Solving the matchmaking dilemma between companies and external idea contributors

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Harland, Peter and Ann-Marie Nienaber

Most of the innovation management literature refers to the benefits of external knowledge. It follows then that companies invest a great deal of effort and resources in developing instruments to motivate people to submit ideas; however, external contributors are often not willing to submit their ideas because they are afraid that they will not be compensated for them afterwards. Thus, the question arises as to how companies can profit from the good ideas of external contributors without being accused of intellectual property theft in cases where it already knows about the ideas being presented. For this paper we have taken the findings from trust research into account and discuss several practical methods for overcoming the obstacles that arise when both companies and idea contributors want to profit from ideas. Finally, we develop a trust-based intermediary model for knowledge transfer in the innovation management field.

Keywords: trust; matchmaking process; collaborative innovations; external ideas; intermediary; online platforms.

1. Introduction

Acquiring external ideas and knowledge is becoming increasingly necessary for the global success of companies. However, despite the fact that ideas and knowledge are considered to be important for future strategic development, many businesses cannot afford huge R&D departments. The significant benefits gained from external knowledge can be found in the current literature on this topic (Phelps et al., 2012). In line with this, many companies are very interested in concepts like innovation competition, crowdsourcing, and netnography (Brabham, 2008; Chesbrough, 2003; Galbraith and McAdam, 2013) and are investing a great deal of effort and financial resources in developing instruments to motivate people to submit ideas to companies as well as in collaborative innovations. For example, Proctor and Gamble has reached its target of

acquiring over 50% of its ideas from external sources; in order to highlight the attractiveness of these activities, they claim that the projects enabled by their 'connect&develop' initiative achieved a 70% higher net present value than in average projects in 2009 (P&G).

However, with regard to incentive theories (e.g. Laffont and Martimort, 2001), the literature also states that external idea contributors are often not willing to submit their ideas without receiving compensation or some other reward. Thus, the number of people that submit new ideas to companies has decreased considerably. In addition, there is great concern regarding intellectual property theft because of previous bad experiences. Usually, external idea contributors submit ideas that cannot be taken from a patent without the company's guarantee that it will be handled in a transparent, confidential and trustworthy manner. They do not know if the company is already aware of their findings or whether or not it wants to use a specific idea. Furthermore, some companies pretend to be interested in buying ideas from sources outside the company; in the end, however, they do not compensate the contributors. Consequently, intellectual property theft has become a real obstacle to building mutually beneficial relationships and long-term collaborations. As a result, successful matchmaking between an idea contributor and a company has become less likely. In this paper, 'matchmaking' is defined as all of the social interactions between two or more parties from the first intention to the matching decision regarding the conditions of an idea transfer or the decision to stop a specific interaction (see also Katzy et al., 2013).

For a successful matchmaking process, people have to trust that companies will behave in a fair and honest way. Otherwise, they will no longer be willing to submit ideas to organisations. Even though many idea generators often think that companies pretend to be trustworthy, we have found numerous examples of businesses that behave

fairly and honestly. Generally speaking, however, people do not want to accept this fact. In many cases, the ideas that are submitted to companies are already known to the company; therefore it stands to reason that a company would not be willing to reward those ideas. Thus, a successful matchmaking for both parties in this type of situation is also very unlikely. Still, it is almost impossible to convince external contributors that this behaviour on the part of the business makes sense. Thus, idea contributors remain suspicious of companies and are afraid of being treated unfairly and dishonestly. This situation could have a negative influence on how companies are perceived and result in no longer having access to an important source of new ideas.

Thus, the question arises as to how companies can organise the matchmaking process in a way that allows them to profit from good ideas that are acquired from external sources without being accused of intellectual property theft in cases where the company already knows the idea being presented.

While the use of intermediaries (third parties) is already well known in other research fields (for an overview see Howells, 2006), literature is still lacking on whether using intermediaries to handle external ideas and knowledge has a positive effect (Katzy et al., 2013). We assume that intermediaries could overcome the obstacles to knowledge sharing between external idea contributors and companies if they stand to profit from the new ideas in the short as well as long term. Using an intermediary can have a positive effect in two ways: First, the idea contributor views the intermediary as a trustworthy person; second, the intermediary also provides protection against intellectual property theft. It is precisely for this reason that we present a specific intermediary who is characterised by a high level of trustworthiness, i.e. both – companies and idea contributors – can trust him. This trustworthy intermediary supports the idea exchange process between both parties so that the company and idea

contributor are able to profit from each other in the end. In particular, companies that have an open innovation strategy use external ideas extensively to discover and realise innovative opportunities. In order to receive more and better quality ideas, firms cannot only rely on their traditional suppliers. They have to be open to new partners (Chesbrough, 2003) and develop a professional approach to matchmaking. In the following sections, we demonstrate how the entire matchmaking process of submitting, presenting and perhaps selling an idea can be seen as mutually beneficial for idea contributors and companies. The design of our trust-based intermediary model is based on the findings of studies in the area of new institutional economic theory as well as social exchange theory. This is combined with the findings from the field of intermediaries in innovation management, especially in the area of knowledge transfer processes. In order to find evidence for our assumption, we conducted a comprehensive qualitative analysis of German DAX companies. We looked at different coordination mechanisms, problem-solving marketplaces, online platforms and speculative applications to gain an understanding of the individual motivations in the matchmaking process.

