

Communication, IP and Trust and their relation to innovation performance

How to build trust to improve innovation performance
in the setting of open innovation in clusters

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Abstract

In open innovation one of the major threats for companies active in innovative alliances is how to retain value for their company while making optimal use of external knowledge and external paths to market. Trust can substitute for or complement IP arrangements and deliver the flexibility necessary in innovative projects. However, how can trust be build? This thesis investigates the role IP protection and communication play on trust building, and how this influences innovative performance. Also the role of the cluster and the cluster coordinator on the establishment of trust has been investigated. For this 33 innovative alliances have been investigated in 3 different clusters, using both qualitative and quantitative measures. Using PLS for building a quantitative model, it has been found that trust increases innovative performance and that trust is built by communication and IP arrangements. However, the influence of communication is more important than the role IP protection plays. Furthermore, cluster coordinators can strengthen the building of trust by acting as a go-between or an innovation broker. Hence companies and cluster coordinators should try to build trust, among others by fostering communication. Practical recommendations are offered to help companies and cluster coordinators building trust to increase the performance of innovative alliances.

Keywords:

Open innovation, trust, intellectual property, innovative alliance, cluster, innovation broker, go-between, communication.

Management summary

Objectives

Innovation is very important, for companies to make profits, and for the Dutch economy as a whole. An important concept in innovation literature is ‘open innovation’, where firms may use knowledge of other companies to develop new products or processes. However, a problem with open innovation is that one has to share own knowledge and technology with others. How can one profit of the knowledge of others, but make sure that one retains value of the innovation for one’s company? There is thus a continuous tension between the desire to be open, to profit of the knowledge of others, and the desire to be close to prevent others from making use of one’s own profitable knowledge.

Contracts and IP protection may protect the company in an innovative alliance, but are often costly and hinder flexibility and creativity. Trust may substitute for and complement these arrangements. But how can trust be build? Literature shows that IP protection and communication may influence the level of trust in a relationship, and that the cluster in which the alliance is embedded may also play a role.

Hence, this research aims to improve insight in the role trust may play within the innovative alliance with respect to the protection of intellectual property, and to gain insight in how the level of trust is influenced by communication, IP and the cluster in which the alliance functions. The main question of this research is: *“What is the role of trust within the innovative alliance, and how do communication, IP and the cluster in which the alliance operates influence the level of trust?”*

Methods

To answer this question, a case study of three different clusters has been carried out – Green Biotech Valley, Agrifood Valley and High-tech Valley. Within these clusters 33 innovative alliances have been investigated and the levels of trust, communication, IP arrangements and innovative performance have been measured. Using the statistical method of PLS modelling, two models have been developed that show the relations between these different constructs. These models have been backed up with qualitative data, gathered in the nearly 30 interviews carried out for this research.

Conclusions

It has been found that both IP protection mechanisms and communication increase the level of trust in an alliance, where the influence of communication is most important. Furthermore, innovative performance is heavily influenced by the amount of trust, where again IP protection plays a weaker role. Trust is thus important, and can be build by communication and the establishment of IP arrangements. Also the cluster level plays an important role on the innovative alliance. The cluster coordinator, as a key actor within the cluster, may increase trust between the companies in the cluster by: 1. bringing the companies in contact; 2. fostering trust building, e.g. by the development of a culture of cooperation or by acting as a go-between or innovation broker; and 3. the development of shared goals. Contact has been found to increase trust, and bringing in contact is one of the most important functions reported by the cluster coordinators interviewed.

Hence it is, for a company active in an innovative alliance, very important to understand the importance of trust, and how IP, communication and the cluster may all influence the levels of trust within the alliance and with that the innovative performance.

Recommendations

For the **company**, it is important to realize the value of trust. Hence it is important first to find (a) partner(s) one can trust. One should thus not only select on complementarity, but also on trustworthiness. It may be worthwhile to choose a partner less different from oneself (but e.g. located nearby), as difference may decrease trust. Also the amount of collaboration partners is important: too many partners often cause opportunism and non-understanding.

The establishment of IP arrangements is important for trust, but should rather be seen as a means towards trust than an insurance of trust. Especially the process of setting up the arrangements is important for trust building, as this is a period of intense communication and communication builds trust. Hence the use of standard contracts may hinder trust.

Finally, it is important to understand the crucial role flexibility and creativity play in innovation. Only by a certain degree of freedom in the innovative alliance, high innovative performance can be reached. Hence IP arrangements should not be used to fixate all possible situations in advance, but to give direction in how to deal with certain contingencies. Communication and trust can in these cases substitute for IP arrangements.

For **cluster coordinators**, it is important to know the companies in the cluster and to distribute this information to the other cluster members, as information about others is the basis for collaboration. This can be done by e.g. a LinkedIn account or a newsletter. Related to this, establishing relations between cluster members is important, especially for small companies. The development of a shared strategic research agenda may be a means to establish contacts and a good information environment.

Then it is important that the cluster coordinator is trusted by the cluster members, as this may increase trust between the members. This trust can be build by being accessible to every member alike, and thus not to favour large companies or board members. Also recognisability of who one is and what one does is important, as well as reaching visible results and managing expectations of the cluster members. The way of working of the cluster coordinator should match the entrepreneurs in the cluster and not adapt too much to the policy organizations it works with (and is dependable on for funding). Finally, more practical recommendations for the cluster coordinator can be found in Section 5.1.

Lastly there are two recommendations for **policy makers**. The first is that there often are a number of organizations supporting company collaboration and innovation, which may paralyze the company. It is recommended to have a look at what functions the different organizations perform, and if these functions 1. are all necessary for the encouragement of innovation; 2. have to be carried out by different organizations; and 3. all need to be funded with public money, as it has been found that some functions can be carried out by organizations either publicly or privately funded. And secondly, it has been found that patents may have lost their innovation fostering role, and may now hamper innovation. It may be important to revisit patent policy to make sure that patents on the one hand protect investments on knowledge development, but also allow and even encourage new innovations based on this knowledge.

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Chapter 1

Introduction

Innovation is widely accepted to be of major importance for economic growth (Fortuin 2007; Porter 1985), for international and European policies as well as for national and regional policies. In the Netherlands there is even a ministry of Economic Affairs, Agriculture and Innovation, established after the last elections in 2010, which is one of the most prestigious departments in the Netherlands at the moment. The goal of the current government is to bring the Netherlands back to the top five knowledge economies of the world (Verhagen 2011). And obviously, as the name of the ministry already indicates, innovation plays an important role in this.

Innovation can be defined as “the implementation of a new or significantly improved product (good or service), or process, a new marketing method, or a new organisational method in business practices, workplace organisation or external relations” (OECD and EUROSTAT 2005; in: Van Dijk et al. 2010: 5). Although this definition is very general and broad, it is clear that innovation is about improvement of the current situation by applying novel knowledge in novel ways.

Novel knowledge often results from the interaction between actors (being people or companies or even countries) that differ largely from one another and do (therefore) not often interact with one another. This is what the economic sociologist Granovetter (1973) showed in his famous article about ‘weak ties’. The interaction with people or organizations relatively different from oneself often results in new ideas and thus in innovation. This idea has been picked up in the study of innovation (for a summary see Granovetter 1983), which may have even resulted in the concept of ‘open innovation’, in which knowledge external to the firm is key to innovation (Chesbrough 2003; also: Fortuin 2007; Lichtenhaler 2011).

Open innovation takes place in a situation of having abundant knowledge around (a so-called abundant ‘knowledge landscape’), of which one only has a minor part as one’s own property. Innovation should thus make use of external knowledge – knowledge outside the company – and not limit oneself to internal knowledge. Furthermore, internal knowledge can sometimes be most valuable outside the company¹. Hence the attitude towards knowledge and innovation should change; one should become more open towards other players in the market, even competitors. Hence the term ‘open innovation’ (compared to ‘closed innovation’) (Chesbrough 2003).

The great challenge of this ‘open innovation paradigm’ is how to retain the value for one’s company. How can one make sure that knowledge (or at least: its commercially applicable outcomes related to one’s own business) remains exclusively one’s own property – and thus valuable? How do companies

¹ Different definitions of open innovation are used in literature. Chesbrough uses as a definition “a paradigm that assumes that firms can and should use external ideas as well as internal ideas, and internal and external paths to market, as the firms look to advance their technology” (2003, p. xxiv), while Lichtenhaler, in an overview he gives of open innovation literature, uses “systematically performing knowledge exploration, retention, and exploitation inside and outside an organization’s boundaries throughout the innovation process” (2011, p. 77). What these definitions have in common is that companies use both internal and external knowledge, as well as both internal and external paths to market.

protect knowledge so that they can enjoy the fruits of their own research (Fortuin and Omta 2008)? There is a continuous stress between being open to others in order to get access to new ideas and knowledge, and being close to others in order to prevent them from using one's private valuable and potentially profitable knowledge. The opener one is, the larger the amount of new knowledge that can be accessed from others, but also the larger the chance that other firms will benefit from one's private research investments. A balance thus has to be found by the companies. And in the background lies the permanent pitfall for innovation: that firms lock themselves away in their own R&D-laboratories and do not share ideas that may be valuable to others and hence the economy at large.

Formal intellectual property rights, confidentiality agreements and all other kinds of institutional arrangements to prevent knowledge being stolen by other firms may offer a solution here. But these arrangements are often expensive in terms of time, knowledge and money, which may make them especially difficult to apply for small and medium sized firms (SME's). Furthermore every specific arrangement has its specific characteristics, that make it more or less suitable for different situations (Denolf 2010). For example recipes cannot be protected by patents, but are very valuable for many producers of consumer goods in the agrifood-sector. Another example is that patents are published in an open database, and can thus reveal very important information about the directions of one's (strategic) research to competitors. Finally, these arrangements may turn out to put a lag upon innovation, as they are rigid and hence hinder creativity and flexibility, which is especially important in the case of innovation, which is per definition an uncertain process (Tepic forthcoming). Hence, institutional arrangements cannot be relied upon to relieve individual firms completely from this continuous stress between the desire and the fear to be open.

A solution to this tension may be the trust that one's partner(s) will not abuse one's vulnerability when one is open with one's information. In this way, trust may substitute for intellectual property arrangements (see for example Barney and Hansen 1994). To find out whether trust indeed may substitute for those formal arrangements, a close study of innovative alliances is needed.

However, just knowing the role of trust is not enough, and furthermore, trust is not a static concept, being either present or absent in a certain relationship. It is a dynamic concept: trust can be present in different levels, and the level of trust in a relationship may develop over time. Hence it is important to have a dynamic view on trust. Only if one knows how trust develops, or more specific: how to build trust, this knowledge can be applied in the managerial reality. And this is a very difficult question, as trust is such a fluid, intangible and fragile concept, which 'comes by foot and leaves by horse' (as a Dutch proverb says). Literature shows that trust may be influenced by the amount of interaction that takes place between actors (Becerra and Gupta 2003). Hence, not just the amount of intellectual property protection and the level of trust within the alliance are of interest, but also the amount of contact within the alliance.

Furthermore, the alliance does not stand on itself: it is an alliance between companies, and hence the companies themselves, with their characteristics, may be expected to influence the levels of trust and IP within the alliance. Hence for example the size, type and the sector in which the company is active may be of influence. But apart from the influence of the company level on trust, there is another level that may have important influence on the trust in the alliance. Companies and alliances are namely part of a

larger social environment, as Mark Granovetter showed in his description of ‘economic embeddedness’ (1985, 1992, 2005). Granovetter shows here that economic outcomes are inherently related to the broader social context in which these outcomes are achieved. He calls this the ‘embeddedness’ of the economy in the social world. And this opens our view to the influence of the larger social environment in which the innovative alliance functions.

This often is a cluster, a “geographical concentrations of interconnected companies, specialized suppliers, service providers, firms in related industries, and associated institutions (e.g. universities, standard agencies, trade associations) in a particular field that compete but also cooperate” (in: Nilsson 2008: 8; Porter 2000). The cluster may, just as the alliance itself and the companies forming the alliance, influence the level of trust, and thus a study of the cluster may deliver insights in how trust develops and may be built, to make one’s intellectual properties secure in the vulnerable situation of open innovation.

1.1 Aim and research question

This research aims to improve insight in the role trust may play within the innovative alliance with respect to the protection of intellectual property, and to gain insight in how the level of trust is influenced by communication, IP and the cluster in which the alliance functions. Hence, the main question of this research is:

“What is the role of trust within the innovative alliance, and how do communication, IP and the cluster in which the alliance operates influence the level of trust?”

This research will result in 1. a more thorough understanding of how innovation in alliances can be improved, especially by making use of trust; and 2. how the economic embeddedness of the alliance in a cluster can be used optimally to foster trust. Furthermore a number of practical recommendations will be given about how trust can be built and how clusters can foster this trust and hence innovation.

1.2 Background of the research

This research will be carried out as a minor master thesis for the Management Studies Group of the Wageningen University. However, this thesis will be written externally, at Food Valley organization in Wageningen. Food Valley (2011) is an innovation broker in the agrifood sector, predominantly active for companies located within a circle of 20 kilometers around Wageningen. At the core of the food cluster located here lays the Wageningen University and Research Centre, which is traditionally the university of agriculture in the Netherlands. But Food Valley does also represent the Dutch agrifood sector as a whole, for example in international matchmaking and international image building (see for a more thorough description Van Dijk et al. 2010).

Food Valley organization is currently involved in the NetGrow project (2011), initiated and funded by the EU as part of the 7th framework program. The goal of this project is to foster innovation in the agrifood sector – especially among SMEs – by improving the use of innovation networks. To reach this goal, first the influence of networks on innovation will be investigated in 9 different EU countries (where Food Valley carries out the research in the Netherlands). The results of this research will be used as input to develop and conduct a large scale internet survey. The results of this survey will be used to develop

evidence based management tools to make optimal use of the opportunities for innovation available in networks.

I worked on this project together with a colleague at Food Valley, Philipp Garbade, who is working on his Ph.D. research for the Management Studies Group of the Wageningen University. His main interest is the influence of intellectual property rights in innovative alliances, which he also investigated for his master thesis (Garbade 2009).

The time frame for this research is 5 months², as has been arranged with my supervisors (prof. S.W.F. Omta at the Wageningen University and dr. F. Fortuin at Food Valley) and with Food Valley organization.

1.3 Keywords

Open innovation, trust, intellectual property, innovative alliance, cluster, innovation broker, go-between, communication.

² Originally 4 months, but this period has been extended with a one month contract because the data collection took more time than initially expected.

Chapter 2

Theoretical Framework

To understand the functioning of innovative alliances and their innovative performance, it is important to understand how these alliances are embedded. Only if one has a clear picture of how the alliance is embedded in its wider (social and economic) environment, one can learn to use this embeddedness for the good of the alliance.

In this chapter the environment in which the innovative alliance functions will be discussed. This will be done using three different levels of analysis: 1. the cluster, 2. the company; and 3. the alliance itself. These levels will be introduced one by one in this chapter, and an overview will be given of the literature applicable to this level of analysis – as far as this lies within the scope of this thesis. On the level of the cluster, the theory of the ‘go between’ and the ‘innovation broker’ will be discussed and used as a theoretical perspective on the data. On the company level, our main interest lies in the role of IP, which can be divided into formal and informal IP. And on the alliance level, where the innovation in collaboration itself takes place, our ultimate focus is on the innovative performance: how does the innovative alliance perform? But of course we are mainly interested in which factors influence this performance, and how these factors can be influenced. On the alliance level we will focus predominantly on three aspects: 1. trust; 2. IP and 3. communication. These aspects can be related to the other levels of analysis: IP can mainly be related to the company level, while trust is expected to be influenced both by the cluster level and the (IP protection applied on the) company level. This altogether will result in a conceptual framework that will presented at the end of this chapter, but will also be shown here to give a graphical overview of the chapter.

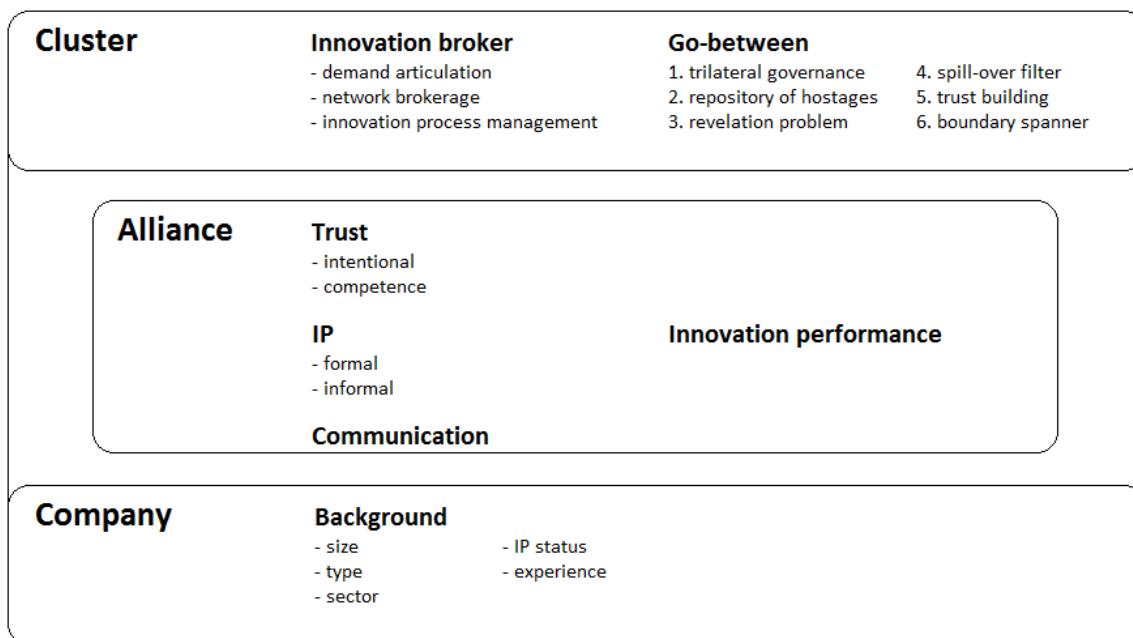


Figure 1 – Conceptual framework – Trust, IP, communication and the cluster and their relation towards innovation performance

2.1 Cluster

Clusters can be defined as “geographical concentrations of interconnected companies, specialized suppliers, service providers, firms in related industries, and associated institutions (e.g. universities, standard agencies, trade associations) in a particular field that compete but also cooperate” (in: Nilsson 2008: 8; Porter 2000). As clusters are often connected to innovation (e.g. Nilsson 2008), the creation of clusters is often part of (regional) economic policy, in order to foster innovation through both collaboration and competition. A number of these clusters can also be found in the Netherlands, for example the Food Valley cluster surrounding Wageningen and the Brainport cluster in the region around Eindhoven. Some clusters are the result of such economic policy (or at least: their growth has been stimulated by such policies), while others emerged bottom-up, based on for example local circumstances which were especially suited for certain industries or the initiative of separate firms pursuing collaboration. As clusters are often seen as boosting innovation, the cluster concept is a useful operationalization of the larger level in which innovative alliances are embedded. In this sense, the cluster can be seen as an ‘abundant knowledge landscape’, as Chesbrough (2003) describes.

What seems to make clusters especially important for innovation, is that they foster the contact among firms and related knowledge institutions (Nilsson 2008). These contacts result in knowledge sharing and may produce new, innovative ideas, which can be brought to the market to yield profits. The economic sociologist Mark Granovetter in 1973 wrote his famous article about ‘weak ties’ (Granovetter 1973), in which he argues that especially the relationships (the ties in a network) between people relatively distant and different from one another are important (here we touch upon ‘cognitive distance’, which will be discussed further in the section about the alliance). As these people are more different, they are more likely to dwell in different social groups and hence to have access to different knowledge. Hence these weak ties – and especially those that bridge otherwise separated groups – are thought to be a very valuable source of new ideas. This idea has been picked up in the study of innovation as well (for a summary see Granovetter 1983), which may have even resulted in the concept of ‘open innovation’ that has been introduced in the previous chapter.

Within a cluster often a central actor exists, that for example tries to attract new companies, represents the cluster in regional politics etcetera. This is what we will call a ‘cluster coordinator’: ‘a central actor within the cluster that does work in service of and on behalf of the companies in the cluster, which are related (formally or informally) to this central actor’. In literature, a number of different concepts can be found that are somehow related to the concept of the cluster coordinator. For example there is the description of the different functions of the ‘intermediaries in innovation’, as Howells (2006) describes. Another conceptualizations, namely the ‘innovation broker’ (Klerkx and Leeuwis 2008), builds upon these functions, and has often been related to the role of the cluster coordinator (e.g. Alfaro 2009; Bergsma 2010; Van Dijk et al. 2010). Then there is the concept of the ‘go-between’ (Nooteboom 1999), which can also be related to the concept of the cluster coordinator, as the ‘go-between’ describes a number of different roles a third party can play in the collaboration between two firms for the sake of innovation, which is what a cluster coordinator can also do, especially as the cluster coordinator plays a regional role and many collaborations take place within the cluster the cluster coordinator supports.

The concepts of the ‘innovation broker’ and the ‘go-between’ have been chosen as a theoretical perspective, as both are related to the cluster coordinator function. However, the cluster can also have an influence on innovation without the cluster coordinator playing a role (e.g. the fostering of contact between people working at different firms is not per definition caused by the cluster coordinator, also in a cluster without a coordinator this would be the case, as the firms are located relatively close to one another). Hence it is important to start with the functions the cluster performs for the (innovating) companies within the cluster, and then to compare these functions with the ‘innovation broker’ and ‘go-between’ functions, that will be introduced now.

2.1.1 The cluster coordinator as innovation broker

The innovation broker (also: ‘innovation intermediary’) is an “organization or body that acts as an agent or broker in any aspect of the innovation process between two or more parties” (Howells 2006: 720). Klerkx & Leeuwis (2009: 851) use an extended and sharpened definition “an organization acting as a member of a network of actors in an industrial sector that is focused neither on the generation nor the implementation of innovations, but on enabling organizations to innovate”.

Such an innovation broker is often attributed three different functions, as Klerkx & Leeuwis show in a review of literature about innovation brokerage (2008). The first is *demand articulation*, which is the aligning of supply and demand (also in the face of latent needs), especially focused on knowledge. This allows knowledge system institutions to serve their clients with the knowledge they need. Also part of this function is the establishment of relations between users and producers. This can be done by both formal (e.g. by evaluation frameworks) and informal methods (e.g. based on experience or tacit knowledge), and can also extend to the investigation of future developments to articulate future demands.

The second function is the *network brokerage* function (Klerkx and Leeuwis 2009 use the term ‘network formation’). This is related to the development of connections between different parties in the network. Network brokerage includes giving more insight in the supply of R&D (making the market more transparent), making new networks or relations available and (helping with) selecting potential partners (suppliers or clients as well as partners for collaboration). Also the development of a platform to meet other actors in the innovation system, including the support to find funding for potential innovation activities, are part of this function (Klerkx and Leeuwis 2008).

The third and last function is *innovation process management*. This is the active and “continuous alignment of actors in innovation networks” (Klerkx and Leeuwis 2008: 263). To this belong both the organizing and managing of the network and the maintaining of the integrity of the network. Also ‘knowledge brokerage’ (“bridging the cultural and cognitive differences between different ‘knowledge domains’” (Klerkx and Leeuwis 2008: 263)) is important. The innovation broker can do this by fostering interactions between the actors in the networks and by acting as an intermediary in case of large cultural and cognitive distances between the actors. Next to this innovation process management involves a number of functions related to the implementation, protection and commercialization of the outcomes of an innovation process. Finally the optimization of the environment in which the innovation

network operates (e.g. physical infrastructure and legislation) is part of this function (Klerkx and Leeuwis 2008).

As these functions are all quite broad and diverse, the table below will present a summary, taken from Klerkx and Leeuwis (2009: 851).

| Function | Description |
|---|---|
| 1. <i>demand articulation</i> | articulating innovation needs and corresponding demands in terms of technology, knowledge, funding and policy |
| 2. <i>network formation</i> | facilitation of linkages between relevant actors (scanning, scoping, filtering and matchmaking of possible cooperation partners) |
| 3. <i>innovation process management</i> | enhancing alignment and learning of the multi-actor network, which involves facilitating learning and cooperation in the innovation process |

Table 1 – the three different roles of the innovation broker, taken from Klerkx & Leeuwis (2009: 851). Emphasis added.

As it seems to me that, although written by the same authors, the summary in the table uses a slightly different distinction between the functions (e.g. policy is in the table part of demand articulation, while in the description above as part of innovation process management), I will take Table 1 as starting point for my analysis of this function. However a topic for further research would be to clarify these three concepts.

2.1.2 The cluster coordinator as a go-between

Nooteboom (1999) describes the role of the cluster coordinator as a ‘go-between’: a third party in the relation between two collaborating parties, which may even be competitors³. To prevent harm to one of the parties, while keeping the level of flexibility in the relation as large as possible⁴, a go-between may play an important role. A go-between may have as many as six functions, but it is also possible that a go-between only offers a few of these, while others functions are not needed in that particular situation, or are carried out by other third parties. Nooteboom describes the go-between as “a relationship counsellor for the development and maintenance of social capital [the network]; providing support in setting up, adapting and ending cooperative relations between others” (1999: 342), or in other words, “to help in the embedding of relations, in Granovetter’s (1985) sense” (342).

The *first* function is the role of ‘trilateral governance’, where the go-between acts as a trusted partner that governs the relationship between the collaborating partners and especially solves possible hold-up problems. The *second* is the role of hostage keeping. To make sure agreements by both partners are kept, it is a possibility to exchange ‘hostages’, assets that are valuable to the giver but not to the receiver (e.g. pieces of knowledge). To prevent abuse of the hostage (e.g. by selling the knowledge) a

³ It is important to note here that the ‘go-between’ concept is a more narrow concept than the innovation broker, as the go-between only functions as a third party in the relation between two (or more) collaborating parties. This means they actually function predominantly at the alliance level, and not at the cluster level. However, the cluster coordinator, which of course operates at the cluster level, can take the role of a go-between in collaborations of companies within the cluster. Furthermore the go-between also plays a role in the trust and relations with other possible partners in the cluster, which is obviously related to the cluster level.

⁴ This is especially important in innovative collaborations (Nooteboom, 1999), as the outcomes are often not completely clear in advance.

third party may act as hostage keeper. *Thirdly* there is the role of revelation. A reason for collaboration may be certain knowledge. However, the value of that knowledge can only be judged if the knowledge is investigated by the other party, and then the collaboration becomes redundant (as the knowledge is already known). A go-between may judge the information on its value, while the potential collaboration partner does not yet know the information itself. *Fourth* there is the control of spill-overs, because information should not only be judged, but also kept exclusive to the collaborating partners, and not spill-over to others. The go-between may store and assess the information until it becomes of use in the collaboration (and often then investments have been made in the relation that guard spilling-over). Also the go-between can – later in the collaboration screen – the knowledge flows and potential spill-overs. *Fifth* the building and maintaining of trust is a role of the go-between. This is relevant both at the start and in the course of the collaboration. At the start the trust of both partners in the go-between may foster their mutual trust, due to the transitivity of trust (if A trusts B and B trusts C, A and C are more inclined to trust one another). During the relationship, the go-between may control and guide the relationship and intermediate or council if necessary. The *sixth* and final potential role of the go-between is boundary spanning. This is related to the ‘paradox of embeddedness’: as the relation between partners grows, their flexibility and adaptability diminishes, while the strength and safety of the relation increases. One wants the latter, but not at the cost of the first. Here the go-between may play a role by scanning other possibilities of collaboration for the partners⁵. This is less threatening for the relationship than if its done by one (or more) of the partners within the relation, as this may be seen as a sign of distrust and a step towards opportunistic behaviour.

All these roles can be played by the go-between, as a third party in collaboration between partners. However, they require quite some skills and capabilities by the go-between (Nooteboom 1999). It needs knowledge of the technologies involved as well as of the market opportunities and the risks involved. It asks for relational skills to deal with problems and to build trust between the parties. Also a good reputation for oneself as a go-between, both in competence and fairness, is needed.

⁵ Fortuin & Omta (2008) show that even without companies being already ‘locked in’ certain collaborations, they may fail to recognize valuable partners (e.g. because of a lack of priority given to finding a partner or by looking world-wide instead of ‘around the corner’). Hence this role of the go-between may also be relevant outside the role as a third party in a collaboration, as the go-between is normally located. Hence this function may be very relevant for the cluster coördinator.

2.2 Company

On the company level, for the purposes of this thesis we will focus predominantly on the **protection of intellectual property**. Protection can be described as “the process by which entrepreneurs can retain the uniqueness and value of their technological competences” (MacEvily et al. 2004: 714), while “[i]ntellectual property, often known as IP, refers to creations of the mind: inventions (patents), literary and artistic works, symbols, names, images, designs used in commerce” (EU Copyright Office 2011). Intellectual property is important, as “[t]he owner of intellectual property can control and be rewarded for its use, and this encourages further innovation and creativity to the benefit of us all” (EU Copyright Office 2011).

One could make a distinction between formal (hard) and informal (soft) IP (Bönte and Keilbach 2005). Denolf (2010) gives the following overview of IP protection methods, divided over formal and informal methods:

| | |
|-------------------------------|---|
| informal IP protection | <ul style="list-style-type: none">- confidentiality- complexity of the product design or technology platform- quick standardization- use of passwords- non-compilation clause in contracts of employment- limitation of the internal mobility of personnel- contracts (e.g. collaboration agreements)- speed of gaining market share |
| formal IP protection | <ul style="list-style-type: none">- patents- copyrights- trademarks- design rights- trade secrets |

Table 2 – overview of different methods of IP protection (formal and informal) (taken from: Denolf 2010)

Denolf (2010), who gives an overview of literature about IP protection methods, argues that IP protection methods are often used complementary to one another. Furthermore, industries differ in which IP protection methods they apply most. Both the kind of innovation that one wants to protect (for process innovation confidentiality is most effective, while for product innovations ‘speed of gaining market share’ is most important) and what company one is (smaller companies tend more to speed, trade secrets and confidentiality) influence which methods of IP protection are preferred.

It can be expected that the IP protection status of companies is somehow of influence on the innovative performance of alliances. For example, it can be expected that a company is more inclined towards cooperation with (potential) competitors when the company is sure one’s own intellectual property is well protected. Hence in this thesis on the company level special attention will be given towards IP protection.

Furthermore, also **size** of the company can be expected to be of influence, as larger companies e.g. are generally less dependent on one particular alliance than smaller companies would be, while on the

other hand large companies have more means (in terms of employees, time and money) to elaborate on the formal (IP related) arrangements regarding an alliance. Furthermore, size also influences the IP protection methods a company tends to use, as discussed earlier.

We also saw already that the **sector** in which the company is active may be of influence on the IP methods used, for example some methods are less applicable in certain sectors. Also the **type** of company may be of influence: a company carrying out contract research will probably put more emphasis on (standardized) contracts with buyers of their research, than companies that sell products or technologies and whose core business is not so much related to paid research.

Finally, it may be expected that the **experience** a company has with previous alliances has an influence on future alliances. If one has experienced a failed alliance, one may be expected to take more efforts to prevent a new failure, e.g. by making more specific arrangements about IP, deliverables, etcetera.

To summarize: it is expected that the IP status of the company is influenced by the environment in which the company is active. Furthermore this IP status may have an influence on the innovative alliances in which the company is active. Also size, sector, type and experience of the company may have an influence on the alliance level. And this level we will turn to now.

2.3 Innovative Alliance

In the innovative alliance, the actual (open) innovation is performed. Here different companies with different expertises come together to share knowledge and experience, to make use of technologies of the other(s) and to create an innovation that would not have been feasible for them alone, or at least not at that speed, low costs and with that quality.

However, in the innovative alliance collaborating parties are vulnerable. They open themselves up to the other parties, they share their technologies, knowledge and experience, but they do not want the other parties to benefit from that outside the purposes and boundaries of the innovative alliance itself. Furthermore, one can suffer from opportunism from the side of the other party, for example if the other does leave the alliance before results are reached, or does not invest in the alliance as agreed upon in advance. Hence, it is important to make sure that one can be secure within the alliance.

In literature, different means to establish this security within a collaboration have been discussed. The concepts of control (which we will call ‘IP⁶ protection) and trust are often key in these discussions, while also communication between the partners seems to be of special importance. And not only may these factors influence each other (e.g. some argue that IP protection is a prerequisite for trust), but they also may influence the innovative performance of the alliance itself, which of course is the ultimate goal of starting any innovative alliance, while IP and trust are only means towards this goal. To describe these different concepts and how they may be expected to influence one another, first the concept of trust will be introduced. In the next section, the relation between trust and IP will be discussed, and different streams of thought found in literature will be discussed. Thirdly the role of communication in this will be discussed. Finally the three concepts will be brought together in a framework of the innovative alliance.

2.3.1 Trust

Trust can be defined as “the mutual confidence that no party to an exchange will exploit another’s vulnerabilities” (in: Barney and Hansen 1994: 176; Sabel 1993). This notion shows the vulnerability that exists within an exchange – such as an alliance in which knowledge and technology is exchanged – and that trust can bring security in such a situation.

Within the concept of trust we can distinguish between intentional and competence trust (Klein Woolthuis et al. 2005). Intentional trust is trust in the good intentions of the other partner(s), especially related to opportunism. Competence trust is trust in “the technical, cognitive, organizational and communicative competences of a partner” (814). The difference is thus between ‘willingness’ and ‘ability’ of the partner, and both may be difficult to grasp before one starts a collaboration. Hence the ‘go-between’ may play a role here, as discussed earlier.

Trust can be a source of competitive advantage (Barney and Hansen 1994), as 1. trust may substitute for costly governance costs to prevent opportunism; and 2. trust may open new options for partners in the exchange, because these options would not be economically feasible if governance costs would have to

⁶ As we have seen that IP can be both informal and formal IP, IP is a broad concept. Informal IP also includes contracts, and that is mainly what control is about. Furthermore, in many alliances also formal IP plays a role, e.g. which party gains the IP rights of a technology that has been developed together. Hence, we will here use the term ‘IP’ instead of control, which is the term most often used in literature.

be made to prevent opportunism. Furthermore one could argue that in cases of trust one can find new possibilities to cooperate, as one does not have to keep all information not relevant away from the other partner and new possibilities for synergy may be found. However, it is difficult to know if the partner is trustworthy, especially as (nearly) every company may fall prey to opportunism if the golden opportunity comes by, or if a bankruptcy is close (Nooteboom 2006).

2.3.2 Trust and IP

However, the definition of trust presented in the previous section has turned out to be problematic. Can one talk of trust if the other party is forced by e.g. a contract not to exploit the other's vulnerabilities? This causes Nooteboom (2006) to make a distinction between 'trust' and 'reliance'. Trust goes, according to him, beyond control: "trust is defined as the expectation that things 'will go well' even if the partner has both the opportunity and the incentive to cheat or to be sloppy" (2). Reliance includes control, and thus is a broader term than trust (in this narrow sense). Control is, however, never perfect, especially in innovation (Nooteboom 2006), where uncertainty is intrinsic to the projects one works at and creativity and flexibility are requirements to come to an innovation (Tepic forthcoming). Hence trust is needed.

Related to the distinction made between intentional and competence trust, one can also distinguish between two different ways of control: 'opportunity control' and 'incentive control' (Klein Woolthuis et al. 2005), where opportunity control restricts the possibilities a partner has for opportunism (e.g. by contract), while incentive control influences the preferences of the partner (e.g. having the reputation to be a good collaboration partner can be of great value to a company, hence the incentive to behave opportunistically becomes lower).

There is a big debate in literature what the relation between trust and IP protection (or in literature terms: control) is. Three different relations have been proposed (Klein Woolthuis et al. 2005 offer an overview). The first stream, ranging from transaction cost economics, see IP as a basis for trust, as IP arrangements makes opportunistic behaviour impossible. The second view conceptualizes IP in conflict with trust, as the setting up of IP arrangements may be seen as a sign of distrust. Furthermore, IP arrangements may evoke conflict. Hence it is argued that IP negatively influences the level of trust. And thirdly, there is the notion that trust precedes IP arrangements and thus decreases the need for formal arrangements; the relation is 'embedded in trust'.

Empirical evidence has shown that trust and IP can be both substitutes and complementary to one another (Klein Woolthuis et al. 2005). Trust can substitute for IP as a high level of trust has been found to reduce the need for contracts and monitoring (Das and Teng 1998). On the other hand, trust and IP can be complements, as they are found hand in hand (e.g. Luo 2002) or precede contracts (Larson 1992). Fortuin & Ompta (2008) found, in their study of twelve failed alliances, that distrust (and related: fear) were important in seven of these alliances. They even report that (in two cases) the IP negotiations between (specifically: European and American) partners were made much longer and more difficult because the American partners started the negotiations with "corporate lawyers and fist-sized contracts" (6).

However, the question remains how and why IP and trust sometimes complement one another and other times substitute for one another. This has been investigated by Klein Woolthuis, Hillebrand & Nooteboom (2005). Their findings can be summarized in three points. 1. Trust generally precedes IP (in their research: ‘contract’), while IP has never been found to offer a basis for trust. 2. Trust and IP may be substitutes as well as complements, depending on: a. whether IP arrangements are seen as strict legal safeguards or as guidelines for the collaboration (in case it is seen as a guideline trust and IP may be complements); b. when parties trust each other IP arrangements may be less complete (trust substitutes for IP); and c. in situations of high distrust contracts are heavily emphasized and substitute for trust. 3. Relationship success is more heavily influenced by the amount of trust than the amount of IP in the collaboration.

Furthermore, there are situations where IP is simply not available legally, or not applicable due to insufficient information and knowledge (Nooteboom 2006), in these instances trust may play a more important role.

To summarize: trust and IP (or: control/contract) are both important in collaborations, especially if the goal of the collaboration is innovation. However, while IP can at least partly be substituted by trust, the other way around this is more difficult, especially in cases where trust is completely absent. Furthermore, the performance of the innovative alliance seems to be more influenced by the amount of trust between the partners, than the amount of IP. Hence in the analysis of the alliance data, this relation will be tested.

2.3.3 Communication

Communication is also expected to play a role in the alliance, both in its performance as in the development of trust. This could be thought of as an intermediary role: it is not the communication itself that increases performance or trust, but it is the means through which novel knowledge travels or a trustworthy impression may develop.

Communication may build **trust**, at least if the other party is indeed worthy of the trust (Becerra and Gupta 2003). Trust starts off with the general propensity to trust of the trusting party (the trustor) and the impression the trustor has about the party to be trusted (the trustee). More communication gives the trustor more information about the trustee and whether or not the trustee can be trusted. And indeed, Becerra and Gupta (2003) find a positive relation between the amount of communication and the evaluation of trustworthiness. Hence we expect to find that communication builds trust within the alliance.

A different reason to assume a positive relation between communication and trust, is that communication offers a means for monitoring the arrangements made, or that one is less inclined to ‘betray’ a person with whom one has a personal relationship (which is built by relatively frequent contact) (Nilsson 2008).

