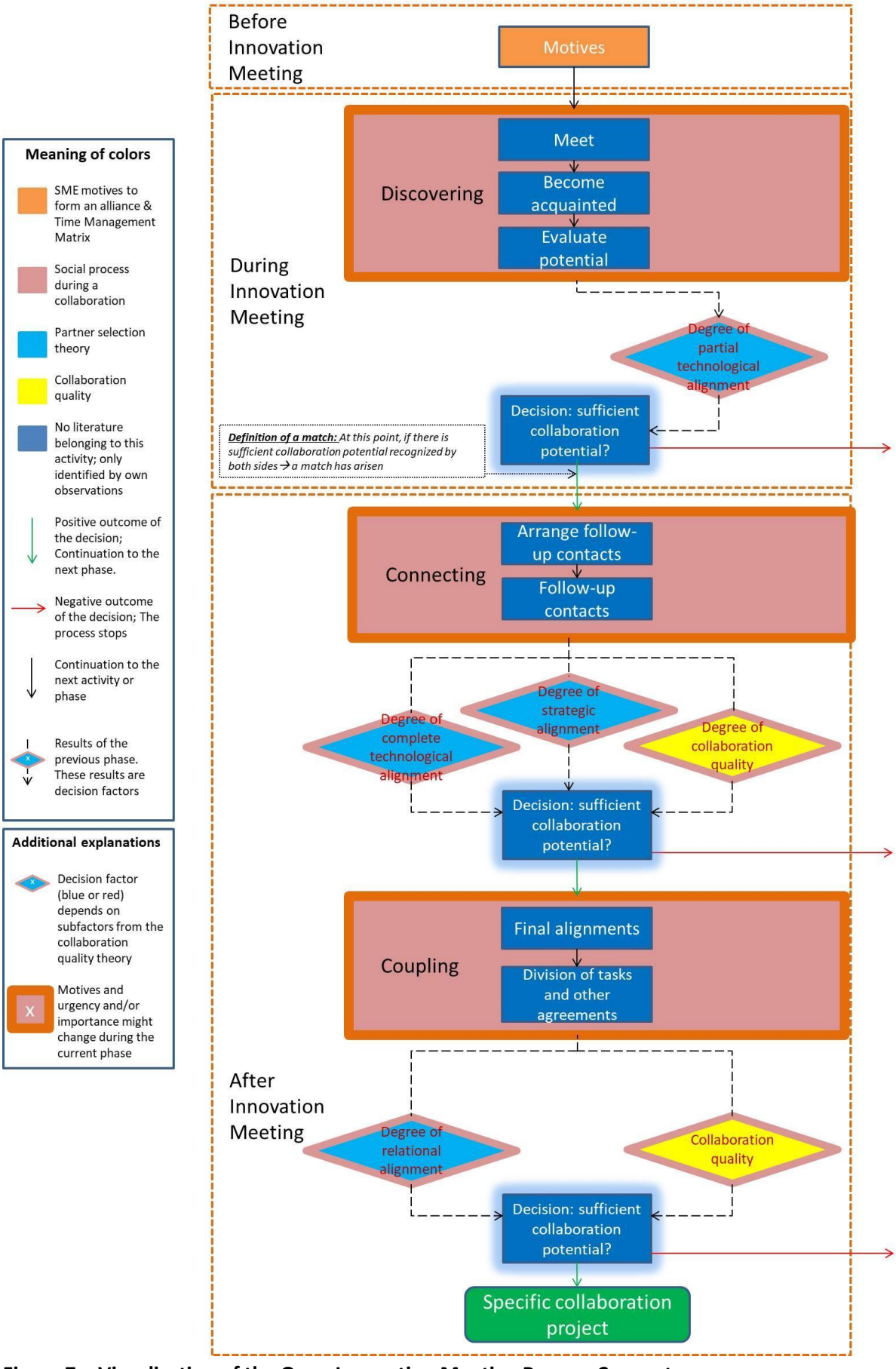


Figure 7a: Visualization of the Open Innovation Meeting Process Concept

Now it is time to derive the hypotheses from the theoretical framework. The operationalization of the hypotheses can be found in the methodology chapter. Important to mention is that hypotheses 1a, 1b, 2 and 4 are about factors during the event, while all the others focus on factors after the event.

The presence or absence of both urgency and importance can be seen as the intrinsic motivation of a person to set up a collaboration. Every person enters a meeting with a certain degree of this motivation. Urgent activities require immediate attention and they press on people. Important activities are matters that contribute to someone's mission, values and high priority goals. As said before, urgent and important activities are problem-minded, deadline-driven activities. Not urgent but important activities are at the heart of effective personal management. It contains long-range activities. Important, not urgent activities are not problem-minded, but opportunity-minded. They feed opportunities, starve problems and let people think preventively. Urgent and unimportant activities are the ones which seem important, because they are urgent. In reality, the urgency of those matters is often based on the priorities and expectations of other people. Unimportant and not urgent activities are the ones which offer relief in order to escape from pressure from urgent and important matters. Looking at all these four options of the Time Management Matrix, the expectation is that people who perceive open innovation practices as urgent and important have the highest chance to find a match. Finding a potential match (e.g. a match on the meeting) presses on them, maybe to solve a problem or to meet a deadline. That presses to find a potential partner. At the same time, it belongs to someone's mission, values or high priorities because of the importance. Therefore, the following hypothesis has been tested:

Hypothesis 1a: Open innovation meeting attendees for whom collaboration is an urgent and important matter are more associated with finding a match than other attendees. They on average find more matches than others.

Although it might sound logical that this hypothesis is true, it is better to test this to be sure about this. That what sounds the most logical is not always true. Since urgent matters are deadline-driven, it also sounds logical that the following hypothesis is true:

Hypothesis 1b: Open innovation meeting attendees for whom collaboration is an urgent matter are more associated with having a sequel after an open innovation meeting than for attendees for whom collaboration is not urgent.

According to the Time Management Matrix, activities from the important but not urgent quadrant are opportunity minded and starve problems. These activities contribute to someone's mission, values and high priority goals without pressure. Being opportunity minded and starving problems seems the best approach to transform a match into a collaboration project. Activities from the urgent and important quadrant are problem minded instead of opportunity minded, so according to the theory it is better to not feel urgency. This results in the following hypotheses:

Hypothesis 1c: Open innovation meeting attendees have the highest chance to transform a match into a specific collaboration project, when collaboration is an important but not urgent matter for them.

Now we know that a person enters a meeting with his or her intrinsic motivation of establishing a collaboration project. This is the starting point of the Open Innovation Meeting Concept. Logically, the end point is reaching a specific collaboration project. In between are decision moments. Most of those decision factors are the alignment phases. Alignments are necessary factors to come to a successful collaboration. Emden, Calantone and Droge (2006) identified that technological alignment gives people ideas about opportunities, which triggers the decision for collaboration. Therefore, one can expect that for a matched person, there is a positive relationship between the perceived technological alignment and the chance that a match does get a sequel (so at least an attempt will be made to collaborate after the innovation meeting). The trigger to collaborate should normally lead to at least an attempt to try to set-up a collaboration. We also know that intrinsic motivation contributes to whether someone is opportunity minded or problem minded. This is also the case when someone tries to reach technological alignment with a potential partner. Therefore, the following hypothesis will be tested:

Hypothesis 2: Technological alignment with a potential partner during an open innovation meeting mediates the relationship between intrinsic motivation and the chance to have a follow-up contact with that potential partner.

According to the theories, all the three forms of alignment are necessary for a potential collaboration to succeed. The three forms (technological, strategic and relational alignment) come into play after the open innovation meeting. After the meeting, intrinsic motivation is still present in the process for every attendee. It still influences on the way how someone approaches the collaboration set-up (opportunity-minded or problem-minded). At the same time, collaboration quality mediates the relationship between collaboration antecedents (the alignment phases) and collaboration outcomes. Therefore, it is important to test the following hypothesis:

Hypothesis 3: The three alignment phases from the partner selection theory mediate the relationship between the intrinsic motivation and collaboration quality.

Professional trust is an expected factor to influence on the decision to try to set-up a collaboration (i.e. to have a match). Anderson and Hardwick (2017) identified that professional trust is the belief that the potential partner can deliver something useful in a useful way. This can trigger someone to seriously try to collaborate with the potential partner. This is different than technological alignment, because this is from a social angle. Technological alignment is more from a content angle. According the authors, trust is a moderating factor. It supports the exchange of tacit and fine grained information and knowledge. This means that it is expected that trust (during the meeting professional, after the meeting personal and later integrated) moderates the relationship between alignment and having a sequel and later having a collaboration quality. The following will be tested:

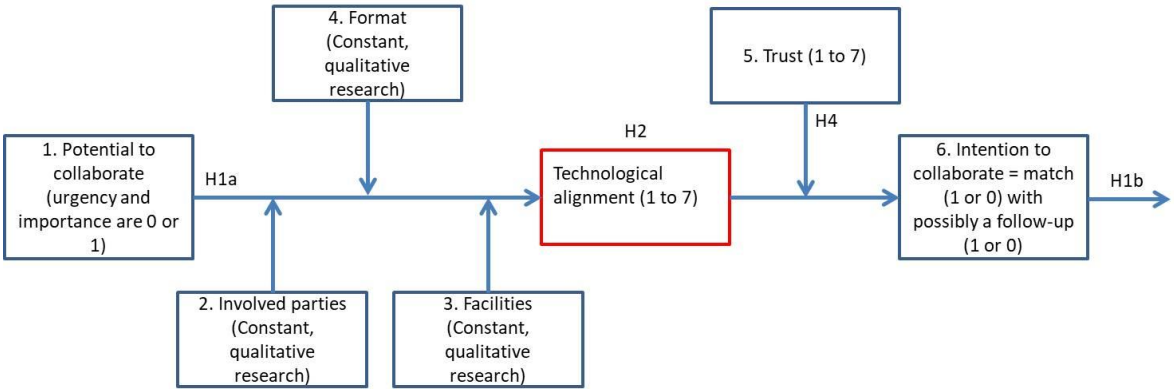
Hypothesis 4: Professional trust positively moderates the relationship between technological alignment with a potential partner during an open innovation meeting and having a sequel with that potential partner.

Hypothesis 5: All the three forms of trust positively moderate the relationship between the three alignment scores with a potential partner after an open innovation meeting and collaboration quality.

According to Dietrich, Eskerod, Dalcher and Sandhawalia (2010) collaboration quality mediates the relationship between collaboration antecedents and collaboration outcomes. In my framework, this means that it mediates between the three alignment phases and the chance of reaching a collaboration project. Therefore, the following hypothesis is tested to check if the quality factors apply to the open innovation meeting context:

Hypothesis 6: After an open innovation meeting, collaboration quality positively mediates the relationship between the three alignment phases and the chance to reach a specific collaboration project with a potential partner.

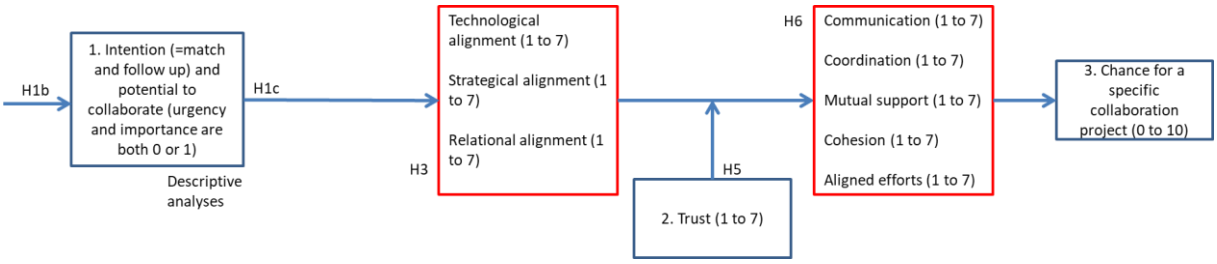
Now it is known how the conceptual process basically looks like, as well as what the hypotheses are. It is time to turn the Open Innovation Meeting Process Concept, which is more of practical use, into models which are of scientific use. Many factors influence the course of the process. To be more specific, these abstract factors might influence the activities, outputs and decisions during the Open Innovation Meeting Process. This happens both during the innovation meeting and after the innovation meeting. Every factor contains matters (i.e. sub factors) which belong to that factor. In the following figures are all those identified factors and sub factors described and displayed in abstract models. The tables show which sub factors belong to every factor. The models show the factors that influence the process. The arrows in those models show the direction of those influences. Arrows that point on another arrow show a moderating relationship, while the other arrows show direct relationships. A mediating relationship means that a factor influences a mediator variable, which in turn influences the dependent variable. A moderating factor influences the relationship between two other factors. In the tables is shown with orange colors which sub factors will be excluded from the research. First, the factors during the event are shown and explained. Later, the post-event factors are shown. In the models is displayed between brackets with which values the factors are measured. Also is shown which hypotheses belong to which arrow (i.e. H1 is hypothesis 1). In the models, the factors have numbers which belong to the same number in the following table. The decision factors are in the red squares, which are the indicators of mediators.



1	2	3	4	5	6
SME motives	Facilitating party	Rooms	Structure Event	Professional trust	Match
Desired collaboration practices	SMEs	Food & drinks	Atmosphere event		
Intrinsic motivation (urgency and importance)	Other attendees	Technological tools	Subject(s) of the event		
Expertise			Scale event		
Personal characteristics			Goal event		
Scheduling conflicts					

Figure 7b: Factors and subfactors during the open innovation meeting

(**Factor 1**) There is mutual potential necessary for two parties in order to have a chance to collaborate together. Ultimately, they come to the point that there is an intention to collaborate. On the "road" to coming to that intention, the involved parties, facilities and format of the event are influencing that potential. The SME motives are covered by the theory "SME motives to form an alliance" and will be descriptively researched. The intrinsic motivation is covered by the Time Management Matrix. The expertise of attendees will not be included, because it is important to have meetings for people with diverse expertises. It is not a factor on which people should be distinguished, since the meetings are open to practically everyone. The personal characteristics are not included, because the goal of this research is not to distinguish people on their personal characteristics. Scheduling conflicts are excluded, because it is impossible to plan an event on a moment when every potential attendee is able to come. (**Factor 2**) All the involved parties will be central in the research. The facilitating party is one of the main stakeholders of the research, while all the attendees are asked to take part in the research. They are a factor in the process, because they have the power to influence it. That can be for themselves, for a group of people or even the entire meeting. The involved parties will be considered as a constant, but will be researched qualitatively. (**Factor 3**) The facilities of the event and (**Factor 4**) the format will be researched too. Both factors can be seen as the platform which allows the open innovation meetings to take place. Another format or other facilities might change the way how and if potential partners meet each other. The facilities and format are always roughly the same, so both will also be considered as a constant and researched qualitatively. (**Factor 5**) Trust, in this phase only professional trust, is a factor that moderates the relationship between technological alignment and having a follow-up. (**Factor 6**) The intention to collaborate is a determined match with possibly a follow-up contact. A match without a follow-up results in nothing, which means that it is on the same level as no match. Therefore, a follow-up is crucial for a match to have value. The intention to collaborate is dependend on the decision factors in the red square which influence the decision whether the participants want to continue to the next stage or not. The next figure displays in the same way as previously what happens after the meeting.



1	2	3
Match and follow-up	Professional trust	Chance for a specific collaboration project
Intrinsic motivation (urgency and importance)	Personal trust	
Desired collaboration practices	Integrated trust	
Collaboration motives		
Hampering factors		

Figure 7c: Factors and subfactors after the open innovation meeting

All the post-event factors and sub factors are included in the research. (**Factor 1**) It continues from the point where the event stops to the point where there is, or will be for sure a collaboration

project. The post-event part starts when a match gets a sequel. The decision factor (technological alignment, moderated by professional trust) from the discovering phase is probably still present at this moment of the process. To come from the intention to collaborate to a specific collaboration project, the motives, and trust factors are influencing the intention to collaborate. Motives to collaborate can influence the wish and determination to put effort in increasing trust and reach alignments. These motives, and also the urgency and importance of having a collaboration, might change during the Open Innovation Meeting Process for every person or firm. They can also be the same as during the meeting. (**Factor 2**) To work on increasing collaboration quality and reaching alignments, it is necessary to have professional and personal trust, which turns later in an integrated form. The five factors communication, coordination, mutual support, cohesion and aligned efforts, which come from the theory about collaboration quality, are crucial ingredients to come to a point where a specific collaboration project can start. The different collaboration quality factors and alignment phases (which are described earlier), are decision factors for the last factor. (**Factor 3**) That last factor is the point where a specific collaboration project will take place. The relationship between the three alignment phases and collaboration quality is moderated by trust. The decision factors are depending on the perceived forms of trust. For example, a person can lose its wish to reach relational alignment with a potential partner, or poorly communicate due to personal distrust. In reality, the process stops when a collaboration project will take place or not. Because of the limited time of this research, it is chosen to have the perceived chance of reaching a collaboration project with a partner as a variable. The urgency and importance can be again 0 or 1, and the collaboration quality factors, as well as all the kinds of alignment and trust are on a scale from 1 to 7. Integrated trust is measured a little bit different. More about that, the other scales and why I chose them is written in the methodology section.

Linking these more scientific models with the more practical model from figure 7a, I come to the following model. This one shows to which phases the factors from figures 7b and 7c belong to.

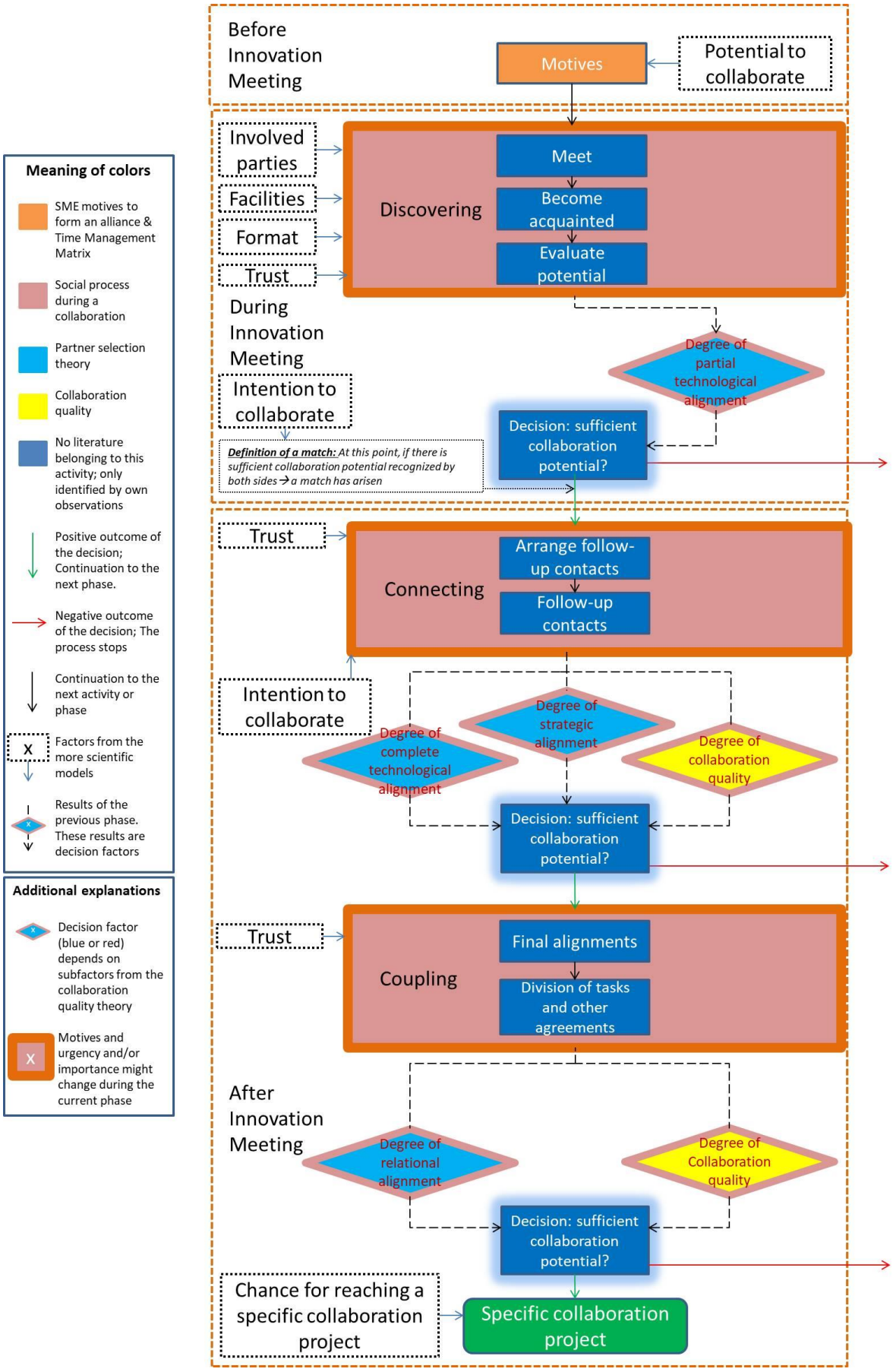


Figure 7d: Visualization of the entire Open Innovation Meeting Process concept

Methodology

The theory chapter describes previous research that will be extended to the context of open innovation meetings. These frameworks are combined and provide the starting point for a methodology which aims to fulfill the research goal and to answer the main research question (how can the effectiveness of open innovation meetings be improved?). In order to get the necessary data, the methodology has been split in three parts, plus an additional part. The methodology is a combination of descriptive quantitative analyses, hypotheses testing and qualitative research. The goal of the descriptive analyses is to find out whether there are certain patterns between (un)matched people and specific factors, and to find out whether there are certain patterns between (un)successful matches and specific factors. The goal of the hypotheses testing is to test whether the from the literature derived conceptual Open Innovation Meeting Process model applies to the real world. The goal of the qualitative research is to get information that cannot be gathered with hypotheses testing. An additional qualitative research aims on exploring how attendees of concerning open innovation meetings think about the format and facilities.