The paper is organised as follows: First, we refer to the well-known mechanics of the new institutional theory and combine the findings in this area with the field of trust research and the social exchange theory in particular. Second, we conducted a qualitative analysis of the incentives and processes involved in matchmaking between an external idea contributor and a company. Based on our findings, we present an intermediary model called the trust-based intermediary process, which could be a way to overcome the typical obstacles that arise in matchmaking. Finally, we discuss our results and provide concluding remarks on the implications of our findings for business and research.

2. Trust research findings and the role of innovation intermediaries in knowledge transfer processes

This paper takes the findings from two main research streams into account: (1) the findings from the trust research field based on the new institutional theory and the social exchange theory, and (2) the findings from the innovation knowledge transfer process literature with regard to the role of intermediaries.

Following the structure mentioned above, the paper first discusses the main theories in trust research, i.e. the new institutional theory, especially with regard to the cooperation problem in relation to social dilemmas and the social exchange theory. Social dilemma generally describes a two-person game situation, which can be played only once (Taylor, 1987; Elster, 1989). Originally, the story for this dilemma involves two prisoners who are interviewed in two different rooms at the same time concerning their criminal act. If both prisoners deny their criminal act, they both go to prison for one year. If one of the prisoners tells the truth and the other denies the criminal act, the prisoner that tells the truth is freed, while the other goes to prison for five years. If both prisoners tell the truth, they both go to prison for four years. Thus, both prisoners benefit the most from this dilemma if they both deny the criminal act and trust each other for this purpose. Otherwise, neither of them would deny the criminal act.

This decision-making process is one example of a social dilemma. A social dilemma can generally be observed in the matchmaking process of external idea contributors and companies. The simple case describes one external idea contributor (person) who wants to offer his idea to a company. In return, he expects to profit from his idea, usually by receiving money from the company. Furthermore, the external idea contributor does not have to pay money for a patent. The issue here is that the external idea contributor does not know if the company can be trusted. In the worst case scenario, the company profits from the idea without paying any money to the external

contributor. At the same time, however, the company also does not know if the idea contributor can be trusted. For example, he may be offering the company an idea that is already known or to other companies at the same time. Thus, the company and contributor are both trying to determine each other's credibility. In the end, both partners would profit most if they do not cooperate, which results in a social dilemma.

In the literature, many researchers describe trust as an exchange in which clear rules and control mechanisms are defined (Kirchgässner, 1991) in order to solve social dilemmas. Trust can be understood as the willingness to be vulnerable to the actions of another party based on the expectation that the other person will perform a particular action that is important to the trustor, irrespective of the ability to monitor or control the other party (Mayer et al., 1995). Carneval (1995) says that trust plays a major role in the reduction of social complexity. In situations where different actions are possible, complexity arises because there are usually many more paths of action than could possibly be followed (Luhmann, 1979). Trust, as the expectation that a company will behave in a trustworthy manner, reduces this complexity. According to the theory of perceived risk, trust results from a combination of the trustor's perceived uncertainty concerning the possible opportunistic behaviour on the part of the trusted entity, and the perceived meaning of the consequences (Rousseau and Sitkin, 1998; Martin and Camarero, 2008). In this way, trust enables action despite the perceived risks and is often the basis for the formation of social relations, e.g. between an external idea contributor and a company (Lai et al., 2013; Bachmann, 2000; Martin and Camarero, 2008). This is also supported by findings in the area of social exchange theory, which show that cooperative rather than individualistic motives prevail (Larrick and Blount, 1995). While individualists try to maximise their own outcome with no regard for the other party's gains or losses, cooperators aim at maximising their own outcome in

combination with the outcome of the opposing negotiator, where social motives are partly rooted in individual differences (e.g. De Dreu and Van Lange, 1995). Furthermore, proponents of the social exchange theory claim that cooperatively motivated negotiators reach a greater number of integrative, win-win agreements in the short term as well as the long term and possibly for the entire life cycle of the organisation (e.g. De Dreu, Giebels, and Van der Vliert, 1998; Weingart, Bennet, and Brett, 1993).