However, the positive correlation expected between communication and trust could also be the result of a causal relationship where trust builds communication: the higher the trust in a partner, the more communication there will be with that partner, for example because one is more secure that what one says is safe with that partner. However, this relationship will not be investigated, as trust is the main

interest in this thesis. But it is important to realize that a certain level of trust between the partners may be needed before communication can build trust. This could be an interesting topic for further research. Furthermore, communication seems to be related to *IP*. This is because the establishment of IP arrangements within an alliance does not come from nothing. Klein Woolthuis et al. (2005) find that IP arrangements (or in their research: contracts) have three additional functions (next to the contract as a legal safeguarding instrument): 1. coordination of the (activities within the) relationship; 2. safeguard for contingencies (what happens if e.g. one partner faces a hostile take-over); and 3. sign of commitment. The sign of commitment function means that the establishment of IP arrangements is an investment in the relationship with the other partner(s). It takes time, money and knowledge to set up such arrangements, and next to the commitment this shows this is a period of close contact and getting to know one another. Hence in such a way IP may be related to communication. However, as this takes place before the alliance itself sets off, this is not the primary interest of this thesis and will thus not be actively investigated. But the issue will be touched upon again, as this seems to be an important way to build trust in relationships, which is of influence for even the innovation performance, as we have seen earlier.

Finally, communication is related to the *innovative performance* itself. Here it is again usefull to turn to Mark Granovetter (1973, 1983) as a starting point. He shows, in his theory of 'the strength of weak ties', how communication is important in the spread of ideas. Novel information, which much more often leads to innovation than familiar ideas do, ranges most often from social groups relatively distant from oneself (as otherwise: the information would be familiar already). Hence, especially the relationships (the ties in a network) between people relatively distant and different from one another are important. As these people are more different, they are more likely to dwell in different social groups and hence to have access to different knowledge. Thus, these weak ties are thought to be a very valuable source of new ideas and thus of innovation.

This idea of 'novel information' brings with it the notion of cognitive distance: the difference in knowledge and (cultural, scientific, etc.) background between partners. The smaller this distance is, the easier communication and understanding is, and the more partners are inclined to trust one another (Nooteboom et al. 2005). However, a smaller distance also results in fewer new ideas. This brings Nooteboom et al. (2005) to the notion of 'optimal cognitive distance', which lies on the top of the inverse U shaped relation between cognitive distance and innovative performance, which has been found empirically. Furthermore, the cognitive distance and mutual understanding can be increased by communication, as Nilsson (2008) states: "[r]epeated and frequent face-to-face interaction – dropping by to shoot-the-breeze, bumping into each other etc. – is instrumental for achieving, not only the trust needed to share knowledge and other resources, but also for building in-depth understanding of each other's businesses, markets, and behavio[u]r" (273).

Furthermore, the amount of communication – even within a company – is important for innovation performance: more communication delivers more innovation. As Carmona-Lavado et al. state: "most innovation studies underscore that person-to-person communication is a critical variable for innovation" (2010: 683), which is confirmed by the findings of Nilsson (2008). Furthermore, the research upon

'dyadic ties' and their creative performance shows a positive relation between the amount of communication within a dyadic tie and their (innovative) performance (Fliaster and Schloderer 2010). Hence, it is expected that the amount of communication within the innovative alliance (in which it is assumed that the partners are already relatively distant in their knowledge and expertise) leads both to higher levels of trust and higher levels of innovation performance⁷.

⁷ However, it is important to realize that the positive relation between communication and performance is not an eternal one. If people do nothing but communicating with one another, the amount and quality of work performed is likely to decrease substantially. Hence, an optimum in this (inverse U-shaped) relation between (amount and quality of) communication and innovative performance may be expected (as also the research of Fortuin (2007) shows). But as communication is often not productive in itself, and the goal of companies and alliances is to produce new products or new ideas, it can be expected that this maximum is not yet reached – as productive activities can be expected to be preferred over 'non-productive' activities as communication – and that more communication may lead to a higher performance for small increases compared to the initial level of communication (although Fortuin (2007) found evidence that there may exist cases where the level of communication is too high).

2.4 Conclusion and framework

In the innovation alliance, trust, IP and (as a more intermediary factor) communication play important roles. It is expected that communication builds trust and leads to higher innovative performance. Also trust is expected to be positively related to innovative performance. Finally, the relation between IP and trust is difficult to establish, and thus will be investigated both ways. Furthermore, the qualitative data will be of major importance here, as the difference between trust and IP being complementary or substitutive to one another is very difficult to measure numerically.

This all results in the following conceptual framework (Figure 2). Both the cluster level and the company level influence the innovative alliance, as the ‘playing field’ in which the alliance is embedded. From the cluster level, especially the roles of the cluster coordinator as ‘innovation broker’ and ‘go-between’ are expected to be of influence on the alliance. From the company level, the main influence is expected to come from the companies’ IP status, as well as size, type, sector and experience. Within the alliance trust, IP and communication are expected to play important roles. Trust is expected to be positively related to innovation performance, as is communication. Communication is expected to increase trust, and the relation between trust and IP can be both positive and negative, and should probably be analyzed qualitatively to why in certain instances the relation is positive, while in other instances it is negative.

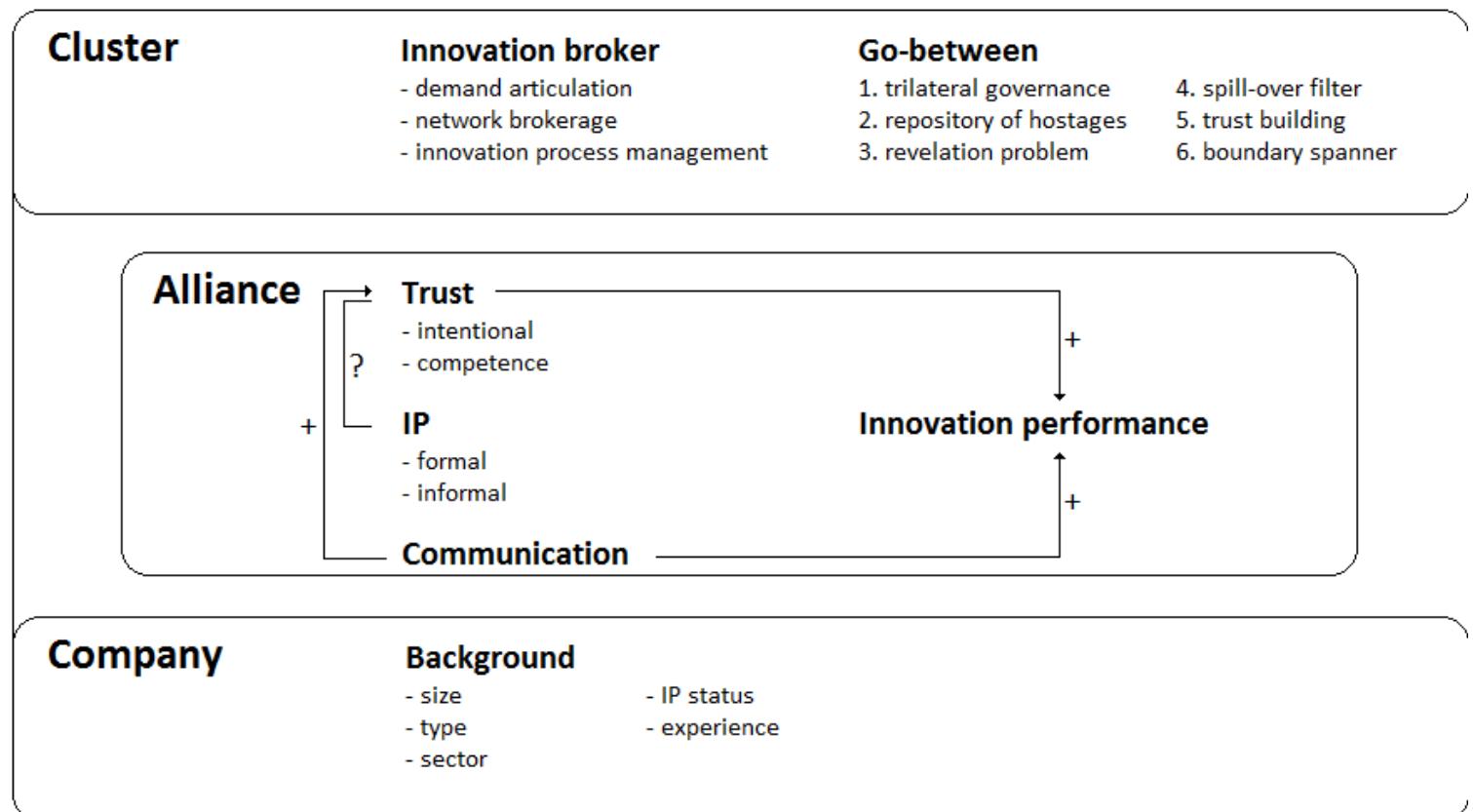


Figure 2 – Conceptual framework – Trust, IP, communication and the cluster and their relation towards innovation performance

Chapter 3

Research methods

In this chapter the research methods used for this research will be presented. This will be done in two sections: 1. a section presenting the methodology used in the collection of the data; and 2. a section about the analysis of the data.

3.1 Data collection

The data collection for this thesis aimed to get insights in the social context of innovative alliances, especially in the role trust, IP and communication play. In this section first the choice of the research method used will be introduced. Then the core concepts of this research will be operationalized. After this the construction of the questionnaire used will be discussed and the selection of the sample used for this research will be presented, and finally the data collection process will be briefly discussed and its limitations will be described.

3.1.1 Research method

The present study consists of a case study of three different clusters, as will be explained in Section 3.1.3 Sample selection. As this research is exploratory, it is important to investigate alliances in detail to find all the factors that may be of influence for their (innovative) outcome. Case studies are very well suited for this, especially as the goal of this research is to “cover both a particular phenomenon and the context within which the phenomenon is occurring either because (a) the context is hypothesized to contain important exploratory information about the phenomenon or (b) the boundaries between phenomenon and context are not clearly evident [italics in original]” (Yin, 1993, in: De Vaus 2001: 235), in which case, according to Yin, a case study is very useful.

The cases studied in this research will be investigated using a mixed methodology, meaning that both qualitative and quantitative data will be used. While the qualitative data gives a fine grained picture of the phenomena playing a role and the context in which they are active, the quantitative data offer a way to 1. triangulate the data (does the story the respondent tell correspond with the quantitative data found); 2. compare the data over different cases; 3. quantify the phenomena the qualitative data imply; and 4. test the model presented in the previous chapter. In this way the qualitative data offer the ideas for the quantitative model and allow us to interpret and explain the outcomes of the model, while the quantitative data allow us to compare the findings over different cases and to test the model. In this way a higher internal and external validity will be achieved. For validity also the operationalization of the concepts is very important, as well as the sample selection. Hence we will turn to these issues now.

3.1.2 Operationalization and questionnaire construction

The quantitative and qualitative data used in this research which will predominantly be gathered in semi-structured interviews. To make the interviews as consistent as possible, a detailed interview guide has been developed including e.g. prompts (see Appendix I-IV), as well as a research protocol.

The open ended questions in the interview guides were mainly taken from the interview guide provided by NetGrow. These were translated to Dutch, adapted to the Dutch situation and to the companies of interest as much as possible, and extended with some open ended questions about for example trust. The closed questions were for a part developed out of existing questionnaires, developed by Tepic (forthcoming), Garbade (2009), Fortuin (2007) and Sánchez Gerritsen (2011). Furthermore some questions from the yearly ‘effectmeting’ (effect measurement tool) of Food Valley Organization (Van Klink et al. 2010) have been used. Finally some of the open ended questions provided by NetGrow have been ‘translated’ into closed questions to allow for better comparison and to shorten the interview guide.

The whole interview guide has been discussed extensively with an expert in the field and tested in a pilot interview. Furthermore it has been adapted during the data collection process, as it was found that the questionnaire was 1. too long to complete; and 2. too detailed for some of the respondents. This has finally resulted in a questionnaire that focused on the story told by the respondent, and hence on the alliance and its social context, while some key closed questions were retained⁸.

As the quantitative operationalization of the key concepts (as presented in Chapter 2) in this research is key to understand the data and results later on, here the questions measuring trust, IP, communication and innovative performance will be presented.

Trust is a difficult concept, as we have seen in the previous chapter. One can use a broad overall definition, where trust is the confidence that one will not be harmed when one is in a vulnerable position, or the more narrow definition where it is added that the others have the opportunities and the incentive to do so. In the remainder of this thesis, we will use the broad definition, as given by Barney & Hansen (1994: 176). This has been chosen because 1. it is difficult to address whether a partner would have had both opportunity and incentive to use one’s vulnerabilities (as the narrow definition proposes), especially if also the long term consequences (e.g. on reputation) should be taken into account; and 2. there was no time available in the interviews to collect such detailed data for every alliance.

This choice also has an influence on the expected relation between trust and IP. As trust is defined in the broad way in this thesis (and thus includes the confidence given by IP arrangements), it is expected that IP will lead to more trust. The idea that trust and IP may be substitutes mainly stems from the idea that setting up IP arrangements is a sign of distrust in the other partner(s) – distrust in the narrow sense of the word. But as trust includes the security given by IP in this thesis, in the cases they are substitutes, one would expect that both effects cancel each other out, and thus that no relation will be found. However, as the cases where both are complementary will yield a positive relation, and both cases can be expected to be found. In total, this results in a positive relation to be expected, where IP (the more narrow concepts) causes trust (the broader concept). Furthermore, one can expect that IP and trust function more as substitutes at the conception of a collaboration, when security still has to be built, then if the collaboration is established.

⁸ This process also led, for the company interviews, to the A4 of closed questions on the alliance level, as also presented in Appendix III.

Following the choice for the broad definition of trust, it (on the alliance level) will be measured using four 7 point Likert scale questions (ranging from 1. completely disagree to 7. completely agree), namely:

- This partner always does what he promises.
- We would be willing to do extra investments in this alliance, if this might be needed.
- In this alliance opportunism appears/appeared to be a problem.
- In a new project I certainly want to cooperate with this partner again.

IP will be measured on two levels: 1. the company level; and 2. the alliance level. On the company level, a list of IP protection mechanisms (both formal as informal) is presented, and the respondent is asked to indicate the importance of each mechanism for the company, all on 7 point Likert scales. On the alliance level, three questions have been asked, namely:

- At the conception of this cooperation arrangements have been made about:
 1. property rights of outputs and/or results; and
 2. confidentiality agreements.
- In this alliance patent and technology mapping⁹ is used.

Communication has been measured by asking the respondent how often there is contact between employees of their company and employees of any of the partners in the alliance, divided over three types of media: face-to-face, telephone and e-mail. Skype, video-conferencing and social media have been asked in the early phase of the data collection, but seemed to be relatively unimportant and have thus been discarded due to time constraints. The contact has been measured on a 7 point Likert scale, ranging from 1. more than once a week to 7. less than yearly.

The final concept to operationalize here is **innovation performance**. This has been measured using two Likert scaled questions:

- By this alliance products have been developed that were new to the company.
- By this alliance new production processes have been developed that are new to our company, or these have been greatly improved.

3.1.3 Sample selection

For the selection of the respondents, snowball sampling (Kumar 2011) has been used. First the coordinator of the cluster has been asked to contribute to our research, and via this coordinator other respondents have been contacted.

The cluster organizations have been selected on the basis of 1. their relation with Food Valley, as this would greatly improve our chances to get access to the respondent; and 2. their experience with collaboration and IP. This experience has been evaluated on the basis of the knowledge and experience of Food Valley with the cluster and the publicly available information about the cluster. It was aimed to get a sample that had low internal variation within the clusters and relatively much variation among the

⁹ Which is in the questionnaire explained with: "technology mapping is a process in which all patents or technologies that might possibly be applied in a product are charted. This gives an overview of the ingredients (patents) and to what extent the company or the alliance holds these. As technology mapping gives an overview of the technologies held by the different partners in the alliance, this is expected to be closely linked to the level of IP protection in the alliance."

clusters, to be able to compare the cases and to increase our understanding of and advertency to the factors playing a role in innovative alliances, and hence to increase internal validity and theoretical generalizability (De Vaus 2001).

Within the clusters we aimed for firms that are active in innovative collaborations, familiar with and active in the field of IP and relatively active within the cluster. Hence we asked the cluster coordinator if she¹⁰ knew companies fitting these requirements, and, if possible, she would be willing to contact them for us. We found this to be a very helpful way to gain access to respondents, as the coordinator often had a good and established relation with these companies and they were thus more willing to participate in our research. We have tried to interview both small (SME) and large firms, to get a broad picture, but to limit ourselves to companies active in the same sector (to keep internal variation as low as possible). We aimed for interviewing the CEO of the R&D manager of every company, or if available the alliance manager.

Per cluster we aimed at doing 10 interviews. This was mainly because these were the requirements for NetGrow, and it was impossible to do more interviews per cluster within the timeframe they had set for us. However, we found that we already had quite a complete view of the cluster and the companies within the cluster within these 10 interviews, so with using the rule of saturation (De Vaus 2001) we would have chosen not many more interviews.

Furthermore NetGrow required us to conduct not only company interviews, but also an interview with a research institute, a cluster coordinator and a public body. It turned out that the research institutes functioned as companies, with the only difference that their main product was a service (research) instead of a (tangible) product. This also held for companies: some companies were research companies. Hence the research institutes and companies were classified using two classes: 1. productive companies and 2. research institutions and contract research companies (summarized as 'research organizations'). Of the non-business interviews the coordinator interview offered a nice background of the cluster and hence the social context, as well as the possibility to reach companies. The public body interview was found to be least useful, but nonetheless some interesting insights were found in these interviews.

3.1.4 Data collection process

The data collection started with contacting the respondents, and sending them the interview guide in advance, so that they could prepare the interview if they wanted to. The interviews were thoroughly prepared, by reading information from the website of the organization, reading annual reports and by looking up public data, e.g. in the patent database. These data were used 1. to show our interest in the interview to the respondent; 2. to use the time available for the interview as efficient as possible; and 3. to be able to triangulate the findings in the interview.

The interviews themselves took 1 to 1,5 hours, and were, in the cases where this was allowed, recorded. Anonymization of the data was discussed with the respondents and it has been promised that the information that would be made public out of the interviews would not allow for the information being

¹⁰ Or of course: 'he'.

traced back to neither the respondent nor her company. Detailed transcripts of these interviews were made, also using the records, and sent to the respondent to be controlled. With the remarks we received back the final version of the transcript was made. The quantitative data have been entered in SPSS, of which of course also a detailed codebook has been developed.

3.1.5 Discussion and limitations

It is important to note and understand the influence of the limited time available for the data collection phase, both the time available per interview and the time available for the collection as a whole. To start with the latter, it would be preferred to interview more companies, and more respondents per company, to get a better overview of the reliability of the findings. Especially in large companies no single respondent will have detailed knowledge about all aspects of the cluster, IP and innovation alliances.

With respect to the interviews, due to the limited time for the interview and the large amount of data that needed to be gathered (i.e. for NetGrow, for the PhD research of Philipp Garbade and this thesis), there was no possibility to go into great detail into for example the different aspects of trust, as have been discussed briefly earlier in this thesis. Hence a broad concept like trust has not been split into the many different aspects that can be found in the literature, which may harm the quality of the results. Hence in the discussion of the results these will be related to the findings in the literature, to reduce the influence of this constraint as much as possible. Furthermore, further research in which the broad concept of trust can be broken down into reliance and trustworthiness is recommended, as this may give further insights in where IP and communication play a role, and whether these differ between these different aspects of the broad conceptualization of trust.

3.2 Data analysis

When the data have been gathered, they of course have to be analyzed in such a way that they become useful to answer the research question. As two types of data have been gathered – quantitative and qualitative – two types of data analysis will be described in this section.

3.2.1 Quantitative analysis

The quantitative data gathered are all 7 point Likert scaled data, except for the few general data about the company (e.g. turnover, employees, number of patents). As it turned out that the data are 1. relatively low in number (for the exact numbers see the next chapter); and. 2. far from normally distributed, non-parametric methods of analysis have been used.

First the data have been investigated on their general characteristics, using ‘explore’ and ‘descriptive statistics’ in SPSS. Then in correlation tables (using Kendall’s tau-b for parametric data) the possible relations between the different variables have been investigated. This resulted in a number of interesting threads to follow about the relation between trust, IP and communication. These have been investigated in more detail using Smart PLS (Ringle et al. 2005), a software package developed by the University of Hamburg that allows modelling structural equation models in a graphical interface.

Structural equation models with latent variables are suited well “to test the dependence relationships among constructs that are not directly observable” (Lattin et al. 2003: 353), as is the case with constructs like trust. The program Smart PLS is especially suited to deal with non-parametric data and low numbers of cases (Garbade 2009), as is the case in this research.

3.2.2 Qualitative analysis using PLS

As described earlier: the relation between the quantitative and qualitative data is, in relation to the data analysis, twofold. The first is that the relations expected from the interviews (qualitative) will guide the searching for relations in the quantitative analysis. And the second is the other way around: relations found in the quantitative analysis only have value if they can somehow be explained by the qualitative data gathered.

Hence the qualitative data are an invaluable part of the data gathered. To make the analysis of these data transparent and hence more reliable (Diefenbach 2009), this section will try to show how the qualitative data have been dealt with and have been used to come up with conclusions.

First the summaries of the (cluster coordinator¹¹) interviews have been coded (Silverman 2006), using constructs that showed to be important and relatively generally present in the interviews. Then their incidence has been counted, and in the results section this also will be reported (in ‘code count’ tables). It has been chosen not to use coding and interrater agreement (Silverman 2006), as the time for the data analysis was limited, and furthermore the interviews were guided to touch upon especially these themes, so from reading the question the answer can be labelled with a theme relatively easily.

Secondly the deviant cases (cases which did not fit the general impression the data gave) have been investigated in greater detail, to find out whether the results found are wrong or otherwise why these do not apply to these deviant cases (Silverman 2006). In the results chapter these cases will briefly be discussed.

Thirdly the results found using the qualitative data have been compared with the quantitative data as well as possible, to find out whether different data yield the same results. Also the other way around the quantitative data can be ‘tested’ using the qualitative data, by investigating whether the qualitative data can offer a story that backs up the quantitative findings. In the chapter presenting the results it will be tried to always present both quantitative and qualitative data.

3.2.3 Discussion and limitations

That the use of qualitative data would be worse, less valid and reliable than the use of quantitative data is – I would say – a myth. Both types of data may be either valuable or useless (Diefenbach 2009), depending on how they are gathered and used in the analysis. It is most important to understand the limitations of the data one has, and to prevent making more out of the data than they have to offer. If one does so, and is transparent about how one does this, I would argue both types of data are not only

¹¹ Due to time constraints the other interview summaries have not been coded (although some specific codes have (top down) been sought in the summaries and their incidence will be reported). However, as the main focus on the company and alliance level of investigation was on the quantitative data, which have been backed up by qualitative evidence from the interviews, it is expected that this lack of coding does not severely harm the quality of the results.

equivalent in their usefulness, but only – at least in most cases – really valuable if they complement one another.

Hence it is important to understand the limitations of the data, both their quantity and their quality, and to be real in the expectations of what can be taken out of the data: the results can never be more than the data used for the analysis, although of course they can (and should) have implications far beyond these data.

The quantitative data are of major concern here, as these are not only quite limited in number, but also far from normally distributed. Hence the choice about which cases to include and which not becomes of major influence in what results are found. Hence the ineligible cases (that are left out of the analysis) – as stated earlier – will be described in the results chapter, and this choice will be defended. Furthermore in the conclusions drawn from the data one should be cautious about the limitations of the data, as will be mentioned when these results are presented.

The qualitative data offer a different kind of challenge, as it is easy to only use (or even: find) the data that fit one's expectations or one's story. Hence a number of precautionary measures have been taken. The first is that qualitative (just as well as quantitative) research should always be guided by theory, as, in the words of Pasteur, “[w]here observation is concerned chance only favours the [theoretically] prepared mind” (Pasteur, in De Vaus 2001: 244). Secondly the results have been discussed with my fellow researcher, who has a different background and hence may draw different conclusions. As such I hope the bias towards what is expected to be found and the bias caused by the scope of my view limited by my background will be eliminated as much as possible. Thirdly the data analysis will be made as transparent as possible, for example by showing the number of times a certain theme has been mentioned. Fourthly, the use of two types of data is expected to enhance the quality of the results. And finally, the real proof of results of research is always the proof of replication (De Vaus 2001) and falsification (Silverman 2006), and for this purpose some recommendations for further research will be presented.

All of this taken together shows that, within the obvious limitations discussed here, the research can be expected to yield valid and reliable results.

Chapter 4

Description of the data

In this chapter the data found using the data collection methods presented in the previous chapter will be described. This will be done by splitting the presentation in three parts, the three different levels of analysis used in this research. We will start by introducing the clusters investigated. Then we will go into the companies interviewed, for all the three clusters together. And finally the data gathered at the alliance level – the third and most important level of analysis – will be presented. In this chapter some remarks will be made about the limitations the data offer for the analyses that could be done, and thus for the results, which will be presented in the next chapter.

4.1 The clusters

In this section the three clusters will be presented. This will be done in an anonymized way, to prevent that the results of this study can somehow be linked to real persons or companies. Hence also the names that will be given to the clusters or cluster coordinators are not their real names. It may be that this description leaves some questions of high relevance unanswered to keep the respondents anonymous, but I will try to be as informative as possible.

4.1.1 The green biotech cluster – Green Biotech Valley

Green Biotech Valley is a cluster of companies active in the green biotech sector. Also some companies that are closely related to these companies, e.g. in testing products or manufacturing machinery, are member of the cluster. The companies member to Green Biotech Valley are also geographically clustered: all companies are located within a circle of 20 kilometers, which is the case for decades already.

Central to Green Biotech Valley is a cluster organization, Green Biotech Valley Organization (fictive name), which has been founded by some key players in the green biotech in this area. Their goal with the establishment of this organization was their need for more highly educated employees. Hence the organization, as well as the individual member companies, has close contacts with some important educational organizations. Also, and related to the need for employees, the image of the sector is important for the companies.

Green Biotech Valley Organization is governed by the CEOs of the member companies, and funded predominantly (around 80%) by these member companies. This makes this cluster the highest in the percentage of private contributions of the total turnover.

4.1.2 The agrifood cluster – Agrifood Valley

Agrifood Valley focuses on companies in the agrifood sector. This is taken quite broad: from e.g. crop protection at the start of the chain to the production of consumer products at the end of the food chain. The companies are mainly located within a circle of 100 kilometers, while a large part of these lies relatively close to the core of this circle.

This cluster has developed mainly over the last two decades, and is still attracting new companies. This is also one of the goals of the cluster organization active in and for this cluster: Agrifood Valley Organization (again a fictive name). Their mission is to “increase the innovation power of food companies by making use of the existing knowledge as good as possible”, especially at the core of this cluster, but also for the Dutch agrifood sector as a whole. Hence they try to help companies to innovate and to attract new companies to the cluster by strengthening the image of the cluster, also internationally. The cluster organization has been founded by a research institution and the government in this region, with the goal to make better use of the knowledge in this region.

Agrifood Valley Organization is governed by CEOs of the member companies, as well as some public officials. Also the basic funding is partly private (around 20%) and partly public (the other 80%). Agrifood Valley Organization is also involved in a number of projects, and in this project funding this division is different.

4.1.3 The hightech cluster – Hightech Valley

Hightech Valley is a cluster of high-tech companies, with a number of multinational companies and a technical university at its core. The companies in the cluster are all high-tech companies, but this high technology is applied in all kinds of products, machinery as well as consumer products. Also a large number of suppliers is involved in the cluster. The R&D spendings in this region are large, both private as public.

As the companies are all spending huge amount of money on R&D and active in different fields within the high-tech market, there is a huge potential for collaboration. This is also what happens a lot, both in (precompetitive) research as in setting up a research agenda for the main players in the cluster as a whole. These agendas offer the individual companies an idea of which developments may be promising and where, in the medium-term future, new markets will evolve which may be interesting for them as a company, and for the whole cluster as a whole.

A number of different organizations (named High-tech Valley Organization I, II and III in this thesis) are active in this cluster and active in increasing the innovation and collaboration of the firms in the cluster. Most of these are largely paid by public money. Some of these are governed by predominantly the CEOs of the member companies, others are governed by both public officials and companies.

4.2 The companies

The companies (including the research institutes) interviewed do differ considerably from one another, not only in size or sector, but also in spending on innovation and importance of IP. But before we will address these specific aspects in more detail, we will first give an overview of the number of companies interviewed.

As the data collection for the whole research has, at the moment of writing, not yet been finished completely, not all data can be used for this thesis. In the table below (Table 3) the numbers of interviews conducted per cluster are shown.

| | Green Biotech Valley | | | Agrifood Valley | | | High-tech Valley | | | Total (effective) | | |
|--------------------------|----------------------|----------|-----------|-----------------|----------|----------|------------------|-----------------|----------|-------------------|-----------|-----------|
| | Quan. | Qual. | All. | Quan. | Qual. | All. | Quan. | Qual. | All. | Quan. | Qual. | All. |
| Cluster coordinator* | 1 | 1 | - | 1 | 1 | - | 2 | 3 ¹² | - | 0 | 4 | - |
| Public body* | 1 | 1 | - | 0 | 1 | - | 0 | 0 ¹² | - | 0 | 3 | - |
| Business | | | | | | | | | | | | |
| - Research organizations | 2 | 2 | 7 | 2 | 2 | 9 | 1 | 1 | 3 | 5 | 5 | 19 |
| - Productive companies | 5 | 5 | 8 | 0 | 0 | 0 | 2* | 2 | 6 | 5 | 7 | 14 |
| Total (effective) | 6 | 9 | 15 | 2 | 4 | 9 | 0 | 6 | 9 | 10 | 19 | 33 |

Table 3 – number of quantitative (quan.), qualitative (qual.) and alliance (all.) data of the different clusters and types of interviews (excluding ineligible cases). Numbers or categories marked with an asterix (*) indicate that these data are – at the moment of writing – not available in SPSS and thus not available for quantitative analysis. The total (effective) data (given in the darker gray shaded cells) include only the data available for analysis.

As can be seen, the amount of data from the Green Biotech Valley is the largest, as this was the first cluster researched. The effectively usable data are 10 quantitative cases (5 research organizations and 5 productive companies, which will be taken together from now on as the research institutes function as companies), 19 qualitative cases and 33 alliances. More about the alliances will be told in Section 4.3.

Two cases have been marked as ineligible, as one was active in the feed sector, which is much less R&D and IP intensive, and the other was mainly active in non-western markets in which IP is not laid down in law, or at least not enforceable. Hence these data (2 quantitative, 2 qualitative and 3 alliances) have been excluded from the quantitative analyses. However, the qualitative data will be used in a number of boxes, as they give interesting input for comparison.

4.2.1 Size

The two most insightful measures we have about the size of the companies are the turnover in 2010 and the number of employees (also in 2010). The descriptive of these numbers can be found in Table 4.

| | N | Minimum | Maximum | Mean | St. Deviation |
|----------------------------------|--------|---------|---------|-------|---------------|
| Turnover (2010) (million euro) | 7 (3) | 5,0 | 150,0 | 52,5 | 56,9 |
| Number of employees (2010) (FTE) | 10 (0) | 20,0 | 1200,0 | 357,3 | 463,6 |

Table 4 – Size of the companies in terms of turnover and FTEs (number of missing values in brackets)

It turns out that the number of companies is fairly low. This is because, at the moment of writing, only of 10 of the company interviews the data were available. As the number of cases is so low, the values on the variables have not been categorized into the different clusters.

Turnover ranges from 5 to 150 million, where 5 of the 7 lie in the range between 0 and 50 million. As one can see, the N for turnover is a bit lower than for number of employees, which has to do with the

¹² The public body interview in High-tech Valley was with an organization that can also be seen as a cluster coordinator, but was – compared with the other two – more policy and government oriented. Hence this interview has been chosen to represent the public body, but for the analysis it will be regarded as a cluster coordinator.

sensitivity of the subject. Also one extra case has been made missing here, as the turnover was given for the worldwide turnover, whereas the number of employees was given for the Netherlands only. The number of employees ranges from 20 to 1200 FTEs, where 7 out of 10 are below 500 employees.

4.2.2 Sector

Nine of the 10 companies of which the data can be used are member of or related to the green biotech cluster. The only one not related to this sector is a high-tech research institute in High-tech Valley. Within these 9 companies related to the green biotech cluster, 1 is not directly involved in green biotech but a supplier to these firms.

4.2.3 Innovation intensity

Innovation intensity can be presented in a number of different ways. It has been chosen to present innovation intensity as the number of FTEs in R&D divided by the total number of FTEs. As the research organizations are predominantly working in R&D, while productive companies also have employees working in the production of the goods, these have been separated in this analysis. As can be seen in Table 5, the innovation intensity is (as expected) larger among the research companies. Striking is that the highest innovation intensity at the production companies is close to the lowest of the research companies. This shows that the green biotech sector (to which this company belongs) is very R&D intensive.

| | N | Minimum | Maximum | Mean | St. Deviation |
|---|----------|----------------|----------------|-------------|----------------------|
| <i>Research organizations</i> ¹³ | 4 (1) | 54,0 | 95,0 | 83,5 | 19,9 |
| <i>Productive companies</i> | 5 (0) | 10,0 | 47,0 | 25,2 | 16,9 |

Table 5 – Innovation intensity (FTE in innovation as a percentage of total FTE) for research and production companies. (number of missing values in brackets)

In Section 5.2, where the results on the company level will be presented, the data about the IP protection methods applied by the companies will be introduced.

4.3 The alliances

As shown in Table 3, data have been gathered about 33 innovative alliances. 15 of these alliances belonged to companies in Green Biotech Valley, while from Agrifood Valley and High-tech Valley both data about 9 alliances have been collected. To give some more insights in the type and background of these alliances, some frequency tables will be presented (and briefly discussed).

First the alliances can be categorized by the sector in which they (or rather: the companies to which they belong) are active (see Table 6). It turns out that most alliances are related to the green biotech sector,

¹³ One research company is missing, as the respondent we interviewed did not have knowledge about the number of employees. This was the high-tech research organization.

while 9 are related to the high-tech sector¹⁴. Although some of the alliances belong to companies in Agrifood Valley, these also are related to the green biotech sector. This again shows that Agrifood Valley has a diverse membership, but also is a consequence of our sampling method, where we used snowball sampling and from Green Biotech Valley companies were forwarded to these companies, which also were of special interest to us as this would further increase our understanding of (IP in) this sector.

| Sector | Number of alliances |
|------------------------------------|----------------------------|
| Green biotech (or closely related) | 24 |
| High-tech | 9 |

Table 6 – Alliances classified by the sector they belong to.

A different way to classify the alliances is by showing to which kind of organization they belong. Earlier the distinction between research organizations and productive companies has been introduced. 19 belong to a research organization (5 different organizations), while 8 belonged to a productive company (3 different organizations – 2 productive companies were not able to give details about their alliances due to confidentiality or the position of the respondent in the organization). 6 alliances cannot be classified, as the last interviews (in which these alliances have been reported) have been carried out by Philipp Garbade only and I thus currently do not have the background knowledge of these alliances to classify them.

| Type of organization | Number of alliances |
|-----------------------------|----------------------------|
| Research organization | 19 |
| Productive company | 8 |

Table 7 – Alliances classified by the organization they belong to.

Some alliances that have been reported could be classified as contract research, where one (research) company carries out the research ordered by another company. This especially was the case for large research programs at universities, which were often mainly funded by public money (often European subsidies). Other alliances were one a more equal basis, where the alliance partners worked together, with their own knowledge and technologies, to develop a new product or concept. These can be called ‘egalitarian alliances’. Table 8 gives the numbers of alliances using this categorization.

| Alliance type | Number of alliances |
|----------------------|----------------------------|
| Contract research | 8 |
| Egalitarian alliance | 19 |

Table 8 – Alliances classified by the type of alliance.

¹⁴ Which is not to say that green biotech would not be high-tech (rather: it is very knowledge and technology intensive and in that sense ‘high-tech’), but that the companies in green biotech apply their (high-tech) technology at a very different field than the companies categorized at high-tech, which are more in the fields of nano and mechatronics.

However, the distinction between contract research and egalitarian alliances is an arbitrary one, as these are rather two extremes of a continuum than two different types. The classification has been made on the basis of the description of the alliance given in the interview. Hence only for 27 alliances this categorization could be made, as the last interviews have been carried out by Philipp Garbade only. As the classification is arbitrary, and the number of contract research alliances is relatively low compared to the total, this distinction has not been used in the later analysis of the data (as the number of cases was too low to be appropriately applied in the quantitative models). However, it could be that the difference in alliance type influences the role of IP, trust and communication in the alliance. This could be a topic for further investigation, which would become available if data of more alliances are collected.

Also, the alliances differ in their performance. In every interview failed alliances have been explicitly asked for. Only 4 of the 33 alliances reported are failed alliances. However, the influence of alliance failure goes further than just the failed alliance itself: it can be expected that a company that has experienced a failed alliance will try to prevent alliance failure in the future, e.g. by making more tight IP arrangements. 17 of the alliances were reported by companies having experience with alliance failure.

| Alliance outcome | Number of alliances | Experience with alliance failure | Number of alliances |
|---------------------|---------------------|----------------------------------|---------------------|
| Succesfull alliance | 29 | No | 16 |
| Failed alliance | 4 | Yes | 17 |

Table 9 – Alliances classified by (experience with) alliance failure.

It thus turns out that the companies reporting a failed alliance (4 companies) reported relatively many alliances (4 minimally, 4,2 on average), while the other organizations (7) only reported 2,3 alliances on average. This may point at the fact that only if many alliances are reported one feels free to mention a failed alliance (as failure may be a sensitive topic). It could also be the case that failed alliances come less readily to mind, and thus if the time is limited only positive alliances are reported. As alliances of organizations with experience with alliance failure seem to be overrepresented, alliance failure will be used explicitly in the models to prevent that this imbalance in the sample influences the results.

Finally, in Appendix V the descriptives of all variables used in the alliance models presented in the next chapter are given.

Chapter 5

Results

Now it is time to investigate the data collected, to answer the question how IP protection, communication and trust influence innovative alliances and what role the cluster plays on the (performance of the) innovative alliance. To do this, we will first discuss which influences the cluster has on the alliance level. Then, in the second section, the influence of the company level on the alliance will be described. Thirdly and most importantly, the innovative alliance itself will be investigated, and a model will be built to describe and analyze the relation between trust, communication and IP protection. The discussion of the results will be the subject of the next chapter.

5.1 the Cluster

As described earlier in this thesis, companies do not function in a vacuum, not even in a fine-grained network of all kinds of different companies and organizations in a vacuum, but in a social environment. This is broader than just the companies and organizations surrounding a particular company. For example factors like language, the availability of well-educated personnel, culture and the political and institutional environment also play an important role. In this section the influence of the cluster – and more specifically the role of the cluster coordinator in this – will be described, based on the data collected. Six different aspects where the cluster has been reported to be of important influence will be discussed. Then these aspects will be compared shortly with two different conceptualizations of the function of the cluster coordinator, as introduced in Chapter 2. The section will close with a summary and a discussion of the role of the cluster coordinator.

During the presentation of the results on the cluster level, a number of practical recommendations for cluster coordinators will be presented in text blocks. These recommendations are the result of the interviews and the analysis of the data and are related to factors that have been recognized (by the cluster coordinators or by me) as potential success factors. It has been tried to make these recommendations as specific as possible using the few words available in the boxes. However, the boxes have been tried to be presented where the results related to the recommendations are described, hence more background on the recommendation can be found as well.

