

The effect of Innovation Broker services

The case Food Valley



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CA van Klink

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Course : Thesis Management Sciences
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Student

Name : Cornelis Adrianus van Klink
Study: : Msc Management Economics and Consumer Studies
Specialization : Life sciences, Innovation and Management
Registration number : 810313-443-030
E-mail : cavk@dds.nl
Telephone number : +31 6 52 383 274

1st supervisor

Name : Mrs Dr. F.T.J.M. Fortuin
Chair : Management Studies (MST)

2nd supervisor

Name : Prof.dr. S.W.F. Omta
Chair : Management Studies (MST)

Wageningen University

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Management summary

Introduction

Innovation is one of the most important drivers of business success. The importance to increase the level of innovation and technological change on the company, industry and national level is recognized by companies and governments alike. Innovations are not longer regarded as standalone activities but depend on all societal subsystems. Innovation is since more often seen from a system approach. All actors, networks and institutions who contribute to developing, diffusing and utilizing new products and processes are the components of an innovation system. Failure of a system to innovate adequately create the need for intermediary organizations, organized by (semi)-public organizations to increase innovativeness.

Innovations brokers are an example of intermediary organization. The innovation broker is acting as a member of a network enabling the other members to innovate. In literature three main functions are found for innovation brokers. Demand articulation, network formation and innovation process management.

These functions are broad and literature provides no tangible activities to be performed by innovation brokers. This research takes a company perspective in order to shed light on the effect of tangible activities of innovation brokers on the innovativeness of companies.

The main question for this research is:

What is the influence of Food Valley as an innovation broker on the innovativeness of member companies?

Research Methodology

To answer this question a field research has been conducted among the active members of Food Valley Organization and non-members who made use of services of Food Valley Organization. The members can be divided in four groups, food processors, suppliers of technology, suppliers of ingredients and service providers.

All companies received an online questionnaire. The first part of the questionnaire consists of questions about the importance, use and quality of sixteen different Food Valley activities and the second part consists of questions about the contribution of Food Valley to a company's innovativeness and realized innovations.

results

The importance of activities was never high or low. The interesting results are found in between group comparisons. The difference between sme and large companies was never significant except for the activity internationalizing business. Large companies in this sample are often multi-nationals and probably do not need Food Valley to internationalize.

Between the different types of companies more interesting results are found. Food processors give a higher importance to idea generation activities and technology providers are more interested in internationalization and innovation project management.

The importance of the activities offered by Food Valley Organization is never high. But when companies are asked for the contribution of Food Valley to their Innovativeness this contribution is recognized in the area of knowledge/technology, network and access to other markets. Most contribution is found with the Food Processors. Companies that have used services of Food Valley rate the contribution of Food Valley in the field of Technology higher than non-users of services.

When looked at realized innovations the contribution of Food Valley is above average for new technology and new cooperation. Users of services of Food Valley outperform non-users especially for more radical type of innovations.

conclusion

The influence of Food Valley is mostly found in the areas of cooperation/network creation, technology/knowledge and access to other markets. Herewith Food Valley seems to fit into innovation brokerage literature quite well. The importance and influence of individual activities has not become clear.

The company perspective however has given new insights in the different needs of different types of companies and in the importance of Food Valley to the innovations and innovativeness of those companies.

recommendations

For future research the company perspective might be useful for other innovation brokers who want to assess the relevance of their activities. Further innovation brokers might be able to better target their customers, the companies. Further it seems that some activities are not mentioned as separate functions in innovation broker literature. Functions as internationalization and providing independent market information can be explored disconnect from the known three functions demand articulation, network formation and innovation process management.

Finally some recommendations for Food Valley. Be aware of the different needs for different type of companies. Further the services offered are not used much although the quality is perceived as high by users. Companies who have little experience with Food Valley can have benefits. By providing services to these already known companies the Food Valley network can be strengthened. Service are now freely available but for the future of Food Valley they might consider to change. When a price is stated expectations of companies raise and it will force Food Valley to deliver even more quality.

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1 Introduction

This research is conducted as part of the Msc program Lifesciences and Innovation Management of the Wageningen University. The aim of the research is to gain insight in the effect of Food Valley as an innovation broker.

1.1 Introduction to innovation brokering

Innovation is currently regarded as one of the most important drivers of business success (Porter 1985). As a consequence, the importance to increase the level of innovation and technological change on the company, industry and national level is clearly recognized by companies and governments alike. Innovation and technological change can not any more be regarded as stand alone activities of a single company. They are to a large extent context (innovation system) dependent. Innovation Systems (IS) can be defined as all societal subsystems, actors, and institutions contributing in any sense to the emergence or production of innovations (Hekkert *et al.* 2007).

The actors, networks and institutions who contribute to developing, diffusing and utilizing new products and processes are the components of an innovation system (Bergek *et al.* 2008). The performance of an IS merely depends on the quality of its subsystems and how they interact with each other. For this reason it is very important to establish effective connections among the actors in an IS. Gaps in connectivity and collaboration reduce the performance of an IS.

Therefore, within IS a role is defined for specialized intermediary organizations (Klerkx & Leeuwis, 2008), called innovation intermediaries, or innovation brokers (IBs). IBs cover a whole range of organizations involved in supporting the innovation process in ISs (Howell, 2006). IBs provide mechanisms for system connectivity, help to bring technologies to the marketplace, identify and market regional strengths, define competitive advantages, identify technology opportunities and help to make to align the different efforts in the IS.

The IS concept is widely used by policy researchers with an interest in the processes underlying innovation, industrial transformation and economic growth (e.g. Bergek *et al.* 2008). It is therefore not surprising that most IB research take an IS perspective, with the IB as the focal actor (e.g. Klerkx and Leeuwis, 2008a, 2008b).

The functions of the IB are related to demand articulation, network formation and innovation process management (Klerkx and Leeuwis, 2008b). Bergek (Bergek *et al.* 2008) divided seven different functions: Knowledge development and diffusion, influence on the direction of search, entrepreneurial experimentation, market formation, legitimation, resource mobilization and development of positive externalities. The IB works with services to its users, this services will be practically organized and not cover all functions. (Klerkx, 2008a)

The perspective of other main actors as part of an innovation system, most notably the company, is much less common in studies on innovation intermediation, i.e. up to now, limited is reported on the perceived role and value of an innovation broker from a company perspective (Batterink *et al.*, 2010; Bruns 2009) . This is surprising considering the fact that companies are the main target organizations.

1.1.1 Research objective

The last two decades a lot of emphasis has been placed on innovation. The role of government to bridge gaps has been identified resulting in the creation or co-funding of numerous innovation intermediaries. The actual effect of these brokers are not measured and the development of measurable indicators able to calculate a return on investment are far away. The chosen research objective there for uses “gain insight” rather than “measure” when the issue at hand is stated.

“Gain insight into the effect of the activities organized by an Innovation Broker to the participating companies, the case of Food Valley Organization”

To gain insight in the effect of Food Valley Organization as an Innovation Broker following central question has been formulated:

What is the influence of Food Valley Organization as an innovation broker on the innovativeness of member companies?

With the following sub-questions:

SQ1 What services do companies need most from Food Valley Organization as an Innovation Broker?

SQ2 What is Food Valley’s contribution to the companies innovativeness?

SQ3 What is the similarity between Food Valley Organization and innovation brokers as described in literature?

The first sub-question will give an important insight in the needs of the companies. By assessing current activities an attempt is made to see what services the companies find important to their business. A link between being important to ones company and having a positive effect is presumed.

The second sub-question will be asked to all users of services and is important to visualize any recognized effect of an intermediary with regard to actual innovations or innovation related activities within the company.

The third sub-question will relate Food Valley Organization to other innovation brokers. If not, what are the most important differences and what will be a consequence of these differences?

1.1.2 Conceptual model

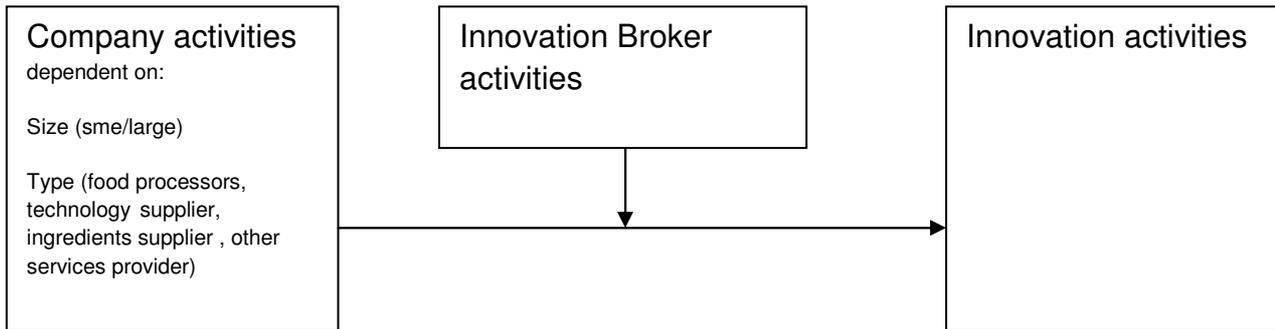


Figure 1.1 conceptual model, adapted from Lichtentaler 2009

This conceptual model is the graphical expression of the moment company activities turn into innovation activities. In this process companies can use activities offered by an innovation broker. When an innovation broker is used the effect of the outcomes can be different determined by the importance of the role of the innovation broker and the intensity of use.

As companies can differ from each other and those company difference can have a great effect on the outcome as well some variables are controlled. This research assumes that company size and type of company will matter.

This study will provide insights in the needs of the users of an innovation broker. Besides the needs of companies the study will gain insight in the contribution to the innovativeness related to the innovation broker. Effect, positive or negative, small or large of an innovation broker to the performance of a company should be visible to the main actors within that company.

1.1.3 Research Framework

Verschuren en Doorewaard (2005) advise to sketch the outlines of the research in a schematic and visualized framework. This framework, see figure 1.2, gives an insight in the relationship between research questions and the conceptual model. It further visualizes how (sub) research questions are dealt with. The methodology used in the field study will be elaborated further in this this paper.