At this juncture, it is very important to point out that trust is not seen as a substitute for control. Many researchers understand trust and control as two very important aspects of a trustful and sustainable relationship. Strong control systems can 'inhibit the development of trust' (Mayer et al., 1995), however the two should not be seen as mutually exclusive (Schoorman et al., 2007) but rather as a 'duality' (Möllering, 2006). To some extent, control and trust can be seen as complementary. In Lewicki & Bunker's (1996) model, there is no need for monitoring at the highest stage of trust. However, most work relationships never reach that stage or form a basis for a real life cycle of collaborative innovations. At the lower stages as well as in the initial contact between the external idea contributor and the company, the elements of trust and control are still being established and need to be carefully balanced. One way to reach such a balance is through the sharing and delegation of control, which in turn increases managerial trustworthiness (Whitener et al., 1998). In this paper, we focus on the coordination mechanisms necessary to support mutual trust between idea contributors and companies in the matchmaking process.

The coordination mechanisms described refer to the findings on the role of intermediaries in the innovation process (Howells, 2006) as a third research stream. While researchers often differentiate intermediaries as either organisations or processes

(Howells, 2006), in our paper we refer to an intermediary as a process that is managed by a person or organisation to achieve a balance between trust and control. While Pilorget (1993) describes intermediaries as innovation consultancy firms, Hargadon and Sutton (1997) talk about technology brokering. In our context, the definition given by Wolpert (2002) is the most fitting. The author defines intermediaries as knowledge brokers who facilitate the information exchange between companies with regard to innovation. Here, we would replace the information exchange between companies with the information exchange between a company and an idea contributor with regard to an idea. The two tasks that an intermediary usually carries out are 'scanning information' and 'communicating' (Lynn, 1996; Wolpert, 2002). Other studies specify these tasks by focusing on individual technologies that help intermediaries to transfer ideas between companies (Turpin et al. 1996, Hargadon and Sutton, 1997; Hargadon, 1998). In our study, the intermediary can be seen as the person or organisation that scans the information given by the idea contributor and the company and that manages the communication process between both parties. Similar adaptations of the intermediary model can be also found by Seaton and Cordey-Hayes (1993) or Bessant and Rush (1995). With regard to the different types of intermediation in the innovation process that are described in Howells (2006), we refer to the types called gatekeeping and brokering.

However, the functions of intermediaries in the literature are widely spread and sometimes very different, especially when we take the findings of internet marketplaces and the role of intermediaries into account (see e.g. Lichtenthaler and Ernst, 2008). The internet has made it much more feasible and cheaper for firms to open themselves up to a wide range of external sources for innovative ideas. Thus, we see explosive growth in the area of open innovation intermediary networks, such as LinkedIn or ResearchGate,

which offer companies the option of finding and collecting knowledge from a wide range of internet users, such as individuals, companies and knowledge brokers (Billington and Davidson, 2012). However, the challenges of successful matchmaking between an idea contributor and the target company still exist and have become even more challenging on the internet. Relationships on the internet are characterised by a high level of anonymity (for an overview, see Urban et al., 2009), which makes it more difficult to enhance trust and build long-term relationships (Wang and Emurian, 2005). Trust, however, still remains a basic requirement for matchmaking in innovation processes (e.g. Gulati and Sytch, 2007; Morgan and Hunt, 1994). The main problem with the internet appears to be the lack of personal contact, which usually plays an important role in determining a company's trustworthiness (McKnight et al., 2002). Hence, insufficient trust is considered to be the main reason preventing the internet sector from developing even more quickly and extensively (Beatty et al., 2011; Jordan and Ingram, 2011).

In combining the findings from both theory streams, we try to overcome the challenges and obstacles that arise in the matchmaking process when transferring an idea from an idea contributor to a target company. While the social dilemma describes the general problem that two parties have in trusting each other when they both want to profit the most from a specific transfer, the findings of the intermediary theory in innovation management are seen as a way of overcoming this problem. In this case, the intermediary is considered a trustworthy third party by both parties involved in the knowledge transfer process. We do not want to say that the parties simply have to trust each other because developing and enhancing trust takes a very long time and requires a great deal of effort (Morgan and Hunt, 1995). Instead, we understand trust as a mechanism that is needed to manage the social dilemma, however, without neglecting

the importance of control mechanisms. This is underscored by the findings on trust in online intermediaries. Without any contact, it is even more difficult to develop and establish trust between two parties. Thus, the aim of our research is to develop a trust-based intermediary model that is able to overcome the obstacles that arise between an idea contributor and a company in the knowledge transfer process.

3. Data and Method

For a better understanding of the interaction that takes place between idea contributors and companies in the matchmaking process in terms of figuring out if the partner's idea is of strategic relevance, we conducted a comprehensive qualitative content analysis. We used the method originated by Krippendorf (1980), which combines the following two approaches: inductive category development and deductive category application. We followed the typical steps of a qualitative content analysis and identified the different matchmaking processes currently used in business management for transferring an idea from a contributor to a company. First, we observed the initial phase as well as the negotiation process. Subsequently, we described the typical interaction processes involved in target matchmaking and identified the specific risks of each process. Finally, we developed an improved matchmaking process. In the following, we describe the different steps of the content analysis in more detail.