The first part researches which factors have a relationship with the chance to find a match on an open innovation meeting, while the second part focuses on the necessary things to successfully transform those matches into specific collaboration projects. The third part aims on gathering additional insights about the hypotheses. The additional part focusses on the format and facilities of the open innovation meetings. The validity and reliability considerations of the analyses are described after the research parts. The descriptive analyses have been done with t-tests. Those t-test have revealed whether there are differences between two populations (matched and unmatched people) in the field of motives and aimed innovation practices. The question about the hampering factors should reveal what the most important problems are for matches without a successful outcome. ADANCO has been used for all the hypotheses. That means that they are tested with structural equation modelling. Structural equation modelling will be explained later in this chapter.

The research has been finalized with a systematic literature review in order to find solutions for making SMB Life Sciences', Novio Tech Campus', Campus Connect's and Health Valley's open innovation meetings more effective. A systematic literature review allowed me to search through much available literature in a limited amount of time. Important to mention is that there is no literature found that covers the open innovation meeting context specifically. Hence, it is important to find useful literature that solves problems or improves matters in comparable contexts. The systematic literature review has been conducted in the five steps that Siddaway (n.d.) suggests. It starts with Scoping (1) (, formulate one or more research questions and clarify whether the review has already been done). The research questions are described later in this chapter. The next steps are Planning, Identification, Screening and Eligibility. For the Planning part (2), search terms have been created after that the research of the concerning data has been finished, as well as formulating the inclusion and exclusion criteria. The Identification stage (3) is in fact the searching stage, in which the search terms will be used and in which the search results will be carefully inspected. During the Screening phase (4), titles and abstracts have been read to check whether the works meet the inclusion or exclusion criteria. The last phase, Eligibility (5), means that the full texts of the left over articles are sifted to see if they are suitable for inclusion. After this fifth stage, only useful literature did remain. This literature has been used for recommendations.

For the first two parts of the research, a survey has been distributed among participants from selected open innovation meetings on the Novio Tech Campus in Nijmegen, one on the Wageningen Campus and one in DotSlash Utrecht. For the third part, semi-structured interviews have been conducted. The additional part consists of structured interviews. The first two parts are quantitative researches. The third one and the additional part are qualitative and are based on short interviews, semi-structured and structured respectively. Parts one, two and three give direction for a systematic literature review which aims to provide theories to improve the overall effectiveness of open innovation meetings. The additional part focuses on something else, but it has common ground with the other parts. The other parts focus on the improvement of the effectiveness (what happens during the meeting), while the additional part aims more on the format and facilities of the meeting (what enables that what happens during the meeting). Both survey one and two are displayed in the appendix (appendix A8 and A9 respectively) of this report, as well as the set-up for the semi-structured and structured interviews (appendix A7).

During an open innovation meeting, there are usually many dozens of people (about 50 to 80 people, sometimes more or less). An average meeting starts with guest speakers or other forms of presentations. After the formal part, a lunch or something similar is organized. During this part, attendees have the opportunity to get to know each other. This is also the part which is meant to stimulate the forming of matches by bringing people together. Because of the large group of people, every attendee only has the possibility to get in touch with a very small percentage of all the participants. In this way, attendees may miss out on potential matches because they did not reach the best fitting potential partners. The spreading of people during such a lunch or drinks opportunity is random. This means that someone who is looking for a match might sit next to people who are not at all interested in any kind of match. At the same time, the people who could be a perfect match sit or stand somewhere else. In that case, it would be easy to say that only people who are looking for a match are allowed to join the lunch. After all, the main goal of open innovation meetings is to stimulate the forming of matches. However, that solution would be too easy, because the main goal is not the only goal. Open innovation meetings also provide people with interesting and relevant information. Attendees can learn from the presentations. The lunches and other forms of receptions can also lead to interesting insights, without the intention to create a match. Even people who think that they do not need any kind of alliance or collaboration might change their mind when they start talking to someone during the meeting. It is important to maintain the open character of open innovation meetings to serve all goals. However, the main goal will always be to stimulate the forming of matches. The conclusion of all this information is that it is imaginable that it is very beneficial to do a research about a form of coordination for the spreading of people during a lunch or similar reception to some extent. In other words: improve the way of bringing people together who have the highest chance to determine a match, while the open character is still present. That is meant in this research with improving the effectiveness of open innovation meetings.

Structural equation modelling, variables, operationalization and validity

In order in to test the hypotheses, variance-based structural equation modelling has been used. The method allows to graphically model and estimate parameters for relationships between theoretical constructs and to test behavioral theories. Since this research about open innovation meetings and its hypotheses are basically about relationships between behavioral factors, this statistical method was ideal to use. The concepts are theoretical and they had to be tested in order to check whether they have any practical relevance. For structural equation modelling (SEM), latent variables have to

be identified. Then, the theoretical relationships (mediating, moderating or direct) have to be tested between the latent variables. Latent variables are unobservable. However, they are build up out of indicators, which are observable variables (Henseler, 2017). How the outcomes of structural equation modelling have to be interpreted, as well as validity and reliability checks and the like, are described together with the analyses, which can be found after this chapter.

For researching the hypotheses, three structural equation modelling models have been made. These models are based on the theories from the theory chapter. These three models will be tested with ADANCO, which is structural equation modelling software (Henseler & Dijkstra, 2015). In the models has been shown what the latent variables are and what the indicators are. All the three models are reflective measurement models. That is, because the assumption is that the measurement errors are centered around zero and uncorrelated with other variables, constructs or errors in the model. At the same time, the latent variables have an underlying set of observable indicators. The latent variables are not directly observable. Only the correlational pattern of its indicators provides support for its existence. In the models, dropping an indicator from a construct does not alter the meaning of the measurement model. These things belong to reflective measurement structural equation modelling. It is the standard model of behavioral research, which is exactly what this thesis is (Henseler, 2017).

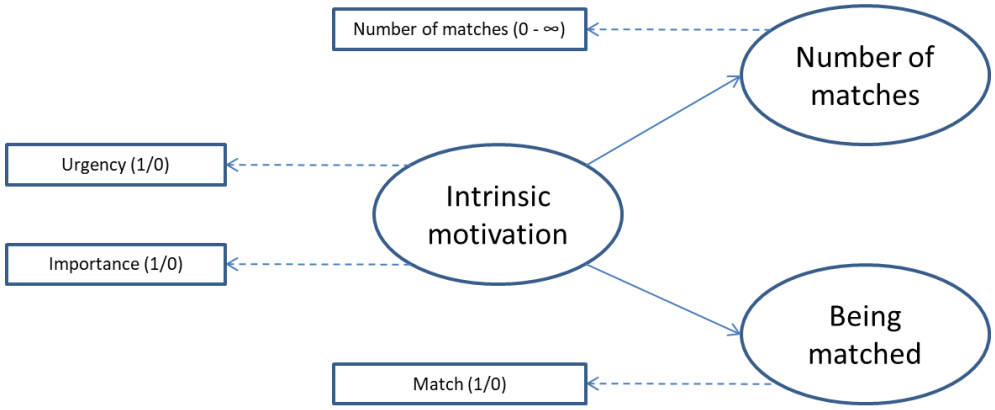


Figure 8a: SEM model during event 1 (testing hypothesis 1a)

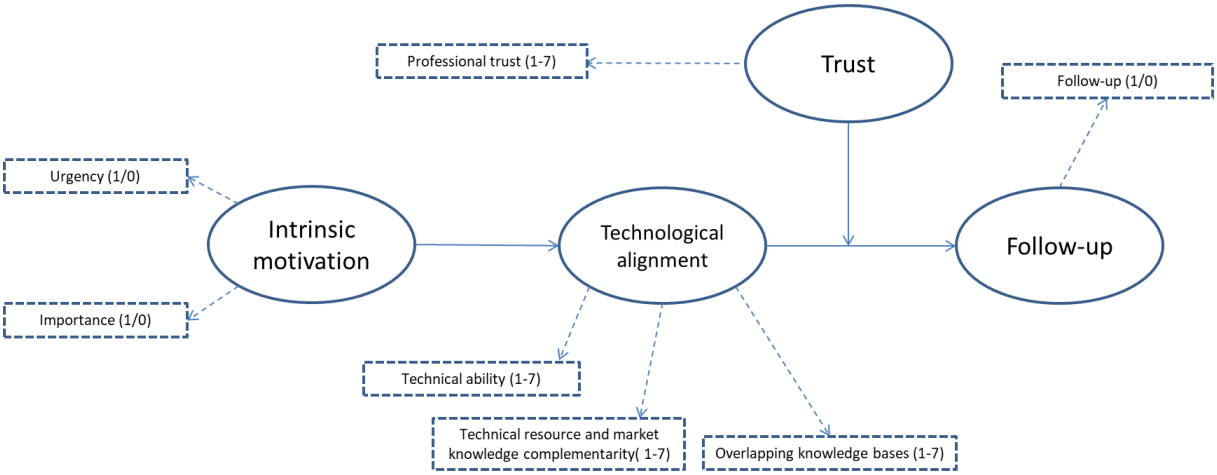


Figure 8b: SEM model during event 2 (testing hypotheses 1b, 2 and 4)

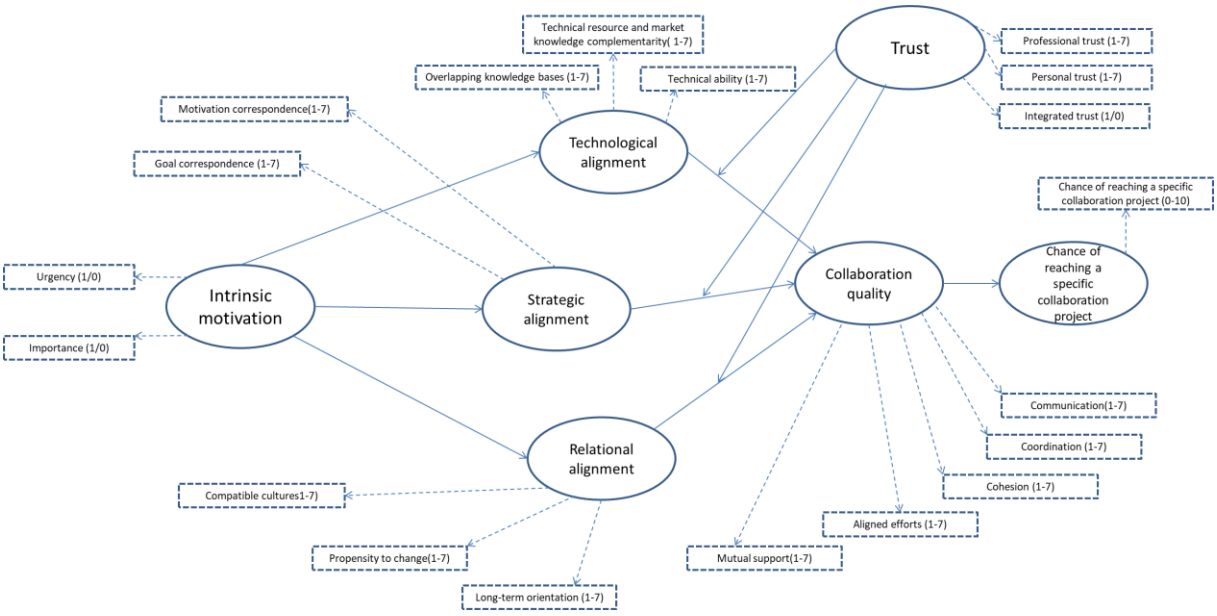


Figure 8c: SEM model after event (testing hypotheses 1c, 3, 5 and 6)

In the previous figures, latent variables (also called composites) are shown with ovals, while the indicators are shown with the striped rectangles. The striped arrows show the relationships between latent variables and indicators, while the other arrows show the mediating, moderating and direct relationships. The arrows from trust point on other arrows, which means that trust is expected to moderate the concerning relationships. Notice that intrinsic motivation, follow-up, being matched and integrated trust are dummy variables. In SEM, it is possible to work with dummy variables, since structural equation modelling allows to insert categorical variables as dummy variables. This means that its indicators can have a value of zero or one. The urgency and importance indicators are zero when an attendee has no urgency and no importance respectively for finding a collaboration. They are one when they are positive. Follow-up and being matched are zero when an attendee has no follow-up after a match, and no match respectively. Again, those indicators are one when positive. The chance for reaching a specific collaboration project can have a score of zero to ten. This is a so called Juster Scale. This scale has been developed in order to predict future intentions. It has been successfully used in self-completion questionnaires (Forethought Research, n.d.). The scale is displayed in the following figure.

Score	Verbal equivalent
0	No chance, almost no chance
1	Very slight possibility
2	Slight possibility
3	Some possibility
4	Fair possibility
5	Fairly good possibility
6	Good possibility
7	Probable
8	Very probable
9	Almost sure
10	Certain, practically certain

Figure 9: Juster scale

Predicting future intentions is exactly what the variable is about. That is why this scale has been chosen, since it fits perfectly in this context. Almost all the other, not yet mentioned variables are measured with a Likert scale from one to seven. That scale reaches from “Not at all” to “Yes, very much” as possible answers on whether people agree on, think like or feel like the concerning statements. Such a scale is simple for both researchers and participants. There is an exception, since integrated trust will be measured as a dummy indicator. Integrated trust consists of both professional and personal trust coupled together. Therefore, it was more difficult to define. That is why this choice has been made. Someone scores “1” on integrated trust when personal trust and professional trust are both scoring at least a 4, and both summed up are at least scoring 10. Several papers have shown that a Likert scale can be analyzed effectively as interval scale. The scale item should be at least five, but preferably seven (Brown, 2011). That is why a scale to seven has been chosen. “I don’t know” is also a possible value for these indicators. However, this will be equal to one. This research is about factors that play a role. In other words, if somebody does reach a collaboration project or not, without knowing anything about for example cohesion, the assumption is that this factor did not play a role and therefore has the minimum value of one. I have confidence that this is the right approach, but it is also necessary to do it like this. That is, because the research is limited in time and (sample) size. If these kind of answers are not taken into account, the statistical power of the research suffers too much. The recommended sample size of structural equation modelling is at least ten times the number of maximum arrowheads pointing on a latent variable (Henseler, 2017). This means that the minimal sample size is 40 for the last model (figure 8c), since four arrowheads is the maximum number of arrowheads pointing on a latent variable. If “I don’t know” would not be taken into account or analyzed separately, the minimum sample size of 40 would not have been reached in the available time and open innovation meetings available for research.

There are some additional comments in the field of statistical validity and reliability. All attendees of the researched open innovation meeting were invited to participate in the research. The meetings on the researched campuses have various subjects, which means that the population consists of divergent people from divergent companies and also with divergent roles. The participants also have various nationalities. Therefore, it is likely that the sample is also very divergent. At the same time, it was important to send the surveys from part 1 as soon as possible to the population after the meetings. People can forget what they felt or thought during the meetings. Therefore, the more time there is between the meeting and filling in the survey, the less valid the research is. It was important to research more than only one open innovation meeting in order to have a reliable research, even when there were already 40 potential respondents for part 2 after the first meeting. This in order to have a better sample, not only with divergent people but also with some diversity in different researched meetings with their own subject, date, presentations and so on. This made the research more reliable. I have no information about whether the people from the different meetings are homogeneous and I was not able to check this. A serious threat to the results of the research is that people with specific characteristics are more willing to participate in one of the research parts, while people without those characteristics or with other characteristics are less willing to do that. This would mean that parts of the results might be not completely representative for the real world. It was also important to watch out for surveys which are not filled in correctly. In the following part of this chapter, the separate research parts are described.

Part 1

The sub question which belongs to this part is: do specific characteristics of attendees lead to more chance of having a match on an open innovation meeting?

A survey has been sent to all attendees of selected open innovation meetings (see appendix A8 for the questions of this survey). There was a second survey in part two. Attendees had to sign-up for the meetings and fill in their e-mail addresses. This data was available at the organizing organizations. To these e-mail addresses, the surveys has been sent. The potential participants have been asked to participate in one or two surveys (depending on whether they meet the conditions for the second part). The people who did not respond after the first invitation, got a reminder. Also has been asked if people without a match want to participate in the third part.

For this survey, four theories have been used from the previous chapter: (1) the SME (Small and Medium-sized Enterprise) motives to form an alliance, (2) the Time Management Matrix, (3) the social process during a collaboration and (4) the partner selection theory. Participants could choose one or more open innovation practices where they are aiming or hoping for, or open to during the meeting. Next, they could select their motives to join the open innovation meeting. It probably differs per person which motives are stronger and which are weaker. However, the importance of every single motive was not researched for two reasons. The first reason is that the research was limited due to time issues. Secondly, the motives are not the most important part of the final research, since the final research focuses more on whether the Open Innovation Meeting Process concept is a correct representation of reality. The next step was the question how much matches the participant found (can be ofcourse zero). As earlier described, a match is defined as the intention between two parties to collaborate in some way, now or in the future. The goal was to find out if there are any differences in motives between the two groups (matched and unmatched people). It has been checked if the group with matched people (group 1) has more motives for forming an alliance than the group without matches (group 2). In the survey, participants could select their motives and desired open innovation practices from the list as displayed in the theory chapter, or add new ones. Interesting was to see whether there are patterns between the number of motives and number of aimed practices, and the chance to have a match. It has not been taken into account that there are two levels of motives and aimed practices. There are two separate parties in case of match, but it would make the research much more difficult, which is undesirable because of the limited time of this research. That is, because then for every match, both parties need to be identified and need to response on the survey. Therefore, the main focus will be on a single level of motives, rather than looking at some deeper dimensions.

Until now, part 1 of the methodology and survey had only descriptive purposes in the field of motives and open innovation practices. That changes from now on. The next step was asking if it is important and urgent for the attendees to find a successful partnership. Participants could choose between yes and no for both dimensions. Another interesting outcome of the survey was to know if people from a certain quadrant have the highest chance to find a match. As said before, the expectation was that people for whom a partnership is important and urgent have the highest chance to find a match, followed by people for whom it is only important to find a match. This has been tested in this part of the research.

To test hypothesis 1b, information from the survey of part 2 was also necessary. This second survey has been sent later. The following step during part 1 was to ask the matched people to which extent they have professional trust in, and technological alignment with their match. For the technological alignment, the separate subcategories have been asked. All these questions have been answered with a scale from one to seven. If participants had more matches, they only had to answer this for their most promising match. This, because it is important to keep the surveys short to get enough responses. It made it easier and not confusing for the participants to ask the questions in part two only about one single match.