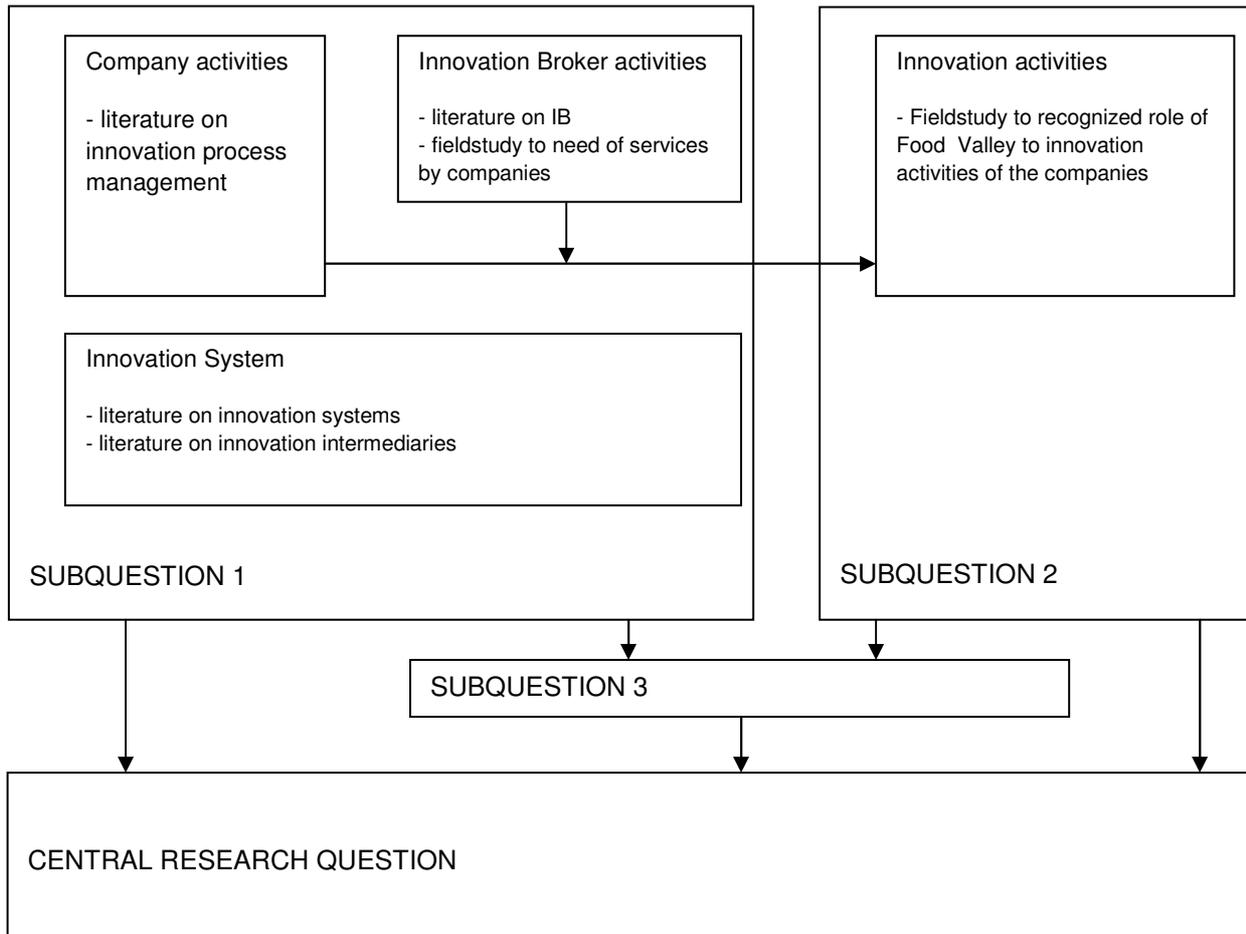


Figure 1.2 Research framework based on conceptual model (see figure 1.1)

1.2 Research strategy and Research material

To conduct this research different types of materials are used. This section shortly discusses which research materials are used and how they are used.

1.2.1 Research Material

Scientific literature:

Literature used is mostly derived from scopus listed journals. For example Research Policy, Journal of Food Engineering and Technovation.

Internal information company:

Food Valley as an organization has some data with regard to program evaluations, analyses of members and a portfolio study of activities performed.

Information from field research:

A field research is conducted among members of Food Valley and non-members which made use of the services. The methodology behind the fieldresearch can be found further in the report.

1.2.2 Research Strategy

The research starts with a literature overview of innovation process management, innovation brokers and how the functions of brokers relate to company activities.

To research the role and importance of the innovation broker to a company's innovativeness a field research is held among users of Food Valley services. An online questionnaire has been made based on literature findings and available knowledge within Food Valley.

All respondents are asked to rate the importance of different activities, services and information sources and questions about how Food Valley contributed to innovation in the company. Contribution to the innovativeness in the company as well as actual contribution to realized innovations.

All these findings will be analyzed and with the conclusion it will be possible to answer the central question stated earlier.

1.3 Introduction to Food Valley

The present case study regards Food Valley Organisation (FVO), an important innovation broker in the agri-food industry with regional ties to the mid- east part of the Netherlands, and is located close to Wageningen University and Research Centre. It was created in 2004 with the mission to become the global centre of innovation in the food industry and facilitate the processes of innovation within the innovation system. FVO targets producers of food, and related technology and service providers.

Food Valley offers different services for the members and besides this services they organize activities and spread different kind of information sources. This research will try to gain insight in the effect of all these activities to the innovativeness of the member companies. The main question is “What is the influence of Food Valley on the innovativeness of the member companies” and is split in two subquestions: the importance of the organized activities for the companies and the role Food Valley already played with regard to realized innovations and collaborations.

The FVO has around 100 members. The members are not only Food processors but also suppliers of services, ingredients or specialized knowledge. There are even less industry specific companies which are active as job agency or administration company. Some members are the focus and other members are suppliers of possible solutions.

1.4 Report Structure

This first chapter will be an introduction to Food Valley, innovation broker Literature and an outlay of the research questions and research strategy. Chapter two will present the literature with regard to the literature relevant. Next the used methodology of the field research is discussed in chapter three and the results of the field research are presented in chapter four. Finally chapter five will discuss the conclusions and discussions and chapter six is about implications for Food Valley as well as future research.

A list of used definitions is added to this report as Appendix I

2 Theoretical framework

This chapter about the literature for the research is structured as follows; in section 2.1 a short description of innovation is given, followed by section 2.2, an overview of the internal innovation process at companies. Then the concept of Innovation Systems will be explained in section 2.3 and the zoom is made Innovation Brokers. The last section, 2.4 will be about the functions of the Innovation Brokers to fulfill their role.

2.1 Innovation

Innovation is currently regarded as one of the most important drivers of business success (Porter 1985). Many definitions of innovation are used, a common and practical definition is the definition used in the Oslo Manual.

An innovation is 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. (Oslo Manual, third edition, 2005) These innovation can differ in impact, the same Oslo Manual recognizes four levels: new to the firm, new to the market (firm and competitors), new to the world and radical or disruptive innovation.

Innovation in the food industry is a combination of technological change combined with social and cultural innovation. Although new technologies are available there are not often introduced and consumers are skeptic to accept new products based on new technologies such as gene technology. (Beckeman 2007)

2.2 Innovation process

A company perspective on innovation brokering implies a focus on a company's innovation activities, or its innovation process, rather than on the process of innovation brokering or intermediation (i.e. demand articulation, network formation and innovation process management). Within the innovation management literature, several models of the innovation process have been put forward. Some models of the innovation process take a dynamic perspective and distinguish between a number of general phases: idea/concept development, engineering, and release to market (e.g. Cooper, 1990; Mc Grath, 1995). Services offered by innovation brokers can be related to the different phases of the innovation process. Doing so, we argue, would enable researchers and IBs to increase insight into the value of specific IB services to companies, and second to identify potential gaps in innovation support by particular innovation brokers.

Table 2.1 shows how both processes are related. The internal R&D flow lacks a link with business development. Idea screening and the final business analysis before going live are lacking. The flow however presents a simple structure for analysis.

Table 2.1 Phases in the innovation process comparison between Fortuin 2006; Mc Grath 1995 and Cooper 1990

Fortuin 2006; Mc Grath 1995	Cooper 1990
Before concept development*	Initial screening
Concept Development	Preliminary Market Assesment
	Preliminary Technical Assesment
Specification and Planning	Detailed Market Study / Marketing researachation,
	Business / Financial Analysis
Engineering	Product Development
	In-House Product Testing
	Customer test of product
	Trial production
Business Analysis*	Test Market / Trial Sell
	Pre-commercialization Business Analysis
Release to Manufacturing	Production Start-Up
	Market Launch

When this innovation process is visualized the different phases are more obvious. Figure 2.1 presents the innovation Funnel in which all phases are marked. The funnel is often used to show the decrease of ideas during the process from idea to realization. Multiple ideas are necessary to end up with a successful product launch.