5.1.1 Information and agenda

The first aspect where the cluster, and more specifically the cluster organization, plays an important role, is on information and agenda. With this we mean knowledge about which companies are in the cluster, what they do, what their expertise is and what they develop for the future. It turns out that this is very important in the cluster, as a prerequisite for collaboration is knowing suitable partners for collaboration. This aspect has been subdivided into two: information and having a shared agenda.

Information means the knowledge one has about what the other companies in the cluster are working at. This is important to find partners for collaboration in innovative alliances. Furthermore information helps to know which external knowledge is available in the cluster and which can thus be used in open

innovation projects. Also new applications of one's research or products may become available if one knows better what other companies in the cluster are working at.

All cluster organizations interviewed mentioned the importance of information about their cluster. They see themselves as a 'spider in the web', knowing what happens in the cluster and thus able to link partners to each other and hence to create synergy, especially on the precompetitive level. This may be done on their own initiative (like by Agrifood Valley Organization), or rather on demand (Green Biotech Valley Organization). Establishing streams of information within the network is hence important, as is also shown by the actual practice of the cluster coordinators: most have a regular newsmailing, one even has a LinkedIn account to publish news related to the cluster and the sector. Furthermore Agrifood Valley Organization reported that it would be invaluable to be able to chart the interests of individual companies. But as it at the moment does not have a tool for this, listening and remembering is still very important.

This brings us to the second part of this aspect, the **shared agenda**. With this we mean that companies not just know what others work at, but also that they together agree upon what to develop, which direction to follow¹⁵. It turns out that 2 of the cluster organizations mentioned this as an important aspect of what they do (Agrifood Valley Organization is not one of them, as this could be a valuable method of charting the interests in the cluster), all in the high-tech cluster. An example of this is the long term vision set up by High-tech Valley Organization III, in close collaboration with the companies and research institutes in the cluster. Here a selection of three core topics (e.g. energy or health) for the period as far away as 2050 has been made, and all companies and research organizations are thus guided in their (research) activities by this future vision.

That this shared agenda is only found in High-tech Valley may be explained by the fact that the high-tech sector consists of a large number of very specialized firms, where collaboration, also on the level of (even fundamental) research, is necessary. Many products cannot be produced with just internal knowledge, some companies even reported that no single product is produced without collaboration. The complementarity of the knowledge is thus high: the differences in expertise are pronounced (cognitive distance), but the companies do need the others knowledge (dependence). The cluster organization can facilitate the development of a shared agenda, and screen the progress made.

- Continually maintain and expand your knowledge of the cluster by keeping in close contact with the cluster members. Also provide this information to the companies in the cluster, e.g. by using a LinkedIn account or a regular newsletter.
- Bring parties together to decide on a strategic shared research and development agenda for the long term. This could be done by collectively developing a vision for the cluster (e.g. to focus on a certain new technology), and/or by making use of (the process of dividing) existing subsidies.

¹⁵ Agenda setting could also be interpreted in a broader way, as establishing a shared agenda for an association of the companies in the sector on the cluster level, e.g. on the topic of image or labour market. This will be taken up in a next section; 'image and the labour market'.

| Code | Reported | Not reported | Explanation of non-report |
|---------------|----------|--------------|---|
| information | 5 | 0 | |
| shared agenda | 2 | 3 | Green Biotech Valley all firms on nearly same topics, Agrifood Valley very diffuse |

Table 10 – code count for the aspect ‘information and agenda’

5.1.2 Contact

Next to information and agenda, though intimately related to it, is the aspect of establishing contact. Knowing what others are working at is not enough, one needs contact with others to start collaboration. Here the cluster plays an important role, or as one cluster coordinator stated: “we do nothing else than communication”, ‘we make people communicate with each other’. This is first because of the cluster coordinator actively bringing partners in contact with one another, and second because distance between the partners is relatively small within the clusters (compared with outside the cluster).

Bringing in contact is reported by every cluster organization of being of great importance. This happens by two mechanisms. The first is active match-making, by which it is meant that the cluster coordinator has knowledge about firms and what they work at, and use this information to bring specific companies together. This for example happens by advising companies to contact another company that may have complementary knowledge to offer (Agrifood Valley Organization) or by organizing small-scale meetings where a select group of companies is invited for (High-tech Valley Organization I). This is especially important for small companies, which have neither a reputation that attracts potential partners nor the manpower to actively seek them. This is also what has been reported often in the interviews with small companies. The role of the cluster coordinator is especially important if the size of the companies is very different. The large company receives often demands for collaboration from small (start-up) companies and hence is inclined to putting them all down. The cluster coordinator can function here as a filter, and trust can grow between the large company and the cluster coordinator that small companies that are recommended are interesting (Agrifood Valley Organization).

The second mechanism is ‘fostering the unexpected encounter’, as phrased so nicely during our pilot interview (not counted in Table 11). Unexpected encounters are encounters between people not knowing each other, nor what their respective companies work at, but which turns out to be a very good and productive match for both partners. Magnus Nilsson (2008) showed that this is a very important aspect of being a cluster: as companies are located closely together there is relatively much chance on unexpected encounters that are valuable, as the companies in the clusters are often working on related topics. These encounters can be fostered by bringing people from diverse backgrounds together, for

- *Select and actively invite members 1. to stay focused on a certain topic or sector as a cluster; 2. to stay recognizable; and 3. to offer members exclusivity. Do not try to do everything!*
- *Be aware of the importance of relational skills in bringing potential partners together and building trust, and thus develop these skills and/or select on them when selection employees. Only by being trusted yourself you can help potential collaboration partners trust one another.*

example on seminars or workshops on a specific topic (e.g. Agrifood Valley Organization), company visits (Green Biotech Valley Organization) or large scale events (e.g. High-tech Valley Organization II).

As mentioned in referring to the work of Nilsson (2008), also ***distance*** between partners is important. This has been reported by only 2 out of the 5 cluster organizations, which could be caused by the fact that the influence of small distances is taken for granted by the cluster organizations, as one of the key characteristics of a cluster is the small distances. The small distances can be seen as a factor underlying the other aspects: information flows more easily over small distances, people probably meet one another more often if they are closer, etcetera. Also the next aspect, the role of 'culture and language', is related to distance, as only in intensive contacts – which are fostered by small distances, even more so in the past – distinct languages and cultures are formed.

| Code | Reported | Not reported | Explanation of non-report |
|-------------------------|----------|--------------|--|
| bringing in contact | 5 | 0 | |
| - match-making | 5 | 0 | |
| - unexpected encounters | 4 | 1 | High-tech Valley Organization III is the most policy-oriented organization |
| distance | 2 | 3 | Taken for granted, as a cluster is per definition small distance? |

Table 11 – code count for the aspect 'contact'

From the interviews it became clear that contact is also important for problem (or chance) recognition ('we share this problem, let us work together on it') and speedy reactions. If problems are recognized as shared by a number of companies and there is much contact between them, it is much easier to quickly come up with a shared response to the problem or to collaborate to make full use of a new opportunity.

5.1.3 Culture and language

Having a shared culture has been found to be very important on the cluster level. A shared culture increases understanding between different carriers of the culture (Giddens and Birdsall 2001). Again this aspect can be split into two: a shared culture on the cluster level, and a cultural match between the cluster coordinator and the companies within the cluster.

A ***shared culture*** has been mentioned in two of the five cluster coordinator interviews, but as it has been reported in quite a significant number of company interviews it still will be discussed here. Two special aspects of a shared culture, that have been reported several times within specific clusters, will be discussed as cases. That culture has only been mentioned in two of the clusters may have a number of explanations: 1. there were no specific questions about (the role of) culture in the interview guide; 2. some clusters are not regionally bound or relatively diffuse; and 3. culture is unrecognizable for people 'internal' to the culture, as it is their 'normal social environment'.

In the interviews it has been found that a shared culture may increase trust between partners (e.g. because they feel as being 'of the same kind'), foster collaboration and increase the amount of cognitive

distance that can be ‘dealt with’ within a collaboration, as the partners on other aspects are relatively close, as they e.g. speak the same language.

Case 1 - In this cluster culture plays a very important role. The companies in the cluster have been there and active in the sector for decades. Apart from that most companies started as family businesses (and some still are), even the whole sector is dominated by a number of families. For example decades ago two brothers have founded two of the most influential companies in the sector, and still some families are known for their involvement in the sector.

This culture has some important impacts on the sector. The first is that most company owners know each other and hence there is much contact between the companies, also on the informal level. Drinking a cup of coffee together has been mentioned a number of times in the cluster coordinator interview, just to give an example. As there was a lot of contact between the owners of the different companies within the sector, and the sector was important for this relatively small region, a culture could develop that not only influenced social behaviour related to this sector (namely through a “code of conduct” specific to the sector, as reported by the cluster coordinator¹⁶), but also had sanctions related to this code: as people knew each other, naming and shaming as well as reputational damage were important. This resulted in a kind of “gentlemen’s agreement” within the sector to not abuse the vulnerability of the others on the topic of intellectual property, as everyone was as vulnerable. This may have given the sector an advantage over their competitors, who may have had to guard their IP more formally. On the other hand, it nowadays may harm the sector, as the change towards a paradigm of open innovation is very hard to make as it is opposed to the culture in the sector.

Case 2 – Some decades ago there was one large company within this region, where an enormous percentage of the working force was employed. The company not only had a company calendar that was distributed over and used by all employees, but also a retirement fund and even primary school and sports’ clubs. In this environment a special culture developed, with even a ‘corporate language’, in which words were used that were not known outside the company.

Nowadays the company is smaller and the employees work divided over a number of companies, still in the same region. While most of the sources of the culture have ceased to exist, it still has a large influence in the sector. People know each other and understand each other. They know they need one another, even though they nowadays do not work at the same company anymore. This culture of cooperation is an important strength of the cluster, and one of our respondents indicated that one of the main contributions of the cluster coordinator, according to her, was to sustain this culture.

¹⁶ Who also reported that this ‘code of conduct’ becomes weaker nowadays, because people see each other less often. Hence there is now a tendency towards more formal arrangements.

From these two cases it may seem that culture has to be inherited from the past, where it evolved over years or even decades. While this partly is the case – cultural change takes time – this is not the case completely. For example, in the same case 1 some problems putting all companies in the sector at risk brought the companies together and forced them to cooperate with on a level completely unfamiliar to them. Nonetheless now a culture of cooperation is growing here as well, for example there are even carefull steps taken towards a shared research program. Culture can develop – and to a certain extend can be developed – as long as there are many interactions within a relatively small and well-bound group of people.

The second aspect of culture is the **cultural match** between the companies in the cluster and the cluster coordinator. It has been reported by nearly all cluster coordinators that this is very important. With cultural match we mean that the corporate culture within the cluster organization is relatively equal to the culture in business: flexible, quick-witted, decisive and focused on visible and short term results. This can be reached by having a board consisting of CEOs of some of the companies in the cluster (e.g. Green Biotech Valley Organization) or having regular tests on a number of output indicators (Agrifood Valley Organization).

In the case of two clusters, the relations between employees at the cluster organization, or even the director, and the CEOs of the companies in the cluster were rapported to be especially important. Green Biotech Valley Organization was, during an interview, even one time called with the name of its director. Agrifood Valley Organization is very aware of the importance of relational capabilities of its employees, as this builds the bonds and the trust between Agrifood Valley Organization and its member companies.

- *Guard and build the (cooperative) culture in the cluster, e.g. by fostering intensive contact between the companies, actively working together with members on shared interests and by using shared problems or opportunities to build ‘togetherness’.*
- *Match your culture with the culture of your members by being flexible, decisive and focused on visible, short term results. Do not adapt too much to the policy sphere many companies do not feel comfortable with.*

| Code | Reported | Not reported | Explanation of non-report |
|----------------|-----------------|---------------------|--|
| shared culture | 2 | 3 | AV is a relatively diffuse cluster, High-tech Valley Organization II operates not regionally bound, High-tech Valley Organization III may be too much ‘internal’ to see the culture. |
| cultural match | 4 | 1 | High-tech Valley Organization III most political, smallest match |

Table 12 – code count for the aspect ‘culture and language’

5.1.4 Shared problems and opportunities - image and the labour market

Companies in the cluster often do not just share (and create) a culture together, but also share opportunities and threats. Some of these transcend the abilities and possibilities of the individual companies to cope with and are on a precompetitive level. These topics have often be reported (in 4 of the 5 cases) to be one of the main causes of the conception of the cluster organization; 3 times this was

a shared threat, one time a shared opportunity. The shared problems will be discussed in this section, the shared opportunity in the next, as this is more closely related to the aspect 'representation and policy'.

The problem that was reported in all three cases was closely related to the **labour market**. Due to different developments in the sector (e.g. the sector became more technology intensive) or the education system (e.g. certain educations ceased to exist) disturbances of demand and supply of well-educated personnel developed. The companies found out they had to combine their strengths to collaborate on this pre-competitive topic, as one of the respondents said: "we found out we had to enlarge the pool, instead of throwing out more fishing rods".

To increase the supply of labour, the companies started to set up contacts with educational organizations to better align their needs with the educational program offered by these institutions. Furthermore, they found that also the supply of students had to be increased, and hence they also started to focus on the improvement of their sector. Especially in the agrifood sector **image** turns out to be a problem: people (at least in the Netherlands) tend to think that this is dull and low-technology labour, while improvements and developments go extremely fast nowadays.

In a slightly different way the dealing with the economic crisis and its influence on the labour market also has been reported to have been influential on the cluster level. Especially the high-tech sector has been struck hard by the crisis (more so than the agrifood and green biotech sector) and especially the private R&D-spending were expected to drop, which would result in a large dismissal of highly educated R&D-personnel. High-tech Valley Organization III, in collaboration with the national government and the large companies in the cluster, worked on national policy to retain these knowledge workers within the companies, which succeeded. In many interviews in this cluster it has been reported that this was very important and successful, and that they, as a cluster, "came stronger out off the crisis."

If image improvement is taken a bit further, not only to potential employees but also to other companies, all cluster coordinators reported this. Especially for Agrifood Valley Organization attracting new companies (or contract research) to the cluster, also internationally, is important, as this is a growing and developing cluster not yet known so much internationally (while the other two clusters are reckoned worldwide). Also the companies in the clusters, especially the smaller ones, report to benefit from the image improvement efforts carried out by the cluster coordinator.

- Focus on a limited number of themes on the precompetitive level. Do not promise more than you can deliver to your members.
- Let members contribute to the solution of their problems (in making plans, supplying time and knowledge) e.g. by using work-groups consisting of employees of members.

| Code | Reported | Not reported | Explanation of non-report |
|------------------------------|-----------------|---------------------|---|
| shared opportunity or threat | 4 | 1 | Agrifood Valley Organization grew out of an existing organization fostering start-ups from a research institute. |
| labour market | 4 | 1 | Not a problem in Agrifood Valley, Agrifood Valley Organization does work as interme-diary between student researchers and companies |
| crisis | 2 | 3 | Especially applicable to the high-tech sector, where the crisis struck hard and R&D-spendings are high. |
| improving image | 5 | 0 | |

Table 13 – code count for the aspect ‘image and labour market’

Interestingly, this aspect of influence of the cluster shows that the cluster may function as a ‘private government’ of the cluster or the sector. Topics that are traditionally seen as a responsibility of the government, such as the labour market, are taken up by cluster organizations to serve their cluster companies. Hence one could argue that market failure can also be addressed by large collaborations of companies, and that clusters seem to foster this.

5.1.5 Representation and policy

The role of the cluster coordinator in policy topics is even more pronounced in the aspect that will be introduced now, the aspect of representation and policy. A nice starting point is the loose thread in the previous section, where it was stated that one of the cluster organizations did not result from a threat but from an opportunity. In 2004 the prime minister at that moment, mister Balkenende, proposed a new **policy** to foster innovation. The idea was to choose a number of key areas ('sleutelgebieden') which were of special importance to the Dutch economy. For these key areas subsidies would be available, and the industry was appointed the task to come up with ideas. This was the starting point of cluster organization High-tech Valley Organization II, as they formed the playing field where companies could come together, discuss their shared needs and write a proposal together.

Currently the Dutch minister of economic affairs, agriculture and innovation is working on a comparable policy - the top sector policy ('topsectorenbeleid') - and again industry can come up with a plan. Interestingly, nearly all cluster organizations are actively taking part in the development of these plans. Next to the policy role in the case of opportunities, the cluster coordinator can also play a role in the case of policy development to deal with threats, such as the developments in the labour market during the crisis mentioned in the previous section.

Not only is the cluster coordinator actively involved in the process of policy development, a cluster coordinator can also be a valuable partner for the government to carry out their policy. In one interview it was stated that “if the network [High-tech Valley Organization II] would cease to exist, we would not be able to carry out our policy”. This is also seen as a responsibility by High-tech Valley Organization II, to make sure that the government subsidies are invested well.

A last clear example that cluster coordinators are often involved in topics closely related to policy, is that all cluster organizations reported that the development of their cluster (or sometimes: sector, predominantly in their region) was of particular importance in their activities.

Next to this, but closely related, is the **representation** of the cluster by the cluster coordinator. Representation can however not only be found in the policy development role of the cluster coordinator, but can also be seen in other topics, as e.g. Green Biotech Valley Organization showed by lobbying against a new infrastructural plan, which would harm many of the companies in the cluster. Another example is High-tech Valley Organization III, which even has a lobby in Brussels. On shared interests, especially on the precompetitive level, it turns out that the cluster coordinator can bring interests together and represent all these little voices together. This is especially important for small firms. One small company reported that due to the cluster coordinator within two weeks a number of high ranked politicians visited the company to address its problems with infrastructural plans, politicians that would otherwise have been inaccessible. Also the relations with local or regional politics are important. Many sector organizations are nationally active, while companies often experience local problems (e.g. with the rules and policies of municipalities). The coordinator of the cluster, which is by definition spatially bounded, often has more direct connections to local politics, in all five clusters a high ranked local politician is even in the board or very closely related to the board (as a visiting member).

- *Make sure visible results are reached in the short term (or make results visible), both for members and for the cluster environment. This builds trust and attracts new members and/or support. Do not loose the connection with the (localized) cluster!*

| Code | Reported | Not reported | Explanation of non-report |
|---------------------|-----------------|---------------------|---|
| top sector policy | 3 | 2 | Not in the Green Biotech Valley Organization interview, but in company interviews their involvement became clear. High-tech Valley Organization I represented by other organizations. |
| policy | 5 | 0 | |
| cluster development | 5 | 0 | |
| representation | 5 | 0 | |

Table 14 – code count for the aspect ‘representation and policy’

Hence it can be concluded that the cluster coordinator does not only function within the cluster, as an intermediary between the companies in the cluster, but also has a role as a representative of the interests of the cluster as a whole. This is given substance by developing policy, in a reaction on threats as well as on opportunities, carrying out policy and representing the cluster, especially on the local level, but even up to European levels.

5.1.6 Research

Especially in the case of open innovation, it is important that there is an abundance of knowledge external to the firm (Chesbrough 2003). While exploiting knowledge creates value for the company, it is

important to keep exploring new knowledge, to sustain the knowledge abundance (Fortuin 2007). Hence it is important that within the cluster new knowledge is explored.

It turns out that in three of the five cluster coordinator interviews shared precompetitive research has been mentioned. The other two cluster coordinators were active in clusters where the companies are too diffuse to have benefits of the same exploratory research and/or had only small interest in fundamental research (also because these clusters only represented a tiny part of the companies (nationally and globally) active in their sector). In the other three interviews, it turned out that precompetitive research was carried out already (2 times) or they were planning to set this up (1 time). The difference between both clusters can be explained by the amount of publicly funded fundamental research at universities. While this

➤ *Actively seek possibilities to cooperate on precompetitive topics, especially on fundamental research, e.g. by setting up a shared agenda or by collaborating with knowledge institutes. This may not only build the future of the cluster, but also bring members closer together.*

is in the first case relatively low (the ratio public vs. private R&D is 1:7), this is relatively high in the latter. In the interview with one of the (publicly funded) research institutes active for this cluster, it became clear that it can be expected that if the publicly funded research will become less, the incentive towards shared, privately funded precompetitive research will become larger. Nonetheless the cluster coordinator is now already setting the first steps towards such a program.

Here again it can be seen that the cluster coordinator can facilitate the collaboration of individual companies on shared interests, as was the case with e.g. policy. But apart from that, the cluster coordinator can create the trust and environment needed for such a shared research program, which Green Biotech Valley Organization reported to be promising but delicate.

| Code | Reported | Not reported | Explanation of non-report |
|-------------|-----------------|---------------------|---|
| research | 3 | 2 | Both too diffuse and/or little interested in fundamental (precompetitive) research. |

Table 15 – code count for the aspect ‘research’

5.1.7 The cluster coordinator as go-between

In literature, the possible role of the cluster coordinator as a ‘go between’ has been discussed, as introduced in Chapter 2. Six different possible functions have been distinguished: 1. trilateral governance; 2. repository of hostages; 3. solution to the revelation problem; 4. filter against spill-over; 5. trust building; and 6. boundary spanner (Nooteboom 1999). The aspects found in the cluster coordinator interviews can be compared with these six roles. In Table 16 the six roles of the go-between are mentioned and the codes related to these functions are shown (their counts in brackets).

| Role | Related codes | Explanation |
|---------------------------|---|--|
| 1. trilateral governance | none | different level |
| 2. repository of hostages | none | different level |
| 3. revelation problem | information (5) | coordinator knows both partners |
| 4. spill-over filter | none | different level |
| 5. trust building | shared culture (2) bringing in contact (5) | shared culture may be a basis for trust trust of the coordinator in the partner is a signal |
| 6. boundary spanner | bringing in contact (5) | coordinator tries to match (actively and passively) |
| | | |
| <i>Codes not related</i> | shared agenda (2), distance (2), cultural match (4), shared opportunity or threat (4), labour market (4), crisis (2), improving image (5), top sector policy (3), policy (5), cluster development (5), research (3) | |

Table 16 – roles of the go-between and codes (counts between brackets)

First it needs to be remarked that the level of investigation of this research was the cluster as a whole, and not the role of the coordinator within the cooperation between two (or more) partners. Hence not all functions of the go-between are applicable to this research: they may be fulfilled by the cluster coordinator, but this has not been touched upon during the interviews. However, in all interviews negative examples of cooperations between members of the cluster have been asked for, and these have never been reported. This can mean three things: 1. there are no problems; 2. the cluster coordinator does not function on such a specific level; 3. our respondent was not aware of these problems¹⁷. As in some company interviews problems have been reported, option 1 does not seem to be a sufficient explanation. Hence option 2 seems to be the most probable. Most cluster coordinators also reported this: “we do not play a role in conflict resolution between partners within the cluster”, “problems are, if needed, solved between the partners”. Hence it seems that especially the informal conflict prevention (by communication, information and trust) is important.

Secondly, it becomes clear that the cluster coordinator does function especially in the fields of information, communication and trust building, which are important aspects of the role of the go-between. Trust building involves also the development of a cluster culture, where cooperation is a ‘normal’ way to go and where all members are willing to share information on what they are working at (on a general level that does not harm the company), as discussed earlier. Furthermore, it turns out that the relational capacities of the cluster coordinator are important (as Agrifood Valley Organization reported to be very much aware of). Also the transitivity of trust (if A trusts B and B trusts C, A and C are more inclined to trust one another (Granovetter 1983)) plays a role here: if both companies involved trust the cluster coordinator (and vice versa), they are more inclined to trust one another. This may be a very important function of a cluster coordinator, as the trust of the cluster coordinator may decrease the time and costs needed to find out if the other partner can be trusted and hence increases the

¹⁷ Which would be possible, as we interviewed the directors of the cluster organizations, which sometimes were quite large. However, it can be expected that problems are talked about within the cluster organizations, as these are probably difficult to solve and a potential threat for the cluster.

flexibility of collaboration in the cluster (as is also reported by Nooteboom 1999). However, the maintaining of trust in relationships seems to be given less importance by the cluster coordinators, while this also is an important part of trust building as Nooteboom (1999) conceptualizes it.

However, for the cluster coordinators investigated it seems that there is a world to discover in the field of cooperations and alliances between companies in the cluster. The roles of trilateral governance, spill-over filter and repository of hostages can be developed further. For this it is important to decide whether this would be a function of them as a cluster coordinator (as Nooteboom 1999 describes the functions can be carried out by different actors in the network) and if there is a need for this from the companies in the cluster. If so, this could be a new role for them as cluster coordinators, especially in the cases where small and large companies, with different amounts of power in their relationship, cooperate.

Finally, I would argue that Nooteboom (1999) misses out two important possible function of the go-between. This first is the creation of a playing ground on which shared (precompetitive) interests can be looked after, as is the case with the labour market, shared research and policy. The cluster coordinator functions here as a neutral player among the different companies in the field and can gather and add up all different interests into one shared interest, which can then be looked after by the cluster coordinator or by the individual companies under the supervision of the cluster coordinator (at least 3 out of 5 cluster coordinators work with working groups consisting of company employees). The second role is the role of agenda setting, where companies come together to design a roadmap for the long term to make sure that they will remain complementary and usefull to one another in the long term.

| Extra possible role | Related codes | Explanation |
|----------------------------|---|--|
| 7. playing field | shared opportunity or threat (4) labour market (4) improving image (5) policy (5) cluster development (5) research (5) | offering a playing field to combine interests and look after them together |
| 8. agenda setting | shared agenda (2) | developing a shared agenda for the future |
| <i>Codes not related</i> | | distance (2), cultural match (4), crisis (2), top sector policy (3) |

Table 17 – roles of the go-between and codes (counts between brackets)

5.1.8 The cluster coordinator as innovation broker

Another conceptualization of the cluster coordinator, also discussed in Chapter 2, is the ‘innovation broker’ (Klerkx and Leeuwis 2008). The three functions of the innovation broker are 1. demand articulation; 2. network brokerage (network formation); and 3. innovation process management. Also these functions can be compared with the aspects found in the analysis of the cluster coordinator interviews.

| Function | Related codes | Explanation |
|----------------------------------|---|--|
| 1. demand articulation | information (5) shared agenda (2) shared opportunity or threat (4) labour market (4) policy (5) research (3) | information of other firms increases transparency a shared agenda aligns future supply and demand shared need of the companies shared need of the companies demand for policy demand for research / knowledge |
| 2. network brokerage | bringing in contact (5) cluster development (5) | bringing in contact extends the companies' network increasing the size and quality of the cluster |
| 3. innovation process management | bringing in contact (5) shared culture (2) cultural match (4) | match-making actively facilitates collaboration bridges cultural differences allows coordinator to bridge cultural differences |
| <i>Codes not related</i> | | distance (2), crisis (2), improving image (5), top sector policy (3) |

Table 18 – functions of the innovation broker (counts between brackets)

It turns out that only a few codes are not related to the three functions given here. Probably the codes ‘crisis’, ‘improving image’ and ‘top sector policy’ could also be part of demand articulation, as demand articulation is also related to demands in terms of policy. However, as this would stretch these codes a bit too far, as they are quite specific, it has been chosen not to connect them to demand articulation. Furthermore a problem with this distinction of three functions is that the functions are not entirely clear. If for example the description of Klerkx & Leeuwis (2009) would be used, some major changes would result (see Appendix VI). The changes due to using a different conceptualization are related to the fact that 1. demand articulation does in the 2008 version not include policy; and 2. innovation process management does in the 2008 version include the innovative environment (including legislation and infrastructure), as well as the facilitation of collaboration (which could also be regarded as network formation). This creates overlaps between the different functions. The development of a more clear conceptualization would improve the use of and insight given by this ‘innovation broker’ concept. This having said, the the differences between the innovation broker functions and the functions observed will be discussed.

At first hand, it seems none of the aspects mentioned earlier can be regarded as missing in the three innovation broker functions. However, I would argue that the ‘shared agenda’ goes further than just ‘demand articulation’, as it is 1. not just ‘articulation’ but also ‘development’ of these shared future demands; and 2. focused on the long term (>20 years), which is different from what can be assessed using ‘foresight studies’ (Klerkx and Leeuwis 2008). Hence I would propose to extend demand articulation with the ‘shared strategic development of long term needs’. Furthermore attracting new companies to the cluster is not incorporated in one of the three functions, and I would propose to add this to the ‘network formation’ function.

Then, some subfunctions mentioned by Klerkx & Leeuwis (2008) have not been observed in the cluster coordinator interviews. These are all related to innovation process management. These are mainly related to the implementation, protection and commercialization of the outcomes of an innovation

process. But this non-observation may be caused by the fact that this, in contrast with the other function, takes place only at the level of the innovation alliance itself, thus on the ‘go-between’ level, and have thus not been asked for specifically¹⁸. This indeed causes part of the confusion caused by this conceptualization of the innovation broker functions. They can be said to work on three different levels: the alliance level, the inter-company level (e.g. in matchmaking or bringing in contact) and the cluster-level (e.g. by demanding policy).

All in all, it seems to me that the innovation broker functions have been covered (and in some cases even extended) by the observed clusters. Furthermore, the innovation broker conceptualization may offer an insight in the different functions of an innovation broker, but does not make informative or clear-cut distinctions between these functions, and hence a further development of the concept would increase its usefulness as a tool for analysis.

5.1.9 Summary and discussion

It has been found that the cluster, and especially the cluster coordinator, contributes importantly to the innovation in the cluster. This contribution can be divided in a number of different aspects: information and agenda, contact, culture and language, shared problems and opportunities, representation and policy and research.

Furthermore, some of the roles of the go-between have been observed, namely the solution of the revelation problem, trust building and acting as a boundary spanner. The three other functions have not been observed, which may offer a possibility to increase the support of the cluster coordinators¹⁹. Also two new roles have been observed: the creation of a playing-field and the development of a shared agenda.

Finally the functions of the innovation broker have been investigated, and have all been found. Two additions have been made: the shared strategic development of long term needs and the attraction of new companies to the cluster. Furthermore the distinction between the three roles have been found to be insufficient.

¹⁸ However, some of these functions, as support related to intellectual property protection or finding subsidies, have been reported a number of times in both the cluster coordinator and the company interviews.

¹⁹ It has also partly been caused by the focus of this study, which was more on the cluster level than on the alliance level (in the cluster coordinator interviews).

5.2 the Company

Where the cluster is the environment in which the alliance functions, companies form the substance to alliances, as every alliance consists of at least two different companies. As we have seen, the cluster has a number of influences on innovation within the (alliances in the) cluster. The same applies to the company. In this section we will focus on how the protection of intellectual property on the company functions, and how this may influence innovative alliance performance.

Therefore, we will first start with a description of the IP protection methods the companies use. Then we will focus on three issues that have attracted special interest during the interviews: recipes, non-competition clauses and patents. Finally some relations between the company and the alliance level will be established, and it will be described how companies can make optimal use of alliances.

5.2.1 Description of IP protection

Earlier in this thesis, the different forms of IP protection have been described. This has resulted in the distinction between formal and informal IP. Table 19 gives a description of the data concerning IP protection at the company level²⁰, for companies related to the green biotech sector, as this is a relatively large group and the companies are relatively similar, as they are active in the same sector. The question was asked how much importance the company gave to different methods of IP protection, measured on a 7-point Likert scale ranging from 1 (not important) to 7 (highly important).

| | N | Minimum | Maximum | Mean | St. Deviation |
|--|----------|-------------|-------------|---------------|----------------|
| Formal IP protection methods | 9 | 2,20 | 6,25 | 4,2889 | 1,35803 |
| - copyrights | 9 | 1,0 | 6,0 | 2,722 | 2,1376 |
| - trademarks | 9 | 1,0 | 7,0 | 3,333 | 2,4495 |
| - patents | 9 | 1,0 | 7,0 | 4,611 | 2,2608 |
| - other | 9 | 1,0 | 7,0 | 4,000 | 2,5000 |
| | | | | | |
| Informal IP protection methods | 9 | 3,00 | 5,80 | 4,4778 | ,79338 |
| - secrecy | 9 | 2,5 | 7 | 5,944 | 1,4672 |
| - complexity of production process | 9 | 1,0 | 7,0 | 4,611 | 2,2608 |
| - contracts (collaboration agreements) | 9 | 2,5 | 7,0 | 5,389 | 1,5366 |
| - quick standardisation | 9 | 1,0 | 6,0 | 3,278 | 1,9543 |
| - speed of winning market share | 9 | 1,0 | 7,0 | 4,333 | 1,9365 |
| - non-competition clauses | 9 | 2,0 | 6,0 | 4,222 | 1,4814 |

Table 19 – description of the methods of IP protection applied by the green biotech related companies interviewed

²⁰ Trade secrets and design right have been left out of this description, as it was not clear enough to our respondents what these methods exactly meant or where they could be applied. This however does not mean that this may not be an important finding. It shows that – at least on the level in the organization and in the sectors where the interviews were carried out – these means of IP protection are not known and thus probably not applied. This could show 1. a possibility for companies to strengthen their IP protection; and/or 2. an opportunity for policy makers to increase the possibilities for companies to protect their IP.

From the IP importance scores, a general score of for the importance given to formal and informal IP protection methods has been calculated as well. As the protection methods used differ considerably per market (e.g. how important copyrights are), it has been chosen to develop this only for companies related to green biotech, as this is a very IP intensive sector. Furthermore, as one means of IP protection is not applicable everywhere (mentioned ‘other’ in the table above), the score on formal and informal IP protection has been adapted to the applicability of this IP protection method. The scores of the different forms of (in)formal IP have been added, and divided by the number of methods available to the company. That resulted in a general score for the importance of formal and informal IP protection to a company, as given in the table above. These scores will be used in the alliance section, to relate the alliance performance to the IP status of the company level.

At inspection of the results, it becomes clear that most IP protection methods (both formal and informal) are not used by every company (on 7 out of 10 variables the minimum score is 1). To understand this it is important to investigate the type and size of company and the specific market it is active in. For example: copyrights are especially important if consumer products are produced that should be recognizable in the market. This relation will be described in greater depth in the next sections, where recipes, competition clauses and patents will be discussed. These have been chosen as these – from the interviews – seemed to be most interesting. Furthermore, secrecy and patents are among the most important means of IP protection, informal and formal respectively. And competition clauses seem, from these descriptives, to be relatively important, but from the interviews we learned these were not, which is a reason to investigate these in more depth.

5.2.2 Protection of recipes

Especially in the agrifood sector, the protection of recipes is very important. Theoretically, recipes could be patented. However, during the interviews it has never been reported that recipes were patented. If one wants to patent a finding, the finding itself has to be made public. This is not a problem, if the application of the finding can be traced in marketed products. But there lies the problem with recipes: it is very hard, or even impossible, to test a product on which recipe has been used to produce it. Furthermore, only a slight difference in the application of the original recipe would allow one to circumnavigate its protection. Hence other methods of protection should be used to protect one’s recipes.

This is most often done by secrecy. Only a very limited amount of people knows the recipe, and sometimes there is no single person in the whole organization who exactly knows the complete production process. In this way, even if a person leaves the company, the recipe is still save, or, as one respondent stated: “if someone leaves he does not yet have the whole story”.

There are however at least two problems related to the protection of recipes. The first is the lack of protection can be expected to make collaboration more difficult. If one has to keep recipes secret, because no other applicable protection exists, one is severely hampered in one’s openness to potential cooperating parties. Open innovation starts with the idea that the parties can create something together which they cannot do alone (complementarity). However, this implies an idea of the competences of the other firm. With recipes, this may be difficult, as there is no other way to protect them than by secrecy.

Furthermore, during the collaboration process, it may be very difficult to keep the details of the recipe secret, as one may work together on it. More in depth research is needed to find out whether this is a hindrance for collaborations, and if so, how this is dealt with in practice.

One solution to this problem could indeed be the go-between, as this problem is related to the problems of revelation and spill-over. However, as stated earlier, during the research this role has never been reported to be played by a cluster coordinator. Furthermore, making detailed arrangements about which information is brought into the collaboration and from which partner this came (technology mapping) as well as non-disclosure arrangements may play a role. But still, as the property rights of recipes are very difficult to define, this may be difficult. It may be worthwhile for cluster coordinators, especially in the agrifood sector, to investigate which role they could possibly play here, as well as for policy makers to think of new ways to protect recipes as intellectual property.

Second, secrecy has an influence on the employees working at the firm, they for example are not allowed to enter every department, as otherwise they could gain too much knowledge about one of the strategic secrets of the firm. This is closely related to the next section, in which competition clauses are discussed. Hence the discussion of this consequence of secrecy will be investigated in the next section.

5.2.3 Competition clauses

Competition clauses are clauses in a contract of employment, in which certain requirements and demands are put on the employee with respect to her work after her employment under this contract has finished. An example is that one is not allowed to work for a competitor for a certain period of time, or that certain topics may not be worked at. This is an (informal) means to protect IP – namely: tacit knowledge. Nearly all respondents reported to have non-competition clauses as a standard section in their contracts of employment. Two did not report this, which were both relatively small firms, where the need was felt less (but one was planning to set a competition clause up).

However, all²¹ (12) respondents reported not to see the use of these clauses. First because it is hard to find out if a clause is broken (especially if it is related to not working on a certain topic) and secondly because even if it is found that an employee does not hold the competition clause, it is not sure what the judge will do if you bring it to court. In all the interviews only one court case has been reported (which was successful for that matter). As a third reason they mentioned that it only forms a little bump for migration of personnel. One company reported that they had hired a person with a non-competition clause, and had put her on others tasks for one year: “a competition clause does not restrain people from coming”. This is especially important in situations where the availability of well-educated personnel is limited, as is the case within Green Biotech Valley. Here part of the competition between the companies takes place on the level of personnel.

Interestingly, the problem of finding personnel has been reported especially by the large companies in this cluster. One of the smaller companies even stated that finding personnel was a problem only for large companies, while for them it was very easy to attract new personnel. On the seven vacancies they

²¹ respondents of which the qualitative data were available at the moment of writing

published, they received 250 applications in total, of which at least 30% came from the large companies in the region. They reported that it even is a competitive advantage for them to be a small company, as has also been said to the large companies: "but they [the employees] just become happy at yours [large companies], and then they gladly come to work at our company". According to this respondent, this could especially be related to the culture in the company, the contact between the personnel of different departments, and the openness within the company. Employees like to be engaged with the whole production process, to have a feeling of ownership towards a product. This not only makes them more happy, but also increases 1. the speed of adaption to new circumstances; 2. the capabilities for problem solving; and 3. the level of creativity and hence innovation (all have been mentioned at least once in the interviews within Green Biotech Valley). Hence there seems to exist a trade-off between closedness of the production process (which is a means to protect IP) and the happiness of employees, speed of adaptation and the level of innovation. Furthermore, a trade-off between size and the availability of personnel and the time they want to stay within the company seems to exist. It is important to be aware of both trade-offs.