The first step includes a comprehensive range of information taken mainly from the web pages of companies as well as from other sources like the terms of conditions of problem-solving marketplaces and blogs; in some cases where the procedures were unclear we called the contact persons mentioned on these sites. For example, we studied the web pages of all DAX30 companies to identify all the possible ways to offer an idea from the perspective of an idea generator.

Afterwards, we developed a category system based on theoretically-based definition criteria. The process of identifying the categories has to be done carefully and in steps. To do this, we used service blueprints (Fitzsimmons and Fitzsimmons, 2000; Haksever, 2000). Originally, service blueprints were used to analyse services (in particular, activities by service providers and service customers). However, for our purposes we used blueprints to develop our categories for the analysis of the different interaction processes in business management (specifically, of the DAX30 companies). The blueprints consisted of the activities of both parties (in some cases, also third-party activities) broken down by the line of interaction between these activities as well as by the specific interfaces (technical realisation between the parties involved, e.g. internet platforms).

In the analysis, we focused on the main trust-building activities of both parties in the matchmaking process and the interfaces between them. The identified categories were revised within feedback loops and reduced to key categories or deleted if they were deemed to be unreliable. In the end, we were able to differentiate five categories. To accomplish this, the different definitions, examples and coding rules for each category were developed. This coding system was the basis of our analysis (see Table 1).

Table 1. Coding.

Category	Definition	Sub-Categories
Activity (company)	Action carried out by company	- Problem identification - Review - Offer - Feedback
Activity (idea contributor)	Action carried out by idea contributor	- Idea generation - Acceptance - IP right application - Request
Activity (third party)	Action carried out by third party	- Providing online platform/problem solving marketplace - Providing rules for matching

Order relation	Order of activities	• Request - feedback
		• Idea - review
		• Offer - acceptance
		• Review – offer
		• etc.
Interfaces	Realisation of links between activities of involved parties	• Online platform
		• Personal relationship
		• Written agreement (confidentiality agreement)

In the next step, we identified the main risks for the external idea contributor and the company with regard to the idea and property rights transfer for each matchmaking process. We compared the matchmaking processes by categorising the risks according to strategic and financial (operational) risks. In addition, we identified the typical deficiencies that arise when transferring ideas from an external idea contributor to a company.

Based on these findings, we developed an improved matchmaking process between the external idea contributor and the company by introducing a trustworthy intermediary to deal with the risks identified for both parties. This allows the external idea contributor and the company to establish a long-term collaborative relationship from which they can both benefit and that is based on both parties having found a suitable partner of strategic relevance.

4. Results of the qualitative content analysis

In the first step, we identified five different matchmaking processes of transferring an idea from the external idea contributor to a company.

The first way for an idea contributor to transfer an idea to a company is to send a speculative application (Figure 1). Companies often receive these requests from idea contributors. The quality of the answer given by the company depends on the defined processes within the enterprise. Usually, this process lacks transparency and for idea contributors the risk of receiving an incomplete or unqualified answer is high. The idea

contributor has to accept the terms and conditions of the company after he submits the idea. Since companies do not have any proof of their own internal ideas, they run the risk of being accused of using an externally-acquired idea without permission even though they may have had the idea first.
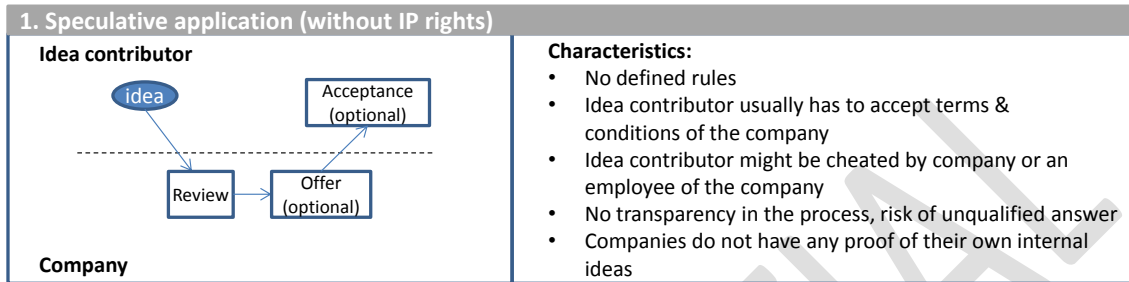
1. Speculative application (without IP rights)

Idea contributor

idea

Acceptance (optional)

Review → Offer (optional)

Company

Characteristics:
- No defined rules
- Idea contributor usually has to accept terms & conditions of the company
- Idea contributor might be cheated by company or an employee of the company
- No transparency in the process, risk of unqualified answer
- Companies do not have any proof of their own internal ideas

Figure 1: Matchmaking process 'Speculative application (without IP rights)'.