Part 2

The sub question which belongs to this part is: what are the main conditions for a match formed on an open innovation meeting to become a success?

The goal of the second part is to determine the necessary aspects to convert a match into a specific collaborative project. Five theories and frameworks are used for this: (1) the Emergent Theory of Partner Selection for Creating Product Advantage through Collaboration, (2) the social process during a collaboration, (3) the collaboration quality elements and characteristics, (4) the Time Management Matrix (5) and the SME motives theory. The participants of the survey from part one who determined a match have been asked to fill in a second and last survey. It was not in line with the expectations that everyone who filled in part one and determined a match will also fill in part two. Hence, it was important to have much more than 40 responses in part one from people who found a match.

The second survey has been distributed a couple of weeks after the first survey (see appendix A9 for the questions of this survey). This allowed all the matches to have some time to develop at least closer to a collaboration project, or to fail if that was the unfortunate outcome of the match. For some of the hypotheses, it was only necessary to know what the chance of a potential collaboration is to turn into a real collaboration project. For another hypothesis, it was important to know whether the match from the innovation meeting got a sequel or not. In a short research like this thesis, it is impossible to wait very long to give all the matches very much time to develop towards a collaboration project. Therefore, I have chosen to work with the variable 'chance of reaching a specific collaboration project' rather than a categorical variable about whether a collaboration has been reached or not. Most of the questions were again about the match for which the participants already filled in some questions during part 1 (their most promising match at that moment).

Firstly, it was again asked whether a collaboration is urgent and important like in part 1, since it is possible that people change their perception of importance and urgency over time. These new importance and urgency scores have been used for the last SEM model. It is also not unthinkable that the motives also change after the meeting. However, this has not been asked in this survey, since this survey was already quite long. All the participants were asked for every subcategory from the partner selection theory whether the conditions from both sides were met and to which extent. The used scale was from 1 to 7, where 1 means not at all and 7 means very much. "I don't know" was also a possible answer. For the social process, the participants have been asked which knowledge types from the aforementioned list apply for the participant in relation to their matched party and which kinds of trust they felt for the other, and to which extent. The same scale from 1 to 7 has been used for professional and personal trust. Integrated trust was a dummy variable. Reminder: someone scores "1" on integrated trust when personal trust and professional trust are both scoring at least a

4, and both summed up are at least scoring 10. Technological alignment and professional trust were asked again like in part 1, because both scores might change during the process. Finally, the high quality characteristics of collaboration have been questioned, also with the 1 to 7 scale. The expectation was that if the matches have positively progressed, they score higher on all the questions. For a descriptive purpose, the members of unsuccessful matches have been asked which hampering factors they experienced.

Part 3

In this part, the following question will be answered: how can the effectiveness of open innovation meetings be improved?

When I started with part 3 of the methodology, it was clear whether urgency and importance play a role in finding a match and turning it into a specific collaboration project. Also was clear whether the perceived technological alignment and professional trust play a role in giving the intention to collaborate (i.e. a match) a sequel. Next, the aim was to know which collaboration quality factors have a relationship with the different kinds of trust and alignment. Finally, it was important to find out whether those kinds of trust and alignments are related to the chance to turn a match into a specific collaboration project. The expectation was that the descriptive analyses will give some interesting insights. They will tell what the hampering effects of turning a match into a collaboration project are and which are the biggest problems. Also has been clarified if people with a match are open to more collaboration practices than people without a match. The same goes for the motives. This all is only descriptive to gain the insights. For this, there are no hypotheses tested.

Testing hypotheses 2 to 6 means in fact that the conceptual model of the Open Innovation Meeting Process is tested. It was checked if the factors from the collaboration literature are applicable to the open innovation meeting context. Hypothesis 1a, 1b and 1c aim on finding out whether it is possible to say something about the chances of people to find a match and ultimately a collaboration project by dividing them on the easy scale with just two dimensions: the urgency and importance of collaboration. The descriptive analyses was useful for gaining additional insights. To give an example: if something interesting comes out of the question about the aimed collaboration practices, methods can be searched to tackle those problems.

Part three itself aimed on getting additional insights, as well as conducting the systematic literature reviews. The additional insights were gathered by short semi-structured interviews, based on asking five times “why”. For these interviews, the goal was to have 20 responses. 20 responses should be sufficient, because it is manageable and at the same time provides a lot of qualitative information from a lot of different people. The goal of these interviews was to find out what could not be explained by the quantitative research. This so-called 5 why’s technique is simple, effective, comprehensive, allows flexibility and is engaging. With this technique, symptoms can be separated from the causes of a problem or reason (IMS International, n.d.). From part one, 21 people without a match were interviewed with the central question why they did not find any match on the concerning open innovation meeting (the first “why”). Everyone who filled in in the survey part 1 and did not have a match was invited for this part. All those interviews did start with that question. After the participants’ answers, I went deeper into their answers to find all exact reasons and underlying ideas by asking four more “why-questions”. The following questions did depend on the interviewee’s

previous answers. The goal of these questions was to find underlying reasons from people why they did not find a match.

It might be necessary to add something to the Open Innovation Meeting Process concept. At this point, it was not clear yet if it is necessary and how and where and why it should be changed. The interviews and surveys have revealed this. People with a match were researched quite extensively through a second survey. In order to also have a detailed impression of unmatched people, the interviews have been done. The answers of the interviewees have been coded into generalizable reasons why people do not have a match.

When all the interviews have been finished, the additional insights were combined with the insights and quantitative results from before to have as complete as possible a picture of matching at open innovation meetings. At last, the final systematic literature reviews were conducted to provide recommendations for the improvement of the effectiveness of open innovation meetings at innovation campuses. The review has helped me in coming up with well-founded recommendations. The results from the additional part have also been used. This part is described immediately below.

Additional part

In this part, the following question will be answered: how do open innovation meeting attendees think about the format and the facilities of such events?

This part is called additional, because it is not depending on the other parts (i.e., main research). This part has been researched on moments when I was waiting for responses on the surveys. When a survey was send, the participants had to complete it. Later, I had to send a reminder to the ones who did not fill it in yet in order to get more responses. Then again I had to wait before the research could be continued. This waiting gave me time to research the format and facilities of open innovation meetings. To answer this question, I visited companies at the Novio Tech Campus. I have asked people from those companies whether they ever attend open innovation meetings or not. The ones who attend these meetings are the customers of such events. The meetings are organized for them, so the meetings must be considered valuable by these people. They must be satisfied with the concept to make use of it. Most important in this part is to ask the potential participants what they think about the format and facilities of the meetings, because those two factors are not covered in any of the other research parts. I have conducted a structured interview with these people and asked them if they think that the open innovation meetings are effective and why. I have also asked why they attend these meetings. Next, they have been asked what is necessary for them to consider an open innovation meeting as effective. Some other questions were asked as well (see appendix A6 for all the questions). Finally, the aim was to find out what the customers of open innovation meetings want when they attend these meetings. A systematic literature review was conducted to find methods to better serve the participants wishes and needs. For the recommendations, it is important to remember what the main goal of open innovation meetings is (to bring people together and to stimulate as much matches as possible).

Methodology relevance

The researched open innovation meetings are quite monotonous in a way that they are all in general looking the same. In a large room, the event takes place with a central theme, sited at one of the campuses. Some people come there and give a presentation for the entire audience about this

theme, or something that relates to this theme. After this formal part, there is a networking opportunity in the form of a reception. Drinks and bites are almost always present. People come together in a large group and it seems that organizers have trust in some kind of natural process that people start talking to each other. In fact, people really do speak to each other. However, I found out through observations that many of these conversations do not lead to a match. The open innovation meetings only bring a large group of people together, and from there it stops with stimulating the forming of matches. If more effort would be taken to guide people towards a match, it would be imaginable that more matches arise. However, there was never any attempt to increase the number of matches during open innovation meetings. Also was never determined what such a match needs in order to transform into a specific collaboration project, neither a way to measure the effectiveness of open innovation meetings. This final thesis makes a first step in these directions. The Open Innovation Meeting Process is an attempt to explain what is going on from the moment to decide to attend a meeting, until the moment that a specific collaboration project becomes definitive. That process is an extension of both relevant open innovation literature and general collaboration literature to the open innovation meetings. The final research shows to what extent the existing literature covers that what happens on the open innovation meetings, and which parts need new research. It shows which current factors from the literature play a role in the process, and which do not play a role. The factors which play a role are taken into account for the recommendations to make an open innovation meeting more effective and to guide more matches towards a success.

As said before, it seems very beneficial to do a research about coordinating the spreading of people during an open innovation lunch or similar reception to some extent. Bringing the people together who have the highest chance to determine a match, with the open character still present, might lead to more matches. The first part of the methodology focuses on finding out which people have the highest chance to determine a match. While keeping this in mind, methods are suggested to bring these people more effectively together than in the current setting. That in order to have more matches on open innovation meetings. There was a search for those methods with a systematic literature review. It might also be possible that something about the concept of an open innovation meeting should be changed. Further research should investigate if the proposed methods lead to real improvements. The second part focuses on what a match needs after the open innovation meeting in order to become a collaboration project. From the point that it is clear what characterizes successful and failed matches, there are methods suggested in order to stimulate more matches towards a success, and less matches towards a failure. This has been done with the help from existing literature. Once more, a systematic literature review has been conducted. The aim is to bring more matches to a success. Ultimately, if the thesis succeeds in accomplishing its goal, the efficiency of open innovation meetings is expected to increase. Also will the Open Innovation Meeting Process be defined. Future researchers then have a starting point for open innovation research.

Results and analyses

The research has been split up in (1) the analysis of factors during the event and (2) the analysis of factors after the event. The first analysis is about the factors, sub factors and hypotheses from figure 7b (in the theory chapter). Those are the factors during the open innovation meetings. The second analysis is about the factors, sub factors, hypotheses and descriptive analyses from figure 7c (also in the theory chapter). Those are the factors after the open innovation meetings. After the analyses,

the recommendations following from the analyses, results and systematic literature reviews are explained. Those recommendations are based on all analyses and results combined.

The first survey, which was the starting point for each person of the researched groups from parts 1 to 3, was sent to 448 attendees of eight different open innovation meetings. 31 of them signed up voluntarily for the research. Only sixteen of them did finally participate in the research. 417 people received the first survey by mail from the concerning organizing parties of the meetings. From the 448 people, 108 have responded (response rate of 24.1%). Out of those 108 people, 63 people found a match and therefore were eligible for the second survey. That was sent to all 63 people. 50 of them responded on the second part (response rate is 79.4%). All the unmatched people (45) were invited for the semi-structured interviews from part 3. Here, the response rate was 46.7% (21 interviewees). Most of the reliability and validity checks of the quantitative analyses are in the appendix.

During event factors

Quantitative research – Intrinsic motivation and match (part 1)

The first hypothesized structural equation model (SEM) is graphically displayed on the next page, including the results. This model tests hypothesis 1a, and tests whether the intrinsic motivation influences matchmaking and the number of matches. All the people who filled in part 1 of the survey are included in this part of the research.

After testing the original model, the reliability of the indicator urgency was much too low. For reflective measurement models like this one, this means that this indicator can be left out. The reliability, validity, loading and effect scores of the original model can be found in appendix A1, since the updated model is more relevant than the one that is not applicable anymore. The updated model is displayed below. Firstly, it had been tested with importance and urgency separately. However, that again confirmed that urgency can be completely left out of the model. The values of construct reliability and convergence validity show whether the created composites are reliable (Dijkstra-Henseler's rho) and if the sets of indicators are also reliable (Jöreskog's rho). The Cronbach's Alpha also measures the reliability of a set of indicators. The indicator reliability denotes the proportion of indicator variance that is explained by the respective latent variable. In this case can be said: in the tested model, urgency does not play a significant role on the intrinsic motivation. Instead, importance is responsible for almost all of the variance in this latent variable. Measuring both indicators as separate latent variables did not show other results. Loadings are the correlations between the composite and its indicators. The convergence validity is the degree to which theoretically related measures are related in reality. In order to improve the Cronbach's Alpha, I removed the insignificant indicator urgency from the model. This leads to the following model.

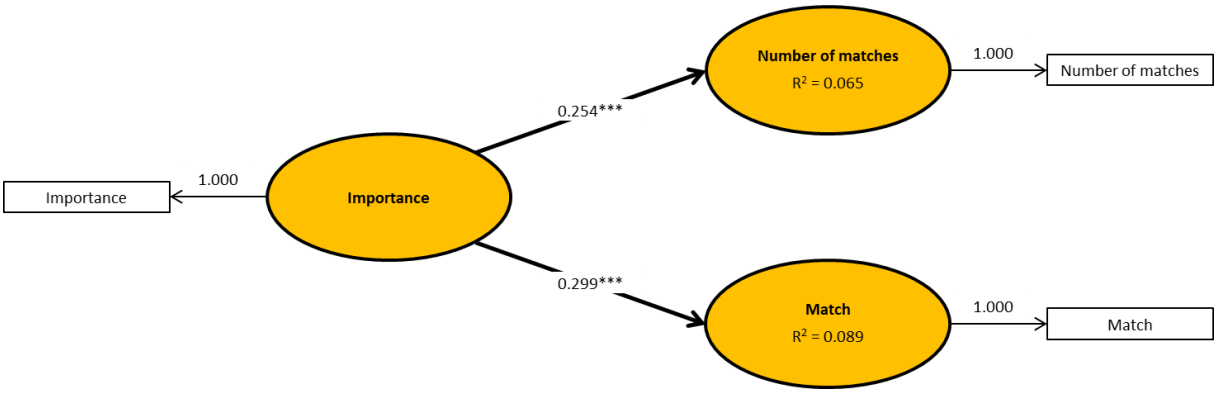


Figure 10: First SEM, including effect sizes (N=108, standardized root mean square residual=0.000 (it is a measure of approximate fit, acceptable is ≤0.08), ***p<0.01)

In the figure above, we see low R^2 values for both number of matches (0.065) and having a match (0.089). The R^2 is the coefficient of determination. It shows the proportion of the variance in the dependent variable that is predictable from the independent variable. In the following tables are the reliability, validity, loading and effect scores displayed of the updated model. These evaluations have been done on a way that is a combination of what Henseler (2017) and Wong (2013) suggested. This goes for all the SEM analyses. After that, the results are evaluated.

Latent variable	**Indicators**	**Loadings per indicator**	**Indicator reliability** (≥0,4 is acceptable, ≥0,7 is preferred)	**Construct reliability Dijkstra-Henseler's rho/Jöreskog's rho** (≥0,7 is acceptable)	**Cronbach's Alpha** (≥0.7 is acceptable)	**Convergence validity (AVE)** (≥0,5 is acceptable
Importance	Importance	1.000	1.000	1.000/1.000	Not applicable	1.000
Number of matches	Number of matches	1.000	1.000	1.000/1.000	Not applicable	1.000
Match	Match	1.000	1.000	1.000/1.000	Not applicable	1.000

Figure 11: Checking loadings, validity and reliability scores

Notice in the table above that all scores are 1.000 in models with single-indicator constructs only. Therefore, it is not necessary to check for the loadings, reliability and validity scores of such constructs. The same goes for outer model significance and discriminant validity.

Now, all the values are above the minimum acceptable threshold. The Cronbach's Alpha is not applicable anymore, since intrinsic motivation is here a single-indicator variable and does not have a set of indicators anymore.

Effect	**Original coefficient**	**Mean value**	**Standard error**	**t-value**	**p-value (2-sided)**	**Lower percentile bootstrap quantile (0.5%)** (0 should not be on the interval)	**Upper percentile bootstrap quantile (99.5%)** (0 should not be on the interval)
Importance → Number of matches	0.2542	0.2557	0.0516	4.9306	0.0000	0.1196	0.4067
Importance → Match	0.2988	0.2928	0.0853	3.5026	0.0005	0.0603	0.5004

Figure 12: Checking structural path significance with bootstrapping (df=N-1=107, 999 bootstrap samples)

After checking the structural path significance with 999 bootstrap samples, with 107 degrees of freedom and α=0.01%, we see that the effect of importance is significant on both having a match, as well as on the number of matches.

Effect	Total effect	Cohen's f^2 (>0.35 is a large effect, ≤0.35 and >0.15 is a moderate effect, ≤0.15 and >0.02 is a small effect, ≤0.02 means no effect)
Importance → Number of matches	0.2542	0.0691
Importance → Match	0.2988	0.0980

Figure 13: Evaluation of the model

Looking at the values in the last table, we can conclude that importance has a small effect on both having a match and the total number of matches. However, taking the previous results into account, we can conclude that importance is responsible for almost all of the variance in intrinsic motivation, while urgency has almost no influence on intrinsic motivation. Therefore, the following hypotheses is rejected:

Hypothesis 1a: Open innovation meeting attendees for whom collaboration is an urgent and important matter are more associated with finding a match than other attendees. They on average find more matches than others.

Instead, open innovation meeting attendees for whom collaboration is an important matter are directly more associated with finding a match than other attendees. They on average find more matches than others. However, these associations are small effects. It is remarkable that feeling the importance of collaboration for open innovation meeting attendees results only in small effects in terms of being matched and the number of matches. This maybe has a connection with the "lucky factor" that was identified during the semi-structured interviews. The results of the semi-structured interviews are described after the next section. A possible explanation would be that someone who does feel the importance of collaboration still needs much luck to find the right potential partner to have a match in the current format of open innovation meetings. More evidence for this has been gathered in the next two sections, with the descriptive analyses and semi-structured interviews

Descriptive analysis (part 1) – Aimed collaboration practices and collaboration motives

For this part of the analyses, the aimed practices, motives and hampering factors have been analyzed for two populations. To be more specific, it has been checked whether people who have a match aim on average for more kinds of collaboration practices than people without a match. Also has been checked whether people who find a match have more motives for a collaboration project than people without a match. For the hampering factors, it only has been checked which hampering factors have occurred in the population, together with the percentages per factor. That analysis is described in the part about post event factors. It can be found on page 50. For both the number of aimed practices and motives, an independent samples t-test has been conducted. Only people who filled in that they are open to, or maybe open to a collaboration were able to fill in this part of the first survey and are included in this part of the research. They also had to fill in at least one valid practice or motive to be included in this part.

		N	Average	Standard deviation	T-value	Interval estimate of difference between two population means	
						Lower 5.0% percentile	Upper 5.0% percentile
Practices	**Matched**	59	2.590	1.739	1.663	0.08416	1.02950
	Unmatched	30	2.033	1.344			
Motives	**Matched**	59	3.627	1.826	1.661	-0.06382	1.15139
	Unmatched	36	3.083	1.556			

Figure 14: Descriptive analyses practices and motives (df=N-2, α=0.10)

With a confidence interval of 90 percent, there is a significant difference between the average number of aimed collaboration practices for matched people and unmatched people. That is, because the interval estimate of difference between two population means does not include zero. This might be again, like in one of the previous analysis, indirect evidence that the "lucky factor" plays a serious role in the current format of the events. That is, because the more collaboration practices someone aims for, the more people on an event are fitting in one of the aimed practices. The more people fit in one of the aimed practices, the bigger the chance that someone meets a potential partner. The exact same t-test has been done with the motives. However, this test does not reveal any statistical significant differences here. For the motives, it seems that it is not very important how much motives someone has, in contrast with the aimed collaboration practices.

Qualitative research – Semi-structured interviews (part 3)

The semi-structured interviews have been conducted with people who did not find any match on the concerning innovation meetings. With the 5 times why technique, the underlying problems or causes have been identified. These problems and causes have been coded into generalizable ones. They are displayed in the table on the next page, together with the quantifications and percentages. Some people experienced multiple problems and causes. Therefore, all the percentages summed up are more than 100 percent.