Many a company reported, when we asked for it, that a far important way to keep personnel, and thus tacit knowledge, within the company is to keep personnel happy in the company. This has to do with the closedness of the production process, the size of the company and the level up to which employees see the product as their own. Hence, corporate culture is an important way of protecting IP, which has not been found in literature thus far. A first example is a small family-company, where the owner stated: "I cannot imagine that they [R&D employees] will leave, but that is because we are such a family company". A second example is a company where they worked actively at parting on good terms, if an employee wanted to leave.

| Code | Reported | Not reported | Explanation of non-report |
|---|-----------------|---------------------|---|
| having competition clause | 10 | 2 | both small (family) companies |
| limited use of competition clause | 12 | 0 | |
| need for personnel (Green Biotech Valley) | 3 | 5 | small companies (3), other region (1), supplier (1) |

Table 20 – code count for the section on competition clauses

To conclude: competition clauses are mainly used because it is 'standard', and not because companies are convinced of the use of these clauses. Far more important is the informal relation one has with one's employees and the happiness of the employees within the company. Hence it is important to recognize the importance of a corporate culture for the protection of IP, and that there even seems to exist a trade-off between protection by means of closedness of departments and the increased mobility of personnel this may cause.

However, it is not that competition clauses are completely useless. One successful court case has been reported, and on top of that, making the personnel sign a competition clause may be a way to stress the importance of secrecy towards other companies, and thus to increase the level of protection of IP by

secrecy. However, it is important to realize that total closedness and secrecy may harm the potential for open innovation. Case three (below) may offer a nice example how the both can be combined in a productive way.

Case 3 – One company, within Hightech Valley, reported an interesting way of dealing with open innovation in relation to their way of dealing with their personnel. They reported that they actively encourage their employees to be open about what they can do as a company and what they are working at. Thus, they also are open about this towards other companies, and even competitors. It is very important for them to find new applications for their (investment-intensive) technologies and they find this a useful way to find new applications.

However, they also reported that they tell their employees to be silent about the ‘how’ of what they can do. This is to remain within the company, and – if possible – is protected by patents. This was not an easy step for the company to make, as many of their employees, especially within R&D, are very much used to the closed innovation paradigm that was dominant in the company up to some years ago.

5.2.4 Patents

Related to patents, which is a huge field and highly debated²² field of its own, we will focus on three different aspects. The first is the strategic use of patents and how this has been found in different forms in the interviews. Secondly is the enforcing of patents and the role this may play in an industry. Thirdly and concluding there will be a short discussion whether patents do still foster innovation in the context of open innovation, as they were once meant to do.

The strategic use of patents can take three different forms. The first is that a company always has the choice to patent a finding, or to publish it (and thus to make it public and unavailable for other companies to make the knowledge exclusively their own). Two companies reported an active policy of publishing findings that were not of much use to the company itself, but could harm the company if the findings would become exclusive property of a competitor. As a strategy it has even been mentioned to publish in an unknown journal in China, to bring the finding in the public domain but to keep it out of the hands of competitors at the same time.

A second strategic use of patents is only patenting strategic aspects of a finding. This means that the information made public is not sufficient to study the technology, learn from it and develop it further. However, it does protect the finding itself, as it is an inherent part of the larger technology, which is of commercial value to the company. In this way one can protect one’s findings without sharing them with other (competing) companies.

And a third strategic use of patents – related to the choice whether or not to patent – is to increase the value of one’s company by issuing patents. As patents are a property, having patents makes a company more valuable. Hence patenting can be a way of showing one’s value to other companies and thus to ‘apply for’ a take-over. All these three strategic uses show that a patent is not always the same thing,

²² Especially in relation to the patenting of ‘naturally occurring’ material like genetic sequences, which are – due to increasing technology – easier and easier to find.

but can be applied in different ways and has a different meaning and value in different settings and circumstances. One should therefore be extremely careful with making comparisons between firms based on the numbers of patents they have: more patents may be a sign of a higher innovation performance, but may also show a different patent strategy, or even bad portfolio management (as idle patents only cost money to maintain them).

Secondly there is ***the enforcement of patents***. What we already touched upon was the problem one may have with the recognition of a patented technology in a product. If the infringement upon a patent is not easily recognizable in a product (as with a recipe), a patent may be a useless method of IP protection. However, two more aspects play a role here. The first is the proof of patent infringement, which lies at the party that is infringed upon. This means that it may take a huge effort to be proved right in a court case, as the length of some patent related court cases show. Hence having a patent is not a guarantee against infringements on one's intellectual properties. And related to this is the second aspect: small companies may not have the means to win a court case against a much larger companies, even if they stand in their rights (more about this in Garbade, forthcoming). This was also recognized by a number of smaller companies within our sample: 'if it may come to a court case, always settle'. Here again we see the importance of the environment within which a company operates for the use IP protection methods may have.

Finally there is the question ***whether patents foster innovation in an open innovation setting***. The original goal of patents was to foster innovation, as 1. companies investing on the development of new technologies gain the monopoly over the commercial use of that technology for a certain time period, and can thus recover their investments; and 2. the patented technology should be made publicly available, thus other companies can study it and learn of it. However, both these aspects seem to break down nowadays. The commercial use of patents is often (much) shorter than the formal term of the patent (even for basic technology this was reported), and thus a patent may overprotect findings and hinder innovation. And secondly patents are often used in such a way that the technology is not made public, but only certain parts of it, which restrains others from studying the technologies. And in relation to the enforcement of patents, it may even be mentioned that companies can gain a monopoly with their patents. Within Green Biotech Valley it has been reported that it is hardly possible to enter this market from scratch, as one would have to pay such an enormous amount of money on the licencing of patents. And some parts of the market are even completely monopolized by only one company, as they have some strategic patents on genes that lie at the heart of this part of the market.

Hence the patent legislation may need a revision, which of course needs much more detailed study. However, a few recommendations could already be made. First the term a patent holds may be shortened, or be made dependent on the market on which one is active. Secondly patents should allow a company to recover one's investments, not to monopolize a market. Thirdly, the patenting of only a part of a technology should be limited, as this does not foster the innovation at other companies. And finally, patents should offer more possibilities to develop technologies further, also by competitors. Only the commercial application of the technology should be given exclusively to the developing company, not the total use of the technology, as this would prevent other companies from innovating further and would withhold the public from new products or technologies that may benefit the society. Or in other

words, to summarize, the patent legislation should be adapted to the open innovation environment and quickly changing markets most companies currently work in²³.

Furthermore, there is the – even more fundamental – question whether patents are really needed to maintain high R&D investments, as case 4 shows.

Case 4 – One of the ineligible cases was a green biotech company active in a non-western market. In the region where this company is active, IP protection means are very limited, and if they are available, their enforcement is very difficult. However, this does not mean that the company is less innovative. On the contrary, the company needs to continually improve its products, as its products are copied by others, but these copies lag a number of years behind. To stay ahead of these copying competitors, constant development is needed. This results in a good reputation among buyers, and hence relatively little harm of copying, even in an environment where no formal IP protection is available.

However, this company is active in the development of IP legislation, as it expects that if the market will develop further, the need for formal IP protection will increase. Furthermore, the time to market works in advantage of this company, in situations where this time would be much shorter, innovation itself may not be enough to stay ahead of copying competitors.

5.2.5 Size, type, sector and experience

In the development of the theoretical framework, also the factors size, type, sector and experience have been mentioned – and their possible influences have been described. However, as only so little data exist about companies (and most of them related to the green biotech sector), there are too few data to investigate the influence of size, type and sector on the company or on the alliance level. Hence in the qualitative description of the role of IP, where possible these aspects have been broad into the discussion.

The factor experience with previous alliances will be taken on board to the alliance level, where we will try to find out whether a negative experience somehow influences the level of trust or IP in the other alliances.

5.2.6 Conclusion

The IP environment plays a very important role: can a certain kind of intellectual property be protected, can its protection be enforced, and how effective is this protection? It turns out that one does not get the full picture of IP protection if one leaves the environment in which the company operates out of analysis. The environment, with e.g. the size of the main competitors in it, as well as the atmosphere within the company itself play an important role. Hence it is important for a firm to recognize the opportunities and threats its environment offers, and to align one's IP protection methods accordingly.

²³ Interestingly, one of the research institutes, which was largely funded with public money, stated: "Ideally I would go for open innovation only. No protection, just running fast." Especially as their research was mainly carried out with public money, they thought also the results should be public (and not protected, as the Dutch government commands). However, one can ask whether this would only apply to research with public money, as knowledge sharing – in quickly changing markets – does not per definition mean the loss of the commercial opportunities related to the knowledge and one's core competences. Maybe it is as was also stated in this interview: "who cannot share, cannot multiply."

5.3 the Alliance

Now it is time to turn to the innovative alliance itself, as it is here where the innovation takes place. The alliance can be seen as the core of the cluster, it is the ultimate goal of many of the activities performed and organized by the cluster coordinator, for example match-making or the development of a shared agenda. One of the cluster coordinators even reported that it was their goal to let their sector grow with 50% in 5 years, by starting up shared R&D programs. The cluster should foster innovative alliances, and we have seen what roles a cluster coordinator can play to do this.

However, irrespective of the innovation fostering environment the company is active in, alliances do not spring out of the ground by themselves. And if alliances are set up, they do not automatically lead to results and innovation.

In this section the relation between IP, trust and communication in the innovation alliance will be discussed, using different quantitative models. Furthermore their influence on the innovative performance of the alliance will be investigated, again in a quantitative way. Finally some qualitative conclusions will be presented about the role of trust, IP and communication within innovative alliances. This section will conclude with a number of conclusions about the role of IP, trust and communication in the strategic alliance, as well as practical recommendations how to make optimal use of these mechanisms.

5.3.1 Trust model

The trust model tries to describe how contact and IP are related to trust. Contact was expected to have a positive influence on trust, and the same was expected for IP (as a broad definition of trust has been used).

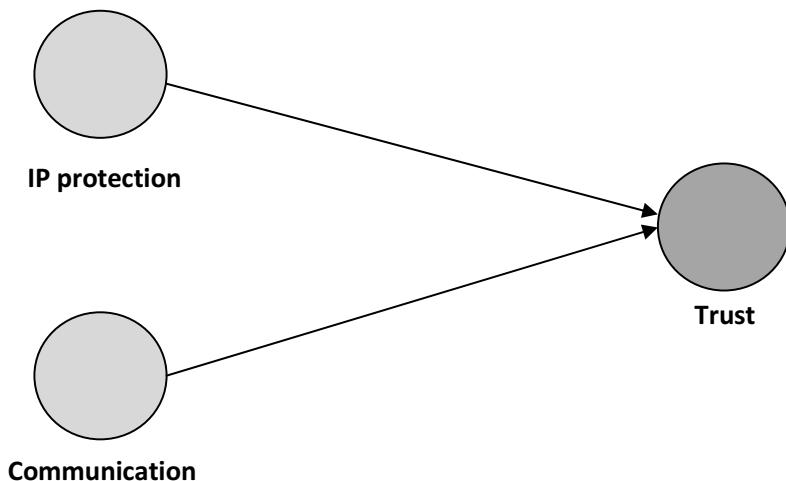


Figure 3 – Trust model – trust build by IP protection and Communication

Using PLS the model above (Figure 3) has been found. To control the validity and reliability of the model we will follow Garbade (2009), who discussed how a measurement model using PLS can be tested. This

testing consists of five steps, which will be used and discussed below. The section will end with a sixth step, consisting of a conclusion and discussion.

5.3.1.1 individual item reliabilities

First it is important to establish whether the latent variables are reliably constructed out of the variables that underlie them (the indicators). For this the cross loadings between all indicators and all latent variables should be checked. Following Garbade (2009) Hulland (1999) recommends that every indicator should have a cross-loading of at least 0,7 to its latent variable (the absolute minimum however is 0,4), and even more important that all indicators have their highest cross loading on the latent variable they are connected to. In the output table below the cross loadings can be found.

| | Contact | IP | Trust |
|--|---------|------|-------|
| <i>contact – e-mail</i> | 0,96 | 0,74 | 0,85 |
| <i>contact – face-to-face</i> | 0,93 | 0,92 | 0,92 |
| <i>contact - phone</i> | 0,98 | 0,75 | 0,90 |
| <i>IP arrangements – patent mapping</i> | 0,72 | 0,86 | 0,73 |
| <i>IP arrangements - confidentiality</i> | 0,87 | 0,95 | 0,87 |
| <i>IP arrangements - ownership</i> | 0,60 | 0,81 | 0,65 |
| <i>cooperate again</i> | 0,88 | 0,70 | 0,94 |
| <i>extra investment</i> | 0,87 | 0,90 | 0,95 |
| <i>opportunism</i> | 0,88 | 0,70 | 0,88 |
| <i>keeping promises</i> | 0,87 | 0,90 | 0,95 |

Table 21 – Cross loadings ‘trust model’

(in black cross loadings of the indicators on the latent variable they are connected to, in grey the other cross loadings)

It becomes clear that every indicator has a cross-loading of minimally 0,81 to its own variable, and hence the 0,7 criterion has been fulfilled. Also there are no indicators with a higher cross loading on another latent variable than the one they belong to (although for ‘opportunism’ the cross loading to the latent variable Communication²⁴ is as high as to Trust). What is remarkable is that all cross-loadings are very high (the lowest is 0,6,). This may indicate 1. that there is relatively little variance in the data; or 2. that the latent variables are very closely connected. While the first may to some extent indeed be the case, the second is a finding that indeed shows the importance of the concepts trust, contact and IP and their mutual influence.

²⁴ For the sake of clarity, indicators (variables) will always be referred to with their variable names between single quotation marks (i.e. ‘variable name’), while latent variables will be referred to without quotation marks, but using a capital as their first letter (as if they were names of persons – i.e. Latent variable).

5.3.1.2 convergent validity

The convergent validity of the latent variables – or in other words: the internal consistency – can be measured using the composite reliability measure. Again Hulland proposes a cut off point: 0,7 is the minimum. As can be seen below, all three latent variables score far above this minimum.

| | Composite Reliability |
|----------------------|------------------------------|
| <i>Communication</i> | 0,97 |
| <i>IP</i> | 0,90 |
| <i>Trust</i> | 0,96 |

Table 22 – Composite Reliability of the ‘trust model’

5.3.1.3 discriminant validity

Discriminant validity is a measure to see if the different latent variables in the model do really differ from one another. If the different latent variables cannot be shown to be different from one another, they cannot be expected to measure different concepts.

To check this, the square root of the AVE (the average variance extracted, which is the variance captured by the latent variable relative to the measurement error (Sun and Zhang 2004)) should be higher than the latent variable correlations (Garbade 2009). In other words: the shared variance between a latent variables and its constituting variables should be greater than the variance shared between latent variables among one another (Sun and Zhang 2004). Furthermore, the AVE should be 0,5 or higher, which means that at least 50% of the variance in the constituting variables should be explained by the latent variable they are connected to (Garbade 2009).

| | <i>Communication</i> | <i>IP</i> | <i>Trust</i> | SQRT AVE | AVE |
|----------------------|----------------------|-----------|--------------|-----------------|------------|
| <i>Communication</i> | 1,00 | | | 0,95 | 0,91 |
| <i>IP</i> | 0,85 | 1,00 | | 0,87 | 0,76 |
| <i>Trust</i> | 0,94 | 0,86 | 1,00 | 0,93 | 0,87 |
| SQRT AVE | 0,95 | 0,87 | 0,93 | | |

*Table 23 – Discriminant Validity of the ‘trust model’
(in gray the latent variable correlations)*

It turns out that the AVEs are far above 0,5. However, the correlation between Trust and Contact is a little higher than the square root of the AVE of the latent variable Trust. An option could be to take ‘opportunism’ out of Trust (as ‘opportunism’ has the lowest cross loading towards Trust, while this is (as) high towards Communication). However, as opportunism is a very important aspect of trust and the difference between the SQRT AVE and the correlation is very small, it has been decided to keep the model as it is.

5.3.1.4 statistical tests

Then the structural model has been tested statistically (again following Garbade 2009), using t-tests of the path coefficients (between the latent variables) and the outer loadings (the loadings of the constituting variables on the latent variables). The t-values have been calculated using a bootstrapping procedure of 5000 samples (while 100 is the bare minimum (Garbade 2009)), to make the outcomes more stable. All outer loadings are significant (see Table 24 - the lowest value is $t = 6,39$). Also the path coefficients are significant, although the path from IP to trust is only significant at alpha = 0,05 for a one-sided test (which could be used as a positive relation was expected).

| | Sample Mean | Standard Error | T Statistics |
|---|-------------|----------------|--------------|
| <i>IP arrangements – confidentiality <- IP</i> | 0,95 | 0,02 | 53,99 |
| <i>IP arrangements – ownership <- IP</i> | 0,79 | 0,13 | 6,39 |
| <i>Contact – e-mail <- Communication</i> | 0,96 | 0,03 | 30,53 |
| <i>Contact – face-to-face <- Communication</i> | 0,93 | 0,04 | 22,12 |
| <i>Contact – phone <- Communication</i> | 0,98 | 0,01 | 69,35 |
| <i>cooperate again <- Trust</i> | 0,94 | 0,03 | 28,77 |
| <i>extra investment <- Trust</i> | 0,95 | 0,02 | 45,24 |
| <i>opportunism <- Trust</i> | 0,88 | 0,06 | 13,73 |
| <i>IP arrangements – patent mapping <- IP</i> | 0,85 | 0,07 | 12,36 |
| <i>keeping promises <- Trust</i> | 0,95 | 0,02 | 44,76 |

Table 24 – T-values of the outer loadings (first the variable name, then the latent variable on which it loads)

| | Sample Mean | Standard Error | T Statistics |
|-----------------------|-------------|----------------|--------------|
| Communication → Trust | 0,70 | 0,16 | 4,53 |
| IP → Trust | 0,27 | 0,14 | 1,78 |

Table 25 – T-values of the path coefficients (connecting Communication and IP to Trust)

5.1.3.5 model fit

Finally the model fit be evaluated using the R^2 value. For this model, the R^2 is 0,90 which is very good. Trust (as measured by the four variables) can thus be explained very well by the concepts of Communication and IP.

5.1.3.6 conclusion and discussion

It has been shown that Trust is influenced by Communication and IP. The influence of Communication (0,70) is much larger (and more significant) than the influence of IP (0,27). Hence the model has shown that trust is more a result of intense communication between the partners, than of high levels of IP arrangements. However, this does not mean that IP does not have a role to play in the cooperation. As for trust the broad definition has been used, it cannot be tested how communication is related to trust without any form of IP. This would be an interesting topic for further research. What we however can

conclude, is that – assuming there is a certain level of IP arrangements present in the alliance – trust develops through the frequency of contact within the alliance.

It is good to note here that in the development of this model, also other variables, loading on other latent variables, have been used, for example the risk the partner perceived on the leakage of confidential information, or whether or not the partner had experience with a failed alliance. However, these factors did not seem to play a role that even came close to significant, and have thus not been reported (see for a complete overview of these variables Appendix V)²⁵.

Finally, it has been proposed that the role of communication could be an intermediary one. If this is modelled, the path coefficient between IP to Communication becomes 0,85 ($t = 14,32$), while the path from Communication to Trust is 0,94 ($t = 22,38$), with a model fit of $R^2 = 0,88$. The validity and reliability measures remain comparable to the reported model, and will hence not be reported. This model shows that IP and Communication may indeed be related, and that in this way the significance of IP in the model is enormously increased. These results point at the fact that communication indeed plays an intermediary role between IP and Trust, and hence the importance of communication for trust building, irrespective of the level of IP protection applied, should not be underestimated.

Different interpretations of this results may be that more IP is often related to more intense collaborations (with hence more contact), or that the security IP offers may lead to more contact, as one is more secure that what one tells will not be made use of in inappropriate ways. However, as the first interpretation (that communication builds trust and hence intermediates between IP and trust) has been found in literature, this interpretation will be used in the remainder of this thesis.

In the next section, IP, communication and trust will be related to the innovative performance of the alliance, as this is of course the ultimate goal of the alliance: the creation of new products or processes.

5.3.2 Performance model

The performance model describes the relation that can be found between communication, trust, IP arrangements and innovative performance. It is expected that IP and communication build trust, and that trust and communication both increase innovative performance.

Furthermore, the influence of previous experience has been taken into account. It can be expected that companies that have experienced a failed alliance are more inclined towards IP arrangements in a new alliance, to prevent new failures.

The model has again been tested using the approach used for the trust-model. It turned out that by relating both Trust and Contact to Performance, both were not significant. This could be explained by the fact that Contact also is related to Trust, and hence part of its effect on Performance goes via the latent variable Trust. In theory, the effect of Contact on Performance would be a different one (namely the creation of new ideas) than the effect via Trust (contact builds trust, which increases performance),

²⁵ Also, a model where Trust and Communication load on (cause) IP has been set up. However, this model was very unstable (different bootstraps of 5000 samples gave very different results (t -values changed from 1,2 to nearly 3), and both Communication and Trust were not found to be significantly related to IP. Only risk and experience seemed to have relations (close to) significant to IP. But as these findings were beyond the scope of this thesis and the model was unstable, these results have chosen not to be reported.

but such a distinction is not possible using the data. And probably because the small sample size ($N = 33$), it is impossible for the statistical procedure to recognize this difference (if it does exist at all). Hence, it has been decided to delete the path from Contact to Performance, and to assume that all influence of Contact goes via Trust (i.e. an indirect effect). This results in the model in Figure 4 (numbers again from one sample), which will then be tested on validity and reliability.

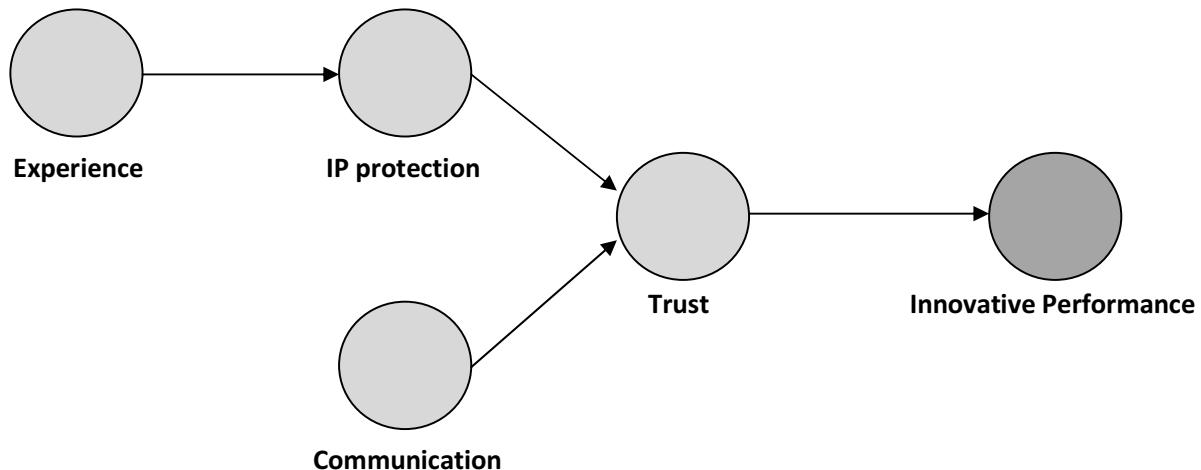


Figure 4 – Performance model – Innovative Performance explained by Trust, where Trust is build by IP (related to Experience) and Communication

5.3.2.1 individual item reliabilities

Again every variable (or: indicator) should have a cross-loading of at least 0,7 to its latent variable (the absolute minimum however is 0,4), and all indicators should have their highest cross loading on the latent variable they are connected to. In the output table below the cross loadings can be found.

| | Contact | Trust | Experience | IP | Performance |
|--|---------|-------|------------|------|-------------|
| <i>contact – e-mail</i> | 0,96 | 0,81 | 0,60 | 0,74 | 0,77 |
| <i>contact – face-to-face</i> | 0,93 | 0,93 | 0,75 | 0,91 | 0,97 |
| <i>contact - phone</i> | 0,97 | 0,86 | 0,64 | 0,75 | 0,81 |
| <i>cooperate again</i> | 0,88 | 0,90 | 0,58 | 0,70 | 0,78 |
| <i>extra investment</i> | 0,87 | 0,98 | 0,71 | 0,90 | 0,97 |
| <i>keeping promises</i> | 0,87 | 0,98 | 0,71 | 0,90 | 0,97 |
| <i>experience with a bad alliance</i> | 0,70 | 0,70 | 1,00 | 0,83 | 0,73 |
| <i>IP arrangements – patent mapping</i> | 0,72 | 0,72 | 0,60 | 0,84 | 0,77 |
| <i>IP arrangements - confidentiality</i> | 0,87 | 0,87 | 0,80 | 0,94 | 0,91 |
| <i>IP arrangements - ownership</i> | 0,60 | 0,69 | 0,75 | 0,83 | 0,73 |
| <i>new processes</i> | 0,93 | 0,93 | 0,75 | 0,91 | 0,97 |
| <i>new products</i> | 0,81 | 0,93 | 0,67 | 0,88 | 0,97 |

Table 26– Cross loadings ‘performance model’
(in black cross loadings of the indicators on the latent variable they are connected to, in grey the other cross loadings)

It becomes clear that every indicator has a cross-loading of minimally 0,83 to its own variable, and hence the 0,7 criterion has been fulfilled. Also there are no indicators with a higher cross loading on another latent variable than the one they belong to (although for ‘contact – face-to-face’ the cross loading to the latent variable Communication is as high as to Trust, which may show the special importance of face-to-face contact for building trust²⁶). Furthermore, the variable ‘opportunism’, loading on Trust, has not been incorporated in this model, as this variable already in the trust model caused some problems, and in the development of this model these problems were even causing insignificant results (compared with the model reported here).

5.3.2.2 convergent validity

The convergent validity of the latent variables again indicates a good model quality: all values are far above the minimum of 0,7.

| | Composite Reliability |
|--------------------|-----------------------|
| <i>Performance</i> | 0,97 |
| <i>Contact</i> | 0,97 |
| <i>Experience</i> | 1,00 |
| <i>IP</i> | 0,90 |
| <i>Trust</i> | 0,97 |

Table 27 – Composite Reliability of the ‘performance model’

5.3.2.3 discriminant validity

Discriminant validity is a measure to see if the different latent variables in the model do really differ from one another. Hence, again the square root of the AVE should be higher than the latent variable correlations. Furthermore, the AVE should again be 0,5 or higher.

| | <i>Performance</i> | <i>Contact</i> | <i>Experience</i> | <i>IP</i> | <i>Trust</i> | SQRT AVE | AVE |
|--------------------|--------------------|----------------|-------------------|-------------|--------------|----------|------|
| <i>Performance</i> | 1,00 | | | | | 0,97 | 0,95 |
| <i>Contact</i> | 0,90 | 1,00 | | | | 0,95 | 0,91 |
| <i>Experience</i> | 0,73 | 0,70 | 1,00 | | | 1,00 | 1,00 |
| <i>IP</i> | <u>0,92</u> | 0,85 | 0,83 | 1,00 | | 0,87 | 0,76 |
| <i>Trust</i> | 0,95 | 0,91 | 0,70 | <u>0,87</u> | 1,00 | 0,96 | 0,92 |
| SQRT AVE | 0,97 | 0,95 | 1,00 | 0,87 | 0,96 | | |

Table 28 – Discriminant Validity of the ‘performance model’ (in gray the latent variable correlations)

It turns out that the AVEs are far above 0,5. However, two correlations (underlined) are equal or higher than the SQRT AVE of one of the latent variables they belong to. The first is the correlation between Trust and IP, which is as high as the SQRT AVE of IP. As both are related in the model (IP loads on Trust)

²⁶ The particular quality of face-to-face communication will be discussed in greater depth in the discussion (next chapter).

a correlation could have been expected. However, this correlation should not be higher (or here: as high) as the cohesion of the contributing variables in the latent variable IP. However, it has not been chosen to take the variable with the lowest cross loading in IP ('IP arrangements – ownership') out of this construct, as more variables loading on a construct is important for the quality of the model as well (as this adds more variance to be explained to the model).

The second, more problematic, case is the high correlation between IP and Performance. This indicates that it might improve the model to 1. measure IP more consistently (by e.g. deleting 'IP arrangements – ownership', as discussed in the previous paragraph); or 2. connect IP to Performance. The first option has already been discussed. The second option has been tried, and indeed results in a significant path coefficient (size = 0,41, t-value = 2,21), while also the path between Trust and Performance remains significant (size = 0,59, t-value = 3,38). However, as this relation has not been found in the literature studied and there thus is no explanation for the relation available, this relation has not been incorporated in the model. This should be kept in mind when interpreting the results, and may be an interesting topic for further research.

5.3.2.4 statistical tests

Also this model has been tested statistically using t-tests. The t-values have been calculated using a bootstrapping procedure of 5000 samples. All outer loadings are highly significant (see Table 29 - the lowest value is $t = 7,98$). Also the path coefficients are significant, although the path from IP to Trust is (again) only significant at alpha = 0,05 for a one-sided test.

| | Sample Mean | Standard Error | T Statistics |
|------------------------|-------------|----------------|--------------|
| arra_con <- IP | 0,95 | 0,03 | 29,95 |
| arra_own <- IP | 0,82 | 0,10 | 7,98 |
| cont_ema <- Contact | 0,95 | 0,03 | 29,15 |
| cont_f2f <- Contact | 0,93 | 0,04 | 25,14 |
| cont_tel <- Contact | 0,97 | 0,02 | 58,14 |
| coopagain <- Trust | 0,90 | 0,06 | 15,61 |
| invest <- Trust | 0,98 | 0,03 | 38,58 |
| newproc <- Performance | 0,97 | 0,04 | 27,60 |
| newprod <- Performance | 0,97 | 0,02 | 40,92 |
| patmappi <- IP | 0,83 | 0,08 | 10,83 |

Table 29 – T-values of the outer loadings.

| | Sample Mean | Standard Error | T Statistics |
|---------------------|-------------|----------------|--------------|
| Contact > Trust | 0,58 | 0,22 | 2,66 |
| Experience > IP | 0,82 | 0,12 | 7,00 |
| IP > Trust | 0,39 | 0,19 | 1,91 |
| Trust > Performance | 0,95 | 0,03 | 35,03 |

Table 30 – T-values of the path coefficients

5.3.2.5 model fit

Finally the model fit be evaluated using the R square value. Three of the constructs (those where both latent and ‘normal’ variables are loading on) have an R^2 value (which measures how much of the variance of all contributing and latent variables on the variable is).

| | R^2 |
|--------------------|-------|
| <i>Performance</i> | 0,91 |
| <i>IP</i> | 0,69 |
| <i>Trust</i> | 0,86 |

Table 31 – R2-values of Performance, IP and Trust

It turns out that all are rather strong, while IP is has the weakest fit ($R^2 = 0,69$), which is still good. Furthermore, most of the variance in Performance has been explained, even though IP has not been connected to this construct, which shows that the model has not suffered too much from leaving out this possible linkage.

5.3.2.6 Conclusion and discussion

The relation between Trust and Performance has been shown in this model. It turns out that this relation is strong (path coefficient = 0,95) and highly significant (t-value = 35,03). Also if a path between IP and Performance would be included, still the influence of Trust is higher than the contribution of IP. Hence, the importance of trust in an innovative alliance should be emphasized²⁷.

Trust can be built by both IP and Contact, where the influence of Contact is more important (path coefficient of 0,58 vs. 0,39) and more significant. As trust in its turn of leads to higher innovative performance, it is important to facilitate intensive contact within an innovative alliance. This may be a reason for seeking partners relatively nearby, and indeed a reason why clusters foster innovation. It has also been shown that there is little difference between the contributions of different types of contact (although face-to-face contact seems to be slightly more influential, more about this in the next chapter). Hence also e-mail or telephone contact can be used to foster innovation.

Furthermore, experience with a failed alliance leads to more IP arrangements in alliances, as was expected. This may be related to the disposition towards trust people have: if they have experienced a failed collaboration, they may be less inclined to trust possible partners again, and make more use of IP in new collaborations. However, it could also be the other way around: collaborations in which the protection of IP is high may suffer of a higher chance of failure. This cannot be said using the data available for this research, hence a further study of this phenomena may be recommended.

²⁷ Although this relation – trust increasing innovative performance – indeed is the relation tested in the model and found in literature, it may be good to also look at it from a different perspective. If alliances perform well, and thus the partners make profits with in, gain what they expected to gain (or even more) and hence are satisfied, there may be more ‘space’ for trust. On the other hand, if alliances do not perform well and cost more than they yield, the incentive for the partners may be to behave opportunistically or to be more focussed on one’s own good than the good of the whole alliance. Hence, alliance failure may be a reason for (a higher propensity towards) distrust, which is important to keep in mind when further research into the relation between trust, IP and innovation performance is carried out.

More generally, it is important to be aware of the limitations of this research. As only data of 33 alliances were available (and of some of these alliances not all data were received), there is the risk of overfitting the data. That this indeed to a certain extent may be the case is shown by the fact that in preliminary analyses (with the first 27 alliances) some significant models have been estimated that were not significant anymore using the final sample of 33 alliances. Hence the collection of more data would be recommended to find more stable results and to gain a higher external validity.

Furthermore, the variation available within the data was relatively small (as e.g. the cross loadings and the correlations between the latent variables showed). This poses another limitation to the results: how can we be sure that the results we found are really the consequence of real differences between cases and constructs, and in how far are they the results of the positive attitude of the respondent towards the alliance generally? However, as the quality requirements of the PLS models have been fulfilled and the outcomes are in line with what has been expected from literature, the results can be trusted, but further data collection is recommended.

Also, the measurement of different constructs deserves attention and further specification if further research is carried out. More insight in the role of trust and IP arrangements on alliance performance, and their mutual relation, can only be gained if trust can also be measured in a narrow sense, and the difference between narrow trust and reliance (as introduced in Chapter 2) can be made. Furthermore, the high latent variable correlations may point at the fact that the different latent variables have not been measured sufficiently precise, and thus do not represent the different concepts, but rather an overall ‘satisfaction’ with the alliance and its performance. However, as the model confirms the relationships expected using literature and also explains a number of failed alliances, the results of the model can be trusted.

Finally, because of the limited amount of data, it was not possible to incorporate other factors that could play a role (e.g. risk on the leakage of confidential information, the complementarity between the partners in the alliance or the difference between contract research and ‘egalitarian alliances’), as otherwise too many degrees of freedom would be needed to estimate the model and finding significant results would become hardly possible. Also for that reason the collection of more data is recommended.

5.3.3 Other observations

The alliance does not stand on itself, but is highly influenced by the cluster and the company level. The cluster can play an important role in trust building, e.g. by the cluster coordinator acting as a go-between, as we have seen earlier. But also the company level heavily influences the outcomes found on the alliance level. In this section two important observations will be presented, and directions for further research will be proposed.

The first is that ***formal and informal IP*** levels at the company level seem to have different influences on the alliance level. The correlations between the trust variables on the alliance levels and the formal and informal IP protection at the company level have been investigated (see Table 32 below). The level of informal IP protection is significantly positively related to opportunism (more informal IP protection is related to more opportunism). This may imply that informal IP protection methods leave room for opportunism from the other collaboration partners, e.g. by abusing confidentiality arrangements.

Formal IP protection is positively related to the partner keeping promises, which may indicate that (totally apart from the influence trust may have) one's partners are more inclined to keep promises if one makes more use of formal IP protection mechanisms, maybe because they are more afraid to be taken to court. A final remarkable observation from the correlation table is that there is hardly a relation to see between formal and informal protection mechanisms. This may indicate that these are not just different aspects of an overarching concepts called general IP protection, but completely separate concepts themselves. The difference between formal and informal IP protection and the different influences these may have on the alliance level, especially on trust, is an interesting topic for further investigation.

| | | <i>informal IP</i> | <i>formal IP</i> | <i>keeping promises</i> | <i>extra investment</i> | <i>opportunism</i> | <i>cooperate again</i> |
|--------------------|-------|--------------------|------------------|-------------------------|-------------------------|--------------------|------------------------|
| <i>informal IP</i> | Corr. | 1,000 | -,045 | ,000 | -,020 | ,414 | -,045 |
| | Sig. | . | ,719 | 1,000 | ,903 | ,024* | ,813 |
| | N | 37 | 37 | 25 | 25 | 22 | 21 |
| <i>formal IP</i> | Corr. | -,045 | 1,000 | ,567 | ,061 | ,231 | ,175 |
| | Sig. | ,719 | . | ,000** | ,700 | ,195 | ,338 |
| | N | 37 | 37 | 25 | 25 | 22 | 21 |

Table 32 – Correlation table of formal and informal IP protection vs. trust variables (significant values in bold, where * = significant at the 0,05 level, ** = significant at the 0,01 level)

And second, during the interviews distrust has never been mentioned as a reason for **alliance failure** (compare Fortuin and Omta 2008 where this is the case in 7 out of 12 failed alliances). This could be caused by the fact that alliance failure is a sensitive issue. However, it could also be the case that there is an important phase before the alliance starts, some sort of an informal selection procedure in which trust plays an important role. Maybe if trust is not found or established here, the alliance does not even start. To find out how trust is built, this thus may be an important phase to investigate. It could even be that this phase of getting to know each other and of writing the goals and agreements related to the alliance, are essential for building trust. This would mean that standard contracts, as some companies we interviewed used, may harm the trust building in the alliance, and thus its performance. This could explain the relation between alliance failure and the level of IP: high levels of IP, due to standard contracts, may increase the chance on alliance failure.

Chapter 6

Discussion

In the previous chapter, the results of the research have been presented. Furthermore, the limitations of the statistical analyses have been discussed, as well as their implications for the validity and generalizability of the results. However, on a more basic level some more limitations can be recognized and deserve some attention here. Furthermore, a number of recommendations for further research will be proposed.

6.1 Limitations

First the choice of the clusters and the respondents within the clusters may influence the results. The clusters were chosen because 1. there were relations established between Food Valley and the cluster coordinators of these clusters; and 2. they were thought to be interesting (best practice) cases. This may have resulted in a limited overview of the existing clusters in the Netherlands, hence it is important to realize that this research does not aim to be generalizable to all the Dutch clusters, and its results thus should not be stretched to cover the whole Dutch situation. To increase the generalizability of further research, it is recommended to select clusters that are both homogenous and heterogenous (in terms of the size of the companies in the cluster and sector(s) in which they are active), differ in size of membership and that are geographically concentrated or rather national²⁸ (or even international) and focused for example one sector (health related high-tech e.g.) or company type (e.g. research institutes). It can be expected that these factors importantly influence the functions and influence on corporate innovation performed by the cluster (coordinator).

Furthermore, the cluster coordinators were asked which companies could be usefull and accessible for our research, which probably results in a sample with companies relatively closely connected to and satisfied with the cluster coordinator. To improve the picture given of the clusters, also companies that have less contact with the cluster coordinator should be investigated, as well as some companies that are not at all connected to the cluster coordinator²⁹. A first step could be to ask companies that became a member why they decided to do that, and to ask companies that stop their membership why they chose to do so. This could be an interesting topic for further research. But even from the company interviews available from this research, more insights in the cluster coordinator's activities could be gained, if these would be studied in more detail.

Related to this, it is probable that cluster coordinators are positive about their achievements, and that – from their self-assessments only – one cannot get a full picture of the achievements of these organizations. Furthermore from the interviews we got the impression that the same achievements are claimed by different cluster coordinators. Hence only by a full assessment of such cases, as the

²⁸ Which is still rather small in the case of the Netherlands.

²⁹ As currently, due to the sampling method used, no companies not related to a cluster coördinator (or even a cluster) have been investigated, and hence a control group is lacking. However, the use of different clusters of different sizes and level of diffusion (or heterogeneity), and the investigation of how these factors influence the results found, may to a large extent compensate for the lack of a control group.

attraction of a new company to a cluster, one could get the real picture of the role of such innovation fostering organizations. Hence it could be an interesting topic for research to choose a number of important happenings in a cluster, and to investigate which organizations claimed to have played a role in this achievement.