In the second matchmaking process, 'Speculative application (with IP rights)', the idea contributor holds a stronger position. Before offering the idea to companies, he claims intellectual property rights, such as patents or registered designs. The first problem that occurs in this situation has to do with the fact that not every idea fulfils the criteria for legal protection. For example, ideas for patents must be technical in nature. Also, the high costs associated with patent protection and the complicated application processes are prohibitive for many idea contributors. Therefore, in most cases the parties cannot enter into a strategic collaboration.

2. Speculative application (with IP rights)

Idea contributor

IP right

Acceptance (optional)

Review → Offer (optional)

Company

Characteristics:
- Regulated by law (IP rights)
- High costs and time spent are a significant barrier to patent protection.
- Protection is limited (e.g. patents in Germany are granted for a maximum of 20 years)
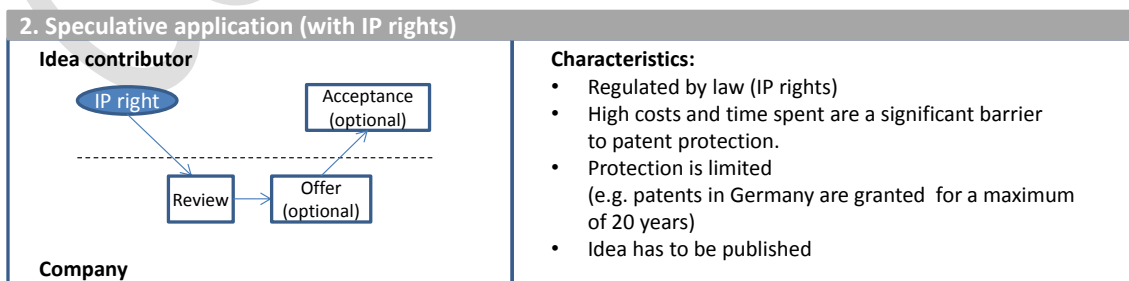- Idea has to be published

Figure 2: Matchmaking process 'Speculative application (with IP rights)'.

Another way to avoid the disadvantages of a speculative application is to ask companies for a confidentiality agreement before presenting the idea (Figure 3 'Two-step approach with confidentiality agreement'). In this case, both partners try to ensure that there will be an atmosphere of fairness and honesty beforehand. The rules between the idea contributor and the company might have to be negotiated, which could present the first big challenge to collaborative innovations. After signing the agreement, the contributor presents his idea. In the second step, the idea is reviewed by the company and another round of negotiations on the terms of exploitation (within the framework of the prior agreement) starts. In practice, this type of matchmaking with individual idea contributors is an exception and often limited to professional partners because it requires a great deal of concession and some degree of effort for companies. Furthermore, companies do not have any proof of their own internal ideas which are identical to externally contributed ideas. In addition, there is very little transparency into the idea process of companies, which creates a considerable challenge for the external contributors.
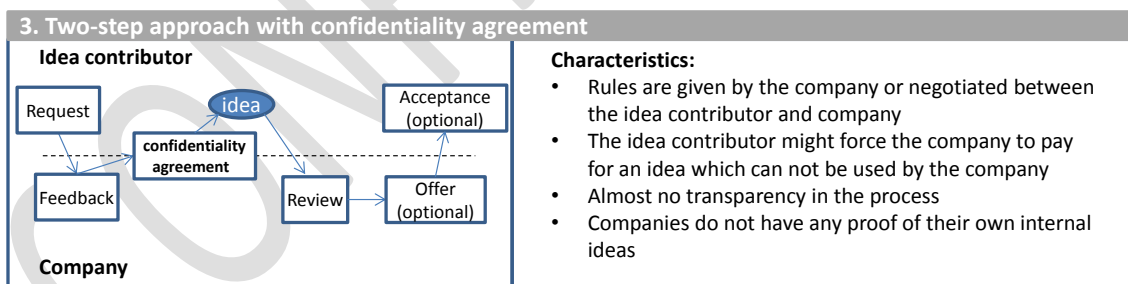

Figure 3: Matchmaking process 'Two-step approach with confidentiality agreement'".

Many companies have introduced online platforms (Figure 4) in order to simplify the idea transfer process. For example, BMW has implemented the Virtual Innovation Agency and a Co-Creation Lab (www.bmwgroup.com). With online platforms, the rules are generally defined by the company in advance. Thus, an idea

contributor usually has to accept these rules before using the platform. This implies that the transparency of the matchmaking process pretty much depends on the design of the platform. Generally, the matchmaking process is simplified by an open innovation platform. The idea contributor can present his idea on this platform; however he has to accept the rules beforehand. Usually, he transfers the idea rights completely to the company.