Problem/Cause of not having a match	Quantity (percentage)
For the matchmaking, a participant needs much coincidence to find the right person	16 (76.2%)
The participant has attended the concerning meeting for other reasons than matchmaking	7 (33.3%)
The timeslots for networking are too short. Therefore, the number of people a person can meet is very limited. That makes the chance very small that the right person will be found	6 (28.6%)
There is no overview about present people or companies on forehand	4 (19.0%)
Attendees are not completely open about their products or plans, since they are afraid to help competitors	1 (4.8%)
In general, potential partners are more interested in products that are ready or almost ready, instead of projects in early research phases	1 (4.8%)

Figure 15: Identified problems and causes, quantification and percentages (N=21)

This part of the research has revealed that relying on coincidence is the major problem for people who do not find a match. People must have some luck to meet the right person, since there is nothing that guides an attendee to a person with real potential. Some people think they did not find a match, because the time to find it is too limited or that there is no overview of the present people or companies. The limited time might be a consequence of the first problem, since the random attempts of matchmaking

"For the matchmaking, a participant needs much coincidence to find the right person"

are inefficient. The absence of an overview of present people or companies might be a cause of the first problem. Conversations with the "wrong" people consume a lot of time, which cannot be used to find real potential partners. This is definitely something that has been included in the recommendations. For the persons who are not on the meeting for matchmaking, it ofcourse is not a problem that they did not find a match.

Qualitative research – Structured interviews (additional part)

For the additional research part, twenty people have been interviewed. All those people are active on the Novio Tech Campus, directly or indirectly. These interviews revealed some very interesting insights. sixteen of those twenty people do attend open innovation meetings. The four people who do not attend those meetings, are in a role which is, according to them, not suitable for attending the meetings. Surprising is that fourteen of the sixteen people say that they attend open innovation meetings at least every month. The other two people attend it about two to three times per year. All of them also give roughly the same reasons for attending the meetings: meeting new people, gaining knowledge and having a nice lunch. Ten of them also want to get to know new companies. Seven people say that they not only just want to meet people, but they also clearly mentioned that they specifically want to network with other people. Three of those seven know on forehand exactly what kind of network they are looking for: one is looking for subsidies, another is looking for potential help when needed, the third is looking for companies suitable for a takeover. The four others leave the options open. Two of the sixteen people say that the meetings allow them to leave their office and participate in real open innovation. They state that without the meetings, they would not be sufficiently enough involved in open innovation practices. Eleven of the sixteen people say that the innovation meetings are effective, but can be much more effective. According to them, almost all reasons to attend the meetings are served well, except for the networking and meeting new people. The eleven people state that people are sitting or speaking too much with people who they already know, instead of being stimulated to meet new people. The focus is, according to them, too much on having a nice time instead of networking and finding collaboration opportunities. Seven of the eleven people state that the format of the events is causing this problem, while the other four say that the mentality of the attendees is the problem. With that mentality, they mean that it is too attractive for people to hang-out with friends or colleagues, instead of being stimulated to proactively address unknown people. Four people even say that the focus of attendees in general is too much on eating and too less on networking. Four out of sixteen people are completely satisfied with the effectiveness of the meetings. All the sixteen people are satisfied about the facilities of the events and state that it is not necessary to change this. In order to make the findings from this part more clear, they are described in percentages in the following tables. There are two tables: one table about general findings, as well as one specifically about the identified reasons for the research group to attend open innovation meetings.

"Attendees of open innovation meetings are sitting or speaking too much with people who they already know, instead of being stimulated to meet new people."

	Total research group:	Applicable to:	Percentage:
People attending meetings	20	16	80,0%
Attending at least monthly	16	14	87,5%
People that are completely satisfied with the meetings	16	5	31,25%
People stating that the meetings can be more effective	16	11	68,75%
People stating that the format is causing problems	11	7	63,64%
People stating that the mentality of attendees is causing problems	11	5	45,45%
Complete satisfaction about the facilities	16	16	100,0%

Figure 16a: General findings additional part

	Total research group:	Applicable to:	Percentage:
Meeting new people	16	16	100,0%
Gaining knowledge	16	16	100,0%
Having a nice lunch	16	16	100,0%
Get to know new companies	16	10	62,25%
Networking	16	7	43,75%
Leaving the options open	7	4	57,14%
Aiming for specific partners	7	3	42,86%
Participating in open innovation	16	2	12,50%

Figure 16b: Identified reasons to attend open innovation meetings

The conclusion of the additional part is that the effectiveness of open innovation meetings basically depends on how much unknown people an attendee meets. Such meetings cannot influence on the potential between two persons. However, any potential between two people is worthless if those two persons never meet each other. In order to give that potential a chance to become valuable, attendees should be in some way separated from other attendees who they already know. Only then, new potential can be recognized and valuable. The format of an open innovation meeting should contribute to this. The more conversations arise between people who do not know each other, the more effective and efficient the concerning meeting is. That is, because then there is more chance that potential partners meet each other. The efficiency and effectiveness of an open innovation meeting can simply be measured by the average number of new people with real collaboration potential who every attendee meets during the meeting. Attendees of the meetings have to work on trying to build up connections during their conversations, while the meeting should purely focus on providing the format to get people in touch who do not know each other effectively. Barriers to start a conversation with a stranger should be removed as much as possible. Recommendations to accomplish this are described later in this report (in the chapter about recommendations).

Quantitative research – Intrinsic motivation and progress (part 1)

The second structural equation model was tested in two steps. First, it was tested whether technological alignment does mediate the relationship between intrinsic motivation and having a follow-up. Secondly, it was tested whether professional trust does moderate the relationship between technological alignment and having a follow-up. This model below is testing whether technological alignment mediates the relationship between intrinsic motivation and having a follow-up with a match. This part of the analysis has only been done with the results from people who filled in both part 1 and 2. That is, because for people who did not fill in part 2, it was not known whether they had a follow-up with their concerning potential partner or not.

The original model has been adjusted a little bit for this part. Since we know from the previous analysis that importance and urgency do not necessarily come together, they are tested as separate latent variables in this model. After testing this model, it was known that importance is not significantly influencing anything in the model. Two of the three indicators of technological alignment (esource and market knowledge complementarity, overlapping knowledge bases) are not reliable enough. The reliability and validity scores of the original model are in appendix A2. Next, I tested the original model. The same two indicators of technological alignment were unreliable, as well as importance in the latent variable intrinsic motivation. After removing the unreliable indicators importance, resource and market knowledge complementarity and overlapping knowledge bases, the model was consisting of single-item constructs only. Therefore, all reliability, loading and validity scores are again 1.0000 (except for Cronbach's Alpha, which is not applicable anymore). The updated model is reliable and valid, since it consists only of single-indicator constructs. I continued the analysis with this updated model. This model is displayed below.

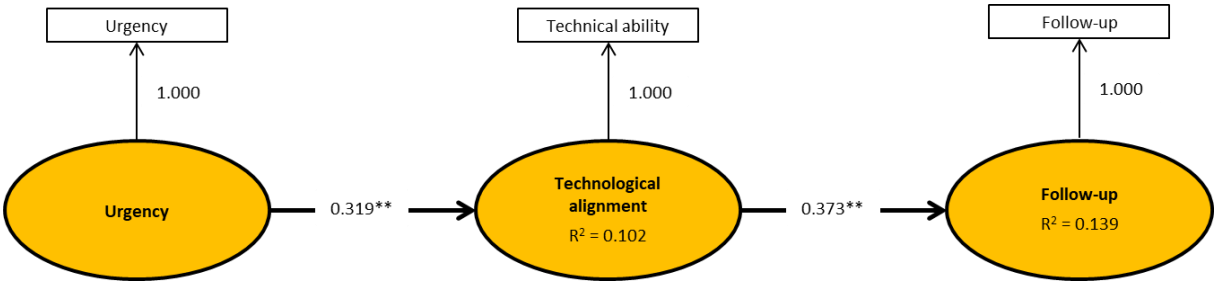


Figure 17: Updated second SEM model, including effect sizes (N=50, standardized root mean square residual=0.0000 (acceptable is ≤0.08), **p<0.05)

Effect	Original coefficient	Mean value	Standard error	t-value	p-value (2-sided)	Lower percentile bootstrap quantile (2.5%) (0 should not be on the interval)	Upper percentile bootstrap quantile (97.5%) (0 should not be on the interval)
Urgency → Follow-up (Direct effect)	0.2608	0.2529	0.1216	2.1452	0.0322	-0.0093	0.4785
Urgency → Follow-up (Indirect effect)	0.1189	0.1243	0.0726	1.6369	0.1020	0.0103	0.2853

Figure 18: Checking structural path significance with bootstrapping (df=N-1=49, 999 bootstrap samples)

After checking the structural path significance with 999 bootstrap samples, with 49 degrees of freedom and α=0.05%, we see that the effect urgency on having a follow-up is only significant when partial technological alignment mediates, which is in fact technical ability. Here is no significant direct effect. According to Nitzl, Roldán and Cepeda (2016), there is a full mediation. That is, because there is only an indirect effect and no direct effect.

Effect	**Total effect**	**Cohen's f^2** (>0.35 is a large effect, ≤0.35 and >0.15 is a moderate effect, ≤0.15 and >0.02 is a small effect, ≤0.02 means no effect)
Urgency → Follow-up (indirect)	0.1189	Not applicable, because indirect effect
Urgency → Technological alignment	0.3188	0.1132
Technological alignment → Follow-up	0.3728	0.1614

Figure 19: Evaluation of the model

In the table below, the Variance Accounted For (VAF) has been calculated. The VAF determines the extent to which the mediation or moderation process explains the dependent variable's variance. It is useful to determine the strength of a mediation. It is calculated as following: indirect effect/(indirect effect + direct effect). A VAF below 20 percent means a very weak mediation or moderation. Values between 20 and 80 percent are moderate, and more than 80 percent is very strong (Nitzl, Roldán & Cepeda, 2016).

Effect	**Direct effect**	**Indirect effect**	**VAF**
Urgency → Follow-up	0.2608 (not significant)	0.1189	31,31%

Figure 20: Effects and VAF score (Variance Accounted For)

Right now, it can be concluded that technological alignment does moderately and fully mediate the relationship between the urgency of an open innovation meeting attendee for a collaboration, and having a follow-up with a potential partner (i.e. match) from the concerning open innovation meeting. At the same time, it has been confirmed that urgency is positively associated with having a sequel with a match. Therefore, the following hypotheses have been confirmed:

Hypothesis 1b: Open innovation meeting attendees for whom collaboration is an urgent matter are more associated with having a sequel after an open innovation meeting than for attendees for whom collaboration is not urgent.

Hypothesis 2: Technological alignment with a potential partner during an open innovation meeting mediates the relationship between intrinsic motivation and the chance to have a follow-up contact with that potential partner.

What can be added to this is that in this test, importance does not play a significant role during this stage. That maybe is because at this stage, finding a good partner is important for almost everyone at this stage of the Open Innovation Meeting Process. At the same time, at this stage, technological alignment only consists of technical ability. That means that people mainly look at the potential partner's unique competencies, which they hope it can be leveraged. Not all the subcategories from technological alignment play a significant role yet. This is in congruence with what was predicted in the methodology chapter. From the literature and observations was identified that technological alignment does play a role in the Open Innovation Meeting Process, but during the meetings it is only partial.

The second step of this part of the analysis is to check whether professional trust has a moderating effect on the relationship between technological alignment and having a follow-up. For this, an interaction effect has been determined between technological alignment and professional trust: TA x PT. Then, the following model has been tested.

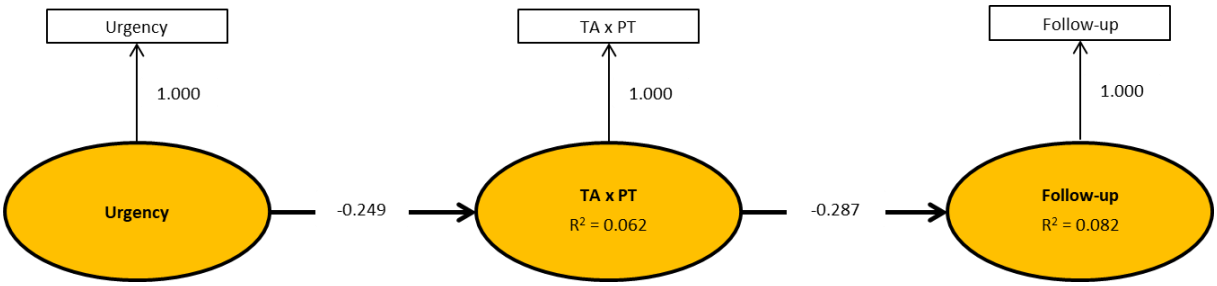


Figure 21: Second test of the second SEM, including effect sizes (N=50, standardized root mean square residual= 0.0000 (acceptable is ≤0.08))

The model above is basically the same as the one before. However, technological alignment has been changed in TA x PT, which stands for technological alignment times professional trust. Since this model contains only single-item construct, it is not necessary to check for validity, reliability and loadings (all those values are 1.000). What needs to be checked is whether there is a significant effect of TA x PT on having a follow-up. This effect has been compared with the effect without moderation.

Effect	**Original coefficient**	**Mean value**	**Standard error**	**t-value**	**p-value (2-sided)**	**Lower percentile bootstrap quantile (2.5%)** (0 should not be on the interval)	**Upper percentile bootstrap quantile (97.5%)** (0 should not be on the interval)
TA x PT → Follow-up	-0.2871	-0.2860	0.1793	-1.6013	0.1096	-0.6126	0.0820
Technological alignment → Follow-up	0.3728	0.3736	0.1388	2.6864	0.0073	0.1052	0.6464

Figure 22: Checking structural path significance with bootstrapping (df=N-1=49, 999 bootstrap samples)

The table shows that the relationship between technological alignment and having a follow-up is not statistically significant when it is moderated by professional trust. The relationship is significant when it is without the moderation. Therefore, the following hypothesis is rejected:

Hypothesis 4: Professional trust positively moderates the relationship between technological alignment with a potential partner during an open innovation meeting and having a sequel with that potential partner.

The rejection of hypothesis 4 does not mean that professional trust does not play a role yet in this early part of the Open Innovation Meeting Process. Additional research found out that it indeed does play a role at this stage. Remarkable is that it does not mediate the relationship between urgency and having a follow-up, but the relationship between importance and having a follow-up. The model is displayed below.

Figure 23: Third test of the second SEM, including effect sizes (N=50, standardized root mean square residual= 0.0000 (acceptable is ≤0.08), **p<0.05, *p<0.10)

This model does contain single-indicator constructs only. Therefore, it is reliable and valid. The bootstrap results are displayed below.

Effect	**Original coefficient**	**Mean value**	**Standard error**	**t-value**	**p-value (2-sided)**	**Lower percentile bootstrap quantile (2.5%)** (0 should not be on the interval)	**Upper percentile bootstrap quantile (97.5%)** (0 should not be on the interval)
Importance → Follow-up (indirect effect)	0.0726	0.0765	0.0360	2.0155	0.0441	0.0235	0.1597
Importance → Follow-up (direct effect)	0.1531	0.1681	0.1874	0.8171	0.4141	-0.1184	0.5059

Figure 24: Checking structural path significance with bootstrapping (df=N-1=49, 999 bootstrap samples)

In the bootstrap table is visible that the direct effect of importance on having a follow-up is not significant. However, the indirect effect is significant. According to Nitzl, Roldán and Cepeda (2016), this means that there is a full mediation.

Effect	**Total effect**	**Cohen's f^2** (>0.35 is a large effect, ≤0.35 and >0.15 is a moderate effect, ≤0.15 and >0.02 is a small effect, ≤0.02 means no effect)
Importance → Follow-up (indirect)	0.0726	Not applicable, because indirect effect
Importance → Professional trust	0.1722	0.0306
Professional trust → Follow-up	0.4218	0.2164

Figure 25: Evaluation of the model

Above is the evaluation of the model displayed. The last step is to determine the VAF of the mediating relationship. A VAF below 20 percent means a very weak mediation or moderation. Values between 20 and 80 percent are moderate, and more than 80 percent is very strong (Nitzl, Roldán & Cepeda, 2016). This means that the moderation is in this case moderate.

Effect	**Direct effect**	**Indirect effect**	**VAF**
Importance → Follow-up	0.1531 (not significant)	0.0726	32,17%

Figure 26: Effects and VAF score (Variance Accounted For)

Post event factors

Quantitative research (part 2) – Influencing factors after the event

For this part, again importance and urgency have been tested separately and not together as one latent variable. That is, because the construct with both the indicators is not reliable enough. The final SEM model had to be tested a little bit differently than was planned on forehand. For this part, 50 observations have been made. The rule of thumb for SEM is that the number of observations has to be at least ten times the maximum number of arrows pointing on a latent variable. Like practically always in statistical testing, more observations is better. In the last model, this means that at least 40 observations should have been done. 50 observations is only a little bit more than this minimum. Therefore, testing the original model resulted in only two statistically significant relationship (collaboration quality and the chance of reaching a specific collaboration project, and relational alignment and collaboration quality). After splitting up the model in three smaller ones, the results were completely different (that means in terms of statistical significance). In the three new models, the mediators technological alignment, strategic alignment, relational alignment have been tested separately. The rest of the model stays the same. These were the first three steps. The fourth step was to test whether trust does moderate the relationships between the four mediators (the three alignment phases and collaboration quality) and the chance of reaching a collaboration project.

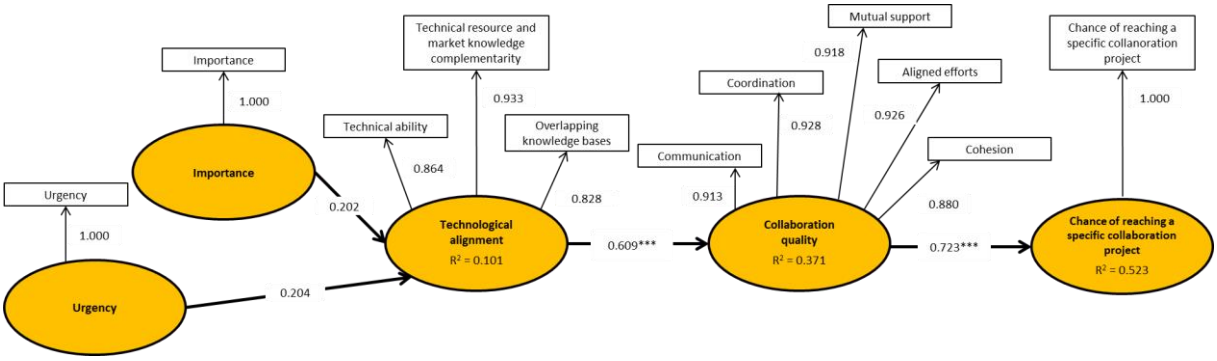


Figure 27: First test of the post-event factors, including effect sizes (N=50, standardized root mean square residual= 0.0614 (acceptable is ≤0.08), ***p<0.01)

The model above is reliable and valid, including its indicators (see appendix A3). This means that in this stage, technological alignment is explained by all the three technological alignment indicators, and collaboration quality by all its five indicators. Technological alignment is not partial anymore, like during the open innovation meetings.

Effect	Original coefficient	Mean value	Standard error	t-value	p-value (2-sided)	Lower percentile bootstrap quantile (0.5%) (0 should not be on the interval)	Upper percentile bootstrap quantile (99.5%) (0 should not be on the interval)
Technological alignment → Chance of reaching a specific collaboration project (indirect)	0.4404	0.4425	0.1114	3.9530	0.0001	0.1790	0.7127
Technological alignment → Collaboration quality (direct)	0.6088	0.6064	0.1079	5.6441	0.0000	0.3208	0.8315
Collaboration quality → Chance of reaching a specific collaboration project (direct)	0.7233	0.7210	0.0751	9.6270	0.0000	0.5070	0.8853
Importance → Technological alignment (direct)	0.2022	0.1940	0.1347	1.5005	0.1338	-0.1499	0.5022
Importance → Chance of reaching a specific collaboration project (indirect)	0.0894	0.0876	0.0662	1.3456	0.1787	-0.0718	0.2697
Importance → Collaboration quality (indirect)	0.1231	0.1197	0.0860	1.4309	0.1528	-0.0965	0.3298
Urgency → Technological alignment (direct)	0.2038	0.2063	0.1432	1.4230	0.1550	-0.1931	0.5517
Urgency → Chance of reaching a specific collaboration quality (indirect)	0.0897	0.0876	0.0645	1.3909	0.1646	-0.0918	0.2653
Urgency → Collaboration quality (indirect)	0.1241	0.1214	0.0859	1.4442	0.1490	-0.1222	0.3347

Figure 28: Checking structural path significance with bootstrapping (df=N-1=49, 999 bootstrap samples)

From the table above, it can be concluded that there is no evidence that the relationship between both urgency and importance on one side, and collaboration quality on the other side is mediated by technological alignment. Also, urgency and importance are not significantly associated with technological alignment. Urgency and importance do not influence anything significantly in this model. They also do not directly influence collaboration quality or the chance of reaching a specific collaboration project. What has been confirmed, is that collaboration quality does mediate the relationship between technological alignment and the chance of reaching a collaboration project.