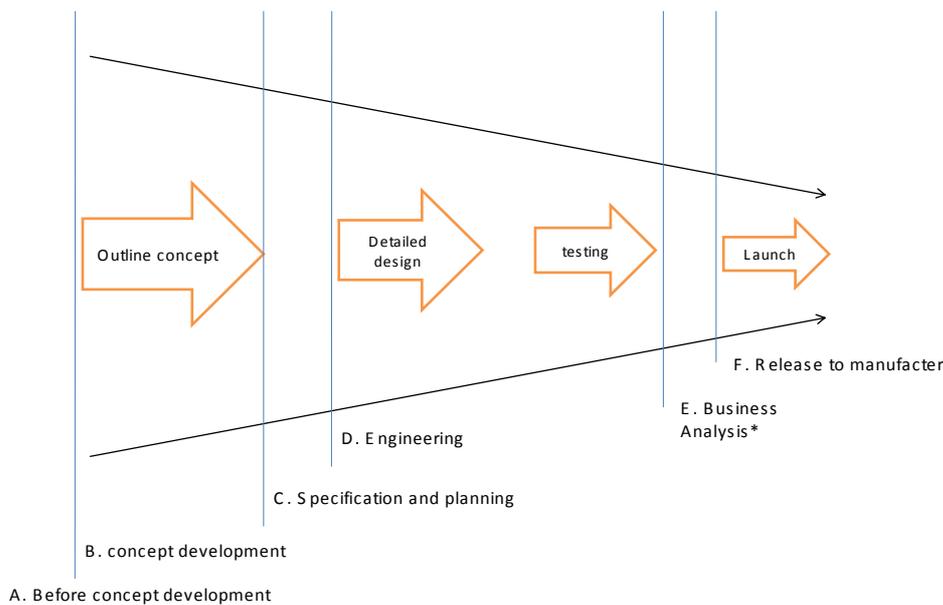


Figure 2.1 The innovation funnel based on table 2.1 and Tidd et al 2001

2.3 Innovation systems

Innovation and technological change can not anymore be regarded as standalone activities of a single company. They are to a large extent context (innovation system) dependent. Innovation systems can be defined as all societal subsystems, actors, and institutions contributing in any sense to the emergence or production of innovations (Hekkert *et al.* 2007).

Innovation is more often approached from a innovation system perspective, that argues that innovations should not be seen as standalone activities but as an evolutionary, complex, non-linear and interactive process, in which a large number of co-evolutions in the scientific, technological, and social systems occur (Tödtling & Trippel 2005).

The consequence of this approach is that organizations are not considered to innovate in isolation; several additional factors play a role, such as policy, legislation, infrastructure, funding, and market developments (Klerkx *et al.* 2008).

The actors, networks and institutions who contribute to developing, diffusing and utilizing new products and processes are the components of an innovation system (Bergek *et al.* 2008).

Several innovation system actors can be identified as relevant: entrepreneurs, researchers, consultants, policy makers, supplier and processing industries, retailers, and customers. These actors form networks, to engage in a process of joint learning and negotiation to shape an innovation (Malerba, 2002).

2.3.1 National Innovation Systems

Porter's theory of a nation's competitive advantage bringing forward the notion that companies with related activities and located close to each other can collaborate. In 1990 Porter linked the phenomenon cluster to the concept of National competitive advantage and developed the Porter's diamond (Porter, 1990) with factors of importance:

1. Factor conditions (the nation's position in factors of production)
2. Demand condition (the nature of home demand)
3. Related or supporting industries (presence of national suppliers)
4. Firm strategy, structure and rivalry (the way companies are organized and the nature of domestic rivalry).

The government has the overall role to look after these four factors.

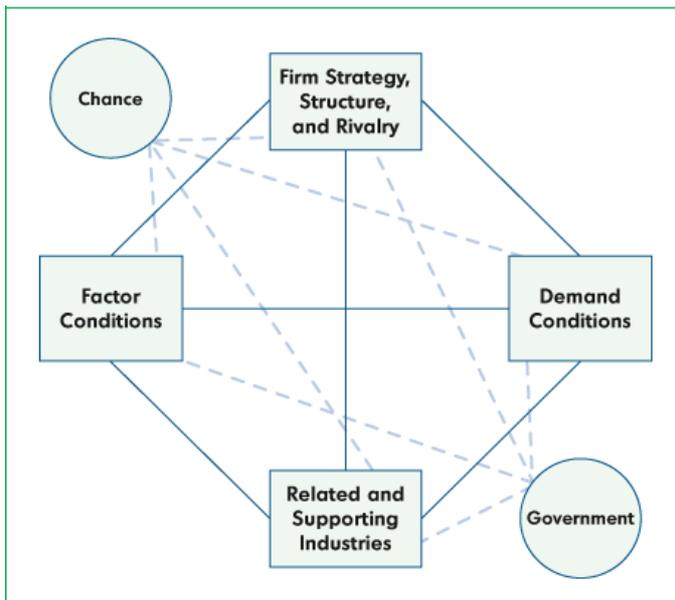


Figure 2.2 Competitive Advantage of Nations (also known as the Porter Diamond) Porter 1990

The concept of National Innovation Systems has been used to develop, analyze and benchmark national innovation policies. The term National Innovation System is not only derived from technology policy but also a shared culture or language and the focus of national policies, laws and regulations which condition the environment. The innovation system approach is more pragmatic and flexible which makes it useful for practical purposes. (Lundvall 2002)

2.3.2 Regional and Sectoral Innovation Systems

Later the concepts of Regional Innovation Systems (RIS) and Sectoral Innovation Systems were launched (Malerba, 2002, Carlsson, 2006). In the last two decades increasingly attention is paid by policy makers and social scientists to regions as site of innovation and competitiveness in the globalized economy. Most studies draw on the common rationale that territorial agglomeration provides the best context for an innovation-based globalized economy (Asheim *et al.*, 2005).

The role of interaction, localization and embedding emphasized, the RIS concept thus gives an explanation of the resurgence of regional economies as structuring elements in global competition, as exemplified by alleged regional success stories such as Silicon Valley (Asheim *et al.* 2005, De Bruijn *et al.* 2005).

2.3.3 Innovation system failure

As research to innovation systems emerged different studies to failure of innovation systems have been conducted. Klein Woolthuis *et al.* have made an overview of different type of failures.

Overview of different types of innovation system failure: (Klein Woolthuis *et al.* 2005)

1. Infrastructural failures being the physical infrastructure that actors need to function (such as IT, telecom, and roads) and the science and technology infrastructure.
2. Transition failures being the inability of firms to adapt to new technological developments.
3. Lock-in/path dependency failures being the inability of complete (social) systems to adapt to new technological paradigms.
4. Hard institutional failure being failures in the framework of regulation and the general legal system. These institutions are specifically created or designed and can be referred as formal institutions.
5. Soft institutional failure being failures in the social institutions such as political culture and social values. These institutions evolve spontaneously and can be referred as informal institutions.
6. Strong network failures being the 'blindness' that evolves if actors have close links and as a result miss out on new outside developments.
7. Weak network failures being the lack of linkages between actors as a result of which insufficient use is made of complementarities, interactive learning, and creating new ideas.
8. Capabilities' failure: the phenomenon that firms, especially small firms, may lack the capabilities to learn rapidly and effectively and hence may be locked into existing technologies, thus being unable to jump to new technologies.

2.4 Innovation Intermediaries

The performance of an innovation system (IS) merely depends on the quality of its subsystems and how they interact with each other. For this reason it is very important to establish effective connections among the actors in an IS. Gaps in connectivity and collaboration reduce the performance of an IS (Bergek *et al.* 2008). As competitiveness of a nation, region or sector became a real important political issue clusters and networks are organized by (semi)-public organization to increase the innovativeness. (Beckeman *et al.*, 2007)

Within IS literature these clusters or networks are often defined as innovation intermediaries or innovation brokers (IBs). (Klerkx & Leeuwis, 2008) IBs cover a whole range of organizations involved in supporting the innovation process in Innovation Systems (Howell, 2006). IBs provide mechanisms for system connectivity, help to bring technologies to the marketplace, identify and market regional strengths, define competitive advantages, identify technology opportunities and help to make to align the different efforts in the IS.

The literature that employs the IS perspective increasingly pays attention to several types of innovation brokers, also referred to as intermediating organizations, third parties, bridge and superstructure organizations (Howells, 2006). They emerged as a response to constraints and challenges apparent on both the demand and supply side of the knowledge infrastructure. They aim to overcome gaps (information, managerial, cultural and cognitive) in relation to innovation processes. Howells (2006) defined the concept of the *intermediary organization* as follows: *an intermediary organization is an organization or body that acts as agent or broker in any aspect of the innovation process between two or more parties.*

Much research has been conducted to study these organizations using different orientations: the functions (e.g. Howells, 2006; Batterink *et al.* 2010; Boon *et al.*, 2008) the sector (e.g. Klerkx & Leeuwis, 2008b), or the relationships (e.g. Johnson, 2008).

As multiple research projects have been focused on different type of organizations the definitions became less clear. A typology for the range of intermediaries active in Dutch Agriculture is published by Klerkx *et al.* 2008. These are different types of organizations as well different levels of involvement of the intermediary organizations.

Types of intermediary organizations: (Klerkx *et al.* 2008)

- Innovation consultants aimed at individual entrepreneurs
(innovations within individual enterprises, incremental and short time horizons)
- Innovation consultants aimed at collectives of entrepreneurs
(innovations relevant for groups, generally incremental and short time horizons)
- Brokerage organizations, that forge peer networks
(innovations relevant for groups, generally incremental and short time horizons)
- Systemic instruments for the support of innovation

(innovations on a higher level of system aggregation, generally radical and medium to long time horizons)

- Internet based portals and databases

(links for addressing both operational and tactical problems and strategic issues)

- A mix of multiple typologies

2.4.1 Innovation Brokers

IBs are *facilitators of innovation* acting as a member of a network of actors in an industrial sector that are focused on enabling the other actors in the network to innovate (Den Hertog, 2000; van Lente *et al.*, 2003; Winch & Courtney, 2007). The reasons why innovation brokers emerge are diverse, but generally they are created in response to a perceived suboptimal degree of connectivity between the network actors due to market or innovation system failures. In addition, they contribute to reducing uncertainty in the early stages of innovation processes when there is a high risk of failure, which would preclude private parties from innovating (Klerkx *et al.*, 2009; Lente van *et al.*, 2003; Smits & Kuhlman, 2004).

2.4.2 functions of Innovation Brokers

Three main functions are used by various authors to identify the roles of IBs in an IS: demand articulation, network formation and innovation process management (Van Lente *et al.* 2003; Klerkx & Leeuwis, 2008b, 2009; Batterink 2010). According to Howells (2006), the following specific type of services can be provided by IBs: foresight and diagnostics, scanning and information processing, knowledge processing, generation and combination, gate keeping and brokering, testing, validation and training, accreditation and standards, regulation and arbitration, IP-protection, commercialization: exploiting the outcomes and assessment and evaluation.