Sometimes this matchmaking process can include innovative competitions, in which companies use internet platforms to collect new ideas within a certain period of time and offer incentives to idea contributors in the way of awards. However, the major disadvantages of the first three matchmaking processes are still not resolved.
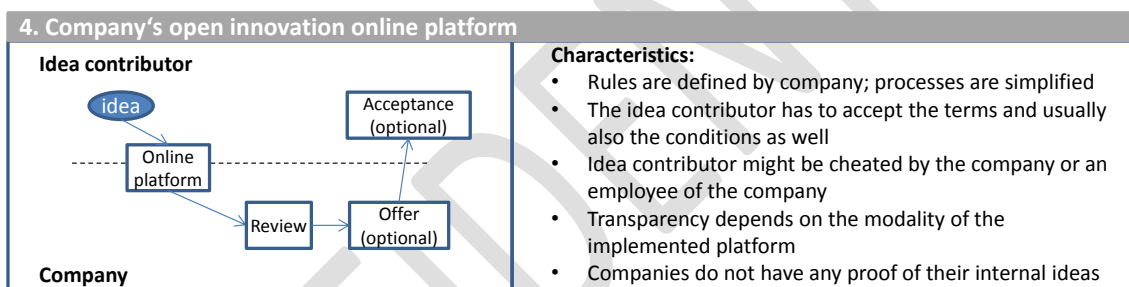

Figure 4: Matchmaking process 'Company's open innovation online platform'.

Another popular way for idea contributors to transfer ideas to companies is to use external problem-solving marketplaces (Figure 5) that are managed by a third party, e.g. *Innocentive* (www.innocentive.com). These are platforms where companies can present their problems and ideas and solutions are provided by creative people. The advantage for companies is that they have access to a great number of potential idea contributors, which is extremely important in a competitive environment. Furthermore, platforms like this require little implementation effort and are cost efficient. However, we are still left with the problem that companies cannot provide proof of ideas that have already been submitted by external sources. It is important to point out that the idea

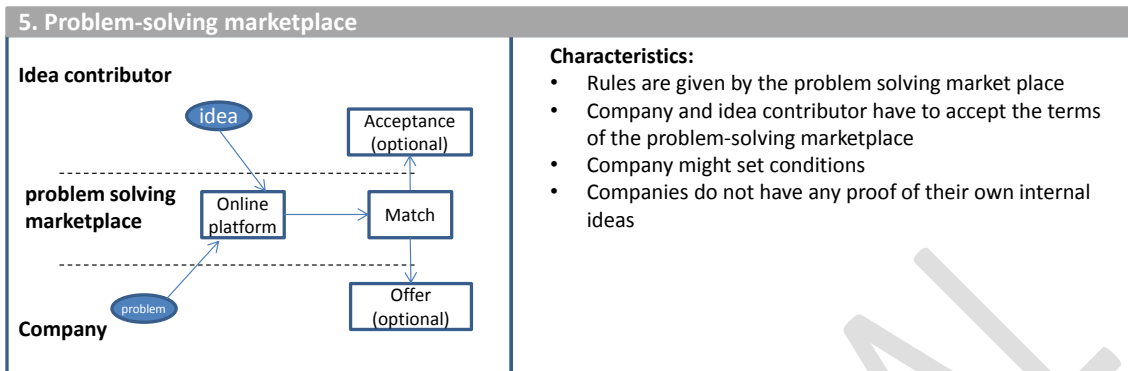contributor and company have to accept the terms and conditions of the third-party platform organiser.

Figure 5: Matchmaking process 'Problem-solving marketplace'.

In the second step, we identified the potential risks for the external idea contributor as well as for the company. Risks are usually conceptualised as the variances of outcomes that are of relevance to the risk-taking person (Cooper et al., 2005). The perceived risk is different from uncertainty because it depends on the probabilities of different outcomes. Usually, risk is seen as negative (Das & Teng, 2001). For a structural approach, we categorise risks into strategic (i.e. long-term) and financial (i.e. short-term) risks. However, this does not mean that strategic risks cannot also be financial risks, but rather that the strategic risks concern the performance of the individual or company (Das & Teng, 2001). Table 2 summarises all the risks identified in the matchmaking processes evaluated.

Table 2: Risk analysis of matchmaking processes.

	1. Speculative application (without IP rights)	2. Speculative application (with IP rights)	3. Two-step approach with confidentiality agreement	4. Company's open innovation online platform	5. Problem-solving marketplace	6. Innovation intermediary
Risks of idea contributor						
Financial risks						
Idea transfer without compensation	4	1	2	3	2	1
Idea transfer with too little compensation	4	1	3	3	2	1
Wasted costs/fees and effort	3	4	3	1	1	1
Strategic risks						
No proof for idea contributor's origin	4	1	3	3	2	1
Idea gets published	2	4	2	2	2	1
No control over misuse (the company or an employee of the company might steal the idea)	4	1	4	3	3	2
Risks of company						
Financial risks						
High aquisition cost per idea	1	1	4	4	2	2
Superfluous payments (no proof for own internal ideas)	3	1	4	4	4	1
Company has to pay too much for the idea	3	3	4	4	4	1
Strategic risks						
Too few (good) ideas caused by a lack of trust	4	1	3	3	3	1
Too few (good) ideas caused by high barriers	1	4	2	1	1	1
Slow idea transfer processes	2	4	4	2	2	3
Loss of (good) ideas due to unstructured processes	4	4	3	1	1	1
Too little contact to potential idea contributors	3	4	3	3	1	2