Effect	Total effect	Cohen's f^2 (>0.35 is a large effect, ≤0.35 and >0.15 is a moderate effect, ≤0.15 and >0.02 is a small effect, ≤0.02 means no effect)
Technological alignment → Chance of reaching a specific collaboration project (indirect)	0.4404	Not applicable, because indirect effect
Technological alignment → Collaboration quality	0.6088	0.5890
Collaboration quality → Chance of reaching a specific collaboration project	0.7233	1.0974

Figure 29: Evaluation of the model

From figure 29, we can see that all the concerning effects are large.

The next step was to do the same analysis as before, but then with strategic alignment. The model is reliable and valid. That model is displayed below.

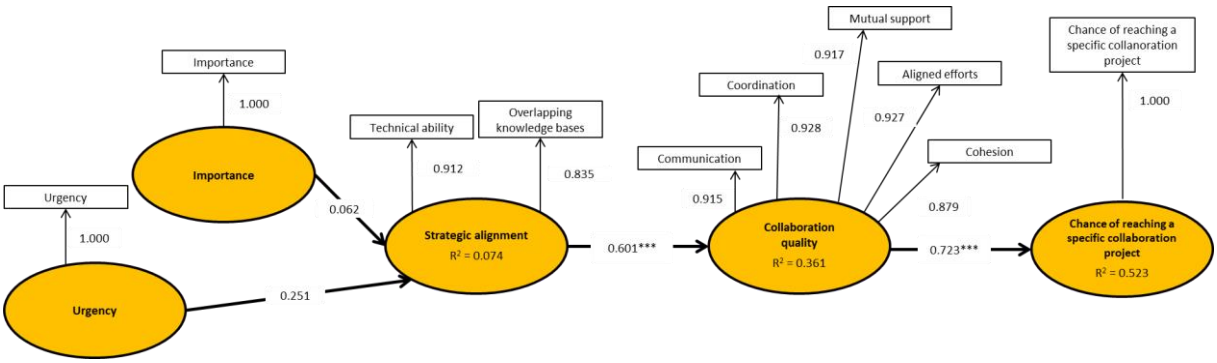


Figure 30: Second test of the post-event factors, including effect sizes (N=50, standardized root mean square residual= 0.0603 (acceptable is ≤0.08), ***p<0.01)

The conclusion for strategic alignment is the same as is for technological alignment. That means collaboration quality is mediating the relationship between strategic alignment and the chance of reaching a collaboration project. Urgency and importance do not influence anything significantly in this model. They also do not directly influence collaboration quality or the chance of reaching a specific collaboration project. Because of the fact that the bootstrapping results show the same patterns in terms of significance for strategic alignment as for technological alignment, the results are displayed in the appendix instead of in this chapter (appendix A4). In the same appendix, the reliability and validity scores can be found for this model. The significant effects are again large, as visible below.

Effect	**Total effect**	**Cohen's f^2** (>0.35 is a large effect, ≤0.35 and >0.15 is a moderate effect, ≤0.15 and >0.02 is a small effect, ≤0.02 means no effect)
Strategic alignment → Chance of reaching a specific collaboration project (indirect)	0.4347	Not applicable, because indirect effect
Strategic alignment → Collaboration quality	0.6010	0.5654
Collaboration quality → Chance of reaching a specific collaboration project	0.7233	1.0971

Figure 31: Evaluation of the model

The third step is about testing whether relational alignment does mediate the relationship between urgency and importance on one side, and collaboration quality on the other side. We see the same results as before. Again, the concerning alignment phase does not mediate and collaboration quality mediates the relationship between the alignment phase and the chance of reaching a collaboration project.

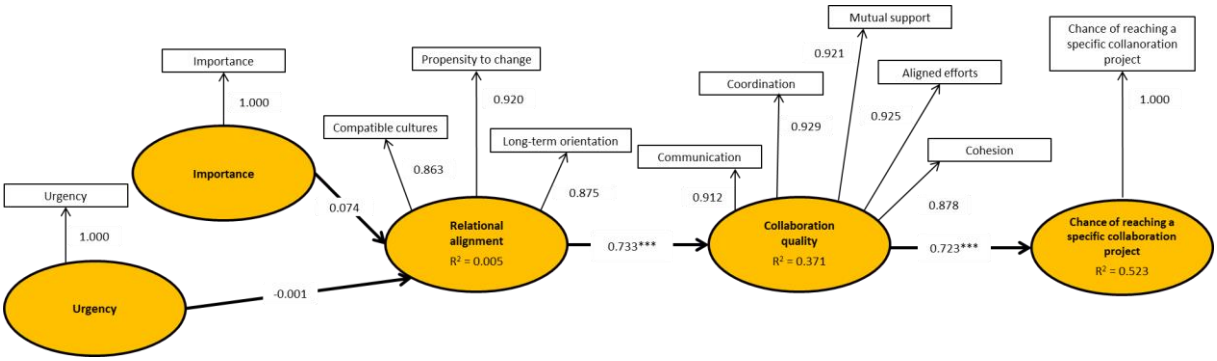


Figure 32: Third test of the post-event factors, including effect sizes (N=50, standardized root mean square residual= 0.0589 (acceptable is ≤0.08), ***p<0.01)

The model is reliable and valid. Again, the bootstrapping results show the same significance pattern as in the two models before. Therefore, also these results are displayed in the appendix (appendix A5), next to the reliability and validity checks

Again, the alignment phase (this time relational alignment) is positively mediated by collaboration quality. Again, urgency and importance do not play any significant role. Below, we see again that the statistically significant effect are large effects.

Effect	**Total effect**	**Cohen's f^2** (>0.35 is a large effect, ≤0.35 and >0.15 is a moderate effect, ≤0.15 and >0.02 is a small effect, ≤0.02 means no effect)
Relational alignment → Chance of reaching a specific collaboration project (indirect)	0.5306	Not applicable, because indirect effect
Relational alignment → Collaboration quality	0.7333	1.1632
Collaboration quality → Chance of reaching a specific collaboration project	0.7236	1.0990

Figure 33: Evaluation of the model

At this point, it is clear that the three alignment phases are mediated by collaboration quality. Below, the VAF scores have been determined for the mediation effects. All the direct and indirect effects are significant, and therefore are all complementary mediations (also called partial mediations) (Nitzl, Roldán, Carrión, 2016).

Effect	**Direct effect**	**Indirect effect**	**VAF**
Technological alignment → Chance of reaching a specific collaboration project	0.6539	0.4404	40.24%
Strategic alignment → Chance of reaching a specific collaboration project	0.5893	0.4347	42.45%
Relational alignment → Chance of reaching a specific collaboration project	0.6209	0.5306	46.08%

Figure 34: Effects and VAF score (Variance Accounted For)

The conclusion of the three small analyses is that the relationship between the three alignment phases on one side, and the chance of reaching a specific collaboration project on the other side is mediated by collaboration quality. The three alignment phases do not mediate the relationship between both urgency and importance on one side, and collaboration quality on the other side. Therefore, the following hypotheses can be rejected:

Hypothesis 1c: Open innovation meeting attendees have the highest chance to transform a match into a specific collaboration project, when collaboration is an important but not urgent matter for them.

Hypothesis 3: The three alignment phases from the partner selection theory mediate the relationship between the intrinsic motivation and collaboration quality.

Instead, there has no evidence been found that neither importance nor urgency plays a role in this phase of the Open Innovation Meeting Process. This was not found after testing the indirect relationships between urgency and importance on one side, and the chance of reaching a collaboration project with the expected mediators. It was also not found when the relationships were directly tested without the expected mediators. The direct relationships between urgency and importance on one side, and the three alignment phases and collaboration quality on the other side were also not statistically significant.

What has been confirmed is the following hypotheses:

Hypothesis 6: After an open innovation meeting, collaboration quality positively mediates the relationship between the three alignment phases and the chance to reach a specific collaboration project with a potential partner.

Collaboration quality does mediate the relationship between collaboration antecedents (alignment phases) and collaboration outcomes (the chance of reaching a specific collaboration project). These mediations are moderate and partial. It can be seen as that higher degrees of alignment lead to higher collaboration quality, which in turn leads to a higher chance of reaching a specific collaboration project.

Now it is time to check whether trust comes into play at this stage of the Open Innovation Meeting Process. In first place, it has been tested whether it moderates the relationships between the three alignment phases and collaboration quality. That model is displayed below. Interaction terms TA x T (technological alignment times trust), SA x T (strategic alignment times trust) and RA x T (relational alignment times trust) have been made in order to make this analysis possible.

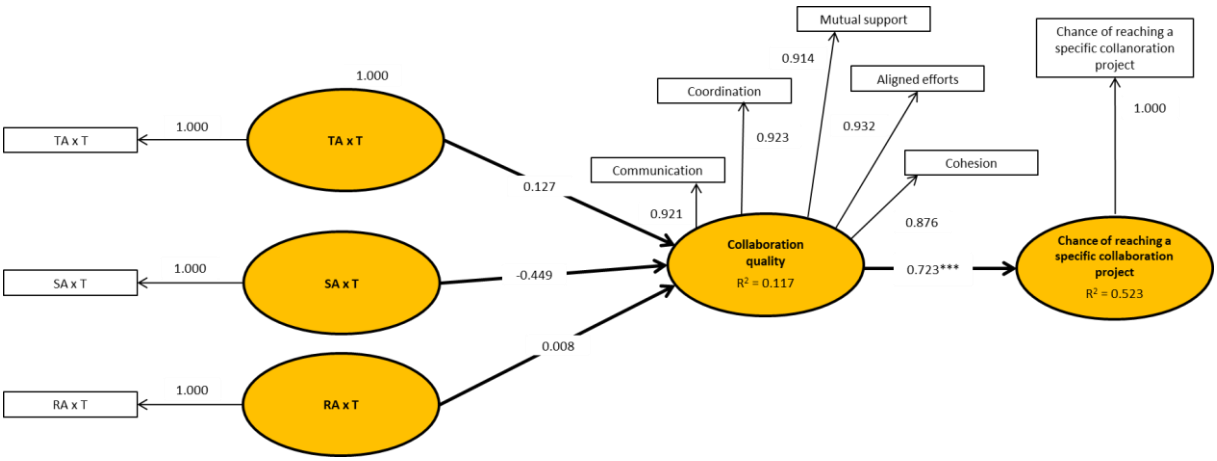


Figure 35: Fourth test of the post-event factors, including effect sizes (N=50, standardized root mean square residual= 0.0000 (acceptable is ≤0.08), ***p<0.01)

None of the moderating relationships is significant, as visible in the bootstrapping table below. Splitting up the model in three parts (like before, testing for every alignment phase separately) does not change anything about this.

Effect	Original coefficient	Mean value	Standard error	t-value	p-value (2-sided)	Lower percentile bootstrap quantile (0.5%) (0 should not be on the interval)	Upper percentile bootstrap quantile (99.5%) (0 should not be on the interval)
TA x T → Collaboration quality (direct)	0.0915	0.0680	0.2185	0.4186	0.6756	-0.6067	0.6439
TA x T → Chance of reaching a specific collaboration project (direct)	0.1266	0.0928	0.2978	0.4250	0.6709	-0.7771	0.8116
SA x T → Chance of reaching a specific collaboration project (indirect)	-0.3248	-0.3000	0.1907	-1.7035	0.0888	-0.8166	0.1825
SA x T → Collaboration quality (direct)	-0.4494	-0.4226	0.2652	-1.6945	0.0905	-1.1593	0.2426
RA x T → Chance of reaching a specific collaboration quality (indirect)	0.0057	0.0096	0.1567	0.0366	0.09708	-0.4290	0.4349
RA x T → Collaboration quality (direct)	0.0079	0.0149	0.2170	0.0365	0.9709	-0.5316	0.5901
Collaboration quality → Chance of reaching a specific collaboration quality (direct)	0.7228	0.7191	0.0760	0.5091	0.0000	0.5074	0.8845

Figure 36: Checking structural path significance with bootstrapping (df=N-1=49, 999 bootstrap samples)

After additional testing, it was also clear that trust does not moderate the relationship between collaboration quality and the chance of reaching a specific collaboration project. However, there was one more option to test. Anderson and Hardwick (2017) are the authors of the theory about trust. They state that trust is a moderating factor. Dietrich, Eskerod, Dalcher and Sandhawalia (2010) are the authors of the theory about collaboration quality. They state that trust is a collaboration antecedent. According to them, that means that collaboration quality does mediate the relationship between trust and the chance of reaching a specific collaboration project. That was the next thing that I have tested.

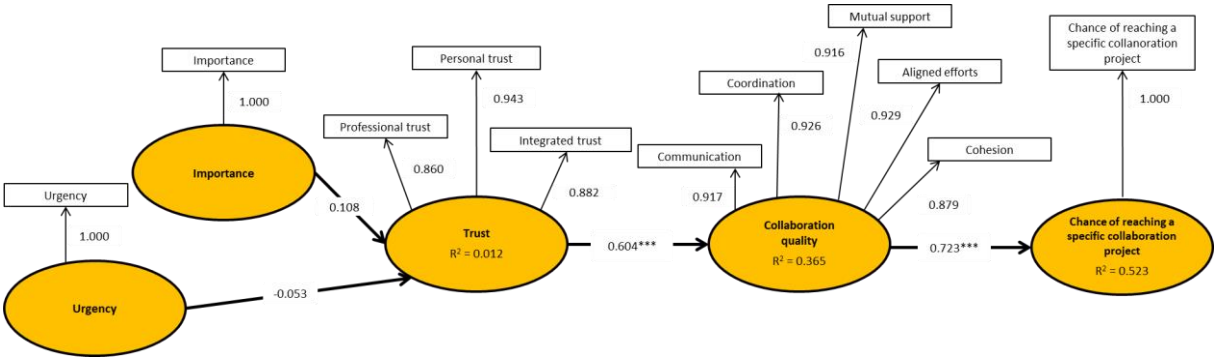


Figure 37: Fifth test of the post-event factors, including effect sizes (N=50, standardized root mean square residual= 0.0496 (acceptable is ≤0.08), ***p<0.01)

The model is reliable and valid. For trust, there is the same pattern as with the three alignment phases: urgency and importance do not have any significant effect (directly or indirectly), and the relationship between trust and the chance of reaching a specific collaboration project is positively mediated by collaboration quality. The bootstrapping results show the same patterns as with the alignment phases, and are therefore also in the appendix (appendix A6), next to the reliability and validity checks. Below are the effects evaluated.

Effect	**Total effect**	**Cohen's f^2** (>0.35 is a large effect, ≤0.35 and >0.15 is a moderate effect, ≤0.15 and >0.02 is a small effect, ≤0.02 means no effect)
Trust → Chance of reaching a specific collaboration project (indirect)	0.4368	Not applicable, because indirect effect
Trust → Collaboration quality	0.6041	0.5746
Collaboration quality → Chance of reaching a specific collaboration project	0.7231	1.0959

Figure 38: Evaluation of the model

At this point, it is clear that trust is mediated by collaboration quality. Below, the VAF score has been determined for the mediation effect. Both the direct and indirect effects are significant, which means that the mediation is complementary (also called a partial mediation) (Nitzl, Roldán, Carrión, 2016).

Effect	**Direct effect**	**Indirect effect**	**VAF**
Trust → Chance of reaching a specific collaboration project	0.3474	0.4368	55.70%

Figure 39: Effects and VAF score (Variance Accounted For)

With a VAF of 55.70%, the partial mediation is moderate. The conclusion is that in the open innovation meeting context, trust is not a moderating factor. Instead, it is a collaboration antecedent. That means that it is a factor that has an indirect relationship with the chance of reaching a specific collaboration project. That relationship is mediated by collaboration quality. Therefore, the following hypothesis is rejected:

Hypothesis 5: All the three forms of trust positively moderate the relationship between the three alignment scores with a potential partner after an open innovation meeting and collaboration quality.

Descriptive analysis (part 2) – Hampering factors

On the next page, the hampering factors are displayed, and for how much people every hampering factor occurred in trying to reach a specific collaboration project with their most promising match. This question could only be answered by people filled in that their most promising match did not make any progress, has a negative outlook, has failed or did not get a sequel yet. People were able to select one or more options from the list.

Hampering factor (examples)	Quantity (percentage)
Administration (Bureaucracy, administrative burdens, conflicting rules.)	1 (4.5%)
Finance (Obtaining financial resources.)	3 (13.6%)
Knowledge (Lack of technological knowledge, competent personnel, or legal/administrative knowledge.)	0
Marketing (Insufficient market intelligence, market affinity, marketing problems of products.)	1 (4.5%)
Organization/culture (Balancing innovation and daily tasks, communication problems, aligning partners, organization of innovation.)	1 (4.5%)
Resources (Costs of innovation, time needed.)	2 (9.1%)
IPR (Ownership of developed innovations, user rights when different parties cooperate.)	0
Quality of partners (Partner does not meet expectations, deadlines are not met.)	2 (9.1%)
Adoption (Adoption problems, customer requirements misjudged.)	2 (9.1%)
Demand (Customer demand too specific, innovation appears not to fit the market.)	0
Competences (Employees lack knowledge/competences, not enough labor flexibility.)	1 (4.5%)
Commitment (Lack of employee commitment, resistance to change.)	0
Idea management (Employees have too many ideas, no management support.)	0
None of the above	12 (54.5%)

Figure 40: Hampering factors and occurrences (N=22)

From the data above, there cannot be so much concluded except for one thing. The factors that hamper a match from becoming successful are very diverse. At the same time, people often think that other reasons than the above ones are hampering. Other reasons are a lack of initiative, not having enough time and not having a chance to elaborate the collaboration. Therefore, the conclusion is that many and diverse problems can occur after an open innovation meeting during the Open Innovation Meeting Process. There are no symptomatic problems to specify after this analysis.

Other findings

The results of some of the survey questions did not appear in the previous sections. Those last results are described in this short section.

One of the results of survey part 1 is that 88.9 percent of the people stated that collaboration would contribute to their mission, values or high priority goals. 40.7 percent states that finding a new successful collaboration is an urgent matter for them. On the question whether the participant is open to a new collaboration, 70.4 percent says “yes”, 23.1 percent says “maybe” and only 6.5 percent says “no”. 41.7 percent of the participants did not find any match. 58.3 percent found at least one match. The 50 participants of survey part 2 found in total 139 matches. At the moment that they filled in that second survey, 19.4 percent had resulted in at least one specific collaboration project. 31.7 percent had a positive outlook. 14.4 percent did not make any progress yet, but had a sequel. 3.6 percent had a negative outlook at that moment. 12.9 percent failed to become a collaborate project. 18.0 percent did not get any sequel yet.

Findings and conclusions

As a result of the analyses in the previous chapter, some hypotheses were accepted and others rejected. In the table below, an overview is displayed of all the hypotheses. Also has been described for every hypotheses whether it is rejected or accepted and what the main findings are for every hypothesis.