Although such services can be seen as a innovation policy instrument, these services are offered primarily to help companies with their innovation activities (Smiths & Kuhlman, 2004). Nevertheless, in analyzing the functions or roles of IBs, so far prior studies have not included the company perspective (e.g. Howells, 2006; Winch & Courtney, 2007) or only to a limited extent (e.g. Klerkx & Leeuwis, 2008a; Batterink *et al.*, 2010).

Alfaro et al 2010 have made a comparison between the extensive and less abstract list of functions from Howells and the more general three functions of Klerkx & Leeuwis 2008a. This overview is visible in table 2.2.

Table 2.2 Summary of intermediaries functions (Alfaro et al 2010)

Function Klerkx 2008	Function (Howells 2006)	Details
Demand articulation	Foresight and diagnostics	Technology foresight and forecasting: Foresight, forecasting and technology road mapping. Articulation of needs and requirements
Network formation	Scanning and information processing	Scanning and technology intelligence: Information gathering and identification of potential collaborative partners Scoping and filtering Selection and clearing function, selection of collaborative partners
Demand articulation	Knowledge processing, generation and combination	Helping to combine knowledge of two or more partners. Facilitate access to knowledge source Make extensive networks of knowledge sources (i.e. R&D, KIBS) as well as other resources available to entrepreneurs Reduce the cognitive and cultural distance between end-user, knowledge sources and producer
Network formation	Gate keeping and brokering	Creating favourable condition Negotiation and deal making
Innovation process management		Contractual advice Awareness raising and capacity building at both demand and supply side for cooperation in innovation processes Contribute to the development of system innovation
Innovation process management	Testing, validation and training	Testing, diagnostics, analysis and inspection Prototyping and pilot facilities Scale-up Validation Training
Innovation process management	Accreditation and standards	Specification setter or providing standards advice Formal standards setting and Verification Voluntary and de facto standards setter
Network formation	Regulation and arbitration	Regulation Self-regulation Informal regulation and arbitration
Innovation process management	IP: protecting the results	Intellectual property (IP) rights advice
		IP management for clients
Demand articulation	Commercialisation : exploiting the outcomes	Technology market forecasting Marketing, support and planning: Identify market opportunities and develop business plans
Network brokerage		(Exposure)Sales network and selling: Help establish and run sales channels Finding potential capital funding and organising funding or offerings Venture capital Initial Public Offering
Demand articulation	Assessment and evaluation	Technology assessment Technology evaluation

In a study to the activities of Food Valley in 2009 Alfaro made an overview based on the link with the functions. This study tried to link the different activities, services and information sources to the higher categories Demand articulation, Network formation and Innovation Process management. Further an extra higher function had to be added, Visionary Leadership and Regional development, to emphasize the role of Food Valley in orchestrating future competitiveness of the region. (Alfaro et al. 2010)

In this study 36 different FVO offers were considered. Besides one activity could contribute to multiple functions, and are therefore calculated more than once. Further some of the 36 services are not any more offered or have not yet been offered and are future offers instead.

The result is visible in table 2.3. Although it is clear that Food Valley can contribute to all higher functions less emphasis is given to demand articulation.

Table 2.3 Relationship between Innovation broker functions, FVO functions and number of FVO services (Alfaro et al 2010, table 2)

Innovation broker functions	FVO functions	Nr of FVO services
Visionary leadership and regional development	Improve Dutch/FV agri-food image world-wide	9
	Articulation of regional strengths	6
	Organisation and support of regional innovation activities	7
Demand articulation	Identification of innovation needs	4
	Identification of technology developments	2
	Access to market information	2
Network formation	Providing access to RIS information	5
	Assistance with and promotion of collaboration and networking among RIS members	15
Innovation process management		
Investment programmes	Access to capital	1
Knowledge dev. and diffusion	Knowledge transfer	5
Entrepreneurial experimentation	Entrepreneurial development	4
	Innovation support of SMEs	4
	Innovation stimulation programs	9
Resource mobilisation	Access to knowledge, human resources and innovation infrastructure	6

In the conclusion of this study Alfaro et al 2010 extended the functions Demand Articulation, Network Brokerage and Innovation Process Management with the functions visionary leadership and support of entrepreneurial experimentation (Alfaro et al, 2010).

Within academic literature there is not much information about tangible activities which Innovation Brokers offer to companies. Alfaro et al 2010 research was limited to the linkage between Innovation Broker Functions and the activities of FVO. The effect of these services to a company's innovativeness is unknown.

3 Research Methodology

Chapter 3 will be a short introduction to the field research. Section 3.1 will introduce the domain Food Valley Organization and section 3.2 the companies connected to Food Valley Objective as the research population. Sections 3.3 and 3.4 will respectively explain how the questionnaire is made and how the data is collected.

3.1 Research domain

Food Valley Organization can be regarded as an innovation broker which is regionally organized and primary active in the Dutch agri-food industry. Founded in 2004, it started organizing activities, offering services to and sharing information with its members. The main objective of FVO is to stimulate innovation in the Dutch agri-food sector, with demand as its driving force. The primary focus is on the agri-food cluster in the region around Wageningen in the Netherlands, although in recent years the scope of its activities and services widened to include the national level, as well. Like many other clusters, FVO originated around a university, Wageningen University and Research Centre. FVO is a public-private partnership, its main funding stems from government, whereas companies contribute by paying a membership fee. Companies can become members by invitation only. Members have some privileged activities and information sources which non-members do not have. The about 100 members of FVO include SMEs (62%) and large companies (38%). The companies differ in size from 1 employee to over 10.000 employees.

3.2 Research population

All companies which are member of FVO and / of made use of services (not activities like the conference) of FVO are part of the research population. 98 companies are members and another 33 companies have been added because they used the services Innovation Link of Markets Inside Advise. Members with changing membership statuses in 2009 of known for a non-active membership are labeled as non eligible in response analyses.

Four member types can be identified: Food Processors, technology Suppliers, ingredient suppliers and service providers (e.g. consultants advising about IP protection). The activities of Food Valley can be divided into three broad categories: activities, services and information sources. Activities are conferences and meetings, the focus is on sharing information among members and networking. Services are the one on one services to members like help in finding innovation partners or with applying for subsidies. Information sources are different types of information made available on the website, published in a newsletter, or by means of various forms of publications.

3.3 Questionnaire construction

For the field research a quantitative survey has been sent to the research population. The questionnaire consists out of two parts. Part one of the online questionnaire is designed to enable its members to evaluate FVO's activities, services and means of information provision, as well as to indicate FVO's contribution to their innovation processes. The second part focuses on the recognized contribution of FVO to the innovativeness of the companies and the contribution to realized innovations.

3.3.1 Questionnaire, part one importance of activities

FVO offer a lot of different activities, services and information sources to companies. During the last five years some changes were made in the portfolio and new ideas arise for the years to come.

Table 3.1 Activities, Services and Information Sources of FVO (Alfaro et al. 2010)

1. FV Conference	19. Web base benchmarking
2. FV Award	20. Scie&Techn based marketing
3. Facilitating innovation cooperation between FVS members	21. Make contacts with foreign counterparts for developments in the region
4. Coordination with companies about the themes for conferences of FVS	22. Subsidy & VC for companies
5. Visit to FVS members	23. Match with known technological counterparts
6. "Members only" meeting FVS	24. Facility Sharing
7. Information of FVS	25. Participation in FV Consortium
8. Publicity of FVS	26. Support for special projects
9. Visit for an interesting exchange in Europe	27. FINE
10. Food Valley "Market Insights" (only for FVS members)	28. Development of collaborative projects with other regions
11. International meeting FVS	29. Relationship with other food cluster
12. IFT Food Expo	30. Collaboration to "Juice factory De Sapfabriek"
13. International partnerships	31. Collaboration to "Restaurant of the future"
14. International FV Ambassadors Network	32. Digital library
15. Visit to Food Valley	33. Food Valley Website
16. FV Innovation Link	34. External presentations of Food Valley Concept
17. Innova database	35. AIESEC Wageningen
18. Innovation meetings	36. Dutch Food Valley Classic

Table 3.1 shows an overview of all different activities, services and information sources known within FVO. Together with Food Valley employees a selection has been made with the following criteria:

- the activity, service or information source was available in 2009
- the activity, service or information source is accessible for companies
- with help of a clear descriptions ALL respondents can have an opinion on the importance of the activity, service or information source to their business

The result is a list of 16 different activities, services and information sources as displayed in table 3.2. To help keeping the activities recognizable to the respondents the differentiation between the type of services have been used throughout the questionnaire.

The respondents are asked to rate the importance of FVO's sixteen services, activities and means of information providing (see Table 3.2) to their business using 7-point Likert Scales (1 = not at all important; 7 = very important). (Baarda and de Goede, 2006)

For this study, all activities, services and information sources of FVO were categorized according to their nature. The main categories are: innovation project support, internationalization, strengthening networks, providing market information and others.

Furthermore, the different activities, services and information sources were linked to the different phases in the innovation process (idea /concept phase, engineering phase, and the release to market phase). It turns out that 6 out of 16 'products' are linked to the idea / concept, 3 to the engineering, and 3 to the release to market phase, whereas 4 'products' were non-specific, such as the website or the newsletter (see Table 3.2).

3.3.2 Questionnaire, part two contribution to innovativeness and innovations

Part 2 of the questionnaire attempts to get an insight in the contribution of FVO to the innovativeness of companies and realized innovations.

This part of the questionnaire starts with the straight forward question "To what extent has Food Valley contributed to innovation in your company?" with all fields innovation may imply to. Further respondents are asked to indicate whether they have innovated in the last years and in what category and respondents are asked if FVO played a role (yes or no) and how important the input of FVO was. (1-7 Likert Scales). Part two of the questionnaire ends with four questions related to business indicators.

The full questionnaire is added as Appendix II.