Second, it is important to realize that non-report does not mean that certain phenomena or activities are non-existent. It could be that a respondent does not know about it (which is probably at large companies), or is more fond of different subjects (as could be a cluster coordinator talking about her last achievements). Hence in the description of the roles of cluster coordinators, non-report does not mean that a cluster coordinator does not perform this role, nor that it would be a necessary role for her to play. Also on the company level non-report should be interpreted carefully, especially with sensitive issues as alliance failure. It only means that it has not been mentioned during the interview. But of course, the structuring of the interviews, as well as the growing insight in the issue resulting from previous interviews, non-report clearly indicates that the non-reported issue at least has less attention from the respondent, which gives at least an indication of where the priorities and main activities lay.

Third, it is important to realize that very different cluster coordinators, e.g. in how they are funded or what their main goals are, may yield the same results for the companies they are active for. It has been found that especially contact between companies, information about the other companies in the cluster and the creation of trust between the companies in the cluster (e.g. by having a shared goal, such as the availability of well-educated employees or a shared agenda) is important for the innovation performance in the innovative alliance. And contact, information and trust-building can all happen in a number of different ways. A publicly funded cluster coordinator may e.g. foster contact because public money for research will be devolved by the cluster coordinator, while a privately funded coordinator may foster contact because the companies have to agree on how the funding will be devolved and what the money will be spent on. Hence, it is important to realize that 1. differences in size or shape do not have to mean differences in innovation performance; and 2. it may be not necessary to spend public money on certain issues when these issues themselves are not necessary for innovation, but only the information, contact or trust these issues bring in the cluster.

Finally, before some topics for further research are introduced briefly, the role of IP needs to be commented on again. It is important to emphasize that the findings in this study do not mean that trust and communication substitute for IP. In all alliances studied, certain IP measures were applied (and in some cases detailed contracts were even applied standard by the company). There are thus no data pointing at the fact that trust and communication can substitute for IP protection³⁰. Rather, what this research points at is that IP is no substitute for trust and communication. Trust and communication turned out to have a greater influence on innovation performance than IP had. Furthermore, communication builds trust, and trust is necessary especially in the pursuit of innovation, where flexibility and creativity are key. Hence, companies are well advised to spend due attention to the

³⁰ Even the case discussed in case 4, a green biotech company active in a non-western market, used (informal) IP protection methods, and put efforts into the development of a juridical IP protection system, although they reported also without (formal) IP protection they were able to do business in a profitable way.

building of trust and (and by) communication. It may even be the case that the establishment of IP arrangements is a means through which contact is established and trust is built (not because of the arrangements per se, but because of the process of making these arrangements). For further research, it would be interesting to investigate what the role of the process of establishing IP arrangements is, and if standard contracts do harm trust and hence innovation performance. Furthermore, if one would carry out such an exercise, one should be advised to investigate the details of the contracts, as the content of contracts may vary importantly (compare Klein Woolthuis et al. 2005).

6.2 For further research

Before we will turn to the conclusion of this thesis, three topics for further research will be proposed. The first two topics turned out to be of high importance for the companies in the clusters, as these topics were not especially asked for but were mentioned regularly. The third topic has a more theoretical background, as one of the results found in the PLS-models was not what was expected from literature.

The first topic is the topic of open and closed innovation. It turned out that a number of companies were concerned about the developments in their sectors, where IP protection mechanism, especially using patents, were limiting innovation. By using patents strategically, by only patenting parts of the whole technology discovered and by blocking certain fields of discovery with patents, the possibilities of research are limited. Patents are no longer a foundation to build further research upon, but are a means of getting research monopolies. Especially in the green biotech sector, where technical developments go extremely fast³¹, the application of patents is threatening innovation. Hence it would be an interesting topic for further research to investigate 1. how patents are currently applied as a means of competition; 2. in which way this harms ‘fair’ competition and innovation; and 3. what patent policy changes may be needed to make patents (again) a source of innovation.

Second, there is the problem that having patents (or to a certain extent: IP in a broader sense) is no assurance that one’s intellectual property is safe. One could say that IP protection methods are the fences around one’s intellectual property, but that this protection only works if there is electricity on the fences. What use are fences if there is no electricity to prevent others to steal one’s IP? Electricity could be a juridical department, the possibilities to screen potential abuse of one’s IP and the financial strength and endurance to go to court if one’s IP is infringed upon by others. It might be interesting to investigate 1. what IP related conflicts are brought to court³²; 2. what the outcome of such a court case is; and 3. why this outcome has resulted from the court case. If it turns out that most cases are compromised, it may be worth thinking of policy measures to prevent e.g. smaller companies from IP infringements by large companies, e.g. by publicly funded juridical assistance.

Third, in the results it was found that communication builds trust, and that communication may also be positively related to innovation performance (although in the PLS models this relation was found only

³¹ It has even been reported several times that the pace of knowledge exploration is so fast that the knowledge exploitation lags behind and the amount of fundamental research could (or even should) be decreased.

³² Literature about the practical use and real value of patents exists, and could be used to further investigate this topic.

via trust). The variables measuring communication discerned between face-to-face, phone and e-mail contact. No (important) difference was found between the contributions of these three variables to the building of trust and the innovation performance. However, literature seems to suggest that especially face-to-face contact has a special characteristic that makes it different from other forms of interaction. For example, the sociologist Collins (2005) writes that trust is built especially by interactions where people are bodily copresent, and thus not via phone or e-mail. The sociologist Bauman (2004) writes that people may prefer other means of communication over face-to-face contact, as in face-to-face contact it is more difficult to play a role, not to loose face. Hence, it could be expected that especially face-to-face contact fosters trust, as it is harder to act trustworthy in a face-to-face conversation than via e-mail. And finally Nilsson (2008) writes that benefitting from open innovation “requires a level of inter-organizational trust” and that “trust is based on repeated and frequent interaction, *face-to-face contacts*, shared history and cognitive, social and cultural context [italics added]” (276). Hence, here again the peculiarity of face-to-face contact is stressed.

However, in the results the contribution of face-to-face contact to trust (via the latent variable Contact) did not differ much from the contribution of e-mail or phone contact (and if there was a difference, the contribution was rather lower than greater. How could this be the case? Taking a closer look (at the performance model), something important can be found. It shows that, testing the individual item reliabilities, face-to-face contact scores higher (directly) on all other latent variables than e-mail or phone contact does. Especially on performance (0,97 vs. 0,77 and 0,81), IP (0,91 vs. 0,74 and 0,75) and trust (0,93 vs. 0,81 and 0,86) these differences are remarkable. There is thus still some reason to belief that there is something peculiar to face-to-face contact. This may be an interesting topic for further research: what is it that distinguishes face-to-face contact from other means of communication, does it harm innovation performance if more communication is done digitally (and does video conferencing substitute for real face-to-face contact) and why did the model presented in this research not find the special importance of face-to-face contact?

Chapter 7

Conclusion

This research has shown the importance of trust, communication and IP for innovative performance in the innovatie alliance. It has been shown that both trust and (formal and informal) IP protection mechanisms play a role in innovative performance, but that the influence of trust is larger than the influence of IP protection. Furthermore, it has been found that trust is built by communication and IP, where again IP is the least influential of the two. Hence it is important to foster communication between the partners within the alliance to build trust. Also the process of setting up contracts and establishing IP arrangements may be a means through which contact is increased, and hence trust can be build. Although it could have been expected that communication also had a direct (and positive) influence on innovation performance, this has not been found in this research.

Not only do communication and IP (in a lesser extent) build trust, also the cluster in which the companies and the innovative alliance functions may be important for the building of trust. In the cluster, especially the cluster coordinator may play an important role. The cluster coordinator, as a key actor within the cluster, may increase trust between the companies in the cluster by: 1. bringing the companies in contact; 2. fostering trust building; and 3. the development of shared goals. Contact has been found to increase trust, and bringing in contact is one of the most important functions reported by the cluster coordinators interviewed. Bringing in contact happens for example by meetings of cluster members, by match-making or by the development of a shared strategic research agenda for the longer term. Trust can be built by building and maintaining a shared culture within the cluster: higher mutual understanding often leads to higher trust. Furthermore, a culture of cooperation, as reported in High-tech Valley, may be an extremely valuable cluster asset, not just for the trust it builds, but also for the opportunities for open innovation it offers. Trust can also be built by a number of functions ascribed to the go-between in literature (e.g. boundary spanning). Finally the transitivity of trust may foster trust between companies, if all companies trust the cluster coordinator. Third, the development of shared goals may build trust within the cluster. Sharing a goal, working for the same (precompetitive) objectives has been reported to build trust between the companies in the cluster. Such shared goals can be a shared research agenda, but also more political issues as for example related to the labour market. Hence it is, for a company active in an innovative alliance, very important to understand the importance of trust, and how IP, communication and the cluster may all influence the levels of trust within the alliance. By making optimal use of the cluster, by fostering communication within the alliance and by using IP as a means towards communication and trust, the innovative performance of the alliances can be expected to increase. In the next, and last, chapter recommendations will be given about how to build trust as good as possible.

Chapter 8

Recommendations

This chapter will give a number of recommendations how to apply the findings of this research to improve innovation performance, especially in alliances. To do so, first some recommendations towards the companies and the alliances will be given. Secondly, recommendations towards the cluster coordinators will be presented, and finally, some recommendations that may be useful for policy makers will be introduced.

8.1 Company

For innovation performance in innovative alliances, trust is of critical importance. Hence it is important to find (a) partner(s) one can trust and to feed this trust with communication to let it grow even further. To start with the selection of partners, it is important not only to select on the complementarity, which of course is the driving force behind collaboration, but also on trustworthiness. You could ask yourself if there are others that you trust, that trust this potential partner. This may be other companies, but also e.g. a cluster coordinator. This trust would not only tell you something about the trustworthiness of the potential partner itself, but also about the incentives the other may have to act trustworthy as otherwise reputation damage may occur.

Furthermore, it is important to understand that there is a trade-off between familiarity and novelty of the potential partner. Very novel partners may offer huge amounts of new knowledge, but may be difficult to understand (a high cognitive distance) and hence to trust. Sometimes it may thus be better to choose a partner that is slightly less complementary to your company, but may be easier to build trust with, as trust is very important for innovation performance. Related to this, it may be important not to have too many partners, as it has been reported that especially large alliances with many partners suffer from opportunism and non-understanding.

With respect to familiarity, also the location of the partner may be of importance. Fortuin & Omta (2008) report for example the differences in dealing with contracts and IP between European and American companies. Hence also location may have an influence on how easy it is to understand and to trust one's partner. Furthermore, as contact is important, distance may be of influence, as larger distances can be expected to lead to less contact. Especially as face-to-face contact may be of particular quality, it may be recommendable to choose partners that are located nearby, all else being equal.

It is also good to note that it may be worth the efforts and costs to invest in one's relation with a potential partner before the collaboration is formalized. This may make the formalization easier, shorter and thus cheaper, and may increase the mutual understanding and thus also the insights in what arrangements need to be made (as there seems to be a positive relation between complementarity and opportunism, see Garbade 2009).

When a partner has been chosen, contracts and IP arrangements have to be set up. It has been found that making good and clear arrangements is important for collaborations, not only as a legal mechanism, but also because contracts may have three additional functions: 1. coordination; 2. safeguard for

contingencies; and 3. sign of commitment (Klein Woolthuis et al. 2005). It is however important to realize that IP protection mechanisms (among which the establishment of contracts) are never a goal in itself, but only a means towards building security (against all kinds of abuse by the other partners) for the partners in the alliance, which is needed for a sound innovative performance. Hence, the setting up of contracts and IP arrangements should be used to build trust and to foster communication.

Finally, it is important to understand the crucial role flexibility and creativity play in innovation. Only by a certain degree of freedom in the innovative alliance, high innovative performance can be reached. Hence IP arrangements should not be used to fixate all possible situations in advance, but to give direction in how to deal with certain contingencies. As one of our respondents stated: “[t]he best practice in collaboration is to make good arrangements in advance, but not to lay down too many things too precisely. In this way, one can switch quickly if things change or new opportunities occur.” And on our question how abuse could be prevented in such an open relation, she answered: “[b]y a lot of communication”.

8.2 Cluster coordinator

The cluster coordinator can play an important role in the fostering of innovation of companies and alliances within the cluster. Most recommendations have already been presented in text boxes in Chapter 5, and hence will not be repeated here. Only a few last things will be said here.

The first is that it is important to know the companies in the cluster. Not just by name or even by what they are working at, but also what they are thinking about to develop for the future. This information may be invaluable for match-making, as many companies, especially the smaller ones, do not have the time and network available to know all this. A good overview of what is happening in the cluster, and a means to bring this information to the cluster companies, is hence very important. This may happen by active match-making, where the cluster coordinator brings certain partners together that may benefit from one another. But different mechanism may work as well. One of the cluster coordinators reported the use of a LinkedIn account, through which very short news messages relevant for the clusters were distributed. In this way, information can be made available to the cluster companies. And as the cluster coordinator can filter the information and is a neutral source, the information can be expected to be useful for the other companies and not threatening for the company it describes (e.g. by interesting potential competitors for a new field of research. Also the development of a shared strategic research agenda for the long term may be a means to establish a good information environment for companies to carry out open innovation.

A very important aspect of the knowledge environment is whether companies have turned out to be trustworthy alliance partners. The cluster coordinator could try to collect information about previous collaborations and make these available. A kind of web-shop evaluation system may be applicable. For example on the Dutch auction site ‘marktplaats.nl’ one can report whether an auctioner delivered what she promised to. In this way, the cluster coordinator can foster reputation building on the trustworthiness of potential alliance partners and foster trust within alliances.

Then it is important to be close to the companies of the cluster. Close in how reachable one is (is it easy to drop by or to make an appointment), but also close in terms of culture (is the corporate culture at the cluster organization entrepreneur alike, or is it more like a policy organization with a lot of bureaucracy). The importance of relational skills should be stressed here as well, as it is the cluster coordinator that may bring parties together or may create openness to collaborate among potential competitors. Relational skills, and the trust in the cluster coordinator, may make contacts and the establishment of alliances more smooth.

For the accessibility of the cluster coordinator to the cluster companies it is also important that every company should receive the same access. If certain companies (e.g. large companies that contribute more, or companies that are represented in the board) gain priority or are favoured by the cluster coordinator, this may threaten the trust in the cluster coordinator and the use other companies may have of the cluster coordinator.

Finally, it is important for the cluster coordinator to be recognizable. What is its role in the cluster, what are its objectives, what does one do and what not. Also the focus should be narrow: what is the target group of the cluster coordinator (which may result in selecting and inviting ‘fitting’ members), on what subject(s) does it focus, and what are its goals with it? By being easy to comprehend by cluster companies, the perceived distance towards the cluster coordinator becomes smaller for the companies. This is related to expectation management: what can a company expect of the cluster coordinator? Only if these expectations are real, they can be made true. If expectations are not made true, e.g. by stating more than one can make real, this may cause distrust and may harm the cluster and the innovation performance within the cluster. Especially for the cluster coordinator, it is important to realize that ‘trust comes by foot, but leaves by horse’, as one’s role in and for the cluster is (for many companies) not very concrete, but turns out to be of great importance.

8.3 Policy maker

Finally there is the policy level, as clusters and innovation are two topics that are important in economic policy. The first issue, which is related to the final recommendation for the cluster coordinator, is the amount of organizations supporting company collaboration and innovation. This often results in a blurred picture for companies which may paralyze them, as there are so many different organizations that want to support them, while it is not clear for the company what organization can support with what. Hence it should be advised to have a look at what functions the different organizations perform, and if this is the best way to foster collaboration and innovation.

Furthermore it is important to realize that subsidies may increase innovation, but may also result in rent seeking behaviour that is not guided by market opportunities, but rather by the availability of subsidies. In Green Biotech Valley it has been reported that too much fundamental research is funded compared with the current exploitation of existing knowledge. Subsidies should support the market, not disturb it. Hence, it is important to have tight relations with businesses and to know where strategic investments are needed.

Related to this, it has been found that many of the functions performed by cluster organizations are carried out by organizations mainly publicly as well as predominantly privately funded. Hence it may be recommended to investigate whether the spending of public money indeed contribute to the general public in ways private money could not. Otherwise, there may exist better goals for public money. This is also what some public officials seemed to understand, as one respondent stated: “the risk of a publicly funded dependency is that the dynamics of innovation are lost”, and “the serving and facilitating role of the government could get a better place if the companies would increasingly take the lead”.

Finally, as discussed in the previous chapter, patents may have lost their innovation fostering role, and may now hamper innovation. It may be important to revisit the patent policy to make sure that patents on the one hand protect investments on the development of new IP, but also allow and even encourage new innovations based on this new knowledge.

Chapter 9

References

- Alfaro, I. (2009), 'Analysis of the functions of Food Valley Organization as a Sectoral Innovation System', (Wageningen University).
- Barney, J. B. and Hansen, M. H. (1994), 'Trustworthiness as a Source of Competitive Advantage', *Strategic Management Journal*, 15, 175-90.
- Bauman, Z. and Vecchi, B. (2004), *Identity* (Conversations; Cambridge: Polity Press) 104.
- Becerra, M. and Gupta, A. K. (2003), 'Perceived trustworthiness within the organization: The moderating impact of communication frequency on trustor and trustee effects', *Organization Science*, 14 (1), 32-44.
- Bergsma, E. (2010), 'Innovation in Food SME's - the current state of innovation management and innovation measurement in Food SME's', (Wageningen Universitie).
- Bönte, W. and Keilbach, M. (2005), 'Concubinage or marriage? Informal and formal cooperations for innovation', *International journal of industrial organization*, 23 (3-4), 279-302.
- Carmona-Lavado, A., Cuevas-Rodriguez, G., and Cabello-Medina, C. (2010), 'Social and organizational capital: Building the context for innovation', *Industrial Marketing Management*, 39 (4), 681-90.
- Chesbrough, H. W. (2003), *Open innovation : the new imperative for creating and profiting from technology* (Boston, MA: Harvard Business School Press).
- Collins, R. (2005), *Interaction Ritual Chains* (New Jersey: Princeton University Press) 464.
- Das, T.K. and Teng, B. (1998), 'Between trust and control: developing confidence in partner cooperation in alliances', *Academy of Management Review*, 23 (3), 491-512.
- De Vaus, D. (2001), *Research Design in Social Research* (London: SAGE Publications).
- Denolf, J. (2010), 'De rol van beschermbaarheid voor groei van hoogtechnologische starters', Master (Universiteit Gent).
- Diefenbach, T. (2009), 'Are case studies more than sophisticated storytelling?: Methodological problems of qualitative empirical research mainly based on semi-structured interviews', *Quality and Quantity*, 43 (6), 875-94.
- Fliaster, A. and Schloderer, F. (2010), 'Dyadic ties among employees: Empirical analysis of creative performance and efficiency', *Human Relations*, 63 (10), 1513-40.
- FoodValley (2011), 'Food Valley - where food ideas grow', <<http://www.foodvalley.nl/default.aspx>>, accessed the 6th of June, 2011.
- Fortuin, F. (2007), *Strategic alignment of innovation to business* (Innovation and sustainability series, 2; Wageningen: Wageningen Academic Publishers) 176.
- Fortuin, F. and Omta, S.W.F. (2008), 'The Dark Side of Open Innovation: a survey of Failed Inter-company cooperation', *the 8th International Conference on Management in AgriFood Chains and Networks* (Proceedings of the 8th International Conference on Management in AgriFood Chains and Networks; Ede: Wageningen Academic Publishers), 10.

- Garbade, P. (2009), 'Exploration Alliances in the Biotechnology-Sector', (Wageningen University and Research Centre University of Bonn).
- Giddens, A. and Birdsall, K. (2001), *Sociology* (4th edn.; Cambridge: Polity Press) 750.
- Granovetter, M. (1973), 'The Strength of Weak Ties', *The American Journal of Sociology*, 78 (6), 21.
- (1983), 'The Strength of Weak Ties : a Network Theory revisited', *Sociological Theory*, 1, 201-33.
- (1985), 'Economic-Action and Social-Structure - the Problem of Embeddedness', *American Journal of Sociology*, 91 (3), 481-510.
- (1992), 'Economic Institutions as Social Constructions - a Framework for Analysis', *Acta Sociologica*, 35 (1), 3-11.
- (2005), 'The impact of social structure on economic outcomes', *Journal of Economic Perspectives*, 19 (1), 33-50.
- Howells, J. (2006), 'Intermediation and the role of intermediaries in innovation', *Research Policy*, 35 (5), 715-28.
- Hulland, J.S. (1999), 'Use of Partial Least Squares (PLS) in Strategic Management Research: A Review of Four Recent Studies', *Strategic Management Journal*, 20, 195-204.
- Klein Woolthuis, R., Hillebrand, B., and Nooteboom, B. (2005), 'Trust, Contract and Relationship Development', *Organization Studies*, 26 (6), 813-40.
- Klerkx, L. and Leeuwis, C. (2008), 'Matching demand and supply in the agricultural knowledge infrastructure: Experiences with innovation intermediaries', *Food Policy*, 33 (3), 260-76.
- (2009), 'Establishment and embedding of innovation brokers at different innovation system levels: Insights from the Dutch agricultural sector', *Technological Forecasting and Social Change*, 76 (6), 849-60.
- Kumar, R. (2011), *Research Methodology - a step-by-step guide for beginners* (3rd edn.; London: SAGE) 415.
- Larson, A. (1992), 'Network dyads in entrepreneurial setting - a study of the governance of exchange relationships', *Administrative Science Quarterly*, 37 (1), 76-104.
- Lattin, J., Carroll, J.D., and Green, P. (2003), *Analyzing Multivariate Data* (Belmont, USA: Brooks/Cole) 556.
- Lichtenthaler, U. (2011), 'Open Innovation : Past Research, Current Debates, and Future Directions', *Academy of Management Perspectives*, 25 (1), 75-93.
- Luo, Y. (2002), 'Contract, cooperation, and performance in international joint ventures', *Strategic Management Journal*, 23, 903-19.
- MacEvily, S.K., Eisenhardt, K.M., and Prescott, J.E. (2004), 'The global acquisition, leverage, and protection of technological competencies', *Strategic management journal*, 25 (8-9), 713-22.
- NetGrow (2011), 'NetGrow - Innovation and Learning', <<http://www.netgrow.eu/>>, accessed the 6th of June, 2011.
- Nilsson, Magnus (2008), *A tale of two clusters : Sharing Resources to Compete* (Lund Studies in Economics and Management: Lund Business Press).

- Nooteboom, B. (2006), 'Trust and Innovation', (Tilburg: Tilburg University), 12.
- Nooteboom, B., et al. (2005), 'Optimal cognitive distance and absorptive capacity', *Working Paper* (Department of Technology Management; Eindhoven: Eindhoven Centre for Innovation Studies), 47.
- Nooteboom, B. (ed.), (1999), *The triangle: roles of the go-between*, eds. S. Gabbay and R. Leenders (Corporate social capital and liability, Boston: Kluwer Academic Publishers) 563.
- OECD and EUROSTAT (2005), *Oslo Manual - Guidelines for collecting and interpreting innovation data* (3 edn., The Measurement of Scientific and Technological Activities; Paris: OECD Publishing) 162.
- Office, EU Copyright (2011), 'What is intellectual property', <<http://www.eucopyright.com/en/what-is-intellectual-property>>, accessed the 22nd of June, 2011.
- Porter, M. E. (1985), *Competitive advantage : creating and sustaining superior performance* (New York: Free Press).
- (2000), 'Location, Competition, and Economic Development: Local Clusters in a Global Economy', *Economic Development Quarterly*, 14 (1), 15-35.
- Ringle, C. , Wende, S., and Will, A. (2005), 'SmartPLS', (2.0 (beta) edn.; Hamburg, Germany: SmartPLS).
- Sabel, C.F. (1993), 'Studied trust: Building new forms of cooperation in a volatile economy', *Human Relations*, 46 (9), 1133-70.
- Sánchez Gerritsen, S.R. (2011), 'Assessing the transfer of knowledge and valorisation performance of public-private partnerships : cross-sectional study at the centre for bio systems genomics', MSc-thesis (Wageningen University and Research Centre).
- Silverman, D. (2006), *Interpreting Qualitative Data* (third edn.; London: SAGE Publications) 428.
- Sun, H. and Zhang, P. (2004), 'An Empirical Study of the Roles of Affective Variables in User Adoption of Search Engines', *Third Annual Workshop on HCI Research in MIS* (Washington, D.C.), 5.
- Tepic, M. (forthcoming), 'Complementarities of control and trust in open innovation - Exploring the effect of innovation uncertainty and network heterogeneity', 28.
- Van Dijk, J., et al. (2010), 'FoodValley as a driving force behind innovation', (Wageningen: Wageningen University FoodValley), 100.
- Van Klink, K., et al. (2010), 'A company perspective on Innovation Brokering: the case of Food Valley Organization', *the 9th WICaNeM 2010*, 1-12.
- Verhagen, M.J.M. (2011), 'Innovatiebrief - Naar de top: de hoofdlijnen van het nieuwe bedrijfslevenbeleid', in Agriculture and Innovation Ministry of Economic Affairs (ed.), (Den Haag), 16.

Appendix

Appendix I – the cluster coordinator interview guide

Interview Gids



Cluster coördinator
<uw organisatie>

Philipp Garbade
philipp.garbade@Food Valley.nl

Richard Ruitenburg
richard.ruitenburg@wur.nl

Wageningen, <datum>

Legenda

Betekenis opmaak

| | |
|-----------------|-----------------|
| zwartgedrukt | Interviewvragen |
| grijsgedrukt | Instructie |
| gele arcering | vooraf opzoeken |
| grijze arcering | gesloten vraag |

Nummering

1. Hoofdvraag Open vraag die het gesprek op gang moet brengen.

a. subvraag Vragen die, binnen het gesprek, beantwoord moeten worden.

Opmerkingen

Een aantal malen in de tekst komt u <uw organisatie> tegen. Deze moet vervangen worden door de naam van de netwerkorganisatie waarvan de coordinator geinterviewd wordt.

Het is de bedoeling om het interview als een natuurlijk gesprek te laten verlopen. Daarom is het van belang om niet telkens korte vragen te stellen en het antwoord af te wachten, maar om een gesprek te creëren.

Begin daarom met het stellen van de hoofdvraag (deze heeft een nummer). De subvragen daaronder (genummerd met een nummer en een letter) kunnen helpen om het gesprek op gang te houden, maar kunnen waarschijnlijk grotendeels al ingevuld worden tijdens het beantwoorden van de hoofdvraag. Belangrijk is dat de subvragen wel allemaal beantwoord moeten worden. Vraag dus waar nodig om verduidelijking/aanvulling, of breng een vraag in als een nieuw onderwerp als de ondervraagde hier niet zelf mee komt.

Bij een aantal vragen staat tussen haakjes een aanvulling (*schuingedrukt*). Dit is bedoeld als een verduidelijking van de vraag. Deze hoeft enkel voorgelezen te worden als de ondervraagde hierom vraagt. Verder kan dit richting geven aan welke informatie met name relevant is (bijvoorbeeld bij vraag 4.c welke aspect van de organisatie met name van belang is). Ook dan deze informatie (prompts) enkel gebruiken als dit voor het gesprek nodig is en/of als de respondent dit niet uit zichzelf naar voren brengt.

Een aantal vragen moet door de respondent zelf worden ingevuld. Dit staat bij elke vraag aangegeven tussen [blokhaken].

Introductie

Interview starten met een introductie van wie je bent en wat je komt doen. Onderstaande tekst als leidraad gebruiken.

“Beste mevrouw, meneer,

Laat ik ons eerst even voorstellen. Ik ben Richard Ruitenburg, student aan de Wageningen Universiteit en voor mijn master betrokken bij dit onderzoek van Food Valley. [Philipp:] En ik ben Philipp Garbade, en ik werk bij Food Valley als onderzoeker op het gebied van innovatie management. Zoals u misschien wel kunt horen kom ik oorspronkelijk uit Duitsland. Ik wil mij nu al excuseren voor mijn niet perfecte Nederlands. Om die reden zal mijn rol in het interview ook beperkter zijn: Richard zal de meeste vragen stellen.

We willen u heel hartelijk bedanken dat u wilt deelnemen aan dit interview, wat zal gaan over de het ontstaan en functioneren van uw organisatie, <uw organisatie>. Dit interview maakt, zoals in de brief beschreven, deel uit van een groot Europees onderzoek naar de manier waarop clusters innovatie in de agrovoedings-sector kunnen bevorderen. We zijn erg blij dat u hieraan mee wilt werken met uw tijd en ervaring.

Graag zouden we met u, voor dit interview begint, een aantal praktische zaken met u doorlopen.

Allereerst is uit ervaring gebleken dat de gesprekken vaak erg interessant zijn, en dat er veel te vertellen is. Tegelijkertijd willen we niet langer dan nodig beslag leggen op uw tijd. We zullen daarom proberen vlot door de vragen heen te gaan. Het kan daarbij nodig zijn dat we een interessante uitwijding moeten afkappen om met de tijd goed uit te komen. Klopt het dat wij voor dit interview tijd hebben tot [.....]?

Alle informatie die tijdens dit interview ter sprake komt zal vertrouwelijk behandeld worden. Elke te verschijnen publicatie die put uit de informatie die verkregen is tijdens dit interview zal op geen enkele wijze herleidbaar zijn naar u als persoon of uw organisatie.

Het interview zal, als u dat goed vindt, worden opgenomen, zodat we uw antwoorden zo precies mogelijk kunnen verwerken. Als u dat wilt, kunt u vragen om tijdens het interview de opname tijdelijk te stoppen. [indien ja: recorder starten. Vermelden: datum, tijd, plaats, aanwezigen]

Binnen twee weken na dit interview zult u van ons een samenvatting van het gesprek ontvangen, zodat u deze kunt controleren. Als wij binnen twee weken na het verzenden van de samenvatting nog geen reactie van u hebben ontvangen, gaan wij ervan uit dat de samenvatting wat u betreft akkoord is. Hoe zou u deze samenvatting willen ontvangen? [...]

Heeft u op dit moment verder nog vragen? [...] Indien u na dit interview nog vragen heeft en contact met ons wilt opnemen, dan vindt u hier onze contactgegevens. [adreskaartje Philipp geven]

Graag zouden wij nu willen starten met dit interview, dat, als gezegd, ongeveer anderhalf tot twee uur zal duren.”

Start vragenlijst

“We zullen beginnen met een aantal algemene vragen over <uw organisatie> en uw functie. Daarna zullen we dieper ingaan op het ontstaan van <uw organisatie>, en in de loop van het interview de ontwikkelingen in <uw organisatie> door de tijd heen bespreken.”

Algemene vragen

1. Hoe zou u zelf de doelstellingen van <uw organisatie>, en de wijze waarop deze worden bereikt, beschrijven?
 2. Hoe zou u het cluster van bedrijven, waarvoor <uw organisatie> actief is, beschrijven?
 3. Omschrijf kort uw functie binnen de organisatie.
-

“Dan willen we het nu graag hebben over het ontstaan van <uw organisatie>.”

Het ontstaan van het cluster

4. Kunt u ons vertellen hoe <uw organisatie> is ontstaan?
 - a. Wanneer is <uw organisatie> opgericht?
 - b. Wie waren er bij de oprichting betrokken?
 - c. Wat zijn dit voor organisaties? (*i.e. opinieleiders, bedrijven/instellingen, intermediairs zoals consultants*)
 - d. Wat waren hun rollen in het ontstaansproces?
 - e. Welke resources brachten de verschillende oprichters in in het cluster? (*bijvoorbeeld bezittingen, vaardigheden, kennis*)
 - f. Was er op de een of andere manier financiële ondersteuning bij het opzetten van <uw organisatie>? En zo ja, van wie?
 - g. Wat waren de kerndoelen van <uw organisatie> bij de opstart? (*bijvoorbeeld de mate waarin leren en innovatie belangrijk waren, was er een langetermijn visie*)
 - h. Is uw organisatie vooraf opgezet als een project met een bepaalde duur (zo ja, voor hoe lang), of werd <uw organisatie> opgezet als een blijvende organisatie?

- i. Indien <uw organisatie> als een project werd opgezet, is dit nog steeds zo?
 - j. Indien <uw organisatie> als een blijvende organisatie werd opgezet, hoe werd de continuïteit dan bij de oprichting veilig gesteld? En hoe wordt dit nu gedaan?
 - k. Welke voordelen werden voorzien voor de verschillende oprichters?
-

"Dan zullen we nu een aantal vragen gaan stellen over de ontwikkeling van <uw organisatie>. Hierbij gaat het met name om ontwikkelingen op het gebied van doelen, leden* (of deelnemers/partners) en financiering."

* Belangrijk is om de juiste term te gebruiken voor de leden/deelnemers/partners aan de netwerk organisatie. Mocht die nog niet helder zijn, vraag daar dan eerst naar. Probeer vervolgens voortdurend de juiste term te gebruiken.

Ontwikkeling van het cluster en cluster lidmaatschap

- 5. Hoe hebben de doelen van <uw organisatie> zich sinds haar oprichting ontwikkeld?
 - a. Zijn de doelen van <uw organisatie> veranderd? En zo ja, hoe?
 - b. Wie heeft deze verandering in gang gezet?
 - c. Is er verandering geweest in de manier waarop <uw organisatie> deze doelen probeert te bereiken?
- 6. Hoe heeft het aantal leden* (deelnemers/partners) van <uw organisatie> zich sinds de oprichting ontwikkeld?
 - a. Hoeveel deelnemers heeft het cluster op dit moment?
.....
 - b. Kunt u aangeven hoeveel leden <uw organisatie> had bij de oprichting en in welke categorieën, en hoe dat op dit moment is? [door de respondent zelf laten invullen]

| | bij oprichting | nu |
|------------------------|----------------|-------|
| MKB-bedrijven | | |
| grote bedrijven | | |
| publieke organisaties | | |
| onderzoeksinstellingen | | |
| anders, namelijk | | |

- c. Is er een verdeling over verschillende industrieën? Kunt u een schatting geven van de percentages van uw leden die tot deze verschillende industrieën behoren?
- d. Wie kunnen er lid worden van <uw organisatie>?
- e. Selecteert u nieuwe leden, en zo ja, hoe?
- f. Hoe worden bedrijven benaderd om lid te worden van <uw organisatie>? (*benaderd = aangetrokken*)
- g. Wat kan (potentiële) leden weerhouden om lid te worden van <uw organisatie>?
- h. Hoe lang blijven deelnemers gemiddeld in het cluster? (*korte of lange termijn deelname*)

| | | |
|-----------|--------|------|
| gemiddeld | ..... | jaar |
| kort |% | jaar |
| lang |% | jaar |

- i. Hoe denkt u dat het ledenaantal zich in de toekomst zal ontwikkelen? Stel het aantal leden in 2010 op 100 (index), hoeveel leden had u in 2008, en hoeveel verwacht u er in 2012?

| | |
|-------------------------------|-------|
| aantal leden in 2008 | ..... |
| aantal leden in 2010 | 100 |
| verwacht aantal leden in 2012 | ..... |

- j. Waarom denkt u dat?

7. Hoe heeft de financiering van <uw organisatie> zich sinds haar oprichting ontwikkeld?

- a. Zijn er veranderingen geweest in haar inkomstenbronnen?
- b. Hebben deze veranderingen een invloed op <uw organisatie>, en zo ja, in welke mate?
- c. Hoe wordt <uw organisatie> op dit moment gefinancierd? (*publieke (bijv. overheidssubsidies) of private bijdragen (bijv. lidmaatschapsgeld, betaling voor diensten)*)

publieke bijdragen%

private bijdragen%

8. Wat zijn in het algemeen uw verwachtingen voor <uw organisatie> en het cluster voor de komende drie jaren?

“Bedankt voor het inzicht dat u ons hebt gegeven in het ontstaan van <uw organisatie> en haar ontwikkeling de afgelopen jaren. De volgende vragen zullen gaan over de relaties tussen de verschillende leden van <uw organisatie>.”

Samenstelling van het cluster

9. Welke relaties bestaan er tussen de leden van het cluster? (*relaties = verbindingen/contacten*)
 - a. Wat zijn de eigenschappen van de relaties tussen de verschillende leden van het cluster?
 - b. Hoe sterk zijn deze relaties?
 - c. Wat betekent sterk/zwak voor u in dit verband?
 - d. Spelen sommige leden een centrale rol in het cluster?
 - e. Zo ja, welke? Waarom?

10. Heeft u, of <uw organisatie> relaties met andere clusters of netwerken?

- a. Wat voor soort clusters zijn dit? (*nationaal (Food Valley), internationaal (in Europa, Amerika), netwerken/clusters in andere sectoren (Health Valley)*)

- b. Wat voor soort relaties heeft u met deze clusters?
 - c. Hoe onderhoudt u de relaties met deze clusters?
 - d. Hoe vaak en op welke manier heeft u contact met (personen van) deze clusters? (*bijvoorbeeld gezamenlijk overleg, e-mail, telefoon*)
 - e. Hoe belangrijk zijn deze externe contacten voor het functioneren van <uw organisatie>?
-

"In de volgende vragen zullen we inzoomen op de rol van <uw organisatie> in het cluster, met name op de activiteiten die u aanbiedt."

Clusteractiviteiten

11. Kunt u ons vertellen welke activiteiten <uw organisatie> aan de leden van het cluster aanbiedt, en wie hieraan deelnemen? (*bijvoorbeeld conferenties, exclusieve samenkomsten voor de leden, seminars gericht op innovatie, deelname aan (internationale) beurzen*)
- a. Welke activiteiten biedt <uw organisatie> aan? U kunt hierbij denken aan het organiseren van conferenties, bedrijfsbezoeken enzovoort.
 - b. Wie nemen hieraan deel?
 - c. Welke activiteiten zijn er met name gericht op leren?
 - d. Welke activiteiten zijn er met name gericht op innovatie?
 - e. Publiceert u een verslag naar aanleiding van deze activiteit? Zo ja, wat?