Hypothesis	Accepted/ Rejected	Main findings
Hypothesis 1a: Open innovation meeting attendees for whom collaboration is an urgent and important matter are more associated with finding a match than other attendees. They on average find more matches than others.	Rejected	At this stage, only importance is significantly and positively associated with finding a match. Attendees for whom finding a match is important find on average more matches than others.
Hypothesis 1b: Open innovation meeting attendees for whom collaboration is an urgent matter are more associated with having a sequel after an open innovation meeting than for attendees for whom collaboration is not urgent.	Accepted	Urgency is positively associated with having a sequel with a potential partner after an open innovation meeting. The same goes for importance.
Hypothesis 1c: Open innovation meeting attendees have the highest chance to transform a match into a specific collaboration project, when collaboration is an important but not urgent matter for them.	Rejected	There has no evidence been found that either urgency or importance plays a significant role at transforming a match into a specific collaboration project.
Hypothesis 2: Technological alignment with a potential partner during an open innovation meeting mediates the relationship between intrinsic motivation and the chance to have a follow-up contact with that potential partner.	Accepted	To be more specific, technological alignment with a potential partner mediates the relationship between importance and the chance to have a follow-up. It is partial technological alignment, in which only technical ability is playing a role.
Hypothesis 3: The three alignment phases from the partner selection theory mediate the relationship between the intrinsic motivation and collaboration quality.	Rejected	Intrinsic motivation does not play a statistically significant role after open innovation meetings.
Hypothesis 4: Professional trust positively moderates the relationship between technological alignment with a potential partner during an open innovation meeting and having a sequel with that potential partner.	Rejected	Professional trust is not a moderating factor during the Open Innovation Meeting Process. Instead, during the meetings, it is a mediator between importance and having a follow-up. Trust is a collaboration antecedent.
Hypothesis 5: All the three forms of trust positively moderate the relationship between the three alignment scores with a potential partner after an open innovation meeting and collaboration quality.	Rejected	Trust is not a moderating factor during the Open Innovation Meeting Process. Instead, after the meetings, it is a factor that has an indirect relationship with the chance of reaching a specific collaboration project. That indirect relationship is mediated by collaboration quality.
Hypothesis 6: After an open innovation meeting, collaboration quality positively mediates the relationship between the three alignment phases and the chance to reach a specific collaboration project with a potential partner.	Accepted	The alignment phases turned out to be significant collaboration antecedents, which are indeed mediated by collaboration quality. It mediated the relationship between the antecedents (alignments) and collaboration outcomes (collaboration project).

Figure 41: Hypotheses and their main findings

The conclusion after the hypotheses testing is that the Open Innovation Meeting Concept, derived from existing literature, is not completely in accordance with reality. However, in general, the factors from the rejected hypotheses do play a role in the process, either in a different way than hypothesized. At the end, it is clear that the three alignment phases, collaboration quality and trust do play a role in the Open Innovation Meeting Process. Urgency and importance also do. There are two interesting findings which are not covered by any hypothesis. First, technological alignment during open innovation meetings is partial and consists of technical ability only. 'Technical resource and market knowledge complementarity' and 'overlapping knowledge bases' do not play a significant role yet in this early phase of the process. It was in line with the expectations that people would not reach complete technological alignment during open innovation meetings. That is, because technological alignment usually consist of complex and extensive information about the potential partner. It is impossible to reach complete technological alignment during a relatively short event. In other words, people judge the collaboration potential of a possible match on the other organization's unique competencies that can be leveraged (next to professional trust). The other aspects of technological alignment come into play after the event. Another interesting finding is that trust is a collaboration antecedent which is on the same level as the three alignment phases. That means that it is not moderating in the Open Innovation Meeting Process. Instead, the relationship between trust and reaching a specific collaboration project is mediated by collaboration quality. This is in accordance with the findings of the authors of the collaboration quality theory (Dietrich, Eskerod, Dalcher and Sandhawalia, 2010), rather than with the findings of the authors of the theory about trust (Anderson and Hardwick, 2017).

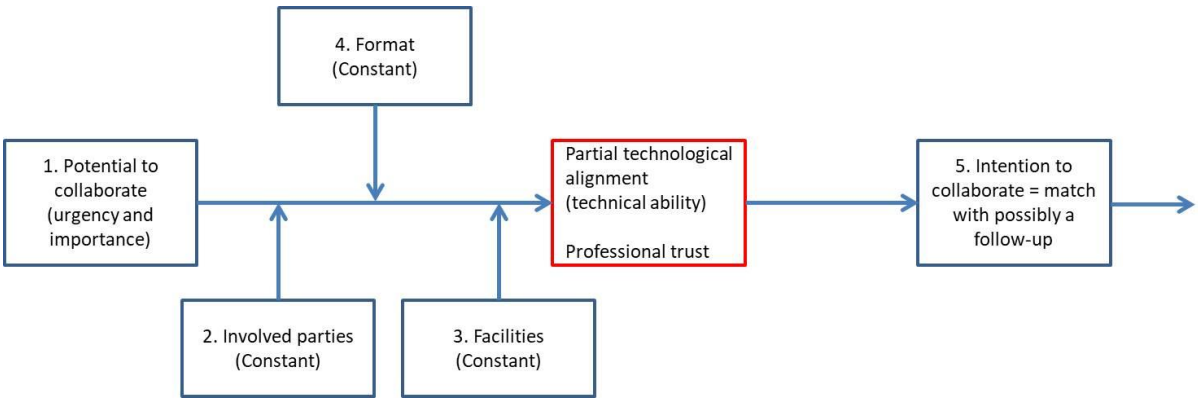
The hypotheses are not the only results of the research. The qualitative and descriptive analyses also revealed interesting insights. Those insights are displayed in the table below.

Analysis	**Main findings**
Qualitative: structured (additional part)	Attendees of open innovation meetings are sitting or speaking too much with people who they already know, instead of being stimulated to meet new people. These kinds of conversations often have more of a friendly character, rather than trying to network or to scan for any collaboration potential.
Qualitative: Semi-structured (part 3)	Some people attend the meetings for other reasons than matchmaking. However, that is not the main reason that people do not find a match during an event. For the matchmaking, most participants mentioned that much coincidence is necessary to find the right person. Another often mentioned reason is that the time for matchmaking is limited. That increases the dependence on being lucky to meet a person with real collaboration potential.
Descriptive: aimed collaboration practices	Open innovation meeting attendees with a match aim for (or are open to) more different kinds of collaboration practices than people without a match.
Descriptive: Motives for collaboration	There is no statistical significant difference in the number of motives for collaboration between matched and unmatched open innovation meeting attendees.
Descriptive: Hampering factors	The factors that hamper a match from becoming a specific collaboration project are very diverse.

Figure 42: Other analyses and their main findings

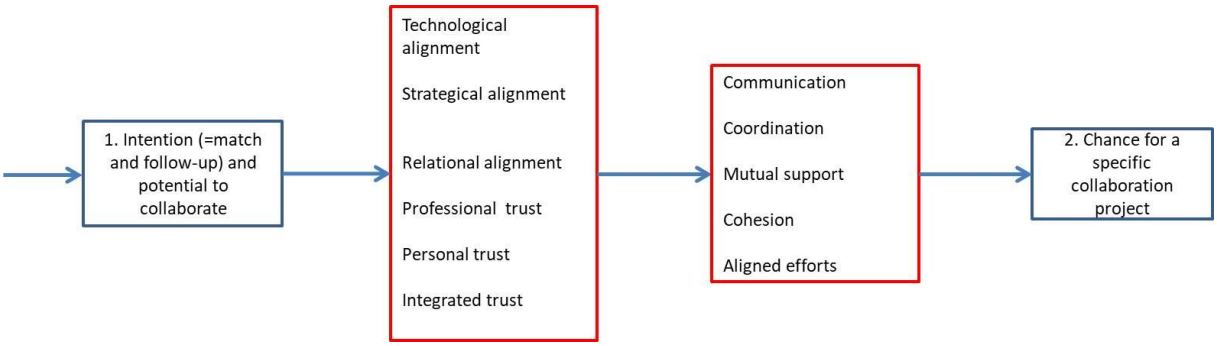
The qualitative and descriptive analyses showed that there are points for improvement for the open innovation meetings. Many participants of the additional part state that it is too attractive for open innovation meeting attendees to see the meetings as entertainment or as a free lunch opportunity, instead of being proactive in matchmaking and networking. Ofcourse, not all attendees are aiming for a match. However, it seems that the majority of them does look for it, or is at least open to it. After all, 88.9% of the participants of survey part 1 state that a new successful partnership, collaboration, alliance or the like would contribute to his or her mission, values or high priority goals. This is not the only identified problem. The semi-structured interviews revealed that luck and coincidence are very important, if not the main ingredients for meeting a person who has enough potential for a match. In a group, containing dozens of people or even more with only a very limited amount of time, it is hard to find the right person for a collaboration. The fact that people with a match on average have more collaboration practices where they are aiming for or open to seems to confirm the need of luck and coincidence. After all, the more practices someone is open to, the more chance that an attendee meets someone who fits in one of those practices. At the same time, feeling that a new successful partnership, collaboration, alliance or the like would contribute to an attendees mission, values or high priority goals has a positive effect on finding a match and the number of matches found. However, this effect is small. That means that having this feeling on average only leads to a small increase in the chance and number of matches that an attendee finds. That might also be indirect evidence for the need of coincidence. After the meetings, when someone finds a match, it ofcourse does not mean that it will result in a collaboration project. The factors that might hamper this outcome are very diverse.

After the new findings, it is time to update the models derived from the existing literature in the methodology chapter. First, I will display the scientific models here in the conclusion chapter. In the recommendations chapter, the practical model is updated. In that model, also the recommended adjustments to the current open innovation meetings are displayed.



1	2	3	4	5
SME motives	Facilitating party	Rooms	Structure Event	Match
Desired collaboration practices	SMEs	Food & drinks	Atmosphere event	Follow-up
Intrinsic motivation (importance)	Other attendees	Technological tools	Subject(s) of the event	
Expertise			Scale event	
Personal characteristics			Goal event	
Scheduling conflicts				

Figure 43a: Updated factors and sub factors during the open innovation meeting



1	2
Match and follow-up	Chance for a specific collaboration project
Desired collaboration practices	
Motives	
Hampering factors	

Figure 43b: Updated factors and sub factors after the open innovation meeting

The contribution of the previous models that they show the factors that influence the efforts to come to a specific collaboration project, during and after the open innovation meetings. They show that not so much had to be updated in comparison with the hypothesized scientific models. The updates here will also be used in the practical figure in the next chapter. Recommendations are described there, based on the findings from the hypotheses and the other findings.

Recommendations

In this part of the thesis, the recommendations for SMB Life Sciences, Kadans Science Partner, Novio Tech Campus, Campus Connect and Health Valley are described. The recommendations aim for improving the effectiveness of open innovation meetings. Ofcourse, those organizing parties cannot influence the whole process. After the meeting, people leave and potential partners have to develop their match together. The last step where organizing parties probably can influence on is having a follow-up. In other words, the meetings should stimulate attendees to have a follow-up with their match. In order to get there, technical ability (recognize the potential partner's unique competencies, which can be leveraged) and professional trust mediate urgency and importance respectively. This research also revealed that feeling that collaboration is important stimulates to find a match, and leads on average to more matches. Last but not least is that we know that in the current setting, coincidence is necessary to find a person with real collaboration potential. It is also too attractive to have conversations with friends or close colleagues. It does not seem that the facilities are the problem. Nobody seems to complains about it and I do not see any problems with the facilities myself. The involved parties have enough tools and expertise to set-up successful collaboration projects. The attendees have much potential, since they in general work for companies with very useful competencies. Examples are high-tech knowledge, financial support, research insights, and many others. By far the most of them (88.9% of survey part 1 participants) seem to feel that finding a successful collaboration is an important matter. Looking at figure 43a on the previous page, there is only one factor left on which improvements could be made. That is the format of the event. The current format seems to rely too much on coincidence and luck. Open innovation meeting attendees can only hope for the best and almost do nothing about increasing their chances of finding a match, instead of talking to as much people as possible in a short amount of time. The recommendations in this section are about improving the format. Those recommendations should give the meeting

attendees tools and ways to easier find other attendees with real and mutual collaboration potential. At the same time, it should guide conversations into a direction that leads to a higher chance of having a follow-up after the event if there is real potential.

Recommended format change

What I recommend about the format for the concerning parties that organize open innovation meetings is described in this section. In general, an open innovation meeting starts with a networking and matching opportunity of about half an hour. Then, the presentations take place. After the presentations, there is again a networking and matching opportunity. Normally, people do not have a chance to become acquainted with each other, or make a first contact before the meeting. What I recommend is that there should be an opportunity for the attendees to have a first contact with each other before the meeting. People who sign up for a meeting can select whether they want to create a profile on the organization's website or not. If they choose to not do it, nothing changes for them in comparison with the current signing up procedure. However, when they choose to make a profile, they will be visible for other people with a profile. On that profile, they can fill in their name, organization name, the branch belonging to the organization, kinds of collaboration practices from others what they need for themselves, and collaboration practices that they can provide for others. That is mandatory. If they want, they can also add a picture of themselves, or a logo of their organization. Other optional things are additional information about themselves, their products, their organization, their competences and other relevant information. With the profiles, the newest privacy laws have to be taken into account and respected. The collaboration practices can be the same as Van de Vrande, De Jong, Vanhaverbeke and De Rochemont (2009) identified, since they made a list of possible practices under which practically all kinds of SME collaboration practices can be subdivided.

Every profile holder is able to view other profiles from people who will attend the same meeting. Ofcourse, people can also sign up for other open innovation meetings. They can duplicate and use the same profile as they already had, or adjust it if they want to. To make it easier to find the right people, it should be possible to filter the complete profile list of a meeting. It can be filtered on the branch of the organizations, the aimed collaboration practices (both for oneself or for the others) or keywords can be used to search for specific profile contents or names. A combination of filters can also be used.

After finding an interesting profile, a person can send a message to the person behind that profile. Questions can be asked, but also messages with other purposes can be send. Also can be possible that people invite each other for a so called "innovation speed date". This will not be immediately visible who invited who. It is possible to send up to three invitations. It will be visible short before the open innovation meeting, for example 50 hours on forehand, until two hours before the meeting. During that 48 hour timeslot, people can accept up to three invitations for a speed date, or reject invitations. If they for example already accepted three invitations, their own sent invitations are cancelled, since it is not possible to have more than three speed dates. There will be a warning for this if people really want that their own sent invitations are cancelled. They can see an overview of their own sent invitations to help them decide. The last two hours before the meeting, it is not possible anymore to accept or reject invitations. At that moment, the organizing company should make a planning for the speed dates. The speed dates take place in the first 32 minutes of the meeting, in three time slots of ten minutes. People for the speed dates will be asked to be present no

later than 15 minutes before the start. Five minutes before the start, the concept will be explained. Between the speed dates, people have one minute to go to next speed date. In the room where the meeting takes place, seats, tables or places are clearly marked with numbers. Every participant of the speed dates gets a piece of paper. On that piece of paper is written at which number the participant needs to be present for every ten minute timeslot. A buzzer will sound when the speed dates can begin, when there are three minutes left, and when the speed date is finished. Then, everyone goes to his or her next speed date, if applicable. However, these speed dates are guided to some extent. The goal of these speed dates is to make first steps in creating professional trust and make each other aware of the technical abilities. More about this guidance, based on the research findings, is described in the next sections. Ofcourse, people who are not participating in the speed dates can have conversations with other people without the speed dates, separate from the official program. This, to keep the networking on coincidence still in the program for the ones who want it. The innovation speed dates are not mandatory.

After the speed dates, the presentations can start. After the presentations, the networking drinks and lunch can start. That can be organized as it is right now. My expectation is that at this point, people who had an interesting conversation during the speed dates will look for the same persons to continue the conversation. However, that is not mandatory. People are free to network how they want. The ones who had a speed date without potential are able to meet new people during the free networking session.

The concept of speed dating in non-romantic contexts is not something new. It is also not new in the collaboration context. For example, Laprise and Thivierge (2012) did a research after a 2-hour faculty development workshop. During that workshop, a 35-minute speed-dating session was carried out. The researchers used a survey to assess participants' satisfaction. 90 percent was satisfied about the speed dating concept. They believed that this method is a stimulating and efficient way to meet new people, quickly share issues and goals, learn about unexpected issues and identify collaboration opportunities. Nineteen percent of the attendees developed a collaboration within two years, as compared with none in the workshop of the previous year, which did not contain speed dating. The results suggest that the speed dating sessions enhanced networking, the exchange of knowledge and collaboration. It stimulates people to meet others who they do not know yet. That stimulation is something that the current open innovation meeting format can use, according to the results of the structured interviews from the additional research part.

Professional trust formation and showing technical abilities during events

Professional trust means that a person knows that the things that can be delivered to him or her, and the way how it can be delivered to him or her by a potential partner are useful and adequate (Anderson, Hardwick, 2017). In order to create a decent amount of professional trust during meetings, potential partners should show to each other that their potential is useful and adequate. From this explanation, it can be derived that professional trust and technical abilities have common ground, although they are not the same. At the same time, if it turns out that two attendees do not have sufficient potential, it is better that this becomes clear as early as possible. The earlier people know that they do not have any collaboration potential together, the earlier they can quit the conversation. The earlier they quit, the more time they have for other, possibly more valuable conversations. The speed dates are ideal for this, since participants waste in general at most ten minutes of their valuable time. However, because it is short, it should be used very efficiently.

From the analyses, we know that professional trust and technical ability play a significant role in transforming a conversation into a follow-up. Also, feeling the importance of finding a collaboration leads to more matches. Urgency is more about problem solving, while importance is more about recognizing opportunities. Therefore, the speed dates can have ´technical abilities and opportunities´ as a central theme. Talking about opportunities rather than problems should be stimulated. All the important things can be communicated on forehand . That can be done during the introduction and it can also be written on the paper with the time and table numbers of the speed dates that every participant receives. The central theme should guide people to talk about the aspects that lead to a good first impression about the technical abilities of the other, and already building up some professional trust. At the same time, participants should focus on opportunities rather than the problems.

First, it is important that people start talking about their unique competencies that can be leveraged by the other party. They can both introduce themselves in about two minutes by summarizing their unique competencies and the opportunities. If both parties think that the technical abilities are useful, it is not unlikely that the first step to professional trust has been made. However, after telling each other about the unique competencies that can be leveraged, it is time to find out whether the conversation partners at this point have sufficient potential to have professional trust in each other. The question here is: can the unique competencies be delivered to the other organization in a useful and adequate way? Again, it is about the opportunities and not the potential problems. An innovation speed date would basically be suggested to the participants as following:

***Minute 0 to 2*:** Person one describes his unique competencies and the opportunities they give.
***Minute 2 to 4*:** Person two describes his unique competencies and the opportunities they give.
***Minute 4 to 6*:** Person one describes briefly if and why he sees that the unique competencies of himself and the other person can be delivered in a useful and adequate way. Try to avoid thinking in problems and try to think in opportunities.
***Minute 6 to 8*:** Person two describes briefly if and why he sees that the unique competencies of himself and the other person can be delivered in a useful and adequate way. Try to avoid thinking in problems and try to think in opportunities.
***Minute 8 to 10*:** Additional time, for example for questions or further explanations. Exchange of contact information is also important to not forget.

The suggestion above can also be written on the piece of paper that the speed date participants receive, next to the theme and planning of the speed dates. If not all of the points above are finished on time, or people want to know more about each other after the innovation speed dates, there is more time to talk after the presentations. It is up to the participants whether they really want to have their speed dates as suggested above. It is just a recommendation to them, but not mandatory. Good thing about the speed dates is that they are not mandatory at all. People who like to network on coincidence or just want to meet new people still have this possibility. It should be seen as an additional service to people who want to rely less on coincidence, and instead have more control in their matchmaking.

Updated practical model with recommendations

Right now, it is time to update the practical model of the Open Innovation Meeting Process. In that practical model, the recommendations are also processed. Its practical contribution is that it shows

to the organizing parties of open innovation meetings what I recommend that they change to the current format. To see what happens in the current Open Innovation Meeting Process, without recommendations, one can simply skip the purple rectangles. With the recommended steps included, the discovering phase starts already before the meeting. That is, because people can already start with preparations for the matchmaking and networking before the meeting if they want. Any mediations have not been taken into account in this practical model. They are shown in the scientific models. The model below is showing the steps and influencing factors of the process, identified during the research.