Table 3.2 FVO's services, activities and means of information sources

Product	Type	Category	Innovation process phase
1 Market Insights Advice	Service	market information	Engineering
2 Innovation Link	Service	innovation project	idea / concept
3 Ambassador program	Service	internationalization	non-specific
4 International Business	Service	internationalization	release to market
5 International Relationships	Service	internationalization	release to market
6 Support to start-ups	Service	Other	non-specific
7 Support in obtaining subsidy	Service	innovation project	Engineering
8 Support in finding partners	Service	innovation project	Engineering
9 Food Valley Conference	Activity	info / network event	idea / concept
10 Innovation meeting	Activity	info / network event	idea / concept
11 FV Society Meeting	Activity	info / network event	idea / concept
12 Organizing FV Award	Activity	Other	release to market
13 FV Website	Information	Other	non-specific
14 FV Newsletter	Information	other	non-specific
15 FV TOP 10 Alert	Information	market information	idea / concept
16 FV Market Insights, Trend Rapport	Information	market information	idea / concept

3.4 Data collection

The questionnaire has been send as an online form to all FVO members. The advantages are that it is more easy for a respondent to submit the questionnaire, timeframes can be held short and the method is less expensive. (Baarda and de Goede, 2006) After two weeks, all non-responding companies receive a reminder, and one week later all non-responding companies are called to increase the response rate. It turned out that a number of companies joined the organization only in the course of 2009, stopped their membership in December 2009, or had never joined any activities or made use of the services. This group of companies are not reminded by telephone.

4 Results

This chapter will present the results. First an overview of the response and a general introduction to the results is presented in section 4.1. Further the chapter will follow the setup of the questionnaire: the importance of the different activities is discussed in section 4.2, results on usage and quality are presented in section 4.3 and section 4.4 is about the results regarding innovation within the company. At the end of each section a short summary is given.

4.1 Introduction

This chapter is about the results of the field research for which a questionnaire has been send to the respondents in October 2009. Among the respondents there were members and non-members of Food Valley Organization (FVO). For the first part of the questionnaire only the member response is used. The reason is that for non-members to much of the activities/services/information sources are not recognizable resulting in to much “Likert-middle score answers (not negative – not positive). As the non-members were selected based on participation in a single service.

The chapters discusses in following order: Response and Preliminary analyses, Need for services by companies mapping the importance of the different activities to the companies and contribution of FVO to innovativeness. This last part will show the actual effect of FVO as it is recognized by the participants of those activities.

4. 1.1 Response

The electronic questionnaire was send to all FVO members and companies who used a service without a membership. After two weeks, all non-responding companies received a reminder, and one week later all non-responding companies were called to increase the response rate. After consulting the response with FVO employees it turned out that a number of companies joined the organization only in the course of 2009, stopped their membership in December 2009, or had never joined any activities or made use of the services. This group of non-active companies have not received reminders by telephone.

In total 53 respondents answered the questionnaire. They represent 49 different companies and 8 out of 49 companies are not a member of Food Valley Organization. 1 respondent was anonymous, the score of this anonymous respondent is part of the total mean but not part of any sub category mean.

For the first part 40 different companies responded to the questionnaire, which implies a response rate of 57%. If there were multiple respondents for 1 company we used the mean of the respondents (two cases). Tables 4.1 and 4.2 show the response rate per company type for respectively members and total of the sample. The member response, table 4.1, is used for section 4.2 and the total score, table 4.2, is used for section 4.3 and 4.4.

Interestingly, the response rate of large companies was higher than the response rates of SMEs. This could be explained by the fact that in the case of SMEs, the questionnaire was typically send to the owner/director, whereas in the case of large companies, innovation or relationship managers dealt with the questionnaire. Entrepreneurs are often under responding to questionnaires, and innovation and relationship managers are expected to be more directly involved with FVO. Furthermore, the response rate of the food processors was relatively high compared to the other types of companies.

Table 4.1 Response rate members

	Total	response	% of total
Large companies	24	17	71%
SME	46	23	50%
Total	70	40	41%
Food processors	12	11	92%
Suppliers of high tech products or technologies	21	13	62%
Suppliers of ingredients or semi-manufactured products	24	8	33%
Suppliers of services	13	8	62%
Total	70	40	57%

Table 4.2 Response rate non-members

	Total	response	% of total
SME	33	9	27%
Total	33	9	27%

4.2 Services needed by companies

This section discusses the need for different types of activities, services and information sources of the companies. First results are displayed based on company size and company type, next the results based on category of activities and finally the results with a focus on the innovation phase.

Assessment of services needed by companies is made only with the member respondents because they have a greater awareness of the different products and often experienced multiple of the activities. The results are based on company level.

4.2.1 Importance of activities based on company size

Table 4.3 shows the companies assessment of the importance of FVO's services, activities and means of information providing given by the means and the standard deviation (SD) of the whole sample and of the SMEs and large companies separately. To identify significant differences between categories T-Tests are used. The highest importance is given to FVO's newsletter, whereas offering support to start-up companies is clearly not regarded important to the (mostly not start-up) members.

Table 4.3 Company assessment of the importance of FVO services, activities and information sources

	Total		SME		large	
	Mean (SD)	N	Mean (SD)	N	Mean (SD)	N
Networking						
FVO Society Meeting	4,59 (1,37)	39	4,82 (1,56)	22	4,29 (1,05)	17
FVO Conference	4,36 (1,40)	40	4,50 (1,51)	23	4,12 (1,22)	17
Innovation meeting	4,29 (1,23)	40	4,15 (1,41)	23	4,47 (0,94)	17
(Market) Information						
Market Insights Advice	3,78 (1,73)	40	3,57 (1,75)	23	4,06 (1,71)	17
FVO MI Trend Rapport	3,73 (1,42)	39	3,85 (1,41)	23	3,56 (1,46)	16
FVO TOP 10 Alert	3,58 (1,44)	36	3,43 (1,47)	21	3,80 (1,42)	15
Innovation projects						
Support in finding partners	4,04 (1,81)	40	3,93 (1,84)	23	4,18 (1,81)	17
Support in obtaining subsidy	4,01 (1,75)	37	3,98 (1,81)	21	4,06 (1,73)	16
Innovation Link	3,68 (1,23)	40	3,65 (1,34)	23	3,71 (1,11)	17
International Services						
International Relationships	3,99, 1,73)	40	4,41 (1,72)	23	3,41 (1,62)	17
International Business	3,85 (1,97)	39	4,27 (2,12)*	22	3,29 (1,65)*	17
Ambassador program	3,42 (1,64)	37	3,34 (1,70)	22	3,53 (1,60)	15
Other						
Support to start-ups	2,83 (1,91)	36	2,80 (1,80)	20	2,88 (2,09)	16
FVO Award	3,44 (1,86)	39	3,39 (2,06)	23	3,50 (1,59)	16
FVO Newsletter	4,82 (1,27)	37	4,85 (1,44)	23	4,79 (0,98)	14
FVO Website	4,30 (1,40)	38	4,07 (1,58)	22	4,63 (1,09)	16

Italics * $p < 0,10$; *Italics* ** $p < 0,05$

Membership-only activities as the FVO society meeting and the FVO newsletter are of more importance to the members than the services that are also available to non-members, e.g., the FVO conference has a much lower appreciation as the member only society meetings and also the website is regarded of lower importance compared to the members-only FVO newsletter. Within the services category the highest importance is given to support in finding partners. SMEs and large companies assess the importance of some services, activities and information sources quite differently. Building international relationships, helping to internationalize business and the FVO society meetings are rated clearly higher by SMEs. Large companies in the sample are mostly multinationals, not dependent on an innovation broker for building international relationships and less dependent on the expert information provided in the FVO Society meetings.

4.2.2 Importance of activities based on company type

Table 4.4 shows the assessment of the importance of FVO services, activities and information sources by company type. It displays relatively high score for technology suppliers and relative low scores for Food Processors and service providers in their perceived importance of FVO's services. A relatively low assessment for service suppliers was expected as they do not develop products themselves and are therefore not dependent on the newest technologies.

Service providers are typically part of the FVO network to enhance cooperation and interaction with the production companies. They clearly perceive interactive activities such as the FVO Society meetings and the FVO Conference of higher importance. Technology suppliers report a higher importance to services in general. The importance of helping to internationalize business can be explained in the high level of specialization of these companies and therefore a great need for a larger market than the national market.

Table 4.4 Assessment of the importance of FVO services, activities and information sources by company type

	Food Processors		Technology suppliers		Ingredient suppliers		Service providers	
	Mean (SD)	N	Mean	N	Mean	N	Mean	N
Networking	3,33 (1,44)	11	4,22 (0,96)	13	3,75 (1,19)	8	3,37 (1,19)	8
FVO Society Meeting	4,45 (1,51)	11	4,85 (1,28)	13	4,14 (0,90)	7	4,75 (1,75)	8
FVO Conference	4,36 (1,29)	11	4,04 (1,66)	13	4,38 (1,19)	8	4,88 (1,36)	8
Innovation meeting	4,73 (1,27)	11	4,12 (1,29)	13	4,00 (0,76)	8	4,25 (1,49)	8
(Market) Information								
Market Insights Advice	4,27 (2,01)	11	3,46 (1,66)	13	4,00 (1,77)	8	3,38 (1,51)	8
FVO Market Insights Trend Rapport	3,82 (1,66)	11	3,88 (1,42)	13	3,50 (1,69)	8	3,57 (0,79)	7
FVO TOP 10 Alert	4,09 (1,70)	11	3,85 (1,41)	13	2,83 (0,98)	6	2,83 (0,98)	6
Innovation projects								
Support in finding partners	3,64 (2,25)	11	4,65 (1,55)	13	4,25 (1,49)	8	3,38 (1,77)	8
Support in obtaining subsidy	<i>3,64 (1,69)*</i>	11	<i>4,95 (1,27)**</i>	11	4,13 (1,81)	8	<i>3,00 (2,00)*</i>	7
Innovation Link	3,55 (1,29)	11	3,77 (0,93)	13	4,00 (1,41)	8	3,38 (1,51)	8
International Services								
International Relationships	<i>3,27 (1,62)*</i>	11	<i>4,65 (1,89)*</i>	13	4,00 (1,69)	8	3,88 (1,55)	8
International Business	<i>2,55 (1,70)**</i>	11	<i>5,23 (1,92)**</i>	13	3,86 (1,57)	7	<i>3,38 (1,41)**</i>	8
Ambassador program	3,09 (2,07)	11	3,65 (1,43)	13	3,14 (1,07)	7	3,83 (1,94)	6
Other								
Support to start-ups	2,64 (2,06)	11	3,45 (2,21)	11	2,25 (1,58)	8	2,83 (1,47)	6
FVO Award	2,91 (1,58)	11	3,83 (2,13)	12	3,63 (1,77)	8	3,38 (2,07)	8
FVO Newsletter	4,89 (1,36)	9	4,81 (1,60)	13	4,50 (0,93)	8	5,14 (0,90)	7
FVO Website	4,55 (1,37)	11	4,27 (1,67)	13	4,25 (1,28)	8	4,00 (1,27)	6