< 11.b t/m 11.f invullen in tabel op volgende bladzijde >

- f. Organiseert u bijeenkomsten voor uw leden waarin de meest recente ontwikkelingen op een bepaald terrein worden besproken?
1. meerdere keren per maand – 2. eens per maand – 3. eens per twee maanden – 4. eens per kwartaal –
5. elk half jaar – 6. jaarlijks – 7. minder dan jaarlijks
- g. Hoe vaak publiceert u verslagen over de door u georganiseerde evenementen?
1. na elk evenement – 2. bij 75% van de evenementen – 3. bij de helft van de evenementen –
4. bij 25% van de evenementen – 5. nooit

- h. Worden MKB-bedrijven aangemoedigd om deel te nemen aan deze activiteiten, en zo ja, hoe?
- i. Wie neemt het initiatief tot de verschillende activiteiten?
- j. Waarom werd voor deze activiteiten gekozen, en niet voor andere?
- k. Welke andere activiteiten zou u in de toekomst willen gaan organiseren? Waarom?
- l. Welke activiteiten overweegt u te stoppen? Waarom?
- m. Wat zijn volgens u de factoren die het succes van uw dienstverlening bepalen?

| activiteit | | | | | publicatie | | | deelnemers | | |
|------------|-------|-------------|----------|---------|------------|----------|---------|------------|------|---------|
| naam | soort | frequentie* | schaal** | doel*** | type | pagina's | taal*** | aantal | type | % leden |
| | | | | | | | | | | |
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* 1. meerdere keren per maand – 2. eens per maand – 3. om de maand – 4. elke drie maanden – 5. elk half jaar – 6. jaarlijks – 7. minder dan jaarlijks

** schaal = 1. internationaal – 2. nationaal – 3. lokaal

*** doel = 1. kennis vergaren – 2. innoveren – 3. contacten opdoen

**** taal = 1. Nederlands – 2. Engels – 3. beide

12. Waarschijnlijk biedt u uw leden naast activiteiten ook diensten aan. Kunt u ons vertellen welke diensten <uw organisatie> aan de leden van het cluster aanbiedt, en wie hier gebruik van maken? (*bijvoorbeeld ondersteuning bij het aanvragen van subsidies, het verkrijgen van bescherming van intellectuele eigendommen of het vinden van stagiaires*)

- a. Welke diensten biedt <uw organisatie> aan?
- b. Wie maken hier gebruik van?
- c. Indien de dienst een publicatie is/bevat: wat voor soort publicatie is dit (digitaal, brief, e-mail, filmpje, etc), hoeveel pagina's en in welke taal?

< 12.a t/m 12.c invullen in onderstaande tabel >

| dienst | | | publicatie | | | wie maakt hier gebruik van? | | |
|--------|-------|-------|------------|----------|--------|-----------------------------|------|---------|
| naam | soort | doel* | type | pagina's | taal** | aantal | type | % leden |
| | | | | | | | | |
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| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

* doel = 1. kennis vergaren – 2. innoveren – 3. contacten opdoen

** taal = 1. Nederlands – 2. Engels – 3. beide

- d. Publiceert <uw organisatie> rapporten over marktontwikkelingen?

1. meerdere keren per maand – 2. eens per maand – 3. eens per twee maanden – 4. eens per kwartaal –
5. elk half jaar – 6. jaarlijks – 7. minder dan jaarlijks

e. Hoe groot zijn deze rapporten?

1. minder dan ½ A4’tje – 2. maximaal 1 A4’tje – 3. twee tot vier A4’tjes – 4. vijf tot negen A4’tjes – 5. tien A4’tjes of meer

Wij maken (ook) gebruik van andere manieren van rapportage, namelijk:

f. Organiseert u de deelname of vertegenwoordiging van leden van het cluster aan/op beurzen?

1. meerdere keren per maand – 2. eens per maand maand – 3. om de maand – 4. eens per kwartaal –
5. elk half jaar – 6. jaarlijks – 7. minder dan één keer per jaar

g. Heeft u een (al dan niet digitale) nieuwsbrief die binnen uw cluster wordt rondgestuurd?

1. eens per week of vaker – 2. om de 14 dagen – 3. maandelijks – 4.eens per kwartaal –
5. elk half jaar – 6. een keer per jaar – 7. minder dan één keer per jaar

“Graag zouden we ook wat vragen stellen over hoe het cluster, onder andere door <uw organisatie>, bestuurd wordt, en over de risico’s die er binnen het netwerk spelen, bijvoorbeeld op het gebied van intellectuele eigendommen.”

Clustermanagement

13. Hoe wordt het cluster bestuurd?

- a. Wat is de bestuursstructuur van het cluster? (*bijvoorbeeld door de leden bestuurd, door één lid, door een speciale clusterorganisatie*)
- b. Wat zijn de eigenschappen van het bestuur van het cluster? (*grootte, vernieuwingssnelheid van de leden, diversiteit van competenties, frequentie van bijeenkomsten*)

14. Wat zijn de risico’s die u op netwerk-niveau tegenkomt? (*opportunistisch gedrag dat tot conflicten of zelfs opzegging leidt*)

- a. Hoe gaat u met deze risico's om? (*risico management processen*)
 - b. Hoe wordt er met zaken als vertrouwelijkheid, eerlijkheid, opportunisme en conflict omgegaan? (*vertrouwen en reputatie, gedrag-/proces-controle, output controle, prikkels om transparantie te vergroten en free-riding te ontmoedigen*)
 - c. Welke rol speelt de bescherming van intellectueel eigendom binnen uw cluster?
 - d. Maakt u gebruik van methodes om de belangen van uw leden te beschermen? (*bijvoorbeeld door te helpen bij het opstellen van confidentiality agreements (geheimhoudingsovereenkomsten) – wat wordt hierin opgenomen*)
 - e. Zo ja, zouden wij hier een voorbeeld van mogen zien?
 - f. Tussen de leden van <uw organisatie> bestaan samenwerkingsverbanden. Kunt u aangeven wat de invloed van <uw organisatie> is op het wederzijds vertrouwen tussen de leden in een dergelijk samenwerkingsverband?
 - g. Hoe probeert u het onderling vertrouwen tussen bedrijven binnen het cluster te bevorderen? (*met welke maatregelen*)
 - h. Speelt bescherming van intellectueel eigendom daarin een rol?
 - i. Denkt u dat het een bedrijf meer vertrouwen in een mogelijke samenwerkingspartner geeft wanneer die partner ook lid is van <uw organisatie>?
 - j. Wat zou daarvoor de reden kunnen zijn?
 - k. Hoe ontwikkelt de kwaliteit van relaties zich binnen het netwerk? (*aantal samenwerkingen, onderling vertrouwen, contact*)
 - l. Hoe wordt die kwaliteit gewaarborgd? (*vertrouwen, gezamenlijke doelen, netwerkcultuur, betrokkenheid, beslissen op ethische gronden, tevredenheid, macht*)
-

“We zouden graag ook wat vragen stellen over het presteren van <uw organisatie> en haar invloed op haar leden, met name ook op de innovatie-prestaties van de bedrijven.”

Prestaties van het netwerk

15. Wat is de essentie van de bijdrage van <uw organisatie> aan uw leden? (*aan de innovatie van de leden*)
- a. Hoe wordt deze bijdrage vastgesteld? (*bijvoorbeeld jaarlijkse enquête onder de leden*)
 - b. Heeft u hiervan voor ons een voorbeeld?
 - c. In welke mate sluiten de doelen van <uw organisatie> en van de individuele leden volgens u tot dusverre op elkaar aan? Hoezo?
 - d. Waarmee bent u echt tevreden binnen het cluster? (*wat moet absoluut hetzelfde blijven?*) (*<uw organisatie>*) (*bijvoorbeeld: activiteiten, ondersteuning, ledenaantal*)
 - e. Wat moet er wat u betreft absoluut veranderen binnen het cluster? (*drie dingen*) (*het cluster = <uw organisatie>*) (*bijvoorbeeld: activiteiten, ondersteuning, ledenaantal*)

16. Welke problemen hebben er gespeeld binnen <uw organisatie> en binnen het cluster van bedrijven waarin u functioneert?

- a. Wat heeft dit voor invloed gehad op de prestatie van het netwerk? (*minder samenwerking, minder subsidies, etc.*)

17. Heeft u enig idee welke invloed <uw organisatie> heeft op de sector/industrie? (*bijvoorbeeld promotie in het buitenland*)

- a. Welke invloed heeft <uw organisatie> op de versterking van de concurrentiepositie van de sector/industrie?
- b. Wat zijn de belangrijkste uitdagingen voor de toekomst van het cluster? (*opkomst van Aziatische landen, de Europese markt, strengere regelgeving*) (*cluster = de bedrijven*) (*eventueel doortrekken naar de sector/industrie*)
- c. Wat is er nodig om succesvol op deze uitdagingen in te kunnen spelen? (*eventueel: rol van <de clusterorganisatie>*)

“Als vervolg op dit interview gaan wij leden van uw cluster interviewen. We hopen zo een beter beeld te krijgen van het cluster. De volgende vragen zijn dan ook gericht op ervaringen met een aantal leden waarmee u veel mee te maken heeft gehad.”

* Bij vraag 19 wordt om informatie over de samenwerking met maar liefst 5 leden gevraagd. Naar alle waarschijnlijkheid zal hier niet voldoende tijd voor zijn. Probeer op zijn minst de samenwerking met één lid door te spreken. Eventueel kunnen ook enkel belangrijke verschillen ten opzichte van deze samenwerking gevraagd worden voor de overige gevallen. Verder is het belangrijk dat veel vragen algemeen beantwoord kunnen worden (voor alle 5 leden), en dat enkel waar er (belangrijke) verschillen zijn de antwoorden meer specifiek gegeven moeten worden. Geef wel aan welke antwoorden gelden voor alle leden, en welke enkel voor een specifiek lid.

Belangrijk is dat bij vraag 19.g en 19.h de vraag niet enkel voor deze 5 leden geldt, maar voor alle leden. Dit is aangegeven tussen [blokhaken]. Ook is hier weer een vraag die door de respondent zelf moet worden ingevuld. Dit is vraag 19.j, en ook dit is aangegeven tussen [blokhaken].

Concrete casus

18. Bestaan er veel samenwerkingsverbanden tussen de leden van het cluster?

- a. Wat zijn de voornaamste vormen van formele relaties tussen de leden van het cluster? (*joint ventures, cross-shareholdings (dat bedrijven een deel van elkaar's aandelen hebben), contracten*)

- b. Kunt u drie belangrijke samenwerkingsverbanden binnen uw cluster beschrijven?

| naam | functie/doel | formeel/informeel |
|----------|--------------|-------------------|
| 1. | | |
| 2. | | |
| 3. | | |

19. Met welke vijf* leden heeft u vanuit <uw organisatie> het meeste contact gehad? (*deze mogen van de eerder genoemde samenwerkingsverbanden zijn, maar dat hoeft niet*)

- a. Hoe heten deze leden?

| | | | | |
|--|--|--|--|--|
| | | | | |
|--|--|--|--|--|

- b. In welke branche zijn deze leden werkzaam?

| | | | | |
|--|--|--|--|--|
| | | | | |
|--|--|--|--|--|

- c. Waarom zijn deze leden lid geworden van <uw organisatie>?

| | | | | |
|--|--|--|--|--|
| | | | | |
|--|--|--|--|--|

- d. Hebben deze leden u ergens voor ingeschakeld? Zo ja, waarvoor?

| | | | | |
|--|--|--|--|--|
| | | | | |
|--|--|--|--|--|

e. Wat is volgens u de toegevoegde waarde die <uw organisatie> aan deze leden biedt?

| | | | | |
|--|--|--|--|--|
| | | | | |
|--|--|--|--|--|

f. Vindt u dat de service aan deze leden succesvol verloopt/is geweest?

| | | | | |
|--|--|--|--|--|
| | | | | |
|--|--|--|--|--|

g. Zijn er aspecten die minder succesvol verlopen zijn? [ook voor andere leden!]

h. Hoe had dit voorkomen of verbeterd kunnen worden? [ook voor andere leden!]

i. Hoe bouwt <uw organisatie> vertrouwen op bij deze leden en hoe wordt dit vertrouwen gewaarborgd? (*kennis, opportunisme, octrooien*)

| | | | | |
|--|--|--|--|--|
| | | | | |
|--|--|--|--|--|

j. Hoe vaak is er vanuit <uw organisatie> als geheel contact met elk van deze leden? En op welke manier vindt dat contact plaats? [door de respondent zelf laten invullen]

| | contactfrequentie* | | | | |
|------|--------------------|--|-----------------------------------|-----------|--------------------------------|
| naam | 1. face-to-face | 2. videoconferentie, skype (met beeld) | 3. telefoon, skype (zonder beeld) | 4. e-mail | 5. sociale media (namelijk...) |
| 1. | | | | | |
| 2. | | | | | |
| 3. | | | | | |
| 4. | | | | | |
| 5. | | | | | |

*contactfrequentie: 1. dagelijks - 2. meerdere malen per week - 3. wekelijks - 4. eens per twee weken - 5. maandelijks - 6. eens per kwartaal - 7. eens per half jaar of minder

k. Wat is de afstand in kilometers tot deze clusterleden? (*de vestiging waar u het meest contact mee heeft*) [zelf opzoeken, na afloop!]

I. Wat is de invloed van afstand op de samenwerking met de leden van <uw organisatie>?

"Tot slot hebben we nog een aantal gesloten vragen waar we graag uw antwoord op zouden willen krijgen. Voor een groot deel gaat dit over onderwerpen die in dit gesprek al eerder aan bod gekomen zijn. Toch zijn deze vragen belangrijk voor ons. Door deze punten nog snel even langs te lopen kunnen wij alles wat u in dit gesprek gezegd heeft beter op een rijtje te zetten. Bovendien maakt dit het makkelijker om vergelijkingen te maken tussen de verschillende clusters.

We willen u vragen deze vragen zelf te beantwoorden op dit papier [geef het formulier]. Als u opmerkingen heeft bij een bepaalde vraag kunt u die natuurlijk gerust maken. Ook kunt u ons om uitleg vragen als u een vraag niet begrijpt.”

< de gesloten vragen – op een apart vel >

“We willen u heel hartelijk bedanken voor uw medewerking. We vonden het een aangenaam gesprek, en zijn erg blij voor al uw kennis en ervaring die u met ons hebt willen delen.
Heeft u misschien nog aanvullingen naar aanleiding van dit interview, zaken die u graag nog kwijt zou willen?

En heeft u misschien nog opmerkingen over dit interview zelf, bijvoorbeeld over hoe duidelijk de vragen waren?

Dan was dit het einde van het interview. U ontvangt van ons binnen twee weken een samenvatting van dit gesprek. En wanneer de resultaten van het onderzoek bekend zijn, zult u hierover van ons horen.”

Invulvel bij de vragenlijst

6.b Kunt u aangeven hoeveel leden <uw organisatie> had bij de oprichting en in welke categorieën, en hoe dat op dit moment is?

| | bij oprichting | nu |
|------------------------|----------------|-------|
| MKB-bedrijven | | |
| grote bedrijven | | |
| publieke organisaties | | |
| onderzoeksinstellingen | | |
| anders, namelijk | | |

19.j Hoe vaak is er vanuit <uw organisatie> als geheel contact met elk van deze leden? En op welke manier vindt dat contact plaats?

| naam | contactfrequentie* | | | | |
|------|--------------------|--|-----------------------------------|-----------|--------------------------------|
| | 1. face-to-face | 2. videoconferentie, skype (met beeld) | 3. telefoon, skype (zonder beeld) | 4. e-mail | 5. sociale media (namelijk...) |
| 1. | | | | | |
| 2. | | | | | |
| 3. | | | | | |
| 4. | | | | | |
| 5. | | | | | |

*contactfrequentie: 1. dagelijks - 2. meerdere malen per week - 3. wekelijks - 4. eens per twee weken - 5. maandelijks - 6. eens per kwartaal - 7. eens per half jaar of minder

Gesloten vragen (3)

20. Kunt u aangeven op welke gebieden <uw organisatie> in de afgelopen 3 jaar volgens u een bijdrage heeft geleverd aan het succes van uw leden? Dit kunt u aangeven door een score (van 1 t/m 7) te omcirkelen.

En kunt u ook aangeven hoe u inschat dat de leden van <uw organisatie> uw bijdrage waarderen (van 1 t/m 7)?

Voorbeeld: De bijdrage van <uw organisatie> aan het verkrijgen van nieuwe kennis en/of technologie door uw leden is 7. zeer groot. U schat in dat uw leden deze bijdrage waarderen als 5.

| | <i>Bijdrage van <uw organisatie></i> | <i>Waardering door uw leden</i> |
|---|--|--|
| | <- geen — zeer groot -> | <niets bijgedragen — zeer veel bijgedragen > |
| Verkrijgen van nieuwe kennis en/of technologie | 1. – 2. – 3. – 4. – 5. – 6. – 7. | 1. – 2. – 3. – 4. – 5. – 6. – 7. |
| In contact brengen met partners voor het opzetten of verder uitbreiden van hun netwerk | 1. – 2. – 3. – 4. – 5. – 6. – 7. | 1. – 2. – 3. – 4. – 5. – 6. – 7. |
| Bieden van ondersteuning bij het verkrijgen van innovatie subsidies | 1. – 2. – 3. – 4. – 5. – 6. – 7. | 1. – 2. – 3. – 4. – 5. – 6. – 7. |
| Inzicht geven in nieuwe mogelijkheden voor bestaande markten of nieuwe markten | 1. – 2. – 3. – 4. – 5. – 6. – 7. | 1. – 2. – 3. – 4. – 5. – 6. – 7. |
| Contacten leggen met gekwalificeerd personeel / experts | 1. – 2. – 3. – 4. – 5. – 6. – 7. | 1. – 2. – 3. – 4. – 5. – 6. – 7. |
| Optreden als tussenpersoon tussen onderzoekers en het bedrijfsleven in uw cluster (<i>bemiddelende rol</i>) | 1. – 2. – 3. – 4. – 5. – 6. – 7. | 1. – 2. – 3. – 4. – 5. – 6. – 7. |
| In aanraking brengen met nieuwe ideeën om te innoveren (<i>bijv. via conferenties/seminars</i>) | 1. – 2. – 3. – 4. – 5. – 6. – 7. | 1. – 2. – 3. – 4. – 5. – 6. – 7. |
| Helpen bij het vinden van vestigings- dan wel uitbreidingsmogelijkheden | 1. – 2. – 3. – 4. – 5. – 6. – 7. | 1. – 2. – 3. – 4. – 5. – 6. – 7. |
| Bieden van ondersteuning bij het opstarten van nieuwe bedrijven. | 1. – 2. – 3. – 4. – 5. – 6. – 7. | 1. – 2. – 3. – 4. – 5. – 6. – 7. |
| Anders, namelijk: | 1. – 2. – 3. – 4. – 5. – 6. – 7. | 1. – 2. – 3. – 4. – 5. – 6. – 7. |

< zie voor vraag 21 de volgende pagina >

21. In de onderstaande tabel staan een aantal verschillende vormen van innovatie genoemd. Kunt u aangeven op welke terreinen <uw organisatie> volgens u bijdraagt aan innovatie bij uw leden? En indien uw organisatie hieraan bijdraagt, in hoeverre die bijdrage door uw leden wordt herkend?

| | Speelt <uw organisatie> hierbij een rol?* | Zo ja: hoe belangrijk is de rol van <uw organisatie> bij het realiseren van deze innovatie?* |
|--|--|---|
| | ja/nee | <- zeer onbelangrijk -- zeer belangrijk -> |
| Nieuwe of verbeterde producten of services | ja / nee | 1. – 2. – 3. – 4. – 5. – 6. – 7. |
| Nieuwe of verbeterde processen | ja / nee | 1. – 2. – 3. – 4. – 5. – 6. – 7. |
| Nieuw marktsegment; ander soort klanten | ja / nee | 1. – 2. – 3. – 4. – 5. – 6. – 7. |
| Nieuw marktgebied (geografisch) | ja / nee | 1. – 2. – 3. – 4. – 5. – 6. – 7. |
| Nieuw business model | ja / nee | 1. – 2. – 3. – 4. – 5. – 6. – 7. |
| Octrooiaanvragen | ja / nee | 1. – 2. – 3. – 4. – 5. – 6. – 7. |
| Nieuwe samenwerkingsverbanden | ja / nee | 1. – 2. – 3. – 4. – 5. – 6. – 7. |
| Anders, namelijk | ja / nee | 1. – 2. – 3. – 4. – 5. – 6. – 7. |

* omcirkelen wat van toepassing is

< zie voor vraag 22 de volgende pagina >

22. Zou u tenslotte nog willen reageren op de volgende stellingen?

| | |
|--|---|
| | <i><- zeer onbelangrijk — zeer belangrijk ->*</i> |
| Hoe belangrijk is volgens u innovatie voor het behoud van het concurrentievermogen van uw leden? | 1. – 2. – 3. – 4. – 5. – 6. – 7. |
| Hoe belangrijk denkt u dat dit door uw leden gevonden wordt? | 1. – 2. – 3. – 4. – 5. – 6. – 7. |
| | |
| | <i><- zeer ontevreden — zeer tevreden ->*</i> |
| Hoe tevreden bent u met het functioneren van <uw organisatie> binnen het cluster? | 1. – 2. – 3. – 4. – 5. – 6. – 7. |
| Hoe tevreden bent u met de bijdrage van <uw organisatie> aan de leden? | 1. – 2. – 3. – 4. – 5. – 6. – 7. |
| Hoe tevreden denkt u dat de leden van het cluster over het algemeen zijn met de bijdragen van <uw organisatie>? | 1. – 2. – 3. – 4. – 5. – 6. – 7. |
| | |
| | <i><- volledig mee oneens — volledig mee eens ->*</i> |
| Wij spelen goed in op ontwikkelingen in de sector wat betreft nieuwe technologie, kennis, beleid en financiering. | 1. – 2. – 3. – 4. – 5. – 6. – 7. |
| Wij brengen nieuwe technologieën onder de aandacht van onze leden, zodat zij deze kunnen toepassen in hun innovatieproces. | 1. – 2. – 3. – 4. – 5. – 6. – 7. |
| Wij zijn een visionaire voorloper op het gebied van innovatie. | 1. – 2. – 3. – 4. – 5. – 6. – 7. |
| Door ons werk zijn onze leden meer gaan experimenteren met innovatie. | 1. – 2. – 3. – 4. – 5. – 6. – 7. |
| Wij dragen bij aan het innovatief vermogen van onze leden. | 1. – 2. – 3. – 4. – 5. – 6. – 7. |
| Wij dragen bij aan het wegnemen van belemmeringen om te innoveren. | 1. – 2. – 3. – 4. – 5. – 6. – 7. |
| Wij dragen bij aan het creëren van een omgeving die kansen biedt voor innovatie. | 1. – 2. – 3. – 4. – 5. – 6. – 7. |

* omcirkelen wat van toepassing is

Appendix II – the government support body interview guide

Interview Gids



interviewgids

Overheidsorganisatie
<uw organisatie>

Philipp Garbade
philipp.garbade@foodvalley.nl

Richard Ruitenburg
richard.ruitenburg@foodvalley.nl

voor het interview op
<datum>
van <tijd>



Betekenis opmaak

| | |
|-----------------|-----------------|
| zwartgedrukt | Interviewvragen |
| grijsgedrukt | Instructie |
| gele arcering | vooraf opzoeken |
| grijze arcering | gesloten vraag |

Nummering

2. Hoofdvraag Open vraag die het gesprek op gang moet brengen.
 a. subvraag Vragen die, binnen het gesprek, beantwoord moeten worden.

Opmerkingen

Een aantal malen in de tekst komt u <uw organisatie> tegen. Deze moet vervangen worden door de naam van de overheidsorganisatie waarvan een medewerker geïnterviewd wordt. Ook vervangen moet worden <de clusterorganisatie>. Dit moet vervangen worden door de naam van de clusterorganisatie waar deze overheidsorganisatie bij betrokken is. Bijvoorbeeld: voor de burgemeester van Wageningen zou dit Food Valley zijn.

Het is de bedoeling om het interview als een natuurlijk gesprek te laten verlopen. Daarom is het van belang om niet telkens korte vragen te stellen en het antwoord af te wachten, maar om een gesprek te creëren.

Begin daarom met het stellen van de hoofdvraag (deze heeft een nummer). De subvragen daaronder (genummerd met een nummer en een letter) kunnen helpen om het gesprek op gang te houden, maar kunnen waarschijnlijk grotendeels al ingevuld worden tijdens het beantwoorden van de hoofdvraag. Belangrijk is dat de subvragen wel allemaal beantwoord moeten worden. Vraag dus waar nodig om verduidelijking/aanvulling, of breng een vraag in als een nieuw onderwerp als de ondervraagde hier niet zelf mee komt.

Bij een aantal vragen staat tussen haakjes een aanvulling (*schuingedrukt*). Dit is bedoeld als een verduidelijking van de vraag. Deze hoeft enkel voorgelezen te worden als de ondervraagde hierom vraagt. Verder kan dit richting geven aan welke informatie met name relevant is. Ook dan deze informatie (prompts) enkel gebruiken als dit voor het gesprek nodig is en/of als de respondent dit niet uit zichzelf naar voren brengt.

Een aantal vragen moet door de respondent zelf worden ingevuld. Dit staat bij elke vraag aangegeven tussen [blokhaken].

Introductie

“Beste mevrouw, meneer,
Laat ik ons eerst even voorstellen. Ik ben Richard Ruitenburg, student aan de Wageningen Universiteit en voor mijn master betrokken bij dit onderzoek van Food Valley. [Philipp:] En ik ben Philipp Garbade, en ik werk bij Food Valley als onderzoeker op het gebied van innovatie management. Zoals u misschien wel kunt horen kom ik oorspronkelijk uit Duitsland. Ik wil mij nu al excuseren voor mijn niet perfecte Nederlands.

We willen u heel hartelijk bedanken dat u wilt deelnemen aan dit interview, Allereerst hartelijk bedankt dat u wilt deelnemen aan dit interview, dat zal gaan over de rol van <de clusterorganisatie> voor het bedrijfsleven in uw gemeente/provincie. Ook de rol van <uw organisatie> zal hierin aan bod komen. Dit interview maakt, zoals in de brief beschreven, deel uit van een groot Europees onderzoek naar de manier waarop clusters innovatie in de agrovoedings-sector kunnen bevorderen. We zijn erg blij dat u hieraan mee wilt werken met uw tijd en ervaring.

Graag zouden we met u, voor dit interview begint, een aantal praktische zaken met u doorlopen. Allereerst is uit ervaring gebleken dat de gesprekken vaak erg interessant zijn, en dat er veel te vertellen is. Tegelijkertijd willen we niet langer dan nodig beslag leggen op uw tijd. We zullen daarom proberen vlot door de vragen heen te gaan. Het kan daarbij nodig zijn dat we een interessante uitwijding moeten afkappen om met de tijd goed uit te komen. Klopt het dat wij voor dit interview tijd hebben tot [.....]?

Alle informatie die tijdens dit interview ter sprake komt zal vertrouwelijk behandeld worden. Elke te verschijnen publicatie die put uit de informatie die verkregen is tijdens dit interview zal op geen enkele wijze herleidbaar zijn naar u als persoon.

Het interview zal, als u dat goed vindt, worden opgenomen, zodat we uw antwoorden zo precies mogelijk kunnen verwerken. Als u dat wilt, kunt u vragen om tijdens het interview de opname tijdelijk te stoppen. [indien ja: recorder starten. Vermelden: datum, tijd, plaats, aanwezigen]

Binnen twee weken na dit interview zult u van ons een samenvatting van het gesprek ontvangen, zodat u deze kunt controleren. Als wij binnen twee weken na het verzenden van de samenvatting nog geen reactie van u hebben ontvangen, gaan wij ervan uit dat de samenvatting wat u betreft akkoord is. Hoe zou u deze samenvatting willen ontvangen? [...]

Heeft u op dit moment verder nog vragen? [...] Indien u na dit interview nog vragen heeft en contact met ons wilt opnemen, dan vindt u hier onze contactgegevens. [adreskaartje Philipp geven]

Graag zouden wij nu willen starten met dit interview, dat, als gezegd, ongeveer anderhalf tot twee uur zal duren.”

Start vragenlijst

“We zullen beginnen met een aantal algemene vragen over <uw organisatie> en uw functie. Daarna zullen we dieper ingaan op het ontstaan van <de clusterorganisatie>, en in de loop van het interview zullen we ook de rol van <uw organisatie> ten opzichte van <de clusterorganisatie> en het functioneren van haar leden uitgebreid bespreken.”

Algemene vragen

23. Hoe zou u zelf de doelstellingen van <uw organisatie>, en de wijze waarop deze worden bereikt, beschrijven?

24. Omschrijf kort uw functie binnen de organisatie.

25. Hoe zou u, in het kort, <de clusterorganisatie> beschrijven?

"Dan willen we het nu graag hebben over het ontstaan van <de clusterorganisatie> en, indien van toepassing, uw rol hierin."

Het ontstaan van het cluster

26. Kunt u ons vertellen hoe <de clusterorganisatie> is ontstaan?

- a. In welke mate heeft <uw organisatie> bijgedragen aan de oprichting van <de clusterorganisatie>?
 - b. Wat was de precieze rol van <uw organisatie> hierin?
 - c. Wat was uw doel met de (bijdrage aan) de oprichting van <de clusterorganisatie>? (*versterken van de industrie in een bepaalde sector, meer werkgelegenheid, etcetera*)
 - d. Welke voordelen zag u voor <uw organisatie> in de oprichting van <de clusterorganisatie>?
 - e. Welke resources bracht u in in dit proces? (*bijvoorbeeld geld, bezittingen, vaardigheden, kennis*)
 - f. In welke context is <de clusterorganisatie> ontstaan?
 - g. Wat waren haar doelen?
 - h. Was <de clusterorganisatie> bedoeld als een tijdelijke projectorganisatie, of als een blijvende organisatie?
 - i. Wat waren hierin de overwegingen?
 - j. Is dit in de loop van de tijd veranderd, en zo ja, hoe?
-

"Dan zullen we nu een aantal vragen gaan stellen over de ontwikkeling van <de clusterorganisatie>. Hierbij gaat het met name om ontwikkelingen op het gebied van doelen, leden* (of deelnemers/partners) en financiering."

* Belangrijk is om de juiste term te gebruiken voor de leden/deelnemers/partners aan <de clusterorganisatie>. Mocht die nog niet helder zijn, vraag daar dan eerst naar. Probeer vervolgens voortdurend de juiste term te gebruiken.

Ontwikkeling van het cluster

27. Hoe heeft <de clusterorganisatie> zich sinds haar oprichting ontwikkeld op het gebied van financiën?

- a. Zijn er veranderingen geweest in de financieringsbronnen?
- b. Zo ja, hebben deze veranderingen invloed gehad op <de clusterorganisatie>? In welke mate?
- c. Is <de clusterorganisatie> op dit moment financieel duurzaam?
- d. Draagt <uw organisatie> financieel bij aan <de clusterorganisatie>? Zo ja, hoeveel procent van haar budget? (*naar schatting*)

.....%

28. Hoe heeft <de clusterorganisatie> zich sinds haar oprichting ontwikkeld op het gebied van doelen?

- a. Zijn de doelen van <de clusterorganisatie> veranderd sinds haar opstart?
- b. Op welke manier?
- c. Wie heeft deze verandering in gang gezet?
- d. Is er verandering geweest in de manier waarop <de clusterorganisatie> deze doelen probeert te bereiken?

29. Wat zijn in het algemeen uw verwachtingen voor <de clusterorganisatie> en de leden van het cluster voor de komende drie jaren?

- a. Zal de rol van <de clusterorganisatie>, naar uw mening, in de toekomst hetzelfde zijn als op dit moment?
-

“Bedankt voor het inzicht dat u ons hebt gegeven in het ontstaan van <de clusterorganisatie> en haar ontwikkeling de afgelopen jaren. De volgende vragen zullen gaan over uw contact met <de clusterorganisatie>.”

Relaties met het cluster en clusteractiviteit

30. Welke relaties bestaan er tussen <uw organisatie> en <de clusterorganisatie>? (*relaties = verbindingen/contacten*)

- Wat zijn de eigenschappen van deze relaties?
- Hoe sterk zijn deze relaties?
- Wat betekent sterk/zwak voor u in dit verband?
- Hoe vaak is er via (de drie belangrijkste van) deze verbindingen contact met <de clusterorganisatie>? [door de respondent zelf laten invullen]

| naam | contactfrequentie* | | | | | |
|-----------|--------------------|----------------------|-----------------------------------|-----------|-----------------|-----------------|
| | 1. face-to-face | 2. skype (met beeld) | 3. telefoon, skype (zonder beeld) | 4. e-mail | 5. social media | (namelijk.....) |
| voorbeeld | 5 | X | 4 | 6 | X | - |
| 1. | | | | | | - |
| 2. | | | | | | - |
| 3. | | | | | | - |

* **X**. wordt niet gebruikt – **1.** eens per jaar of minder – **2.** eens per half jaar – **3.** eens per kwartaal – **4.** maandelijks – **5.** eens per twee weken – **6.** eens per week – **7.** meer dan eens per week

- Wat is de toegevoegde waarde die <de clusterorganisatie> aan <uw organisatie> biedt?
- Wat zijn de risico's van de deelname aan <de clusterorganisatie> voor <uw organisatie>? (*bijvoorbeeld qua relaties en qua presteren*)
- Hoe groot is uw vertrouwen in <de clusterorganisatie>?

- h. Hoe heeft dit vertrouwen zich in de loop van de tijd ontwikkeld? Wat waren redenen voor veranderingen in het niveau van vertrouwen?
- i. Maakt u gebruik van methodes om uw belangen te beschermen? (*bijvoorbeeld door middel van afdwingbare afspraken, contracten*)

31. Neemt u deel in activiteiten van <de clusterorganisatie>?

- a. Zo ja: aan welke activiteiten?
 - b. Zo nee: waarom niet?
 - c. Leest u de rapporten die naar aanleiding van de verschillende activiteiten gepubliceerd worden? Zo ja, wat doet u met deze kennis?
 - d. Zou u in de toekomst aan meer of juist minder activiteiten willen deelnemen? Waarom?
 - e. Hoe blijft u (verder) op de hoogte van wat zich in het cluster en <de clusterorganisatie> afspeelt?
-

“In de volgende vragen willen we het graag met u hebben over de contacten die u heeft met de leden van <de clusterorganisatie> en met andere clusters of netwerken.”

Contacten binnen het cluster en met andere clusters

32. Welke relaties bestaan er tussen <uw organisatie> en de (individuele) leden van <de clusterorganisatie>? (*relaties = verbindingen/contacten*)

- a. Wat zijn de eigenschappen van deze relaties?
- b. Hoe sterk zijn deze relaties?
- c. Wat betekent sterk/zwak voor u in dit verband?
- d. Wat is de toegevoegde waarde die deze relaties aan <uw organisatie> bieden?
- e. Wat zijn de risico's van deze contacten voor <uw organisatie>? (*bijvoorbeeld qua presteren*)

- f. Hoe groot is uw vertrouwen in de leden van <de clusterorganisatie>?
- g. Hoe heeft dit vertrouwen zich in de loop van de tijd ontwikkeld? Wat waren redenen voor veranderingen in het niveau van vertrouwen?
- h. Maakt u gebruik van methodes om uw belangen te beschermen? (*bijvoorbeeld door middel van afdwingbare afspraken, contracten*)
- i. Kunt u, indien van toepassing, drie belangrijke contacten of samenwerkingsverbanden van <uw organisatie> met leden van <de clusterorganisatie> beschrijven?

| | naam | functie/doel | formeel/informeel |
|----|-------|--------------|-------------------|
| 1. | | | |
| 2. | | | |
| 3. | | | |

- j. Hoe vaak en op welke manier heeft <uw organisatie> contact met deze leden? (*bijvoorbeeld gezamenlijk overleg, e-mail, telefoon*)

33. Heeft u, of <uw organisatie>, relaties met andere clusters of netwerken?

- a. Wat voor soort clusters zijn dit? (*nationaal (FoodValley), internationaal (in Europa, Amerika), netwerken/clusters in andere sectoren (Health Valley)*)
- b. Wat voor soort relaties heeft u met deze clusters?
- c. Hoe onderhoudt u de relaties met deze clusters?
- d. Hoe vaak en op welke manier heeft u contact met (personen van) deze clusters? (*bijvoorbeeld gezamenlijk overleg, e-mail, telefoon*)
- e. Hoe belangrijk zijn deze externe contacten voor het functioneren van <uw organisatie>?

“Graag zouden we ook wat vragen stellen over hoe <de clusterorganisatie> bestuurd wordt en wat de rol van <uw organisatie> hierin is.”

Clustermanagement en bestuur

34. Hoe wordt het cluster bestuurd? (*bestuursstructuur, eigenschappen van het bestuur*)

35. In welke mate is <uw organisatie> betrokken bij het bestuur van <de clusterorganisatie>?
- Maakt <uw organisatie> deel uit van het bestuur van <de clusterorganisatie>?
36. Welke andere overheidsorganisaties zijn er bij <de clusterorganisatie> betrokken?
- Hoeveel andere overheidsorganen zijn er bij <de clusterorganisatie> betrokken?
 - Welke zijn dit?
 - Op welk niveau functioneren deze? (*gemeentelijk, provinciaal, regionaal, nationaal, internationaal*)
 - Van welke (andere) overheidsorganisaties ontvangt <de clusterorganisatie> financiële middelen? (*subsidies, belastingvoordeel, vestigingspremies*)
 - Welke (andere) overheidsorganisaties maken beleid of wetgeving die <de clusterorganisatie> beïnvloeden?
 - Heeft <uw organisatie> contact met deze overheidsorganisatie(s) als wat betreft <de clusterorganisatie>? En zo ja, op welke manier?
 - Heeft u wel eens het idee dat deze andere overheidsorganisatie(s) qua beleid een andere richting kiezen voor <de clusterorganisatie> dan u in gedachten heeft? Hoe merkt u dit?
 - En hoe gaat u hiermee om?
 - Hoe denkt u dat het voor <de clusterorganisatie> is om met meerdere overheidsorganisaties contact te hebben?

“We zouden graag ook wat vragen stellen over de prestaties van <de clusterorganisatie>.”

Prestaties van het cluster

37. Welke invloed heeft <de clusterorganisatie> op de sector/industrie? (*vestiging nieuwe bedrijven (multinationals?), winstgevendheid, ontstaan nieuwe bedrijven, werkgelegenheid*)

38. Welke moeilijkheden heeft <uw organisatie> ervaren sinds de oprichting van <de clusterorganisatie>? (*moeilijkheden = problemen*)

- a. Hoe hebben deze moeilijkheden de prestaties van <de clusterorganisatie> beïnvloed? (*minder samenwerking, minder subsidies, etc.*)

39. Wat is volgens u de essentie van de bijdrage van <de clusterorganisatie> aan haar leden? (*aan de innovatie van de leden*)

- a. Hoe wordt deze bijdrage vastgesteld? (*bijvoorbeeld jaarlijkse enquête onder de leden*)
- b. In welke mate sluiten de doelen van <uw organisatie> en van de individuele leden volgens u tot dusverre op elkaar aan? Hoezo?
- c. Waarmee bent u echt tevreden binnen het cluster? (*wat moet absoluut hetzelfde blijven?*) (*<de clusterorganisatie>*) (*bijvoorbeeld: activiteiten, ondersteuning, ledenaantal*)
- d. Wat moet er wat u betreft absoluut veranderen binnen het cluster? (*drie dingen*) (*het cluster = <de clusterorganisatie>*) (*bijvoorbeeld: activiteiten, ondersteuning, ledenaantal*)
- e. Wat zijn volgens u de factoren die het succes van de dienstverlening van <de clusterorganisatie> bepalen?
- f. Wat is de invloed van afstand op de samenwerking met de leden van <uw organisatie>?
- g. Hoe tevreden bent u met het functioneren van <uw organisatie> binnen het cluster?

"Tot slot hebben we nog een aantal gesloten vragen waar we graag uw antwoord op zouden willen krijgen. Voor een groot deel gaat dit over onderwerpen die in dit gesprek al eerder aan bod gekomen zijn. Toch zijn deze vragen belangrijk voor ons. Door deze punten nog snel even langs te lopen kunnen wij alles wat u in dit gesprek gezegd heeft beter op een rijtje te zetten. Bovendien maakt dit het makkelijker om vergelijkingen te maken tussen de verschillende clusters.