Legend
4 Very high risk
3 High risk
2 Low risk
1 Very low risk

Idea contributors are in a strong position because they own the property rights to their ideas. However, the high fees and complicated application procedures associated with filing patents as well as the prospect of having to publish the idea is often a deterrent to initiating this process. All matchmaking processes have financial and strategic risks, especially because contributors usually do not have sufficient evidence that they are the author of their ideas. Without concrete proof of authorship, matchmaking processes like speculative application and the two-step approach with a confidentiality agreement, contributors are taking the financial risk of not being adequately compensated or of not receiving any payment at all. In addition, they run the risk that their idea will be misused. Therefore, from the standpoint of an idea contributor, an intermediary concept might be a welcome solution in certain situations.

In matchmaking processes like the 'two-step approach' and 'online platform', companies can define the rules; however, they also have high acquisition costs and the risk of superfluous payments. They are generally in a strong position if they receive speculative applications or applications via online platforms or problem-solving marketplaces; nevertheless they are still exposed to the strategic risk of losing ideas in these situations. In order to receive valuable ideas it is in their interest to come together with idea contributors as equals. A key issue here is being able to trace the origin of an idea. Only with trust supporting mechanisms can a continuous flow of good external ideas be assured. Therefore, the intermediary concept is a tool that could also be of interest to companies.

5. Trust-based innovation intermediary

Based on our findings, we developed a trust-based intermediary model that allows companies and external idea contributors to profit from the transfer of ideas. Our model addresses the risks identified in our analysis of all five matchmaking processes. This model is described as follows:

In the first step, the idea contributor contacts an intermediary between the idea contributor and the target company which can be an agency or an organisation. The idea contributor reports the idea to the intermediary so that the intermediary can identify a target area for it. In the second step, the intermediary contacts the target company. If the company is interested in the idea in the identified target area, the intermediary asks for a complete list of ideas in that specific technological field. In this case, the company compiles a list of all the ideas in that field. In the third step, the company's list is submitted to the intermediary so that it can determine if the company is familiar with the same or a similar idea. In the fourth step, the intermediary informs both parties of the result. Two options are possible in the event of an already existing idea: 1. The

matter is not pursued by either party. 2. If the idea is new for the company, both parties have to agree on the terms for submitting the idea. After submission, the company might still have the option of buying the idea. Even in the case of a denial, the company might compensate the contributor for his efforts with a small sum.

Assuming that the intermediary is really acting independently and is trustworthy, we have an idea process that meets the requirements of the idea contributor and the company. In this case, we can say that we have a successful matchmaking process and no longer have a social dilemma: The idea contributor can propose an idea without publishing or submitting it before making sure that the company is interested and the intermediary has reviewed the newness of the idea. Thus, in terms of the prisoner's dilemma, at this stage we can say that the idea contributor (as one party of the game) can be sure he is not being cheated by the company. He can trust the intermediary as an independent agency or organisation in the knowledge transfer process. In the event of misuse, the idea contributor has evidence that the idea is his, which is also supported by the trust-based intermediary. In addition, the company benefits from the structured matching process and also has proof that the idea already exists. Thus, the other party can also be sure that the idea contributor is not cheating. In the long run, this impartial setting helps to maintain a positive image and ensure a continuous flow of ideas to the company. Therefore, we can say that the social dilemma can be transferred in a successful matchmaking process by including a trust-based intermediary in the 'game'. Finally, the company not only profits from this idea transfer process in the short term by generating substantial revenue from a single idea, but also in the long term through its positive reputation, thereby ensuring that more idea contributors will want to work with them. This shows that the trust-based intermediary model is a strategic model that

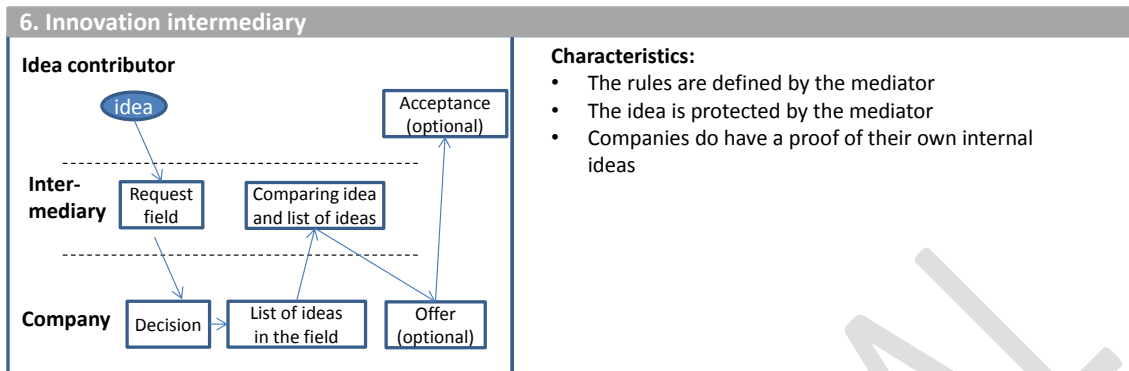translates into profits for the company in the future and safeguards their existence in a competitive market.