Italics * $p < 0,10$; *Italics* ** $p < 0,05$

4.2.3 Importance of activities grouped on functional category

Table 4.5 Assessment of the importance of FVO services, activities and information sources grouped by category

Name (cronbach α)	Food Processors		Technology suppliers		Ingredient suppliers		Service providers	
	Mean	N	Mean	N	Mean	N	Mean	N
Networking (0,68)	4,51 (1,07)	11	4,33 (1,25)	13	4,23 (0,73)	8	4,63 (1,05)	8
(Market) Information (0,79)	4,06 (1,56)	11	3,73 (1,25)	13	3,67 (1,49)	8	3,35 (0,86)	8
Innovation projects (0,75)	3,61 (1,45)	11	<i>4,41 (0,97)*</i>	13	4,13 (1,25)	8	<i>3,29 (1,45)*</i>	8
International services (0,74)	<i>2,97 (1,47)*</i>	11	<i>4,51 (1,48)*</i>	13	3,88 (1,53)	8	3,61 (1,49)	8

Italics p < 0,05*

Table 4.5 shows the assessment of the importance of FVO services, activities and information sources grouped by category (see Table 3.2). Here we clearly see the great need for networking for service providers and the low need for help in conducting innovation projects, the latter being of major importance to the technology suppliers. Also food processors indicate that networking together with getting (independent) market information is important for their organizations. For food processors, help with internationalization is not very important. As was already indicated this group contains a number of multinational companies that clearly do not need an IB to internationalize. In accordance with literature (Klerkx & Leeuwis, 2008a) the networking function of FVO is indicated as of high importance by all the companies.

4.2.4 Importance of activities grouped on phase in innovation process

Table 4.6 Assessment of the importance of FVO services, activities and information sources grouped by the phase in the innovation process

Name (cronbach α)	Food Processors		Technology suppliers		Ingredient suppliers		Service providers	
	Mean	N	Mean	N	Mean	N	Mean	N
idea / concept phase (0,85)	4,09 (1,11)	11	4,18 (0,94)	13	3,95 (0,96)	8	3,83 (0,86)	8
Engineering phase (0,71)	3,85 (1,64)	11	4,29 (0,93)	13	4,13 (1,40)	8	3,29 (1,61)	8
Release to market phase (0,69)	<i>2,91 (1,17)*</i>	11	<i>4,53 (1,57)*</i>	13	3,90 (1,44)	8	3,54 (1,21)	8

Italics * $p < 0.05$

Table 4.6 shows the assessment of the importance of FVO services, activities and information sources grouped the phase in the innovation process. For FVO most services, activities and information sources are related to the idea generation and preliminary assessment phase. A few services are focused on the early engineering phase or releasing the product to the (international) market. The highest need is found on the idea / concept phase of innovation for all groups except for the technology suppliers. They rate the support of FVO in the release to market phase significantly higher than the food processors. Whereas technology suppliers are interested in FVO help in all phases of the innovation process, food processors seem especially interested in the early idea and concept phase. When they get the innovative ideas they are able to bring them to the market together with their preferred suppliers and they do not need the help of an IB like FVO.

4.3 Usage and quality of services

This subchapter deals with actual participation of companies to activities and usage of Food Valley services and information sources.

4.3.1 Participation and quality of Food Valley activities

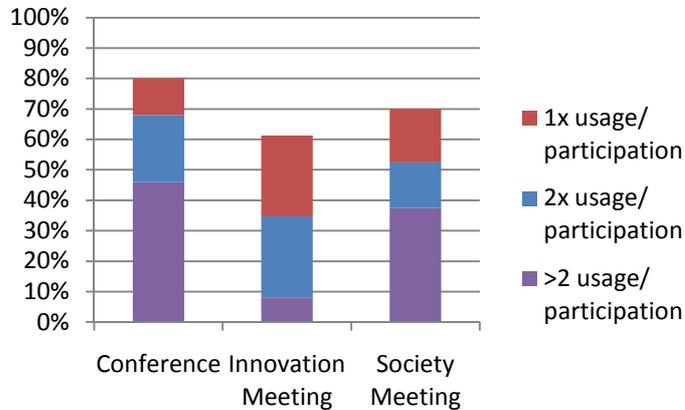


Figure 4.1 Participation to activities organized by Food Valley

Food Valley activities are visited reasonable well by the respondents as visible in figure 4.1. The different type of companies rate the importance of the activities differently.

The Conference is of high importance for providers of services and for ingredient suppliers. The technology suppliers rated the society meetings of higher importance. The innovation meetings are the most important to Food Processors.

There is a clear relationship between participation and perceived importance of the activities. As visible in figure 4.2. Respondents who participated in an activity rate the importance much higher as respondents whom did not participated. Most noticeable is the difference with the activity award. Participation in the award is very good for the awareness off the nominated innovation within the market.

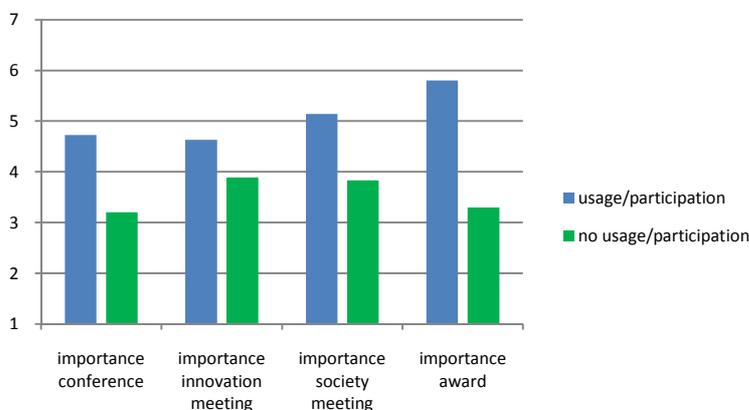


Figure 4.2 Relation between participation and perceived importance of activities

The quality of the activities is rated between 5.2 and 5.5 on a 7-point scale. As visible in table 4,7 not all respondents rated all activities. When a respondent did not rate an activity or never participated in an activity no question about the quality is asked.

Table 4.7 Importance and quality of Food Valley activities

	Importance		Quality	
	Mean	N	Mean	N
Conference	4,37 (1,44)	52	5,29 (0,77)	38
Innovation meeting	4,34 (1,19)	50	5,14 (0,99)	29
Society meeting	4,66 (1,41)	44	5,46 (0,76)	26
(Organizing) Award	3,58 (1,88)	50	N/A	

N/A is not available, question has been left out

4.3.2 Usage of Food Valley Services

In contrast with the activities the services of Food Valley are not much used. As visible in figure 4.3 most services are used by less than 25% of the respondents.

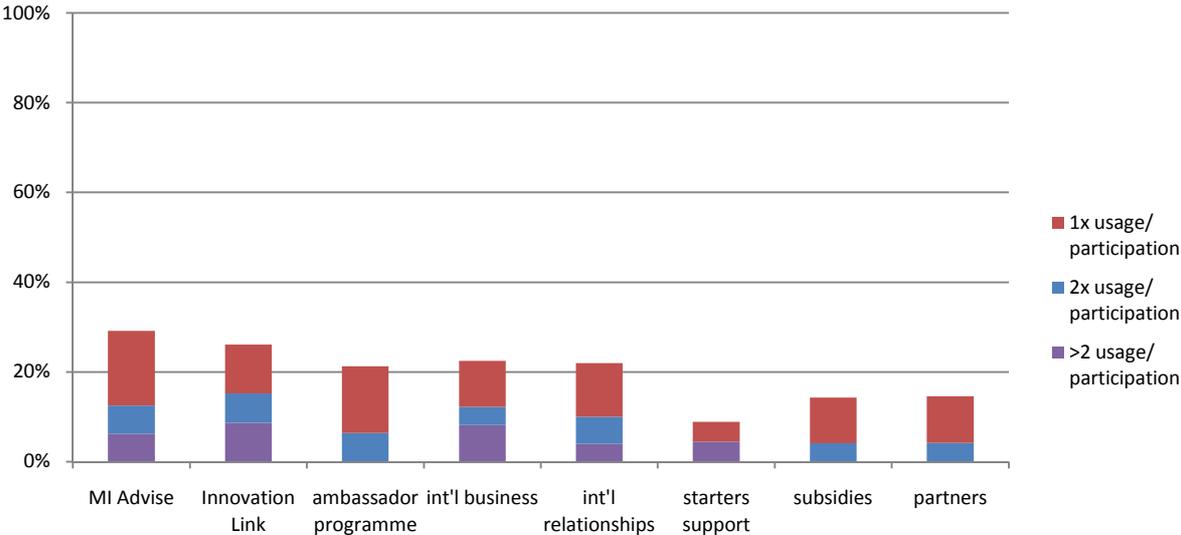


Figure 4.3 usage of Food Valley services

When the relationship between usage and importance is analyzed the situation is similar to activities. As visible in figure 4.4 respondents who have used a service rate the importance much higher than the respondents who did not make use of the service. This is general for all services the average importance rated by users is higher than 5.