We willen u vragen deze vragen zelf te beantwoorden op dit papier [geef het formulier]. Als u opmerkingen heeft bij een bepaalde vraag kunt u die natuurlijk gerust maken. Ook kunt u ons om uitleg vragen als u een vraag niet begrijpt."

< de gesloten vragen – op een apart vel >

“We willen u heel hartelijk bedanken voor uw medewerking. We vonden het een aangenaam gesprek, en zijn erg blij voor al uw kennis en ervaring die u met ons hebt willen delen.

Heeft u misschien nog aanvullingen naar aanleiding van dit interview, zaken die u graag nog kwijt zou willen? [...]

En heeft u misschien nog opmerkingen over dit interview zelf, bijvoorbeeld over hoe duidelijk de vragen waren? [...]

Dan was dit het einde van het interview. U ontvangt van ons binnen twee weken een samenvatting van dit gesprek. En wanneer de resultaten van het onderzoek bekend zijn, zult u hierover van ons horen.”

Invulvel bij de vragenlijst

- 8.d Hoe vaak is er vanuit <uw organisatie> via (de drie belangrijkste van) deze verbindingen contact met <de clusterorganisatie>? En op welke manier vindt dat contact plaats?

| naam | contactfrequentie* | | | | | | |
|-----------|--------------------|----------------------|-----------------------------------|-----------|-----------------|-----------------|---------------------|
| | 1. face-to-face | 2. skype (met beeld) | 3. telefoon, skype (zonder beeld) | 4. e-mail | 5. social media | (namelijk.....) | 6. videoconferentie |
| voorbeeld | 5 | X | 4 | 6 | X | - | X |
| 1. | | | | | | - | |
| 2. | | | | | | - | |
| 3. | | | | | | - | |

* X. wordt niet gebruikt – 1. eens per jaar of minder – 2. eens per half jaar – 3. eens per kwartaal – 4. maandelijks – 5. eens per twee weken – 6. eens per week – 7. meer dan eens per week

Gesloten vragen (2)

40. Kunt u aangeven op welke gebieden <uw organisatie> in de afgelopen 3 jaar volgens u een bijdrage heeft geleverd aan het succes van de leden van <de clusterorganisatie>? Dit kunt u aangeven door een score (van 1 t/m 7) te omcirkelen.

En kunt u ook aangeven hoe u inschat dat deze leden uw bijdrage waarderen (van 1 t/m 7)?

Voorbeeld: De bijdrage van <uw organisatie> aan het vinden van nieuwe vestigings- of uitbreidingsmogelijkheden is 7. zeer groot. U schat in dat de leden van <de clusterorganisatie> deze bijdrage waarderen als 5.

| | <i>Bijdrage van <uw organisatie></i> | <i>Waardering door de leden van <de clusterorganisatie></i> |
|---|--|---|
| | <- geen — zeer groot -> | < niets bijgedragen — zeer veel bijgedragen > |
| Bieden van ondersteuning bij het verkrijgen van innovatie subsidies | 1 – 2 – 3 – 4 – 5 – 6 – 7 | 1 – 2 – 3 – 4 – 5 – 6 – 7 |
| Contacten leggen met gekwalificeerd personeel / experts | 1 – 2 – 3 – 4 – 5 – 6 – 7 | 1 – 2 – 3 – 4 – 5 – 6 – 7 |
| Helpen bij het vinden van vestigings- dan wel uitbreidingsmogelijkheden | 1 – 2 – 3 – 4 – 5 – 6 – 7 | 1 – 2 – 3 – 4 – 5 – 6 – 7 |
| Bieden van ondersteuning bij het opstarten van nieuwe bedrijven. | 1 – 2 – 3 – 4 – 5 – 6 – 7 | 1 – 2 – 3 – 4 – 5 – 6 – 7 |
| Anders, namelijk: | 1 – 2 – 3 – 4 – 5 – 6 – 7 | 1 – 2 – 3 – 4 – 5 – 6 – 7 |

< zie voor vraag 19 de volgende pagina >

41. Zou u tenslotte nog willen reageren op de volgende stellingen?

| | |
|---|--|
| | <i><- zeer onbelangrijk — zeer belangrijk -></i> |
| Hoe belangrijk is volgens u innovatie voor het behoud van het concurrentievermogen van de leden van <de clusterorganisatie>? | 1 – 2 – 3 – 4 – 5 – 6 – 7 |
| Hoe belangrijk denkt u dat dit door de leden van <de clusterorganisatie> gevonden wordt? | 1 – 2 – 3 – 4 – 5 – 6 – 7 |
| | <i><- totaal niet — volledig -></i> |
| In welke mate zijn de doelen die <uw organisatie> had bij de oprichting van / het lid worden van <de clusterorganisatie> bereikt? | 1 – 2 – 3 – 4 – 5 – 6 – 7 |
| | <i><- zeer ontevreden — zeer tevreden -></i> |
| Hoe tevreden bent u met het functioneren van <uw organisatie> binnen het cluster (<de clusterorganisatie>)? | 1 – 2 – 3 – 4 – 5 – 6 – 7 |
| Hoe tevreden bent u met de bijdrage van <uw organisatie> aan <de clusterorganisatie>? | 1 – 2 – 3 – 4 – 5 – 6 – 7 |
| Hoe tevreden bent u met de bijdrage van <uw organisatie> aan de leden van het cluster? | 1 – 2 – 3 – 4 – 5 – 6 – 7 |
| Hoe tevreden denkt u dat de leden van het cluster over het algemeen zijn met de bijdragen van <uw organisatie>? | 1 – 2 – 3 – 4 – 5 – 6 – 7 |
| | <i><- zeer ontevreden — zeer tevreden -></i> |
| Hoe tevreden bent u met het functioneren van <de clusterorganisatie> binnen het cluster? | 1 – 2 – 3 – 4 – 5 – 6 – 7 |
| Hoe tevreden bent u met de bijdrage van <de clusterorganisatie> aan haar leden? | 1 – 2 – 3 – 4 – 5 – 6 – 7 |
| Hoe tevreden denkt u dat de leden van het cluster over het algemeen zijn met de bijdragen van <de clusterorganisatie>? | 1 – 2 – 3 – 4 – 5 – 6 – 7 |
| | <i><- totaal mee oneens — totaal mee eens -></i> |
| Wij (<uw organisatie>) dragen bij aan het innovatief vermogen van onze leden. | 1 – 2 – 3 – 4 – 5 – 6 – 7 |
| Wij dragen bij aan het wegnemen van belemmeringen om te innoveren. | 1 – 2 – 3 – 4 – 5 – 6 – 7 |
| Wij dragen bij aan het creëren van een omgeving die kansen biedt voor innovatie. | 1 – 2 – 3 – 4 – 5 – 6 – 7 |

Appendix III – the company interview guide



interviewgids

Bedrijven
<uw bedrijf>

Philipp Garbade

philipp.garbade@foodvalley.nl

Richard Ruitenburg

richard.ruitenburg@foodvalley.nl

voor het interview op

<datum interview>

van <tijd>



Wageningen, <datum>

Introductie

Beste mevrouw, meneer,

Allereerst hartelijk bedankt dat u wilt deelnemen aan dit interview, dat zal gaan over de rol van <de clusterorganisatie> voor het bedrijfsleven in de agrovoedings-sector in deze regio, en dan vooral hoe innovatie in bedrijven in deze sector gestimuleerd en ondersteund kan worden. Dit interview maakt, zoals in de brief beschreven, deel uit van een groot Europees onderzoek naar de manier waarop innovatie in de agrovoedings-sector bevorderd kan worden en we zijn erg blij dat u hieraan mee wilt werken.

Alle informatie die tijdens dit interview ter sprake komt zal vertrouwelijk behandeld worden. Elke te verschijnen publicatie die put uit de informatie die verkregen is tijdens dit interview zal op geen enkele wijze herleidbaar zijn naar u als persoon of uw bedrijf.

In deze vragenlijst zult u een aantal vragen tegenkomen die beantwoord moeten worden door middel van een 7-punts schaal. Voor het geval u hier niet vertrouwd mee bent zullen wij een voorbeeld geven hoe deze vragen ingevuld moeten worden.

Voorbeeld van een vraag met een 7-punts schaal.

Hoe belangrijk is innovatie voor het behoud van het concurrentievermogen van uw bedrijf?

zeer onbelangrijk 1 – 2 – 3 – 4 – 5 – 6 – 7 zeer belangrijk

Voor een dergelijke vraag worden telkens twee extreme uitkomsten gegeven, zoals hier: 1: zeer onbelangrijk en 7: zeer belangrijk. U kunt dan kiezen welk cijfer (van 1 tot en met 7) uw mening het beste weergeeft; deze waarde omcirkelt u. In dit geval kiest u dus hoe belangrijk innovatie is voor het behoud van het concurrentievermogen van uw bedrijf, op een schaal van 1 tot en met 7. De score '4' geeft een neutrale waarde aan: niet onbelangrijk en niet belangrijk.

Zou u de gedeeltes in groen al voor het interview willen invullen? Deze vragen bieden u een soort checklist welke zaken er wel of niet relevant (kunnen) zijn voor uw bedrijf. Bovendien, als deze vragen al ingevuld zijn, kunnen wij het interview nog beter op uw situatie aanpassen.

1. Algemene introductie vragen

Naam van het bedrijf: <uw bedrijf>

Naam van de respondent: <naam respondent>

- Heeft u vanaf 2005 artikelen gepubliceerd in gerefereerde (wetenschappelijke) tijdschriften, als auteur of co-auteur?
- Heeft u vanaf 2005 bijgedragen aan andere publicaties over uw innovatiewerk (bijvoorbeeld in niet-gerefereerde tijdschriften, hoofdstukken in boeken, professionele publicaties, rapporten) als auteur of co-auteur?
- Staat u ingeschreven als uitvinder van een patent of breeders right (toepassing)?
- Omschrijf kort uw functie binnen de organisatie.

2. Bedrijf/ business unit

| | 2008 | 2010 | 2012 |
|---------------------------------|------|------|------|
| Omzet (€) | | | |
| Operationele winst marge | | | |
| Fte bedrijf/ business unit | | | |
| Fte R&D/innovatie business unit | | | |
| Fte innovatie | | | |

3. Innovatieve status van het bedrijf

| | |
|---|------------|
| Aantal innovatieprojecten gestart in de laatste drie jaren | ..... |
| Voorbeelden: | |
| Aantal nieuwe producten en processen in de laatste 3 jaren | ..... |
| Voorbeelden: | |
| Aantal octrooien, breeders rights in de laatste 3 jaren | ..... |
| Voorbeelden: | |
| Heeft uw bedrijf gedurende de afgelopen 3 jaar overheidsondersteuning ontvangen voor innovatieve projecten? (bijvoorbeeld: het 6e of 7e kaderprogramma van de EU, of WBSO, TechnoPartner of BSIK) | ja / nee |
| Zo ja: gemiddeld % van het totale jaarbudget voor innovatie | |
| Wat is de gemiddelde productlevenscyclus? (in jaren) | jaar |

Zou u uw mening over de volgende stellingen willen geven?

| | | | |
|--|---------------------|---------------------------|-------------------|
| We hebben een uitgebalanceerde portfolio van innovatieprojecten met lage en hoge risico's. | volledig mee oneens | 1 – 2 – 3 – 4 – 5 – 6 – 7 | volledig mee eens |
| Hoe belangrijk is innovatie voor het behoud van het concurrentievermogen van uw bedrijf? | zeer onbelangrijk | 1 – 2 – 3 – 4 – 5 – 6 – 7 | zeer belangrijk |

Kunt u aangeven welke innovaties uw bedrijf de afgelopen 3 jaar heeft gerealiseerd, en – indien van toepassing – hoe belangrijk de rol van <de clusterorganisatie> hierin was?

| | Welke innovatie(s) heeft uw bedrijf de afgelopen 3 jaar gerealiseerd? [Wilt u dit alstublieft aangeven op een schaal van 1 to 7] | Heeft <de clusterorganisatie> hierbij een rol gespeeld? | Hoe belangrijk was de rol van <de clusterorganisatie> bij het realiseren van deze innovatie? |
|--|---|---|--|
| | < geen enkele -- meerdere > | ja/nee | < zeer onbelangrijk -- zeer belangrijk > |
| Nieuwe of verbeterde producten of services | 1 – 2 – 3 – 4 – 5 – 6 – 7 | ja / nee | 1 – 2 – 3 – 4 – 5 – 6 – 7 |

| | | | |
|--|----------------------------------|----------|----------------------------------|
| Nieuwe of verbeterde processen | 1 – 2 – 3 – 4 – 5 – 6 – 7 | ja / nee | 1 – 2 – 3 – 4 – 5 – 6 – 7 |
| Nieuw marktsegment; andere soort klanten | 1 – 2 – 3 – 4 – 5 – 6 – 7 | ja / nee | 1 – 2 – 3 – 4 – 5 – 6 – 7 |
| Nieuw marktgebied (geografisch) | 1 – 2 – 3 – 4 – 5 – 6 – 7 | ja / nee | 1 – 2 – 3 – 4 – 5 – 6 – 7 |
| Nieuw business model | 1 – 2 – 3 – 4 – 5 – 6 – 7 | ja / nee | 1 – 2 – 3 – 4 – 5 – 6 – 7 |
| Octrooiaanvragen | 1 – 2 – 3 – 4 – 5 – 6 – 7 | ja / nee | 1 – 2 – 3 – 4 – 5 – 6 – 7 |
| Nieuwe samenwerkingsverbanden | 1 – 2 – 3 – 4 – 5 – 6 – 7 | ja / nee | 1 – 2 – 3 – 4 – 5 – 6 – 7 |
| Anders, namelijk | 1 – 2 – 3 – 4 – 5 – 6 – 7 | ja / nee | 1 – 2 – 3 – 4 – 5 – 6 – 7 |

| | |
|--|---------|
| Hoe groot schat u de bijdrage van producten die de afgelopen 3 jaar op de markt zijn gekomen aan de totale omzet van uw bedrijf? | % |
| Percentage van de nieuwe producten en processen die de afgelopen 3 jaar op de markt zijn gekomen op basis van innovatie met samenwerkingspartners. | % |

Zou u uw mening over de volgende stellingen willen geven?

| | | | |
|--|---------------------|---|-------------------|
| Vergeleken met onze belangrijkste concurrenten is onze winstgevendheid | veel lager | hetzelfde 1 – 2 – 3 – 4 – 5 – 6 – 7 | veel hoger |
| Vergeleken met onze belangrijkste concurrenten is onze groei | veel lager | hetzelfde 1 – 2 – 3 – 4 – 5 – 6 – 7 | veel hoger |
| Wij zijn in staat om onze nieuwe producten / diensten eerder op de markt te introduceren dan onze belangrijkste concurrenten | volledig mee oneens | hetzelfde 1 – 2 – 3 – 4 – 5 – 6 – 7 | volledig mee eens |

3.1 Bescherming van intellectueel eigendom (IP)

Zou u uw mening over de volgende stelling willen geven?

| | | | |
|--|-------------------|---|-------------------|
| De bescherming van onze producten en processen, bijvoorbeeld door middel van octrooien, breeders rights en geheimhouding van recepten, is vergeleken met onze belangrijkste concurrenten | zeer veel zwakker | hetzelfde 1 – 2 – 3 – 4 – 5 – 6 – 7 | zeer veel sterker |
|--|-------------------|---|-------------------|

Hoe belangrijk zijn de volgende methoden om innovatie te beschermen voor <uw bedrijf>?

| | |
|--|---|
| [Wilt u dit alstublieft aangeven op een schaal van 1 to 7] | <– zeer onbelangrijk — zeer belangrijk —> |
| Geheimhouding (bijvoorbeeld van recepten) | 1 – 2 – 3 – 4 – 5 – 6 – 7 |
| Complexiteit van het productieproces | 1 – 2 – 3 – 4 – 5 – 6 – 7 |
| Snelle standaardisatie, dus lage productie- en verwerkingskosten | 1 – 2 – 3 – 4 – 5 – 6 – 7 |

| | |
|---|----------------------------------|
| Snelheid waarmee marktaandeel verworven wordt | 1 – 2 – 3 – 4 – 5 – 6 – 7 |
| Contracten (Samenwerkingsovereenkomsten) | 1 – 2 – 3 – 4 – 5 – 6 – 7 |
| Niet concurrentiebeding in arbeidscontracten | 1 – 2 – 3 – 4 – 5 – 6 – 7 |
| Patenten, octrooien | 1 – 2 – 3 – 4 – 5 – 6 – 7 |
| Breeders rights (Kwekersrecht) | 1 – 2 – 3 – 4 – 5 – 6 – 7 |
| Copyrights (auteursrecht) | 1 – 2 – 3 – 4 – 5 – 6 – 7 |
| Trademarks (handelsmerken) | 1 – 2 – 3 – 4 – 5 – 6 – 7 |
| Design (modellenrecht) | 1 – 2 – 3 – 4 – 5 – 6 – 7 |
| Handelsgeheimen | 1 – 2 – 3 – 4 – 5 – 6 – 7 |
| Anders: | 1 – 2 – 3 – 4 – 5 – 6 – 7 |

3.2 R&D management instrumenten

Zou u kunnen aangeven hoe vaak de genoemde bijeenkomsten binnen uw bedrijf plaatsvinden, en wie hieraan over het algemeen deelnemen?

| | |
|--|------------------------------------|
| Binnen ons bedrijf zijn multidisciplinaire bijeenkomsten (bijvoorbeeld tussen marketing, inkoop en productie) om nieuwe product/technologiemogelijkheden te bespreken. | 1 – 2 – 3 – 4 – 5 – 6 – 7 * |
| Wie nemen deel aan deze multidisciplinaire bijeenkomsten? (bijvoorbeeld: R&D, directie, productie, inkoop, verkoop, marketing) | ..... |
| Wij hebben een georganiseerd ‘stage gate’ innovatie proces met go, no go of change momenten: | 1 – 2 – 3 – 4 – 5 – 6 – 7 * |
| Wie nemen deel aan deze go, no go of change bijeenkomsten? (Bijvoorbeeld: R&D, directie, productie, inkoop, verkoop, marketing) | ..... |

* **1.** minder dan jaarlijks – **2.** jaarlijks – **3.** eens per half jaar – **4.** eens per kwartaal – **5.** maandelijks – **6.** eens per twee weken – **7.** meer dan eens per week

Zou u willen reageren op de volgende stellingen over het management van innovaties, en – indien van toepassing – een voorbeeld willen geven van hoe u dit doet?

| | | | |
|--|-------------|----------------------------------|--------------------|
| Ons bedrijf heeft een actief beleid voor het stimuleren en motiveren van R&D medewerkers (bijvoorbeeld door middel van beloningsbeleid) om innovatie te bevorderen . | totaal niet | 1 – 2 – 3 – 4 – 5 – 6 – 7 | in zeer grote mate |
| Kunt u hiervan een voorbeeld geven? (bijvoorbeeld het percentage tijd dat werknemers vrij mogen besteden aan innovatie) | ..... |  |  |
| We formuleren Key Performance Indicatoren (prestatie indicatoren) voor onze innovatieprojecten | totaal niet | 1 – 2 – 3 – 4 – 5 – 6 – 7 | in zeer grote mate |

| | | | |
|---|-------------|---------------------------|--------------------|
| Kunt u hiervan een voorbeeld geven? | ..... |  |  |
| Wij leggen aan het eind van ieder innovatieproject de ervaringen vast waarvan wij kunnen leren in volgende innovatietrajecten | totaal niet | 1 – 2 – 3 – 4 – 5 – 6 – 7 | in zeer grote mate |
| Kunt u hiervan een voorbeeld geven? | ..... |  |  |

4. Samenwerking in cluster(s)

- Van welke clusters bent u lid?
- Wanneer bent u lid geworden van dit cluster / deze clusters?
- Wat waren uw redenen om lid te worden? Zijn deze doelen vandaag nog hetzelfde? Zo niet, waarom zijn deze veranderd?
- Aan welke activiteiten van <de clusterorganisatie> neemt u deel?
- Is uw deelname aan activiteiten sinds u lid werd veranderd? Waarom?

Kunt u aangeven op welke gebieden <de clusterorganisatie> in de afgelopen 3 jaar een bijdrage heeft geleverd aan uw bedrijf en hoe belangrijk dit is voor uw bedrijf?

| <De clusterorganisatie> heeft een bijdrage geleverd in | <- niets bijgedragen — zeer veel bijgedragen -> | <- niet belangrijk — zeer belangrijk -> |
|--|---|---|
| het verkrijgen van nieuwe kennis en/of technologie | 1 – 2 – 3 – 4 – 5 – 6 – 7 | 1 – 2 – 3 – 4 – 5 – 6 – 7 |
| het in contact brengen met partners voor het opzetten of verder uitbreiden van hun netwerk | 1 – 2 – 3 – 4 – 5 – 6 – 7 | 1 – 2 – 3 – 4 – 5 – 6 – 7 |
| het bieden van ondersteuning bij het verkrijgen van innovatie subsidies | 1 – 2 – 3 – 4 – 5 – 6 – 7 | 1 – 2 – 3 – 4 – 5 – 6 – 7 |
| het geven van inzicht in nieuwe mogelijkheden voor bestaande markten of nieuwe markten | 1 – 2 – 3 – 4 – 5 – 6 – 7 | 1 – 2 – 3 – 4 – 5 – 6 – 7 |
| het leggen van contacten met gekwalificeerd personeel / experts | 1 – 2 – 3 – 4 – 5 – 6 – 7 | 1 – 2 – 3 – 4 – 5 – 6 – 7 |
| het werken als tussenpersoon tussen onderwijsinstituten en de bedrijven in uw cluster (bijv. in het regelen van stageplekken). | 1 – 2 – 3 – 4 – 5 – 6 – 7 | 1 – 2 – 3 – 4 – 5 – 6 – 7 |
| het leveren van nieuwe ideeën om te innoveren (bijv. via conferenties/seminars) | 1 – 2 – 3 – 4 – 5 – 6 – 7 | 1 – 2 – 3 – 4 – 5 – 6 – 7 |
| het helpen bij het vinden van vestigings- dan wel uitbreidingsmogelijkheden | 1 – 2 – 3 – 4 – 5 – 6 – 7 | 1 – 2 – 3 – 4 – 5 – 6 – 7 |
| het bieden van ondersteuning bij het opstarten van nieuwe bedrijven. | 1 – 2 – 3 – 4 – 5 – 6 – 7 | 1 – 2 – 3 – 4 – 5 – 6 – 7 |

| | | |
|---|----------------------------------|----------------------------------|
| het verlagen van de ontwikkelingskosten | 1 – 2 – 3 – 4 – 5 – 6 – 7 | 1 – 2 – 3 – 4 – 5 – 6 – 7 |
| het verkorten van de time-to-market | 1 – 2 – 3 – 4 – 5 – 6 – 7 | 1 – 2 – 3 – 4 – 5 – 6 – 7 |
| het verbeteren van de innovatie succes ratio (<i>success rate</i>) | 1 – 2 – 3 – 4 – 5 – 6 – 7 | 1 – 2 – 3 – 4 – 5 – 6 – 7 |
| het vergroten van de consumenteninteresse in uw innovatieve producten | 1 – 2 – 3 – 4 – 5 – 6 – 7 | 1 – 2 – 3 – 4 – 5 – 6 – 7 |
| anders, namelijk: | 1 – 2 – 3 – 4 – 5 – 6 – 7 | 1 – 2 – 3 – 4 – 5 – 6 – 7 |

- Welke relaties bestaan er tussen <uw bedrijf> en <de clusterorganisatie>?

Hoe vaak heeft u of iemand anders van uw bedrijf via deze verbindingen contact met medewerkers van <de clusterorganisatie>?

| contactfrequentie* | | | | | |
|----------------------|-------------------|--------------------------------|--------|-------------------------------|-------------------|
| face-to-face contact | skype (met beeld) | telefoon, skype (zonder beeld) | e-mail | social media (namelijk:.....) | video conferentie |
| | | | | | |

* X. wordt niet gebruikt – 1. eens per jaar of minder– 2. eens per half jaar – 3. eens per kwartaal– 4. maandelijks– 5. eens per twee weken – 6. eens per week – 7. meer dan eens per week

- Kunt u aangeven wat de invloed van <de clusterorganisatie> is op het wederzijds vertrouwen tussen de leden in het cluster?
- Geeft het uw bedrijf meer vertrouwen in een mogelijke samenwerkingspartner wanneer die partner ook lid is van <de clusterorganisatie>? Waarom?

Zou u uw mening over de volgende stellingen willen geven?

| | | | |
|---|---------------------|----------------------------------|--------------------|
| Hoe tevreden bent u in het algemeen met de bijdrage van uw clusterorganisatie? | totaal niet | 1 – 2 – 3 – 4 – 5 – 6 – 7 | in zeer grote mate |
| <De clusterorganisatie> draagt bij aan het promoten van de Nederlandse agrovoedings-industrie | volledig mee oneens | 1 – 2 – 3 – 4 – 5 – 6 – 7 | volledig mee eens |
| <De clusterorganisatie> draagt bij aan het innovatief vermogen van onze organisatie | volledig mee oneens | 1 – 2 – 3 – 4 – 5 – 6 – 7 | volledig mee eens |
| <De clusterorganisatie> draagt bij aan het wegnemen van belemmeringen om te innoveren | volledig mee oneens | 1 – 2 – 3 – 4 – 5 – 6 – 7 | volledig mee eens |
| <De clusterorganisatie> draagt bij aan het creëren van een omgeving die kansen biedt voor innovatie | volledig mee oneens | 1 – 2 – 3 – 4 – 5 – 6 – 7 | volledig mee eens |

- Welke drie dingen moeten wat u betreft absoluut hetzelfde blijven binnen het cluster? (*bijvoorbeeld: activiteiten en ondersteuning*)
- Welke drie dingen moeten wat u betreft absoluut veranderen binnen het cluster? (*bijvoorbeeld: activiteiten en ondersteuning*)

Deel 2: Samenwerking en innovatie

1. Algemene vragen

- Werkt u momenteel samen met andere organisaties om te innoveren?
- Heeft u internationale relaties (samenwerkingen / partnerships)?

| | |
|---|--------|
| Aantal medewerkers betrokken bij innovatie projecten samen met andere bedrijven en/of kennisinstellingen in de afgelopen 3 jaar. | ..... |
| Aantal innovatie projecten met andere bedrijven en/of kennisinstellingen in de afgelopen 3 jaren. | ..... |
| Percentage geformaliseerde samenwerkingsverbanden op innovatiegebied (e.g. joint ventures, cross-shareholdings (dat bedrijven een deel van elkaars aandelen bezitten)) ten opzichte van het totaal |% |

- Kunt u voorbeelden geven van (geformaliseerde en niet geformaliseerde) innovatieprojecten met andere bedrijven?

| Hoe belangrijk zijn de volgende samenwerkingspartners voor de innovaties waar u nu aan werkt? | Van toepassing | Belang | Heeft <de clusterorganisatie> een rol gespeeld bij het tot stand brengen van de relatie? |
|--|----------------|--|--|
| | ja / nee | <- zeer onbelangrijk -- zeer belangrijk -> | ja / nee |
| Afnemers | ja / nee | 1 – 2 – 3 – 4 – 5 – 6 – 7 | ja / nee |
| Leveranciers van grondstoffen | ja / nee | 1 – 2 – 3 – 4 – 5 – 6 – 7 | ja / nee |
| Leveranciers van (proces) technologie | ja / nee | 1 – 2 – 3 – 4 – 5 – 6 – 7 | ja / nee |
| Concurrenten | ja / nee | 1 – 2 – 3 – 4 – 5 – 6 – 7 | ja / nee |
| Universiteiten / HBO's | ja / nee | 1 – 2 – 3 – 4 – 5 – 6 – 7 | ja / nee |
| Onderzoeksinstellingen (<i>Publieke en private onderzoeksinstellingen, anders dan universiteiten (TNO, NIZO, DLO)</i>) | ja / nee | 1 – 2 – 3 – 4 – 5 – 6 – 7 | ja / nee |
| Consultants, adviesbureaus (<i>Advies en intermediaire organisatie gericht op innovatie</i>) | ja / nee | 1 – 2 – 3 – 4 – 5 – 6 – 7 | ja / nee |
| Sector-/branche organisaties | ja / nee | 1 – 2 – 3 – 4 – 5 – 6 – 7 | ja / nee |

| | |
|--|---------|
| Hoeveel procent van deze samenwerkingspartners zijn ook lid van <de clusterorganisatie>? | % |
|--|---------|

- Hoe belangrijk is uw lidmaatsschap van <de clusterorganisatie> voor u om contacten op te doen? Waarom?

Zou u uw mening willen geven over de volgende stelling?

| | | | |
|---|------------------|---------------------------|----------------|
| Ziet u het belang van samenwerking op het gebied van innovatie meer of minder in door uw ervaringen binnen dit cluster? | zeer veel minder | 1 – 2 – 3 – 4 – 5 – 6 – 7 | zeer veel meer |
|---|------------------|---------------------------|----------------|

2. Allianties (samenwerkingsverbanden op het gebied van innovatie)

- Kunt u, indien van toepassing, drie belangrijke op innovatie gerichte allianties van <uw bedrijf> beschrijven?
- Kunt u ons ook een voorbeeld geven van een alliantie die niet succesvol is geweest? (*mag binnen of buiten het cluster*) (*u kunt ons de naam geven, die blijft natuurlijk vertrouwelijk, of enkel het type bedrijf*)

| Onderwerp | Belangrijkste partner(s) | Deelnemer aan cluster (ja / nee) | Aantal werknehmers betrokken | | Aanvang (en eventuele afsluiting) | Formeel/informeel* | Totaal aantal bedrijven | Type organisatie(s)** |
|-----------|--------------------------|----------------------------------|------------------------------|---------|-----------------------------------|--------------------|-------------------------|-----------------------|
| | | | van ons | van hen | | | | |
| 1. | | | | | | | | |
| 2. | | | | | | | | |
| 3. | | | | | | | | |
| 4.*** | | | | | | | | |

* formeel is bijvoorbeeld door middel van contracten, joint ventures, cross-shareholdings (dat bedrijven een deel van elkaars aandelen hebben)

** bedrijven, kennisininstellingen, consultants, etc.

*** voorbeeld van mislukte alliantie

- Kunt u een korte uitleg geven over de andere bedrijven en organisaties die deelnemen in het onderzoeksproject in deze alliantie?
- Wat ging er mis in alliantie 4?
- Zijn de lessen gebruikt in de drie andere allianties, en zo ja, hoe?
- Wat zijn de sterke punten in (ieder van) de eerste drie alliantie?

Kunt u, in de onderstaande tabel, het belang van de verschillende genoemde doelstellingen aangeven voor elk van deze 4 allianties?

| | | | | |
|---|--|-------------|-------------|-------------|
| Naam van de alliantie | alliantie 1 | alliantie 2 | alliantie 3 | alliantie 4 |
| Wat was/ waren de belangrijkste doelstelling(en) van de alliantie? | [Wilt u dit alstublieft aangeven op een schaal van 1 to 7] 1. = totaal niet <-> 7. = in zeer grote mate | | | |
| Voorbeeld | 7 | 5 | 1 | 4 |
| kennis- en/of technologieontwikkeling | | | | |

| | | | | |
|-----------------------------------|--|--|--|--|
| ontwikkeling van nieuwe producten | | | | |
| ontwikkeling van nieuwe processen | | | | |
| anders, namelijk | | | | |

| Alliantie | Betrokken afdelingen * | | | | | | Contactfrequentie ** | | | | | |
|-----------|------------------------|------------------------|-----------|--------------|-------------|-------------------------|-------------------------|----------------------|-----------------------------------|-----------|----------------------------------|----------------------|
| | 1. onderzoek / R&D | 2. marketing / verkoop | 3. Inkoop | 4. financien | 5. directie | 6. anders namelijk..... | 1. face-to-face contact | 2. skype (met beeld) | 3. telefoon, skype (zonder beeld) | 4. e-mail | 5. social media (namelijk:.....) | 6. video conferentie |
| voorbeeld | X | | X | X | | | 5 | X | 6 | 6 | X | X |
| 1: | | | | | | | | | | | | |
| 2: | | | | | | | | | | | | |
| 3: | | | | | | | | | | | | |
| 4: | | | | | | | | | | | | |

* Aankruisen indien er binnen deze alliantie contact was met deze afdeling.

** X. wordt niet gebruikt – 1. eens per jaar of minder– 2. eens per half jaar – 3. eens per kwartaal– 4. maandelijks– 5. eens per twee weken – 6. eens per week – 7. meer dan eens per week

| | | | | | |
|--|--|---|-------------|-------------|-------------|
| | | 1. = totaal niet <> 7. = in zeer grote mate | | | |
| | Wilt u de volgende vragen over de vier allianties beantwoorden op een schaal van 1 tot en met 7? | alliantie 1 | alliantie 2 | alliantie 3 | alliantie 4 |
| | Dit project zal de huidige markt compleet veranderen | | | | |
| | Dit project is compleet nieuw voor onze industrie | | | | |
| | Wordt er binnen de alliantie personeel uitgewisseld om in elkaars bedrijf te werken ? Zo ja, hoeveel uur per maand en voor hoeveel maanden? | | | | |

| | | | | |
|--|--|--|--|--|
| | Gebruikt (e) u inlicensing van kennis binnen deze alliantie? | | | |
| | Gebruikt (e) u outlicensing van kennis binnen deze alliantie? | | | |
| | In welke mate zijn er binnen deze alliantie verschillen in apparaten, technologie en kennis die elkaar aanvullen? (<i>complementariteit</i>) | | | |
| | De uitwisseling van apparaten, technologie en kennis is belangrijk in deze alliantie. | | | |
| | De uitwisseling van personen (<i>human resources</i>) is belangrijk in deze alliantie. | | | |
| | Wordt de alliantie op enigerlei wijze gesubsidieerd? | | | |
| | In welke mate gebruiken de belangrijkste partner(s) binnen deze alliantie andere technologieën dan u? | | | |
| | In welke mate werken de belangrijkste partner(s) binnen deze alliantie op een ander onderzoeksterrein dan u? | | | |
| | In welke mate bezitten de belangrijkste partner(s) in deze alliantie andere expertise dan u? | | | |
| | In hoeverre loopt uw bedrijf tegen problemen aan met betrekking tot ontvangen informatie van deze partner(s)? | | | |
| | In hoeverre is de verdeling van expertise binnen uw bedrijf om met de ontvangen informatie van deze partner(s) te werken | | | |
| | Zijn er moeilijkheden in het begrijpen van elkaar op het gebied van technische en/ of wetenschappelijke details? | | | |

- Indien er moeilijkheden waren in het begrijpen van elkaar; heeft u hier speciale actie op ondernomen?
En is de situatie daardoor verbeterd?

Bescherming van intellectueel eigendom (op alliantie-niveau)

Zou u uw mening willen geven op de volgende stellingen en vragen, voor ieder van de vier allianties?

| | | alliantie 1 | alliantie 2 | alliantie 3 | alliantie 4 |
|--|--|--|-------------|-------------|-------------|
| | | | | | |
| | | 1. = heel klein <-> 7. = heel groot | | | |
| | Het risico op het uitlekken van vertrouwelijke informatie in deze samenwerking | | | | |
| | Waarover zijn aan het begin van de samenwerking afspraken gemaakt? | 1. = totaal niet <-> 7. = in zeer grote mate | | | |
| | - Deliverables per go/ no go moment | | | | |
| | - De verdeling van de inbreng van middelen (personeel, financiën) | | | | |

| | | | | |
|--|--|--|--|--|
| - Takkverdeling van de partners | | | | |
| - Procedures voor conflictoplossing | | | | |
| - Procedures voor (voortijdige) beëindiging van de samenwerking. | | | | |
| - Eigendomsrechten van opbrengsten en/ of resultaten | | | | |
| - Vertrouwelijkheidsafspraken | | | | |
| In deze alliantie wordt gebruik gemaakt van patent en technologie mapping * | | | | |

***technologie mapping:** is een proces waarin alle patenten of technologien die mogelijkerwijs in een product kunnen worden toegepast in kaart worden gebracht. Dit geeft een overzicht van de ingrediënten (patenten) en in welke mate het bedrijf of de alliantie deze bezit.

| | | alliantie 1 | alliantie 2 | alliantie 3 | alliantie 4 |
|---|--|-------------|-------------|-------------|-------------|
| Hoe vaak zijn er beoordelingen van de voortgang (<i>go-no-go moment</i>) Aantal keren per jaar | | | | | |

Hulp en vertrouwen

| | | | | | |
|--|--|---|-------------|-------------|-------------|
| | | 1. totaal niet <> 7. in zeer grote mate | | | |
| De belangrijkste alliantiepartner(s) helpt/en ons middels: | | alliantie 1 | alliantie 2 | alliantie 3 | alliantie 4 |
| - Financiële ondersteuning |  | ..... | ..... | ..... | ..... |
| - Levert apparatuur en gereedschappen (tools?) |  | ..... | ..... | ..... | ..... |
| - Kostenspreiding en/of risicospreiding |  | ..... | ..... | ..... | ..... |
| - Management, coaching en training |  | ..... | ..... | ..... | ..... |
| - Ondersteuning in het toepassen van IP bescherming |  | ..... | ..... | ..... | ..... |
| - Anders, namelijk |  | ..... | ..... | ..... | ..... |
| Nodigt u deze partner uit om te kijken naar ongebruikte octrooien of naar kennis die in het octrooi-aanvraag-proces is om te zien of er iets voor hem bij zit? |  | ..... | ..... | ..... | ..... |
| En nodigt deze partner u hiervoor uit? |  | ..... | ..... | ..... | ..... |
| We geven onze partner(s) altijd de informatie waar hij/ze om vraagt/vragen. |  | ..... | ..... | ..... | ..... |
| We krijgen altijd de informatie waar wij om vragen van onze partner |  | ..... | ..... | ..... | ..... |
| Deze partner doet altijd wat hij belooft. |  | ..... | ..... | ..... | ..... |
| We zouden bereid zijn extra investeringen te doen in deze alliantie, mocht dit nodig zijn |  | ..... | ..... | ..... | ..... |
| In de alliantie bleek/blijkt opportunisme een probleem te zijn. |  | ..... | ..... | ..... | ..... |

| | | | | |
|---|--|--|--|--|
| In een nieuw project wil ik zeker weer met deze partner(s) samenwerken. | | | | |
| In deze alliantie was de onderlinge afstemming van de verschillende bijdrages een probleem. | | | | |
| Het is erg eenvoudig om met iedereen te spreken die je nodig hebt, ongeacht rang, positie of organisatie. | | | | |

Uitbesteding binnen de alliantie

| | | 1. totaal niet <> 7. in zeer grote mate | | | |
|--|-------|---|-------------|-------------|-------------|
| | | alliantie 1 | alliantie 2 | alliantie 3 | alliantie 4 |
| Er worden activiteiten uitbested aan deze alliantiepartner vanwege: | | | | | |
| Beperkingen van de technische apparatuur van ons bedrijf | | | | | |
| Beperkingen van de technische vakkundigheid van ons bedrijf | | | | | |
| Anders, namelijk:..... | | | | | |

Prestatie van de alliantie

Zou u tenslotte nog uw mening willen geven op de volgende stellingen over het presteren van deze allianties?

| | | 1. totaal niet <> 7. in zeer grote mate | | | |
|--|-------|---|-------------|-------------|-------------|
| | | alliantie 1 | alliantie 2 | alliantie 3 | alliantie 4 |
| Deze alliantie leidde tot synergie* | | | | | |
| Door deze alliantie is nieuwe kennis en/of technologie ontwikkeld. | | | | | |
| Door deze alliantie zijn producten ontwikkeld die nieuw waren voor het bedrijf. | | | | | |
| Door deze alliantie zijn nieuwe productieprocessen ontwikkeld die nieuw zijn voor ons bedrijf of deze zijn sterk verbeterd. | | | | | |
| Deze alliantie heeft meer geld voor ons bedrijf opgeleverd dan het heeft gekost (<i>bijvoorbeeld doordat nieuwe producten op de markt zijn gekomen en/of omdat productiekosten lager zijn geworden</i>). | | | | | |

***synergie:** deze term beschrijft een situatie waarin het eindresultaat van een systeem groter is dan de som van haar delen.