6. Innovation intermediary

Idea contributor

Inter-mediary

Company

Characteristics:
- The rules are defined by the mediator
- The idea is protected by the mediator
- Companies do have a proof of their own internal ideas

Figure 6: Matchmaking process in the trust-based intermediary model.

6. Implications for research and business management

Based on our findings, we see two main implications for innovation research. First, our findings demonstrate that the literature on the role of intermediaries in innovation management strongly contributes to overcoming the challenges in the matchmaking process between an external idea contributor and a company. A successful matchmaking process depends on several social factors, such as the competence, fairness and integrity of the intermediary. These abilities are often mentioned in the trust research literature (e.g. Mayer et al., 1995). Thus, this paper combines the findings found in the literature on intermediaries in the innovation management field with the findings in the trust literature. While the importance of trust is already well-known in other high-risk contexts, such as in building long-term relationships on the internet (Morgan and Hunt, 1994; McKnight et al., 2002), there is only little knowledge about the support of a trust-based intermediary model in the matchmaking process for innovation partnerships.

Second, our findings contribute to the field of innovation management in general because we integrate trust in the matchmaking process. Trust in the innovation

management field is still very rare; however, further research is needed because we think that the innovation management field can contribute a great deal to the findings from the existing trust research (e.g. Nienaber and Schewe, forthcoming).

With regard to the business management side, we see the following implications for idea contributors as well as for companies.

For idea contributors, the trust-based model generates reliability within the matchmaking process. The idea contributor can trust the intermediary and is therefore able to give the intermediary the needed and usually sensitive information about his idea. In addition, the intermediary is able to act as a witness if the idea is misused by the company. Thus, the intermediary supports the idea contributor by reducing his risk when transferring and thus, explicating his idea to the other party. Furthermore, he can be sure that he will receive compensation if the idea is unknown but useful for the company. Finally, the idea contributor does not have to publish his idea through a patent application process which not only takes very long but is also very costly and makes the idea public.

With regard to the management of companies we see the following business implications in relation to attracting external idea contributors and profiting from their ideas. On the one hand, we show companies how they can profit from external knowledge without being afraid of being accused of intellectual property theft. In this case, the intermediary works as a third party acting as a witness. On the other hand, the trust perspective of the matchmaking process allows sustainable idea collection and transfer processes to be developed. When idea contributors trust the intermediary, they are willing to suggest more and better quality ideas. Therefore, open innovation oriented companies need the services of intermediaries to overcome the barriers mentioned above.

Furthermore, we believe that the trust-based intermediary model might also be an interesting concept or business case for start-ups and/or service providers. Their trustworthy service could have advantages for both idea contributors and companies.

7. Conclusion and future research

Our results demonstrate two main contributions: First, we analysed the different processes involved when external idea contributors offer their ideas to companies. We structured the potential risks for idea contributors and companies with respect to benefiting from an external idea. By doing this, we were able to identify that what both research and business are lacking is the capability of building a sustainable and efficient relationship for both partners. Second, we developed a theoretical model called the trust-based intermediary model on the basis of our findings, which allows efficient matchmaking between both partners. The intermediary makes it possible for the idea contributor to make sure that the company is not lying about its knowledge of a submitted idea. Thus, the idea contributor knows that the company is behaving honestly and fairly and is therefore motivated to submit his latest ideas. At the same time, the company is no longer afraid of developing a negative reputation and is able to profit from good external ideas for a long time.

Thus, our results seem to be a good basis or starting point for further research – especially in combining the findings of the existing innovation management research with the relatively new field of trust research. In this respect, we can contribute to the field of innovation management by developing a new model of idea exchange which demonstrates how both parties can profit from each other in a practical way without the typical risks associated with collaboration. Trust seems to be very important in such knowledge transfer processes, therefore establishing this kind of positive atmosphere might be a possible solution in dealing with the problems of social dilemmas. Thus, our

contribution can also be applied to the findings of trust research in this area. An empirical study or several case studies might be the next step to prove our theoretical model and to give companies concrete business recommendations. From our point of view, it is especially interesting to evaluate the way that intermediaries work, what kind of tools they use and what kind of internal organisations they choose.

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