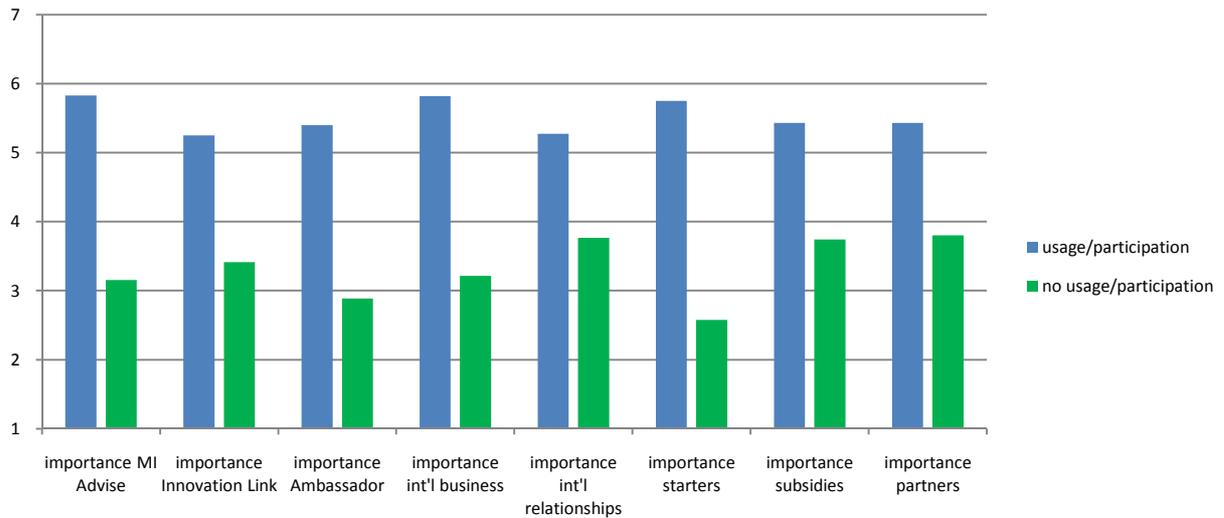


Figure 4.4 importance of services split by use of no use of service

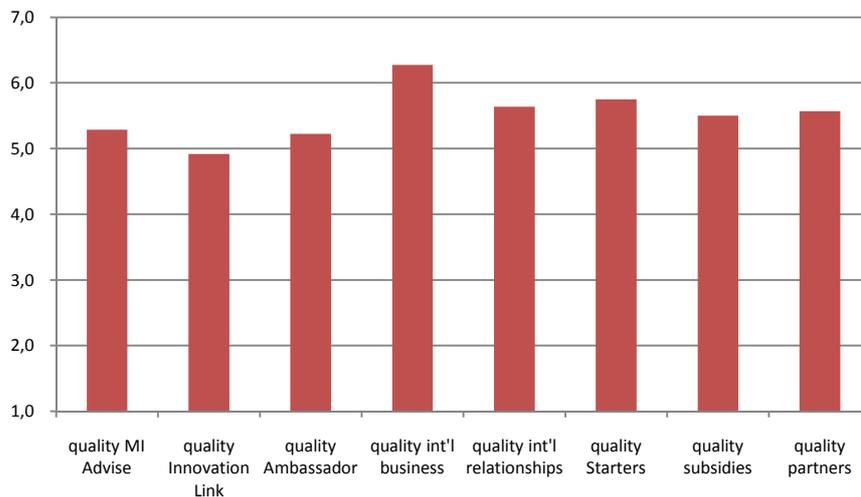


Figure 4.5 quality of services offered by FVO

As only respondents who used the service may answer the quality question the number of respondents on quality questions is very low and for individual services these scores are not representative. Although a 5+ overall score on all eight services indicates a good quality perception of the services by its users.

19 companies (36%) did not use 1 of the services offered by Food valley, 34 companies made use of at least 1 service. Only 11 out of 53 companies, (21% of the respondents) made use of 3 services or more. As visible in figure 4.6 only 1 respondent used all six services.

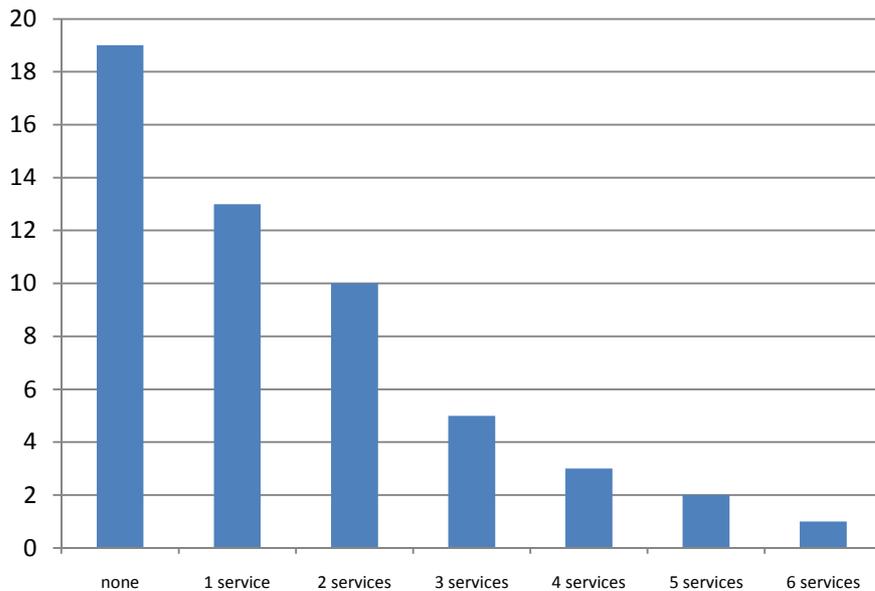


Figure 4.6 number of used service per respondent

With the largest number of services it are the technology suppliers who find the service of highest important to their company. The most important exception is Individual Advise, for this service the highest importance is reported by Food Producers.

4.3.3 Usage and Quality of Food Valley information sources

For this research four different information sources are selected. The newsletter, the top-10 alert, the trend report and the website.

When the information sources are compared to each other it shows that the newsletter is the most important information source for the respondents.

The lower scores for the top-10 alert and the trend report can be explained by the fact that they are less general.

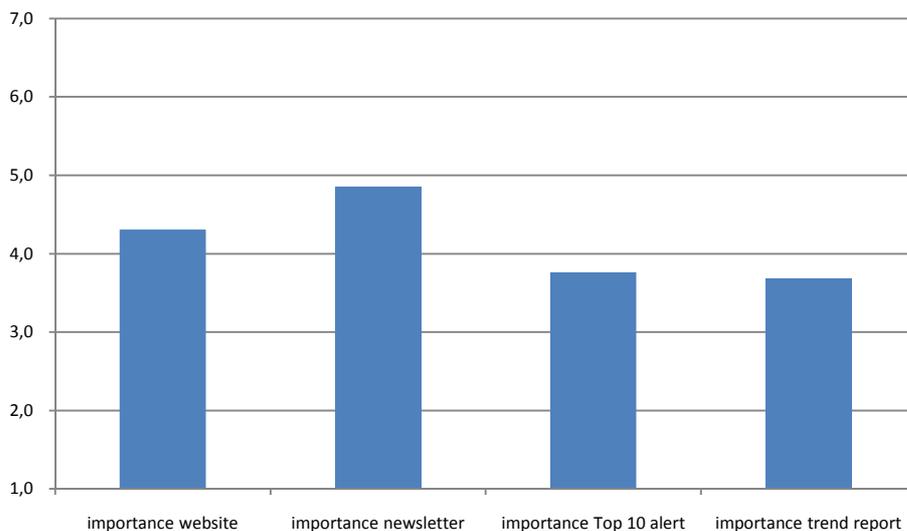


Figure 4.7 importance of services

When the quality is concerned all sources are rated with an average between 4.6 and 5.1. For information sources the number of respondents is high enough to be representative.

The newsletter is read by 45 out of 53 respondents and the 43 out of 53 respondents has visited the website.

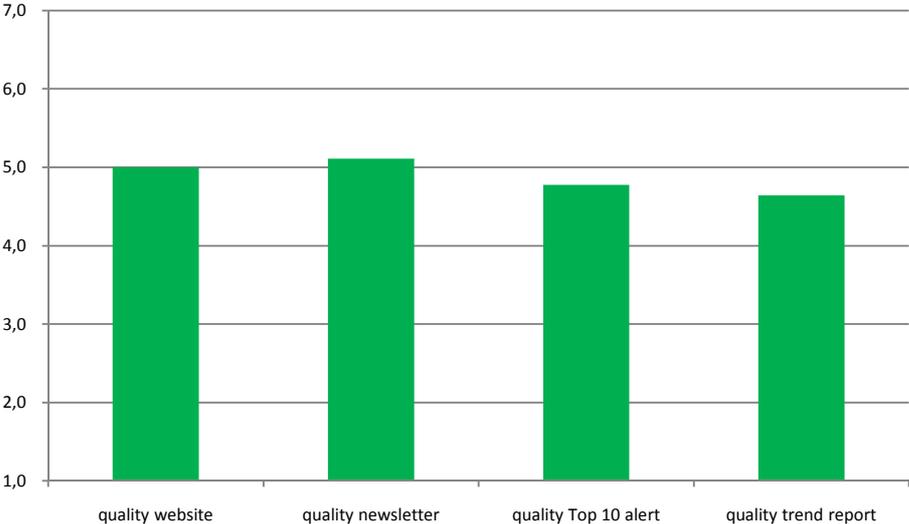


Figure 4.8 importance of services

4.4 Contribution of Food Valley to the companies innovativeness

In this paragraph the results are given to the second part of the questionnaire. All questions with regard to the innovativeness of the companies and realized innovation will be discussed in the following pages.

4.4.1 Contribution to innovation process in companies

All respondents are asked: “to what extend has Food Valley contributed to innovation within your company”. A global outcome is visible in figure. Important to consider is the scaling of this question ranges from: 1 = no contribution at all to 7 = contributed very much. A relative low score, for instance 3, means that Food Valley’s contribution is low but the influence of the innovation broker has been recognized.