Dan zijn we nu aan het einde van dit interview aangekomen. We willen u heel hartelijk bedanken voor uw medewerking.

Wanneer de resultaten van het onderzoek bekend zijn, zult u hierover van ons horen.

Met hartelijke groet,

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Richard Ruitenburg

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Invulvel bedrijvenvragenlijst

| Hoe vaak heeft uw bedrijf contact met deze organisaties, en op welke manier? * | | | | |
|--|----------------------|-----------------------------------|--------|--|
| Alliantie | face-to-face contact | telefoon, skype (zonder beeld) | e-mail | |
| voorbeeld | 5 | 4 | 6 | |
| 1. | | | | |
| 2. | | | | |
| 3. | | | | |
| 4. | | | | |

| | alliantie 1 | alliantie 2 | alliantie 3 | alliantie 4 |
|--|----------------------------|----------------------------|----------------------------|----------------------------|
| | | | | |
| Wordt er binnen de alliantie personeel uitgewisseld om in elkaars bedrijf te werken? | ja / nee | ja / nee | ja / nee | ja / nee |
| Zo ja, hoeveel uur per maand en voor hoeveel maanden? | uur maanden | uur maanden | uur maanden | uur maanden |

| | | | | |
|---|---|---|---|---|
| Wilt u de volgende vragen over de vier allianties beantwoorden op een schaal van 1 tot en met 7? | 1. = heel klein <-> 7. = heel groot | | | |
| Het risico op het uitlekken van vertrouwelijke informatie in deze samenwerking is | | | | |
| | 1. = totaal niet <-> 7. = in zeer grote mate | | | |
| In welke mate zijn er binnen deze alliantie verschillen in apparaten, technologie en kennis die elkaar aanvullen? (<i>complementariteit</i>) | | | | |
| Aan het begin van de samenwerking zijn afspraken gemaakt over: | - | - | - | - |
| 1. eigendomsrechten van opbrengsten en/ of resultaten; en | | | | |
| 2. vertrouwelijkheidsafspraken | | | | |
| In deze alliantie wordt gebruik gemaakt van patent en technologie mapping * | | | | |
| <i>*technologie mapping: is een proces waarin alle patenten of technologien die mogelijkwijzen in een product kunnen worden toegepast in kaart worden gebracht. Dit geeft een overzicht van de ingrediënten (patenten) en in welke mate het bedrijf of de alliantie deze bezit.</i> | | | | |
| Deze partner doet altijd wat hij belooft. | | | | |
| We zouden bereid zijn extra investeringen te doen in deze alliantie, mocht dit nodig zijn | | | | |
| In de alliantie bleek/blijkt opportunisme een probleem te zijn. | | | | |

| | | | | |
|---|--|--|--|--|
| In een nieuw project wil ik zeker weer met deze partner(s) samenwerken. | | | | |
| Door deze alliantie zijn producten ontwikkeld die nieuw waren voor het bedrijf. | | | | |
| Door deze alliantie zijn nieuwe productieprocessen ontwikkeld die nieuw zijn voor ons bedrijf of deze zijn sterk verbeterd. | | | | |

Appendix IV – the research institute interview guide



interviewgids

Onderzoeksinstelling

<uw organisatie>

Philipp Garbade

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Richard Ruitenburg

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voor het interview op

<datum interview>

van <tijd>



Wageningen, <datum>

Introductie

Beste mevrouw, meneer,

Allereerst hartelijk bedankt dat u wilt deelnemen aan dit interview, dat zal gaan over de rol van <de clusterorganisatie> voor bedrijven en onderzoeksinstellingen in de agrovoedings-sector in deze regio, en dan vooral hoe innovatie in bedrijven in deze sector gestimuleerd en ondersteund kan worden. Dit interview maakt, zoals in de brief beschreven, deel uit van een groot Europees onderzoek naar de manier waarop innovatie in de agrovoedings-sector bevorderd kan worden en we zijn erg blij dat u hieraan mee wilt werken.

Alle informatie die tijdens dit interview ter sprake komt zal vertrouwelijk behandeld worden. Elke te verschijnen publicatie die put uit de informatie die verkregen is tijdens dit interview zal op geen enkele wijze herleidbaar zijn naar u als persoon of uw organisatie.

In deze vragenlijst zult u een aantal vragen tegenkomen die beantwoord moeten worden door middel van een 7-punts schaal. Voor het geval u hier niet vertrouwd mee bent zullen wij een voorbeeld geven hoe deze vragen ingevuld moeten worden.

Voorbeeld van een vraag met een 7-punts schaal.

| | | | |
|--|---------------------|---------------------------|-------------------|
| We hebben een uitgebalanceerde portfolio van innovatieprojecten met lage en hoge risico's. | volledig mee oneens | 1 – 2 – 3 – 4 – 5 – 6 – 7 | volledig mee eens |
|--|---------------------|---------------------------|-------------------|

Voor een dergelijke vraag worden telkens twee extreme uitkomsten gegeven, zoals hier: 1: volledig mee oneens en 7: volledig mee eens. U kunt dan kiezen welk cijfer (van 1 tot en met 7) uw mening het beste weergeeft; deze waarde omcirkelt u. In dit geval kiest u dus in hoeverre u het eens bent met de stelling “we hebben een uitgebalanceerde portfolio van innovatieprojecten met lage en hoge risico's”, op een schaal van 1 tot en met 7. De score ‘4’ geeft een neutrale waarde aan: niet mee oneens en niet mee eens.

Zou u de gedeeltes in groen al voor het interview willen invullen? Deze vragen bieden u een soort checklist welke zaken er wel of niet relevant (kunnen) zijn voor uw organisatie. Bovendien, als deze vragen al ingevuld zijn, kunnen wij het interview nog beter op uw situatie aanpassen.

1. Algemene introductie vragen

Naam van de organisatie: <uw organisatie>

Naam van de respondent: <naam respondent>

- Heeft u vanaf 2005 artikelen gepubliceerd in gerefereerde (wetenschappelijke) tijdschriften, als auteur of co-auteur?

- Heeft u vanaf 2005 bijgedragen aan andere publicaties over uw innovatiewerk (bijvoorbeeld in niet-gerefereerde tijdschriften, hoofdstukken in boeken, professionele publicaties, rapporten) als auteur of co-auteur?
- Staat u ingeschreven als uitvinder van een patent of breeders right (toepassing)?
- Omschrijf kort uw functie binnen de organisatie.

2. Organisatie / afdeling

| | 2008 | 2010 | 2012 |
|----------------------------|------|------|------|
| Omzet (€) | | | |
| Operationele winst marge | | | |
| Fte organisatie / afdeling | | | |
| Fte R&D/innovatie afdeling | | | |

3. Innovatieve status van de organisatie

| | |
|--|---|
| Aantal innovatieprojecten gestart in de laatste drie jaren | ..... |
| Voorbeelden: | |
| Aantal nieuwe producten en processen in de laatste 3 jaren | ..... |
| Voorbeelden: | |
| Aantal octrooien, breeders rights in de laatste 3 jaren | ..... |
| Voorbeelden: | |
| Kunt u aangeven hoe de verhouding publieke en private bijdragen aan uw organisatie (of eventueel: uw afdeling) is? | |
| publieke bijdrage:% | private bijdrage:% |
| Heeft uw organisatie gedurende de afgelopen 3 jaar overheidsondersteuning ontvangen voor innovatieve projecten? (<i>bijvoorbeeld: het 6e of 7e kaderprogramma van de EU, of WBSO, TechnoPartner of BSIK</i>) | |
| Zo ja: | ja / nee |
| Zo ja: | gemiddeld % van het totale jarbudget voor innovatie |

Kunt u aangeven welke innovaties uw organisatie de afgelopen 3 jaar heeft gerealiseerd, en – indien van toepassing – hoe belangrijk de rol van <de clusterorganisatie> hierin was?

| | Welke innovatie(s) heeft uw organisatie de afgelopen 3 jaar gerealiseerd? [Wilt u dit alstublieft aangeven op | Heeft <de clusterorganisatie> hierbij een rol gespeeld? | Hoe belangrijk was de rol van <de clusterorganisatie> bij het realiseren van deze innovatie? |
|--|--|---|--|
| | | | |

| | | | |
|--|-----------------------------|----------|--|
| | [een schaal van 1 to 7] | | |
| | < geen enkele -- meerdere > | ja / nee | < zeer onbelangrijk -- zeer belangrijk > |
| Nieuwe of verbeterde producten of services | 1 - 2 - 3 - 4 - 5 - 6 - 7 | ja / nee | 1 - 2 - 3 - 4 - 5 - 6 - 7 |
| Nieuwe of verbeterde processen | 1 - 2 - 3 - 4 - 5 - 6 - 7 | ja / nee | 1 - 2 - 3 - 4 - 5 - 6 - 7 |
| Nieuw marktsegment; andere soort klanten | 1 - 2 - 3 - 4 - 5 - 6 - 7 | ja / nee | 1 - 2 - 3 - 4 - 5 - 6 - 7 |
| Nieuw marktgebied (geografisch) | 1 - 2 - 3 - 4 - 5 - 6 - 7 | ja / nee | 1 - 2 - 3 - 4 - 5 - 6 - 7 |
| Nieuw business model | 1 - 2 - 3 - 4 - 5 - 6 - 7 | ja / nee | 1 - 2 - 3 - 4 - 5 - 6 - 7 |
| Octrooiaanvragen | 1 - 2 - 3 - 4 - 5 - 6 - 7 | ja / nee | 1 - 2 - 3 - 4 - 5 - 6 - 7 |
| Nieuwe samenwerkingsverbanden | 1 - 2 - 3 - 4 - 5 - 6 - 7 | ja / nee | 1 - 2 - 3 - 4 - 5 - 6 - 7 |
| Anders, namelijk | 1 - 2 - 3 - 4 - 5 - 6 - 7 | ja / nee | 1 - 2 - 3 - 4 - 5 - 6 - 7 |

3.1 Bescherming van intellectueel eigendom (IP)

Zou u uw mening over de volgende stellingen willen geven?

| | | | |
|--|---------------------|--|-------------------|
| We hebben een uitgebalanceerde portfolio van innovatieprojecten met lage en hoge risico's. | volledig mee oneens | 1 - 2 - 3 - 4 - 5 - 6 - 7 | volledig mee eens |
| De bescherming van onze producten en processen, bijvoorbeeld door middel van octrooien, breeders rights en geheimhouding van recepten, is vergeleken met onze belangrijkste concurrenten | zeer veel zwakker | hetzelfde 1 - 2 - 3 - 4 - 5 - 6 - 7 | zeer veel sterker |

Hoe belangrijk zijn de volgende methoden om innovatie te beschermen voor <uw organisatie>?

| | |
|--|---|
| [Wilt u dit alstublieft aangeven op een schaal van 1 to 7] | <- zeer onbelangrijk — zeer belangrijk -> |
| Geheimhouding (bijvoorbeeld van recepten) | 1 - 2 - 3 - 4 - 5 - 6 - 7 |
| Complexiteit van het productieproces | 1 - 2 - 3 - 4 - 5 - 6 - 7 |
| Snelle standaardisatie, dus lage productie- en verwerkingskosten | 1 - 2 - 3 - 4 - 5 - 6 - 7 |
| Snelheid waarmee marktaandeel verworven wordt | 1 - 2 - 3 - 4 - 5 - 6 - 7 |
| Contracten (Samenwerkingsovereenkomsten) | 1 - 2 - 3 - 4 - 5 - 6 - 7 |
| Niet concurrentiebeding in arbeidscontracten | 1 - 2 - 3 - 4 - 5 - 6 - 7 |
| Patenten, octrooien | 1 - 2 - 3 - 4 - 5 - 6 - 7 |

| | |
|--------------------------------|----------------------------------|
| Breeders rights (Kwekersrecht) | 1 – 2 – 3 – 4 – 5 – 6 – 7 |
| Copyrights (auteursrecht) | 1 – 2 – 3 – 4 – 5 – 6 – 7 |
| Trademarks (handelsmerken) | 1 – 2 – 3 – 4 – 5 – 6 – 7 |
| Design (modellenrecht) | 1 – 2 – 3 – 4 – 5 – 6 – 7 |
| Handelsgeheimen | 1 – 2 – 3 – 4 – 5 – 6 – 7 |
| Anders: | 1 – 2 – 3 – 4 – 5 – 6 – 7 |

3.2 R&D management instrumenten

Zou u kunnen aangeven hoe vaak de genoemde bijeenkomsten binnen uw organisatie plaatsvinden, en wie hieraan over het algemeen deelnemen?

| | |
|---|------------------------------------|
| Binnen onze organisatie zijn multidisciplinaire bijeenkomsten (bijvoorbeeld tussen marketing, inkoop en productie) om nieuwe product/technologiemogelijkheden te bespreken. | 1 – 2 – 3 – 4 – 5 – 6 – 7 * |
| Wie nemen deel aan deze multidisciplinaire bijeenkomsten? (bijvoorbeeld: R&D, directie, productie, inkoop, verkoop, marketing) | ..... |
| Wij hebben een georganiseerd ‘stage gate’ innovatie proces met go, no go of change momenten: | 1 – 2 – 3 – 4 – 5 – 6 – 7 * |
| Wie nemen deel aan deze go, no go of change bijeenkomsten? (Bij voorbeeld: R&D, directie, productie, inkoop, verkoop, marketing) | ..... |

* **1.** minder dan jaarlijks – **2.** jaarlijks – **3.** eens per half jaar – **4.** eens per kwartaal – **5.** maandelijks – **6.** eens per twee weken – **7.** meer dan eens per week

Zou u willen reageren op de volgende stellingen over het management van innovaties, en – indien van toepassing – een voorbeeld willen geven van hoe u dit doet?

| | | | |
|--|-------------|----------------------------------|--------------------|
| Onze organisatie heeft een actief beleid voor het stimuleren en motiveren van R&D medewerkers (bijvoorbeeld door middel van beloningsbeleid) om innovatie te bevorderen. | totaal niet | 1 – 2 – 3 – 4 – 5 – 6 – 7 | in zeer grote mate |
| Kunt u hiervan een voorbeeld geven? (bijvoorbeeld het percentage tijd dat werknemers vrij mogen besteden aan innovatie) | ..... |  |  |
| We formuleren Key Performance Indicatoren (prestatie indicatoren) voor onze innovatieprojecten | totaal niet | 1 – 2 – 3 – 4 – 5 – 6 – 7 | in zeer grote mate |
| Kunt u hiervan een voorbeeld geven? | ..... |  |  |

| | | | |
|---|-------------|----------------------------------|--------------------|
| Wij leggen aan het eind van ieder innovatieproject de ervaringen vast waarvan wij kunnen leren in volgende innovatietrajecten | totaal niet | 1 – 2 – 3 – 4 – 5 – 6 – 7 | in zeer grote mate |
| Kunt u hiervan een voorbeeld geven? | ..... |  |  |

4. Samenwerking in cluster(s)

- Van welke clusters bent u lid?
- Wanneer bent u lid geworden van dit cluster / deze clusters?
- Wat waren uw redenen om lid te worden? Zijn deze doelen vandaag nog hetzelfde? Zo niet, waarom zijn deze veranderd?
- Aan welke activiteiten van <de clusterorganisatie> neemt u deel?
- Is uw deelname aan activiteiten sinds u lid werd veranderd? Waarom?

Kunt u aangeven op welke gebieden <de clusterorganisatie> in de afgelopen 3 jaar een bijdrage heeft geleverd aan uw organisatie en hoe belangrijk dit is voor uw organisatie?

| <i><De clusterorganisatie> heeft een bijdrage geleverd in</i> | <i><– niets bijgedragen — zeer veel bijgedragen —></i> | <i><– niet belangrijk — zeer belangrijk —></i> |
|---|--|--|
| het verkrijgen van nieuwe kennis en/of technologie | 1 – 2 – 3 – 4 – 5 – 6 – 7 | 1 – 2 – 3 – 4 – 5 – 6 – 7 |
| het in contact brengen met partners voor het opzetten of verder uitbreiden van hun netwerk | 1 – 2 – 3 – 4 – 5 – 6 – 7 | 1 – 2 – 3 – 4 – 5 – 6 – 7 |
| het bieden van ondersteuning bij het verkrijgen van innovatie subsidies | 1 – 2 – 3 – 4 – 5 – 6 – 7 | 1 – 2 – 3 – 4 – 5 – 6 – 7 |
| het geven van inzicht in nieuwe mogelijkheden voor bestaande markten of nieuwe markten | 1 – 2 – 3 – 4 – 5 – 6 – 7 | 1 – 2 – 3 – 4 – 5 – 6 – 7 |
| het leggen van contacten met gekwalificeerd personeel / experts | 1 – 2 – 3 – 4 – 5 – 6 – 7 | 1 – 2 – 3 – 4 – 5 – 6 – 7 |
| het werken als tussenpersoon tussen onderwijsinstituten en de bedrijven in uw cluster (<i>bijv. in het regelen van stageplekken</i>). | 1 – 2 – 3 – 4 – 5 – 6 – 7 | 1 – 2 – 3 – 4 – 5 – 6 – 7 |
| het leveren van nieuwe ideeën om te innoveren (<i>bijv. via conferenties/seminars</i>) | 1 – 2 – 3 – 4 – 5 – 6 – 7 | 1 – 2 – 3 – 4 – 5 – 6 – 7 |
| het helpen bij het vinden van vestigings- dan wel uitbreidingsmogelijkheden | 1 – 2 – 3 – 4 – 5 – 6 – 7 | 1 – 2 – 3 – 4 – 5 – 6 – 7 |
| het bieden van ondersteuning bij het opstarten van nieuwe bedrijven. | 1 – 2 – 3 – 4 – 5 – 6 – 7 | 1 – 2 – 3 – 4 – 5 – 6 – 7 |

| | | |
|----------------------------|----------------------------------|----------------------------------|
| anders, namelijk: | 1 – 2 – 3 – 4 – 5 – 6 – 7 | 1 – 2 – 3 – 4 – 5 – 6 – 7 |
|----------------------------|----------------------------------|----------------------------------|

- Welke relaties bestaan er tussen <uw organisatie> en <de clusterorganisatie>?

Hoe vaak heeft u of iemand anders van uw organisatie via deze verbindingen contact met medewerkers van <de clusterorganisatie>?

| contactfrequentie* | | | | | |
|---------------------------|-------------------|--------------------------------|--------|-------------------------------|-------------------|
| face-to-face contact | skype (met beeld) | telefoon, skype (zonder beeld) | e-mail | social media (namelijk:.....) | video conferentie |
| | | | | | |

* X. wordt niet gebruikt – 1. eens per jaar of minder– 2. eens per half jaar – 3. eens per kwartaal– 4. maandelijks– 5. eens per twee weken – 6. eens per week – 7. meer dan eens per week

- Kunt u aangeven wat de invloed van <de clusterorganisatie> is op het wederzijds vertrouwen tussen de leden in het cluster?
- Geeft het uw organisatie meer vertrouwen in een mogelijke samenwerkingspartner wanneer die partner ook lid is van <de clusterorganisatie>? Waarom?

Zou u uw mening over de volgende stellingen willen geven?

| | | | |
|---|---------------------|----------------------------------|--------------------|
| Hoe tevreden bent u in het algemeen met de bijdrage van uw clusterorganisatie? | totaal niet | 1 – 2 – 3 – 4 – 5 – 6 – 7 | in zeer grote mate |
| <De clusterorganisatie> draagt bij aan het promoten van de Nederlandse agrovoedings-industrie | volledig mee oneens | 1 – 2 – 3 – 4 – 5 – 6 – 7 | volledig mee eens |
| <De clusterorganisatie> draagt bij aan het innovatief vermogen van onze organisatie | volledig mee oneens | 1 – 2 – 3 – 4 – 5 – 6 – 7 | volledig mee eens |
| <De clusterorganisatie> draagt bij aan het wegnemen van belemmeringen om te innoveren | volledig mee oneens | 1 – 2 – 3 – 4 – 5 – 6 – 7 | volledig mee eens |
| <De clusterorganisatie> draagt bij aan het creëren van een omgeving die kansen biedt voor innovatie | volledig mee oneens | 1 – 2 – 3 – 4 – 5 – 6 – 7 | volledig mee eens |

- Welke drie dingen moeten wat u betreft absoluut hetzelfde blijven binnen het cluster? (*bijvoorbeeld: activiteiten en ondersteuning*)
- Welke drie dingen moeten wat u betreft absoluut veranderen binnen het cluster? (*bijvoorbeeld: activiteiten en ondersteuning*)

Deel 2: Samenwerking en innovatie

1. Algemene vragen

- Werkt u momenteel samen met andere organisaties om te innoveren?
- Heeft u internationale relaties (samenwerkingen / partnerships)?

| | |
|---|--------|
| Aantal medewerkers betrokken bij innovatie projecten samen met andere bedrijven en/of kennisinstellingen in de afgelopen 3 jaar. | ..... |
| Aantal innovatie projecten met andere bedrijven en/of kennisinstellingen in de afgelopen 3 jaren. | ..... |
| Percentage geformaliseerde samenwerkingsverbanden op innovatiegebied (e.g. joint ventures, cross-shareholdings (dat bedrijven een deel van elkaars aandelen bezitten)) ten opzichte van het totaal |% |

- Kunt u voorbeelden geven van (geformaliseerde en niet geformaliseerde) innovatieprojecten met andere bedrijven?

| Hoe belangrijk zijn de volgende samenwerkingspartners voor de innovaties waar u nu aan werkt? | Van toepassing | Belang | Heeft <de clusterorganisatie> een rol gespeeld bij het tot stand brengen van de relatie? |
|--|----------------|--|--|
| | ja / nee | <- zeer onbelangrijk -- zeer belangrijk -> | ja / nee |
| Afnemers | ja / nee | 1 – 2 – 3 – 4 – 5 – 6 – 7 | ja / nee |
| Leveranciers van grondstoffen | ja / nee | 1 – 2 – 3 – 4 – 5 – 6 – 7 | ja / nee |
| Leveranciers van (proces) technologie | ja / nee | 1 – 2 – 3 – 4 – 5 – 6 – 7 | ja / nee |
| Concurrenten | ja / nee | 1 – 2 – 3 – 4 – 5 – 6 – 7 | ja / nee |
| Universiteiten / HBO's | ja / nee | 1 – 2 – 3 – 4 – 5 – 6 – 7 | ja / nee |
| Onderzoeksinstellingen (<i>Publieke en private onderzoeksinstellingen, anders dan universiteiten (TNO, NIZO, DLO)</i>) | ja / nee | 1 – 2 – 3 – 4 – 5 – 6 – 7 | ja / nee |
| Consultants, adviesbureaus (<i>Advies en intermediaire organisatie gericht op innovatie</i>) | ja / nee | 1 – 2 – 3 – 4 – 5 – 6 – 7 | ja / nee |

| | |
|--|---------|
| Hoeveel procent van deze samenwerkingspartners zijn ook lid van <de clusterorganisatie>? | % |
|--|---------|

- Hoe belangrijk is uw lidmaatsschap van <de clusterorganisatie> voor u om contacten op te doen? Waarom?

Zou u uw mening willen geven over de volgende stelling?

| | | | |
|---|------------------|---------------------------|----------------|
| Ziet u het belang van samenwerking op het gebied van innovatie meer of minder in door uw ervaringen binnen dit cluster? | zeer veel minder | 1 – 2 – 3 – 4 – 5 – 6 – 7 | zeer veel meer |
|---|------------------|---------------------------|----------------|

2. Allianties (samenwerkingsverbanden op het gebied van innovatie)

- Kunt u, indien van toepassing, drie belangrijke op innovatie gerichte allianties van <uw organisatie> beschrijven?
- Kunt u ons ook een voorbeeld geven van een alliantie die niet succesvol is geweest? (*mag binnen of buiten het cluster*) (*u kunt ons de naam geven, die blijft natuurlijk vertrouwelijk, of enkel het type organisatie*)

| Onderwerp | Belangrijkste partner(s) | Deelnemer aan cluster (ja / nee) | Aantal werknehmers betrokken | | Aanvang (en eventuele afsluiting) | Formeel/informeel* | Totaal aantal bedrijven | Type organisatie(s)** |
|-----------|--------------------------|----------------------------------|------------------------------|---------|-----------------------------------|--------------------|-------------------------|-----------------------|
| | | | van ons | van hen | | | | |
| 1. | | | | | | | | |
| 2. | | | | | | | | |
| 3. | | | | | | | | |
| 4.*** | | | | | | | | |

* formeel is bijvoorbeeld door middel van contracten, joint ventures, cross-shareholdings (dat bedrijven een deel van elkaars aandelen hebben)

** bedrijven, kennisinstellingen, consultants, etc.

*** voorbeeld van mislukte alliantie

- Kunt u een korte uitleg geven over de andere bedrijven en organisaties die deelnemen in het onderzoeksproject in deze alliantie?
- Wat ging er mis in alliantie 4?
- Zijn de lessen gebruikt in de drie andere allianties, en zo ja, hoe?
- Wat zijn de sterke punten in (ieder van) de eerste drie alliantie?

Kunt u, in de onderstaande tabel, het belang van de verschillende genoemde doelstellingen aangeven voor elk van deze 4 allianties?

| | Naam van de alliantie | alliantie 1 | alliantie 2 | alliantie 3 | alliantie 4 |
|---|--|-------------|-------------|-------------|-------------|
| | | | | | |
| Wat was/ waren de belangrijkste doelstelling(en) van de alliantie? | [Wilt u dit alstublieft aangeven op een schaal van 1 to 7] 1. = totaal niet <-> 7. = in zeer grote mate | | | | |
| Voorbeeld | | 7 | 5 | 1 | 4 |
| kennis- en/of technologieontwikkeling | | | | | |
| ontwikkeling van nieuwe producten | | | | | |
| ontwikkeling van nieuwe processen | | | | | |
| anders, namelijk | | | | | |

| Alliantie | Betrokken afdelingen * | | | | | | Contactfrequentie ** | | | | | |
|-----------|------------------------|------------------------|-----------|--------------|-------------|-------------------------|-------------------------|----------------------|-----------------------------------|-----------|----------------------------------|----------------------|
| | 1. onderzoek / R&D | 2. marketing / verkoop | 3. Inkoop | 4. financien | 5. directie | 6. anders namelijk..... | 1. face-to-face contact | 2. skype (met beeld) | 3. telefoon, skype (zonder beeld) | 4. e-mail | 5. social media (namelijk:.....) | 6. video conferentie |
| voorbeeld | X | X | X | X | | | 5 | X | 6 | 6 | X | X |
| 1: | | | | | | | | | | | | |
| 2: | | | | | | | | | | | | |
| 3: | | | | | | | | | | | | |
| 4: | | | | | | | | | | | | |

* Aankruisen indien er binnen deze alliantie contact was met deze afdeling.

** X. wordt niet gebruikt – 1. eens per jaar of minder– 2. eens per half jaar – 3. eens per kwartaal– 4. maandelijks– 5. eens per twee weken – 6. eens per week – 7. meer dan eens per week

| | | 1. = totaal niet <> 7. = in zeer grote mate | | | |
|--|---|---|-------------|-------------|-------------|
| | Wilt u de volgende vragen over de vier allianties beantwoorden op een schaal van 1 tot en met 7? | alliantie 1 | alliantie 2 | alliantie 3 | alliantie 4 |
| | Dit project zal de huidige markt compleet veranderen | ..... | ..... | ..... | ..... |
| | Dit project is compleet nieuw voor onze industrie | | | | |
| | Wordt er binnen de alliantie personeel uitgewisseld om in elkaars organisatie te werken? Zo ja, hoeveel uur per maand en voor hoeveel maanden? | | | | |
| | Gebruikt (e) u inlicensing van kennis binnen deze alliantie? | | | | |
| | Gebruikt (e) u outlicensing van kennis binnen deze alliantie? | | | | |
| | In welke mate zijn er binnen deze alliantie verschillen in apparaten, technologie en kennis die elkaar aanvullen? (<i>complementariteit</i>) | | | | |
| | De uitwisseling van apparaten, technologie en kennis is belangrijk in deze alliantie. | | | | |
| | De uitwisseling van personen (<i>human resources</i>) is belangrijk in deze alliantie. | | | | |
| | Wordt de alliantie op enigerlei wijze gesubsidieerd? | | | | |
| | In welke mate gebruiken de belangrijkste partner(s) binnen deze alliantie andere technologieën dan u? | | | | |
| | In welke mate werken de belangrijkste partner(s) binnen deze alliantie op een ander onderzoeksterrein dan u? | | | | |
| | In welke mate bezitten de belangrijkste partner(s) in deze alliantie andere expertise dan u? | | | | |
| | In hoeverre loopt uw organisatie tegen problemen aan met betrekking tot ontvangen informatie van deze partner(s)? | | | | |
| | In hoeverre is de verdeling van expertise binnen uw bedrijf om met de ontvangen informatie van deze partner(s) te werken | | | | |
| | Zijn er moeilijkheden in het begrijpen van elkaar op het gebied van technische en/ of wetenschappelijke details? | | | | |

- Indien er moeilijkheden waren in het begrijpen van elkaar; heeft u hier speciale actie op ondernomen?
En is de situatie daardoor verbeterd?

Bescherming van intellectueel eigendom (op alliantie-niveau)

Zou u uw mening willen geven op de volgende stellingen en vragen, voor ieder van de vier allianties?

| | | alliantie 1 | alliantie 2 | alliantie 3 | alliantie 4 |
|--|--|---|-------------|-------------|-------------|
| | | | | | |
| | | 1. = heel klein <--> 7. = heel groot | | | |
| Het risico op het uitlekken van vertrouwelijke informatie in deze samenwerking is | | | | | |
| Waarover zijn aan het begin van de samenwerking afspraken gemaakt? | | 1. = totaal niet <--> 7. = in zeer grote mate | | | |
| - Deliverables per go/ no go moment | | | | | |
| - De verdeling van de inbreng van middelen (personeel, financiën) | | | | | |
| - Takkverdeling van de partners | | | | | |
| - Procedures voor conflictoplossing | | | | | |
| - Procedures voor (voortijdige) beëindiging van de samenwerking. | | | | | |
| - Eigendomsrechten van opbrengsten en/ of resultaten | | | | | |
| - Vertrouwelijkheidsafspraken | | | | | |
| In deze alliantie wordt gebruik gemaakt van patent en technologie mapping * | | | | | |

***technologie mapping:** is een proces waarin alle patenten of technologien die mogelijkerwijs in een product kunnen worden toegepast in kaart worden gebracht. Dit geeft een overzicht van de ingrediënten (patenten) en in welke mate de organisatie of de alliantie deze bezit.

| | | alliantie 1 | alliantie 2 | alliantie 3 | alliantie 4 |
|--|--|-------------|-------------|-------------|-------------|
| | | | | | |

Hulp en vertrouwen

| | | 1. totaal niet <-> 7. in zeer grote mate | | | |
|---|--|--|-------------|-------------|-------------|
| | | alliantie 1 | alliantie 2 | alliantie 3 | alliantie 4 |
| De belangrijkste alliantiepartner(s) helpt/en ons middels: | | | | | |
| - Financiële ondersteuning | | | | | |
| - Levert apparatuur en gereedschappen (tools?) | | | | | |
| - Kostenspreiding en/of risicospreiding | | | | | |
| - Management, coaching en training | | | | | |

| | | | | |
|--|--|--|--|--|
| - Ondersteuning in het toepassen van IP bescherming | | | | |
| - Anders, namelijk | | | | |
| Nodigt u deze partner uit om te kijken naar ongebruikte octrooien of naar kennis die in het octrooi-aanvraag-proces is om te zien of er iets voor hem bij zit? | | | | |
| En nodigt deze partner u hiervoor uit? | | | | |
| We geven onze partner(s) altijd de informatie waar hij/ze om vraagt/vragen. | | | | |
| We krijgen altijd de informatie waar wij om vragen van onze partner | | | | |
| Deze partner doet altijd wat hij belooft. | | | | |
| We zouden bereid zijn extra investeringen te doen in deze alliantie, mocht dit nodig zijn | | | | |
| In de alliantie bleek/blijkt opportunisme een probleem te zijn. | | | | |
| In een nieuw project wil ik zeker weer met deze partner(s) samenwerken. | | | | |
| In deze alliantie was de onderlinge afstemming van de verschillende bijdrages een probleem. | | | | |
| Het is erg eenvoudig om met iedereen te spreken die je nodig hebt, ongeacht rang, positie of organisatie. | | | | |

Uitbesteding binnen de alliantie

| | | 1. totaal niet <> 7. in zeer grote mate | | | |
|--|--|---|-------------|-------------|-------------|
| | | alliantie 1 | alliantie 2 | alliantie 3 | alliantie 4 |
| Er worden activiteiten uitbested aan deze alliantiepartner vanwege: | | | | | |
| Beperkingen van de technische apparatuur van onze organisatie | | | | | |
| Beperkingen van de technische vakkundigheid van onze organisatie | | | | | |
| Anders, namelijk:..... | | | | | |

Prestatie van de alliantie

Zou u tenslotte nog uw mening willen geven op de volgende stellingen over het presteren van deze allianties?

| | | 1. totaal niet <> 7. in zeer grote mate | | | |
|--|---|---|-------------|-------------|-------------|
| | | alliantie 1 | alliantie 2 | alliantie 3 | alliantie 4 |
| | Deze alliantie leidde tot synergie* | ..... | ..... | ..... | ..... |
| | Door deze alliantie is nieuwe kennis en/of technologie ontwikkeld. | | | | |
| | Door deze alliantie zijn producten ontwikkeld die nieuw waren voor de organisatie. | | | | |
| | Door deze alliantie zijn nieuwe productieprocessen ontwikkeld die nieuw zijn voor onze organisatie of deze zijn sterk verbeterd. | | | | |
| | Deze alliantie heeft meer geld voor onze organisatie opgeleverd dan het heeft gekost (<i>bijvoorbeeld doordat nieuwe producten op de markt zijn gekomen en/of omdat productiekosten lager zijn geworden</i>). | | | | |

***synergie:** deze term beschrijft een situatie waarin het eindresultaat van een systeem groter is dan de som van haar delen.

Dan zijn we nu aan het einde van dit interview aangekomen. We willen u heel hartelijk bedanken voor uw medewerking.

Wanneer de resultaten van het onderzoek bekend zijn, zult u hierover van ons horen.

Met hartelijke groet,

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Appendix V – descriptives of the alliance data

| Variable name | Question | N | Missing | Min. | Max. | Mean | Std. Dev. |
|--|---|----|---------|------|------|-------|-----------|
| <i>Contact - face-to-face</i> | Amount of contact within alliance - face-to-face | 30 | 3 | 1,0 | 7,0 | 4,067 | 1,7207 |
| <i>Contact - phone</i> | Amount of contact within alliance - telephone or skype (without screen) | 27 | 6 | 2,0 | 7,0 | 5,296 | 1,3535 |
| <i>Contact - e-mail</i> | Amount of contact within alliance - e-mail | 26 | 7 | 2,0 | 7,0 | 5,577 | 1,3319 |
| <i>Risk confidential information</i> | Het risico op het uitlekken van vertrouwelijke informatie in deze samenwerking is | 31 | 2 | 1,0 | 7,0 | 2,968 | 1,6630 |
| <i>Complementarity</i> | In welke mate zijn er binnen deze alliantie verschillen in apparaten, technologie en kennis die elkaar aanvullen? (complementariteit) | 30 | 3 | 2,0 | 7,0 | 5,167 | 1,5775 |
| | Aan het begin van de samenwerking zijn afspraken gemaakt over: | | | | | | |
| <i>IP Arrangements - ownership</i> | 1. eigendomsrechten van opbrengsten en/ of resultaten | 30 | 3 | 3,0 | 7,0 | 6,467 | 1,2794 |
| <i>IP Arrangements - confidentiality</i> | 2. vertrouwelijkheidsafspraken | 31 | 2 | 1,0 | 7,0 | 5,581 | 2,2327 |
| <i>IP Arrangements - patent mapping</i> | In deze alliantie wordt gebruik gemaakt van patent en technologie mapping | 26 | 7 | 1,0 | 7,0 | 3,692 | 2,2409 |
| <i>Keeping promises</i> | Deze partner doet altijd wat hij belooft. | 29 | 4 | 1,0 | 7,0 | 5,345 | 1,5986 |
| <i>Extra investment</i> | We zouden bereid zijn extra investeringen te doen in deze alliantie, mocht dit nodig zijn | 29 | 4 | 1,0 | 7,0 | 5,069 | 2,0517 |
| <i>Opportunism</i> | In de alliantie bleek/blijkt opportunisme een probleem te zijn. | 25 | 8 | 2,0 | 7,0 | 5,400 | 1,9579 |
| <i>Cooperate again</i> | In een nieuw project wil ik zeker weer met deze partner(s) samenwerken. | 25 | 8 | 1,0 | 7,0 | 6,080 | 1,5524 |
| <i>New products</i> | Door deze alliantie zijn producten ontwikkeld die nieuw waren voor het bedrijf. | 28 | 5 | 1,0 | 7,0 | 5,750 | 1,9744 |
| <i>New processes</i> | Door deze alliantie zijn nieuwe productieprocessen ontwikkeld die nieuw zijn voor ons bedrijf of zijn deze sterk verbeterd. | 30 | 3 | 1,0 | 7,0 | 3,300 | 2,6672 |

Appendix VI – the innovation broker table using Klerkx & Leeuwis (2009)

| Function | Related codes | Explanation |
|----------------------------------|--|--|
| 1. demand articulation | information (5) shared agenda (2) research (3) | information of other firms increases transparency a shared agenda aligns future supply and demand demand for research / knowledge |
| 2. network brokerage | bringing in contact (5) cluster development (5) | bringing in contact extends the companies' network increasing the size and quality of the cluster |
| 3. innovation process management | shared culture (2) cultural match (4) <i>shared opportunity or threat (4)</i> <i>labour market (4)</i> <i>policy (5)</i> | bridges cultural differences allows coordinator to bridge cultural differences <i>optimization of innovation environment</i> <i>optimization of innovation environment</i> <i>optimization of innovation environment</i> |
| <i>Codes not related</i> | | distance (2), crisis (2), improving image (5), top sector policy (3) |
| <i>Deleted</i> | <i>bringing in contact (5) at 3. Innovation process management</i> | |