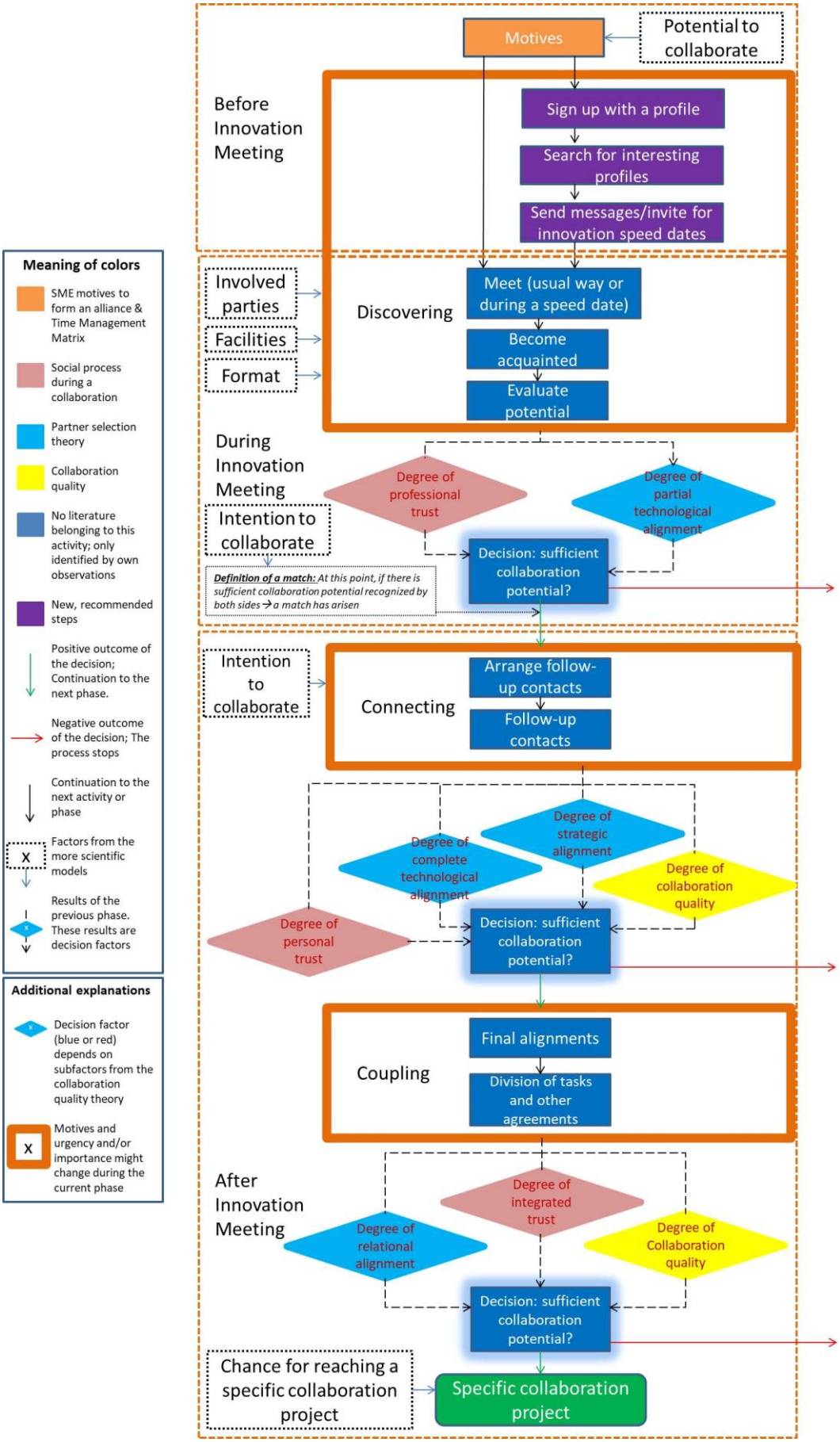


Figure 44: Updated practical process

Prioritization of recommendation and less integral solutions

Most of the recommendations can be implemented with a low budget. The innovation speed dates are relatively easy to introduce. People can choose whether they want to participate in that part or not when they sign up for the concerning innovation meeting. It is also easy to decide whether the innovation speed dates should have a central theme or not. I would recommend that these ideas are implemented anyway, because of the low costs, easy implementation and potential for fast results. The tool or application for making profiles by innovation meeting participants costs more time and effort to implement. However, it should be possible to make it with relatively easy technology and software. That because it does not need to be a very complex tool. Therefore, I recommend that a student with the right competencies would be hired, for example as part of his or her (IT or similar) graduation project.

The recommendation, as described until now, is an integral solution. However, if desired, the integral recommendation can be split up in less thorough alternatives. Only parts from it can be used. For example, people can make profiles and send each other messages, but without a possibility to have innovation speed dates. Also can be optional for people, when they sign up for a meeting but without a profile, to also sign up for the innovation speed dates. Here, they will be randomly assigned to others with the same choice. What also can be done, is that people can optionally fill in the collaboration practices they are aiming for. With that knowledge, the organization links people to each other who might have collaboration potential. For the innovation speed dates itself, it can be chosen to have, or to not have a central theme about technical abilities. Ofcourse, one should take into account that in all the alternative and less integral solutions, not all the useful research findings are taken into account.

Discussion

This research extends the current literature to the context of open innovation meetings. It reveals the factors that play a role during matchmaking, from the moment that someone decides to attend an open innovation meeting until reaching a specific collaboration project. Its main contribution is that it offers future research a starting point in the form of the factors that should be taken into account. The practical contributions are twofold. First, organizing companies know roughly what is happening during their meetings. Secondly, they have suggested improvements, based on the research. Those recommendations are to a large extend based on the problems attendees face during the events. Profile making before the meetings, as well as innovation speed dates might be good solutions to serve the attendees´ wishes more optimally. However, this should be tested in order to be completely sure about this. This is future research that I suggest. What I also recommend is to do a research like this one on a much bigger scale. Especially part 2 of the survey had 50 responses only. Splitting it up resulted in many significant results. 50 responses was not enough to test the last SEM model in its entirety and at the same time have the same statistically significant results. Such issues would not appear during a research with a much larger sample size. However, the limited time of this research and limited response rate did not allow me to have a much bigger sample size.

With today's knowledge, I would try to avoid a methodology with two consecutive surveys. That is, because it costed a lot of effort to convince people to fill in part 2 after filling in part 1. Many attempts were necessary to finally come to a decent amount of responses for part 2. When filling in

part 1, people were informed that a second survey would follow. Despite that, it was still hard to have much responses on part 2. That resulted in a lot of frustrations.

This research might be biased to some extent. First of all, it might be possible that people with certain characteristics were more willing to participate in the research. For example, people who take the innovation meetings more seriously, or who are unsatisfied about the concept and therefore want improvements. Secondly, most of the participants have attended open innovation meetings on the Novio Tech Campus in Nijmegen. Of the eight researched meetings, six were on that campus and five were organized by SMB Life Sciences. The assumption is that all the meetings had roughly the same format, facilities and characteristics of attendees and should therefore show roughly the same results. However, if that turns out to be false, the characteristics of SMB's meetings have the heaviest load in this research. Thirdly, the people who filled in the surveys were asked to do this for their most promising match only. That is, because my expectation was that the survey would be way to long if participants would fill it out for all their matches. For people with only one match, this does not change anything for sure. However, there were also much people with more than one match. The results might have been different if people did not necessarily have to fill in the survey for their most promising match only. That might also be something to find out during future research. Finally, answers which were "I don't know" got the minimum value of 1, since the assumption was that this answer means that the factor did not play a role. The limited sample size did not allow me to exclude these answers, concerning significance issues. The assumption might be wrong, which would mean that the results are biased. However, the large majority of the answers was always a value rather than "I don't know".

Open innovation meetings have the main goal of bringing people together for networking and matchmaking. Success stories confirm the value of these events. However, this research confirms that going one step further than just bringing people together might increase the number of success stories more than without that step. Even if the recommendations turn out to be not so good as hoped, the factors that should be taken into account for new recommendations are described in this report. In general, the organizing parties of open innovation meetings have great intentions and much capabilities and experience in organizing these kind of events. Unfortunately, it seems that much collaboration potential never gets a chance to make progress due to the dependence on coincidence. Coincidence might be a good thing, since it might create a collaboration between two organizations who normally would never thought they have collaboration potential. Therefore, it would be good to not completely ban out the current set-up from the meetings. It is also possible that people learn from failed matching attempts in some way. However, additional effort in bringing the right people together for reaching collaboration projects seems to be a great additional service to the current concept. It might lead to more collaboration projects. As said before, the right collaborations can deliver serious innovations. Serious innovations can literally change lives or even save lives. If the organizations behind open innovation meetings are able to enhance the matchmaking, they might be indirectly responsible for a local improvement, a national breakthrough, or even a better world. That should be enough motivation to increase the efficiency and effectiveness of open innovation meetings and give the recommendations a serious chance in practice.

References

Anderson, A., Hardwick, J. (2017). Collaborating for innovation: the socialized management of knowledge. *International Entrepreneurship and Management Journal, 13*, 1181-1197.

Brown, J.D. (2011). Likert items and scales of measurement? *Testing & Evaluation SIG Newsletter, 15*, 10-14.

Buck Consultants International (2015). *Inventarisatie en analyse campussen 2014*. Retrieved from https://www.rijksoverheid.nl/documenten/rapporten/2015/02/23/actualisatie-campussen-onderzoek-buck-consultants-international

Covey, S. (n.d.). *The 7 Habits Of Highly Effective People*. Retrieved from https://www.pdfdrive.net/the-7-habits-of-highly-effective-people-e7477076.html

Dietrich, P., Eskerod, P., Dalcher, D., Sanhawalia. B. (2010). The Dynamics of Collaboration in Multipartner Projects. *Project Management Journal, 41*, 59-78.

Emden, Z., Calantone, R., Droge, C. (2006). Collaborating for New Product Development: Selecting the Partner with Maximum Potential to Create Value. *The Journal of Product Innovation Management, 23*, 330-341.

Forethought Research (n.d.). The Juster 11-point probability scale: a predictive measure of future intentions. Retrieved June 4, 2018, from http://www.forethought.com.au/Think-Tank/Papers/Client-Briefings/The-Juster-11-point-probability-scale

Henseler, J. (2017). Bridging Design and Behavioral Research With Variance-Based Structural Equation Modeling, Journal of Advertising, 46:1, 178-192, DOI: 10.1080/00913367.2017.1281780

Henseler, J. (2017). Variance-Based Structural Equation Modeling [Lecture slides]. Retrieved May 4, 2018, from https://blackboard.utwente.nl/bbcswebdav/pid-1109975-dt-content-rid-2834131_2/courses/2017-201700036-1B/12abcd_TL_SEM.pdf

Henseler, J., Dijkstra, T. K. (2015). ADANCO 2.0. Kleve, Germany: Composite Modeling.

IMS International. (n.d.). Guidance Notes: 5 Why's Technique. Retrieved January 29, 2018, from http://www.imsworld.org/images/docs/Doc%206i%20issue%201%20guidance%20notes%20on%205%20Whys%20Technique.pdf

Kwong-Kay Wong, K. (2013). Partial Least Squares Structural Equation Modeling (PLS-SEM Techniques Using SmartPLS. *Marketing Bulletin, 24,* Technical Note 1.

Laprise, R., Thivierge, R. (2012). Using speed dating sessions to foster collaboration in continuing interdisciplinary education. *Journal of Continuing Education in the Health Professions, 32,* 24-30.

Löfsten, H., Lindelöf, P. (2002). Science Parks and the growth of new technology-based firms—academic-industry links, innovation and markets. *Research Policy*, *31*, 859-876.

Nitzl, C., Roldán, J., Cepeda, G. (2016). Mediation Analysis in Partial Least Squares Path Modeling: Help Researchers Discuss More Sophisticated Models. *Industrial Management & Data Systems, Forthcoming.*Retrieved on July 13, 2018 from https://ssrn.com/abstract=2789370

Persaud, K. (n.d.). Time Management Matrix [Illustration]. Retrieved January 15, 2018, from https://kppersaud.com/project/time-management-matrix/

Sarkar, M.B., Echambadi, R.A.J., Harrison, J. (2001). Alliance Entrepreneurship and Firm Market Performance. *Strategic Management Journal, 22*, 701-711.

Siddaway, A. (n.d.). What is a systematic literature review and how do I do one? Retrieved January 29, 2018, from https://www.stir.ac.uk/media/schools/management/documents/centregradresearch/How%20to%20do%20a%20systematic%20literature%20review%20and%20meta-analysis.pdf

Squicciarini, M. (2008). Science Parks' tenants versus out-of-Parks firms: who innovates more? A duration model. *Journal of Technology Transfer, 33,* 45-71.

Van de Vrande, V., De Jong, J., Vanhaverbeke, W., De Rochemont, M. (2009). Open innovation in SMEs: Trends, motives and management challenges. *Technovation, 29,* 423-437.

Appendix

A1 – Original first SEM, testing intrinsic motivation and having a match

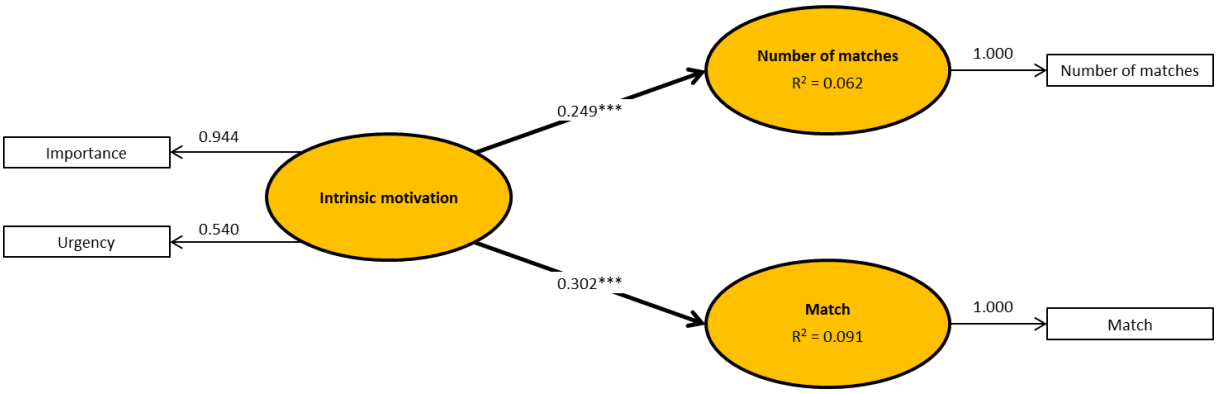


Figure AP1: First SEM model (N=108, ***p<0.01)

Latent variable	**Indicators**	**Loadings per indicator**	**Indicator reliability** (≥0,4 is acceptable, ≥0,7 is preferred)	**Construct reliability Dijkstra-Henseler's rho/Jöreskog's rho** (≥0,7 is acceptable)	**Cronbach's Alpha** (≥0.7 is acceptable)	**Convergence validity (AVE)** (≥0,5 is acceptable
Intrinsic motivation	Urgency	0.5403	0.2919	0.5934/0.7297	0.3782	0.5918
	Importance	0.9443	0.8916			
Number of matches	Number of matches	1.000	1.0000	1.0000/1.0000	Not applicable	1.0000
Match	Match	1.000	1.0000	1.0000/1.0000	Not applicable	1.0000

Figure AP2: Checking loadings, validity and reliability scores

A2 – Original SEM testing for technological alignment mediation

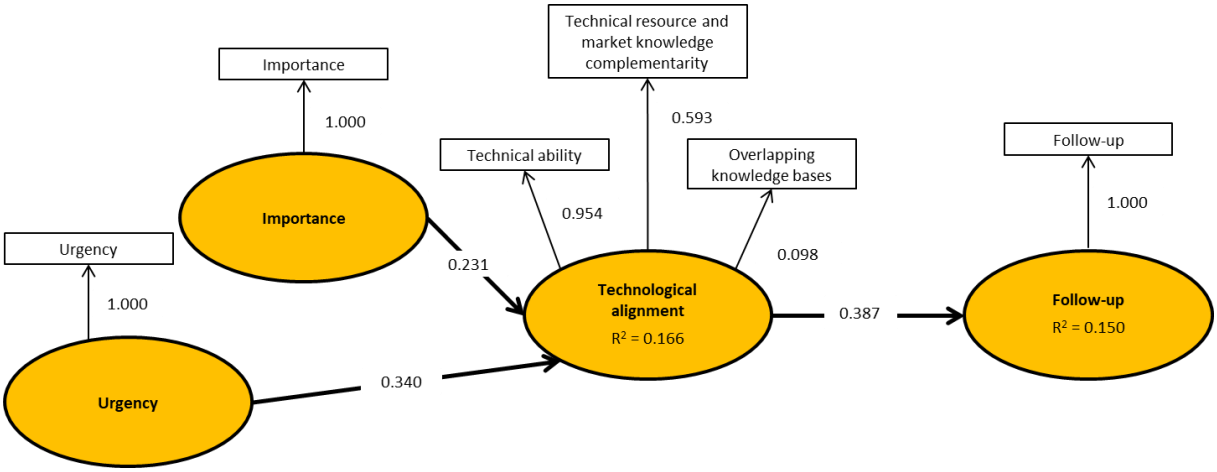


Figure AP3: Testing the relationship between intrinsic motivation and having a follow-up. Mediator technological alignment contains all the original indicators (N=50)

Latent variable	**Indicators**	**Loadings per indicator**	**Indicator reliability** (≥0,4 is acceptable, ≥0,7 is preferred)	**Construct reliability Dijkstra-Henseler's rho/Jöreskog's rho** (≥0,7 is acceptable)	**Cronbach's Alpha** (≥0.7 is acceptable)	**Convergence validity (AVE)** (≥0,5 is acceptable
Urgency	Urgency	1.000	1.0000	1.0000/1.0000	Not applicable	1.0000
Importance	Importance	1.000	1.0000	1.0000/1.0000	Not applicable	1.0000
Technological alignment	Technical ability	0.9536	0.9094	0.4024/0.6102	0.5609	0.4237
	Technical resource and market knowledge complementarity	0.5932	0.3519			
	Overlapping knowledge bases	0.0978	0.0096			
Follow-up	Having a follow-up	1.000	1.0000	1.0000/1.0000	Not applicable	1.0000

Figure AP4: Checking loadings, validity and reliability scores

A3 – Reliability and validity checks for figure 27

Latent variable	**Indicators**	**Loadings per indicator**	**Indicator reliability** (≥0,4 is acceptable, ≥0,7 is preferred)	**Construct reliability Dijkstra-Henseler's rho/Jöreskog's rho** (≥0,7 is acceptable)	**Cronbach's Alpha** (≥0.7 is acceptable)	**Convergence validity (AVE)** (≥0,5 is acceptable
Importance	Importance	1.000	1.0000	1.0000/1.0000	Not applicable	1.0000
Urgency	Urgency	1.000	1.0000	1.0000/1.0000	Not applicable	1.0000
Technological alignment	Unique competencies	0.8641	0.7466	0.8740/0.9080	0.8482	0.7672
	Complement for opportunities	0.9325	0.8696			
	Similar knowledge bases	0.8279	0.6855			
Collaboration quality	Communication	0.9131	0.8338	0.9519/0.9617	0.9502	0.8341
	Coordination	0.9285	0.8621			
	Mutual support	0.9182	0.8431			
	Aligned effort	0.9262	0.8578			
	Cohesion	0.8798	0.7740			
Chance of reaching a collaboration project	Chance of reaching a collaboration project	1.000	1.0000	1.0000/1.0000	Not applicable	1.0000

Figure AP5: Checking loadings, validity and reliability scores

Construct	**Technological alignment**	**Chance of reaching a specific collaboration project**	**Collaboration quality**	**Importance**	**Urgency**
Technological alignment	0.7672				
Chance of reaching a specific collaboration project	0.4223	1.0000			
Collaboration quality	0.3707	0.5232	0.8341		
Importance	0.0620	0.0479	0.0488	1.0000	
Urgency	0.0627	0.0010	0.0000	0.0530	1.0000

Figure AP6: Checking discriminant validity (underlined values should be higher than the values in the same row and/or column)

The model consists only of latent variables which are all discriminant valid. It is a measure of construct correlation. Underlined values have to be higher than the values in the same row and column.

A4 – Reliability and validity checks and bootstrapping results for figure 30

Latent variable	**Indicators**	**Loadings per indicator**	**Indicator reliability** (≥0,4 is acceptable, ≥0,7 is preferred)	**Construct reliability Dijkstra-Henseler's rho/Jöreskog's rho** (≥0,7 is acceptable)	**Cronbach's Alpha** (≥0.7 is acceptable,≥0.6 is acceptable in exploratory research)	**Convergence validity (AVE)** (≥0,5 is acceptable
Importance	Importance	1.000	1.0000	1.0000/1.0000	Not applicable	1.0000
Urgency	Urgency	1.000	1.0000	1.0000/1.0000	Not applicable	1.0000
Strategic alignment	Compatible cultures	0.8661	0.7500	0.7377/0.8661	0.6972	0.7642
	Propensity to change	0.9200	0.8463			
	Long-term orientation	0.8717	0.7599			
Collaboration quality	Communication	0.9145	0.8363	0.9517/0.9618	0.9502	0.8342
	Coordination	0.9282	0.8616			
	Mutual support	0.9170	0.8409			
	Aligned effort	0.9268	0.8590			
	Cohesion	0.8792	0.7730			
Chance of reaching a collaboration project	Chance of reaching a collaboration project	1.000	1.0000	1.0000/1.0000	Not applicable	1.0000

Figure AP7: Checking loadings, validity and reliability scores

Construct	**Strategic alignment**	**Chance of reaching a specific collaboration project**	**Collaboration quality**	**Importance**	**Urgency**
Strategic alignment	0.7642				
Chance of reaching a specific collaboration project	0.3322	1.0000			
Collaboration quality	0.3612	0.5231	0.8342		
Importance	0.0143	0.0479	0.0486	1.0000	
Urgency	0.0704	0.0010	0.0000	0.0530	1.0000

Figure AP8: Checking discriminant validity (underlined values should be higher than the values in the same row and/or column)

The model consists only of latent variables which are all discriminant valid. It is a measure of construct correlation. Underlined values have to be higher than the values in the same row and column.

Effect	Original coefficient	Mean value	Standard error	t-value	p-value (2-sided)	Lower percentile bootstrap quantile (0.5%) (0 should not be on the interval)	Upper percentile bootstrap quantile (99.5%) (0 should not be on the interval)
Strategic alignment → Chance of reaching a specific collaboration project (indirect)	0.4374	0.4403	0.0996	4.3633	0.0000	0.1813	0.6768
Strategic alignment → Collaboration quality (direct)	0.6010	0.6048	0.0917	6.5575	0.0000	0.3197	0.7992
Collaboration quality → Chance of reaching a specific collaboration project (direct)	0.7233	0.7208	0.0750	9.6433	0.0000	0.5079	0.8855
Importance → Strategic alignment (direct)	0.0616	0.0569	0.1535	0.4013	0.6883	-0.3502	0.4185
Importance → Chance of reaching a specific collaboration project (indirect)	0.0268	0.0290	0.0701	0.3822	0.7024	-0.1560	0.2181
Importance → Collaboration quality (indirect)	0.0370	0.0385	0.0943	0.3925	0.6948	-0.2088	0.2724
Urgency → Strategic alignment (direct)	0.2511	0.2504	0.1587	1.5822	0.1139	-0.2082	0.6081
Urgency → Chance of reaching a specific collaboration quality (indirect)	0.1092	0.1058	0.0694	1.5734	0.1159	-0.0935	0.2906
Urgency → Collaboration quality (indirect)	0.1509	0.1471	0.0929	1.6243	0.1046	-0.1270	0.3678

AP9: Checking structural path significance with bootstrapping (df=N-1=49, 999 bootstrap samples)

A5 – Reliability and validity checks and bootstrapping results for figure 32

Latent variable	**Indicators**	**Loadings per indicator**	**Indicator reliability** (≥0,4 is acceptable, ≥0,7 is preferred)	**Construct reliability Dijkstra-Henseler's rho/Jöreskog's rho** (≥0,7 is acceptable)	**Cronbach's Alpha** (≥0.7 is acceptable)	**Convergence validity (AVE)** (≥0,5 is acceptable
Importance	Importance	1.000	1.0000	1.0000/1.0000	Not applicable	1.0000
Urgency	Urgency	1.000	1.0000	1.0000/1.0000	Not applicable	1.0000
Relational alignment	Compatible cultures	0.8635	0.7456	0.8651/0.9165	0.8630	0.7855
	Propensity to change	0.9198	0.8460			
	Long-term orientation	0.8745	0.7648			
Collaboration quality	Communication	0.8661	0.8371	0.9541/0.9617	0.9502	0.8340
	Coordination	0.9295	0.8553			
	Mutual support	0.9209	0.8378			
	Aligned efforts	0.9247	0.8610			
	Cohesion	0.8785	0.7797			
Chance of reaching a collaboration project	Chance of reaching a collaboration project	1.000	1.0000	1.0000/1.0000	Not applicable	1.0000

Figure AP10: Checking loadings, validity and reliability scores

Construct	**Chance of reaching a specific collaboration project**	**Importance**	**Urgency**	**Relational alignment**	**Collaboration quality**
Chance of reaching a specific collaboration project	1.0000				
Importance	0.0479	1.0000			
Urgency	0.0010	0.0530	1.0000		
Relational alignment	0.3850	0.0054	0.0002	0.7855	
Collaboration quality	0.5236	0.0485	0.0000	0.5377	0.8340

Figure AP11:Checking discriminant validity (underlined values should be higher than the values in the same row and/or column)

The model consists only of latent variables which are all discriminant valid. It is a measure of construct correlation. Underlined values have to be higher than the values in the same row and column.

Effect	Original coefficient	Mean value	Standard error	t-value	p-value (2-sided)	Lower percentile bootstrap quantile (0.5%) (0 should not be on the interval)	Upper percentile bootstrap quantile (99.5%) (0 should not be on the interval)
Relational alignment → Chance of reaching a specific collaboration project (indirect)	0.5306	0.5338	0.0896	5.9201	0.0000	0.3042	0.7409
Relational alignment → Collaboration quality (direct)	0.7333	0.7370	0.0697	10.5225	0.0000	0.5358	0.8791
Collaboration quality → Chance of reaching a specific collaboration project (direct)	0.7236	0.7209	0.0755	9.5862	0.0000	0.5063	0.8859
Importance → Relational alignment (direct)	0.0738	0.0707	0.1264	0.5842	0.5592	-0.2479	0.3985
Importance → Chance of reaching a specific collaboration project (indirect)	0.0392	0.0390	0.0695	0.5638	0.5730	-0.1375	0.2354
Importance → Collaboration quality (indirect)	0.0541	0.0534	0.0948	0.5709	0.5682	-0.1846	0.3059
Urgency → Relational alignment (direct)	-0.0013	-0.0041	0.1614	-0.0081	0.9935	-0.4306	0.3979
Urgency → Chance of reaching a specific collaboration quality (indirect)	-0.0007	-0.0038	0.0868	-0.0080	0.9936	-0.2672	0.2144
Urgency → Collaboration quality (indirect)	-0.0010	-0.0047	0.1189	-0.0081	0.9935	-0.3511	0.2805

AP12: Checking structural path significance with bootstrapping (df=N-1=49, 999 bootstrap samples)

A6 – Reliability and validity checks and bootstrapping results for figure 37

Latent variable	Indicators	Loadings per indicator	Indicator reliability (≥0,4 is acceptable, ≥0,7 is preferred)	Construct reliability Dijkstra-Henseler's rho/Jöreskog's rho (≥0,7 is acceptable)	Cronbach's Alpha (≥0.7 is acceptable)	Convergence validity (AVE) (≥0,5 is acceptable
Importance	Importance	1.000	1.0000	1.0000/1.0000	Not applicable	1.0000
Urgency	Urgency	1.000	1.0000	1.0000/1.0000	Not applicable	1.0000
Trust	Professional trust	0.8604	0.7403	0.8855/0.9243	0.8768	0.8030
	Personal trust	0.9434	0.8901			
	Integrated trust	0.8824	0.7787			
Collaboration quality	Communication	0.9166	0.8402	0.9511/0.9618	0.9502	0.8342
	Coordination	0.9263	0.8581			
	Mutual support	0.9156	0.8383			
	Aligned efforts	0.9285	0.8622			
	Cohesion	0.8789	0.7725			
Chance of reaching a collaboration project	Chance of reaching a collaboration project	1.000	1.0000	1.0000/1.0000	Not applicable	1.0000

Figure AP13: Checking loadings, validity and reliability scores

Construct	Chance of reaching a specific collaboration project	Trust	Importance	Urgency	Collaboration quality
Chance of reaching a specific collaboration project	1.0000				
Trust	0.1143	0.8030			
Importance	0.0479	0.0092	1.0000		
Urgency	0.0010	0.0008	0.0530	1.0000	
Collaboration quality	0.5229	0.3649	0.0486	0.0000	0.8342

Figure AP14: Checking discriminant validity (underlined values should be higher than the values in the same row and/or column)

The model consists only of latent variables which are all discriminant valid. It is a measure of construct correlation. Underlined values have to be higher than the values in the same row and column.

Effect	Original coefficient	Mean value	Standard error	t-value	p-value (2-sided)	Lower percentile bootstrap quantile (0.5%) (0 should not be on the interval)	Upper percentile bootstrap quantile (99.5%) (0 should not be on the interval)
Trust → Chance of reaching a specific collaboration project (indirect)	0.4368	0.4408	0.0682	6.4019	0.0000	0.2594	0.6142
Trust → Collaboration quality (direct)	0.6041	0.6132	0.0795	7.5964	0.0000	0.3683	0.7909
Collaboration quality → Chance of reaching a specific collaboration project (direct)	0.7231	0.7204	0.0754	9.5959	0.0000	0.5054	0.8852
Importance → Trust (direct)	0.1081	0.0940	0.1811	0.5970	0.5506	-0.3304	0.5218
Importance → Chance of reaching a specific collaboration project (indirect)	0.0472	0.0445	0.0189	0.5767	0.5643	-0.1342	0.2644
Importance → Collaboration quality (indirect)	0.0653	0.0620	0.1137	0.5745	0.5658	-0.1849	0.3544
Urgency → Trust (direct)	-0.0529	-0.0482	0.1390	-0.3805	0.7036	-0.4327	0.2908
Urgency → Chance of reaching a specific collaboration quality (indirect)	-0.0231	-0.0215	0.0615	-0.03758	0.7071	-0.1803	0.1315
Urgency → Collaboration quality (indirect)	-0.0320	0.0303	0.0854	-0.3741	0.7084	-0.2827	0.1729

AP15: Checking structural path significance with bootstrapping (df=N-1=49, 999 bootstrap samples)

A7 – Interview questions

Structured interview questions

1. Did you ever attend an open innovation meeting? (If the answer is yes, continue to the other questions. If the answer is no, ask: Why not?)

2. How much innovation meetings do you approximately attend? In approximately how much percent of the meetings do you find a match (i.e. a potential partnership, collaboration, alliance or the like)?

3. Why do you attend these meetings?

4. Do you think that the open innovation meetings are effective?

5. Why do you think that the open innovation meetings are (not) effective?

6. What is necessary for you to consider an open innovation meeting as effective?

7. What is missing in the current concept of open innovation meetings, or what is unnecessary and should be left out?

8. Are you satisfied about the format and the facilities of the event?

Semi-structured interview set-up

Why did you not find any match on the concerning open innovation meeting? (First why)

Four more why-questions will be asked, every time depending on the previous answer.

A8 – Survey part 1 questions

Questions that were not applicable to the participants, according to their answers, were automatically skipped.

Do you agree with the following statements? (*=required question)

A new successful partnership, collaboration, alliance or the like would contribute to my mission, values and/or high priority goals. *

Yes/no

Finding a new successful partnership, collaboration, alliance or the like is an urgent matter for me. It requires my immediate attention and it even presses on me. *

Yes/no

Motives for a partnership, collaboration, alliance or similar

Are you currently open to a new partnership, collaboration, alliance or similar? *

Yes/maybe/no

For which of the following collaboration practices are you aiming for, hoping for, or open to? (Multiple options are possible) *

☐ Venturing (Starting up new organizations drawing on internal knowledge, and possibly also with finance, human capital and other support services from your enterprise.)

☐ Outward IP licensing (Selling or offering licenses or royalty agreements to other organizations to better profit from your intellectual property, such as patents, copyrights or trade marks.)

☐ Employee involvement (Leveraging the knowledge and initiatives of employees who are not involved in R&D, for example by taking up suggestions, exempting them to implement ideas, or creating autonomous teams to realize innovations.)

☐ Customer involvement (Directly involving customers in your innovation processes, for example by active market research to check their needs, or by developing products based on customers' specifications or modifications of products similar like yours.)

☐ External networking (Drawing on or collaborating with external network partners to support innovation processes, for example for external knowledge or human capital.)

☐ External participation (Equity investments in new or established enterprises in order to gain access to their knowledge or to obtain others synergies.)

☐ Outsourcing research & development (Buying R&D services from other organizations, such as universities, public research organizations, commercial engineers or suppliers.)

☐ Inward IP licensing (Buying or using intellectual property, such as patents, copyrights or trade marks, of other organizations to benefit from external knowledge.)

☐ None of the above

Are there any other practices where you are aiming for, hoping for or open to? *

Yes/no

Other collaboration practices

For which other collaboration practice(s) are you aiming, hoping, or open to? *

Motives

What are your motives to look for one of the previous practices? (Multiple options are possible) *

☐ Control (Increased control over activities, better organization of complex processes.)

☐ Focus (Fit with core competencies, clear focus of firm activities.)

☐ Innovation process (Improved product development, process-/ market innovation, integration of new technologies.)

☐ Knowledge (Gain knowledge, bring expertise to the firm.)

☐ Costs (Cost management, profitability, efficiency.)

☐ Capacity (Cannot do it alone, counterbalance lack of capacity.)

☐ Market (Keep up with current market developments, customers, increase growth and/or market share.)

☐ Utilization (Optimal use of talents, knowledge, qualities, and initiatives of employee.)

☐ Policy (Organization principles, management conviction that involvement of employees is desirable.)

☐ Motivation (Involvement of employees in the innovation process increases their motivation and commitment.)

☐ None of the above

Do you have any other motives? *

Yes/no

What is/are your other motive(s)?

Number of matches

Did you find some kind of potential partner, potential collaboration, potential alliance or the like on the concerning innovation meeting (i.e. a match, with who I have exchanged any contact information to stay in touch about a collaboration opportunity)? *

No/ Yes, 1/2/3/4/5/more than 5

In case of more than 5, how much matches did you exactly find?

Professional trust and technological alignment - Most promising match

Please fill in the following questions for your most promising match which you determined on the concerning innovation meeting. If you had one match, please fill in the questions for that match. The most promising match is the one you think it has the biggest chance to become a success. To remind you: a match means that you have exchanged any contact information with a potential partner to stay in touch about a collaboration opportunity. The following questions are about to what extent they apply to you. 1 means not at all, 7 means very much.

Do you have professional trust in your most promising match (i.e. trust in his/her technical knowledge and technical capacity)?

1/2/3/4/5/6/7/I don't know yet

To what extent do you recognize the potential partner's unique competencies which can be leveraged (i.e. competencies that are useful for your organization)?

1/2/3/4/5/6/7/I don't know yet

Do you think that the potential partner can complement you for any foreseen opportunity?

1/2/3/4/5/6/7/I don't know yet

Do you think you both have somewhat similar knowledge bases?

1/2/3/4/5/6/7/I don't know yet

In part 2 of this research, which will take place in a couple of weeks, there will be some questions about the match for which you filled in the questions above. Please fill in below something that will remind you then which match you took for these questions. This can be a name of a person, company, a short description or anything else that will help you to remember it later. The answer below will NOT be used for anything else except for research purposes. *

A9 – Survey part 2 questions

Questions that were not applicable to the participants, according to their answers, were skipped.

Do you agree with the following statements? (*=required question)

A new successful partnership, collaboration, alliance or the like would contribute to my mission, values and/or high priority goals. *

Yes/no

Finding a new successful partnership, collaboration, alliance or the like is an urgent matter for me. It requires my immediate attention and it even presses on me.

Yes/no

For all the following questions of this survey, please answer them for your originally most promising match. Please see the reminder in the e-mail (!) which you received together with this survey. Here is written what your most promising match is/was.

The concerning match... *

… has resulted in at least one collaboration project/... is still developing, but has a positive outlook/... did not make any progress since the innovation meeting, but had a sequel/... has a negative outlook/... failed to become a collaborate project /…did not get a sequel (yet).

Hampering factors

What is/are the hampering factor(s), which stand/stood in the way of setting up a collaboration with the matched party?*

☐ Administration (Bureaucracy, administrative burdens, conflicting rules.)

☐ Finance (Obtaining financial resources.)

☐ Knowledge (Lack of technological knowledge, competent personnel, or legal/administrative knowledge.)

☐ Marketing (Insufficient market intelligence, market affinity, marketing problems of products.)

☐ Organization/culture (Balancing innovation and daily tasks, communication problems, aligning partners, organization of innovation.)

☐ Resources (Costs of innovation, time needed.)

☐ IPR (Ownership of developed innovations, user rights when different parties cooperate.)

☐ Quality of partners (Partner does not meet expectations, deadlines are not met.)

☐ Adoption (Adoption problems, customer requirements misjudged.)

☐ Demand (Customer demand too specific, innovation appears not to fit the market.)

☐ Competences (Employees lack knowledge/competences, not enough labor flexibility.)

☐ Commitment (Lack of employee commitment, resistance to change.)

☐ Idea management (Employees have too many ideas, no management support.)

☐ None of the above

Are there any other hampering factors? If yes, which factor(s)?

How big do you think the chance is that you and your partner will reach a specific collaboration project?*

0 - No chance, almost no chance/ 1 - Very slight possibility/ 2 - Slight possibility/ 3 - Some possibility/ 4 - Fair possibility/ 5 - Fairly good possibility/ 6 - Good possibility/ 7 – Probable/ 8 - Very probable/ 9 - Almost sure/ 10 - Certain, practically certain

For the following questions, it does not matter whether your match became a success, a failure or something inbetween. Important is which factors stimulate(d) a fruitful collaboration and which hinder it. The questions are still about the match for which you already answered questions in part 1 (see reminder in e-mail).

To which extent do you agree on the following matters, in regard to your match which you determined on the concerning innovation meeting? 1 means not at all, 7 means very much.

The matched party has unique competencies, which can be leveraged (i.e. competencies that are useful for your organization)

1/2/3/4/5/6/7/I don't know yet

The matched party can complement my organization for the opportunity which we both see together

1/2/3/4/5/6/7/I don't know yet

I believe that the matched party and my organization have similar knowledge bases

1/2/3/4/5/6/7/I don't know yet

The matched party's motives seem to be in correspondence with my organization's motives

1/2/3/4/5/6/7/I don't know yet

The matched party shows competing goals

1/2/3/4/5/6/7/I don't know yet

There seems to be congruence between the matched party and my organization, which means that we have similar norms and procedures

1/2/3/4/5/6/7/I don't know yet

I think that, when necessary, the matched party and my organization are willing to adapt as requirements of collaboration change

1/2/3/4/5/6/7/I don't know yet

I think that the matched party and my organization are willing, if necessary, to make short-term sacrifices for long term results

1/2/3/4/5/6/7/I don't know yet

To which extent do you agree on the following statements?

I have professional trust in the matched party. That means that I trust its technological capabilities. *

1/2/3/4/5/6/7

I have personal trust in the matched party. That is, I trust one or more persons from this party, which means that I have a good relationship with that/those person(s). *

1/2/3/4/5/6/7

To which extent do you agree on the following statements?

The communication between the matched party and my organization is sufficient, open en efficient

1/2/3/4/5/6/7/I don't know yet

I think that both the matched party and my organization have a shared mutual understanding on goals, necessary activites and contributes that are needed to be performed by collaborating actors

1/2/3/4/5/6/7/I don't know yet

I believe that the matched party and my organization are willing to help each other in achieving commonly agreed-upon goals. That includes the existence of mutual flexibility in case of unforeseen incidents and changes

1/2/3/4/5/6/7/I don't know yet

I feel that there is correspondence between the matched party's and my organization's priorities and commonly agreed-upon priorities. That means that there is alignment of contributions provided by the both of us with the expectations of the contributions

1/2/3/4/5/6/7/I don't know yet

There is existence of collaborative spirit between the matched party and my organization

1/2/3/4/5/6/7/I don't know yet