Food Valley contributes relative high to the company’s network this important function with a multiple related activities is recognized within all types of companies. Food Processors see a considerable contribution in the areas: knowledge, capabilities, company culture, organization process and from idea to result. All these areas are defined subjects at Food Valley and relate to activities organized. Food Processors are an important target group, seeing more contribution to the innovation process of this type of companies over the other types is not surprising.

For suppliers of high-tech services or products, we see some relative low scores. Food Valley contributes less to the company culture, organization of the process, idea to result and knowledge as expected. Most of the companies are already innovation driven before joining with Food Valley. The technology suppliers score considerable on “possibilities to other markets”. This might indicate that marketing is not a competence of these companies and the membership of Food Valley helps them. The other two types of suppliers see contribution as well, this might indicate that the intra Food Valley sales are important to all suppliers.

Food Valley help to obtain funding is not recognized. Although some, mostly technology suppliers, companies have rated the activity help with subsidies as import and of high quality.

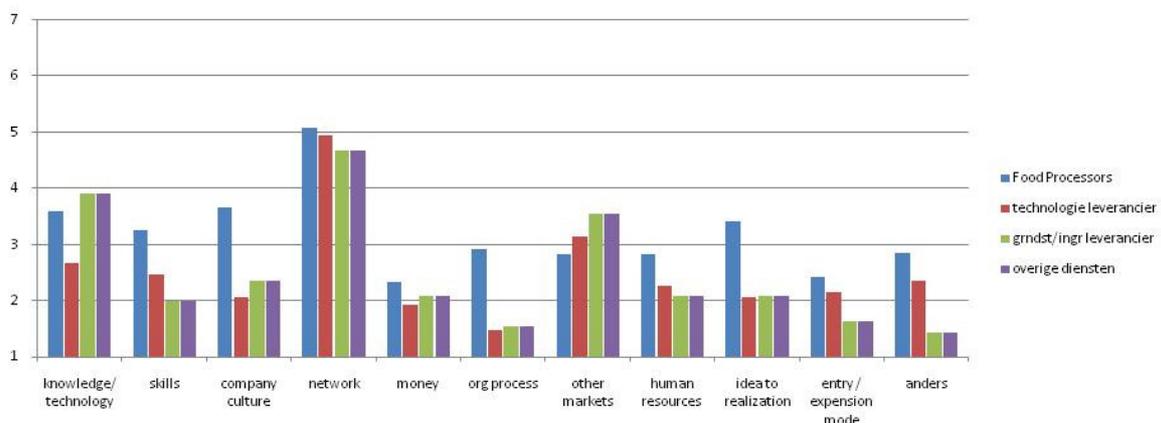


Figure 4.9 the contribution of Food Valley to the companies innovation process

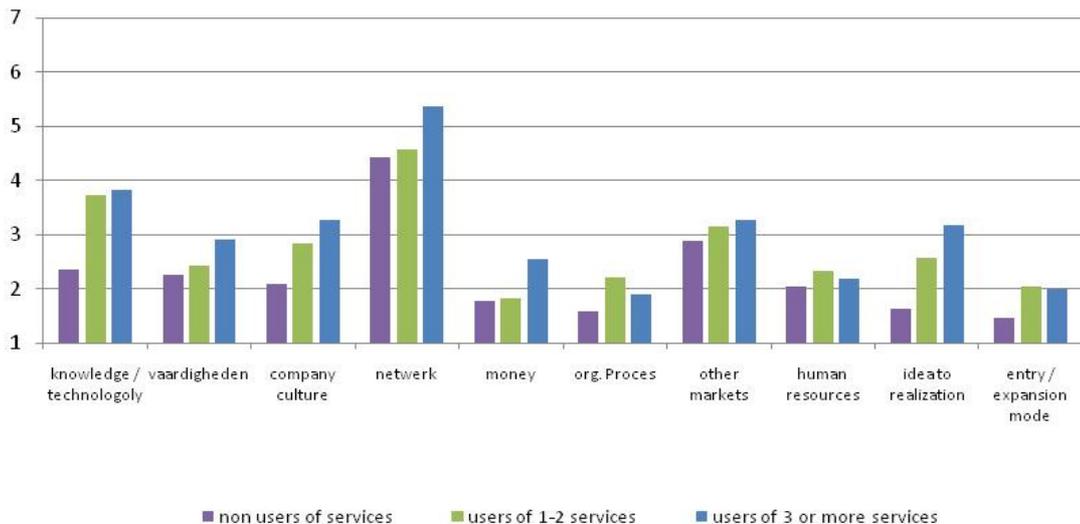


Figure 4.10 The contribution of Food Valley to the companies innovation process split by users and non users of services

Users of services do recognize a larger contribution of Food Valley as the respondent who did not made use of any service. The contribution of Food Valley is rather low as they only fulfill a broker function. Although the influence of Food Valley in some areas is lower as 2 on a 7 point likert-scale. For users as well as non-users of services Food Valley has a great contribution to network development. Users of services see a much higher contribution of Food Valley with regard to knowledge and technology and for idea to realization as well.

4.4.2 Realized innovations

43 respondents have answered the questionnaire with regard to realized innovations. 33 out of the 43 respondents has developed one of more new product and 28 companies have improved one or more product.

There are also companies which report new technologies, new processes, new patents or new cooperatives. The respondents of the questionnaire together report 192 different innovation related activities. 6 respondents have not realized any type of innovation.

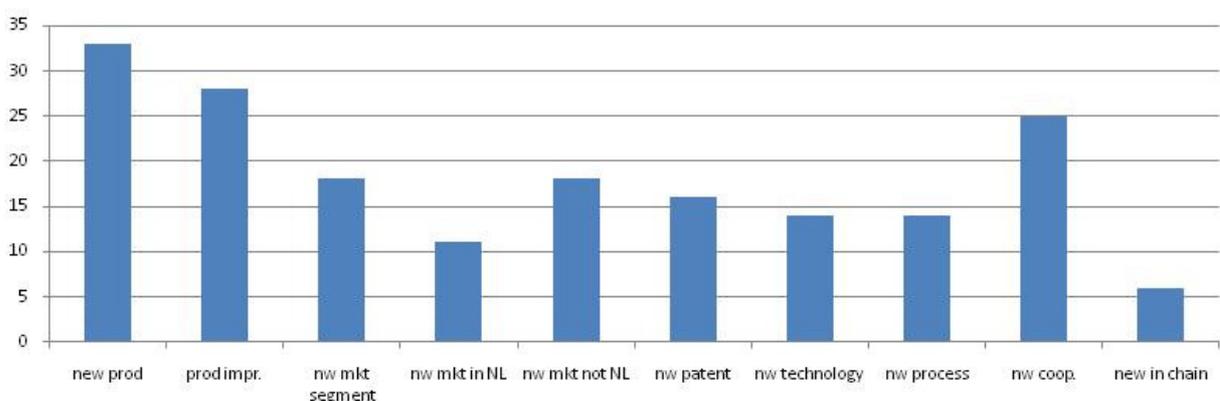


Figure 4.11 number of realized innovations among respondents

4.4.3 Contribution of Food Valley to realized innovations

28 respondents indicate (some) contribution of Food Valley to their realized innovations. For those 28 respondents a graph is made rating the importance of the contribution of Food Valley. When asked how important the contribution of Food Valley was in realizing the innovation we see high scores in new technology, new collaborations and new markets. The high scores for contribution to new technology and new cooperation is in line with the goals and the program of Food Valley. Food Valley's contribution is less important in, among others, product improvement and patents (see figure 4.12).

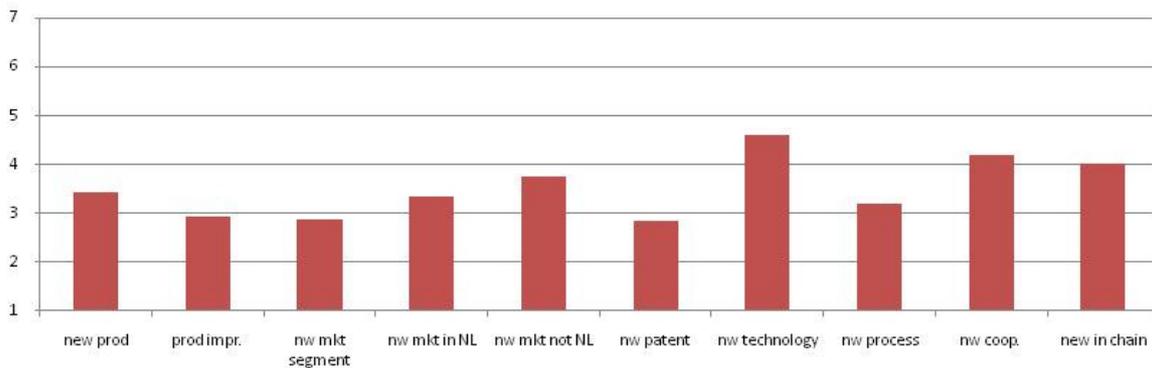
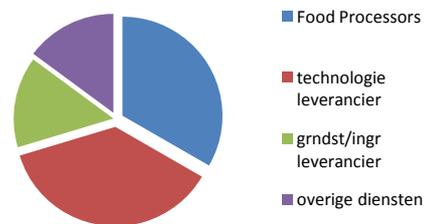


Figure 4.12 influence Food Valley Organization when a contribution is recognized

Most contribution is recognized by Food Processors and technology suppliers. As most of activities are focused on these two groups this is not a surprise.

The fact that the score for suppliers of ingredients and other suppliers is almost equal is less expected as ingredient suppliers are part of the Food Chain.



Figuur 4.13 division of companies who recognize a contribution

4.4.4 Relation between usage of Food valley services and realized innovations

When a differentiation is made between users and non users of Food Valley services some differences are found. As visible in figure 4.14 most difference can be seen in the area of new markets in the Netherlands, new Technologies and new cooperation. All areas within the focus of Food Valley. Product improvement and newness within the chain are the only two areas were non-users outperform users of Food Valley services.

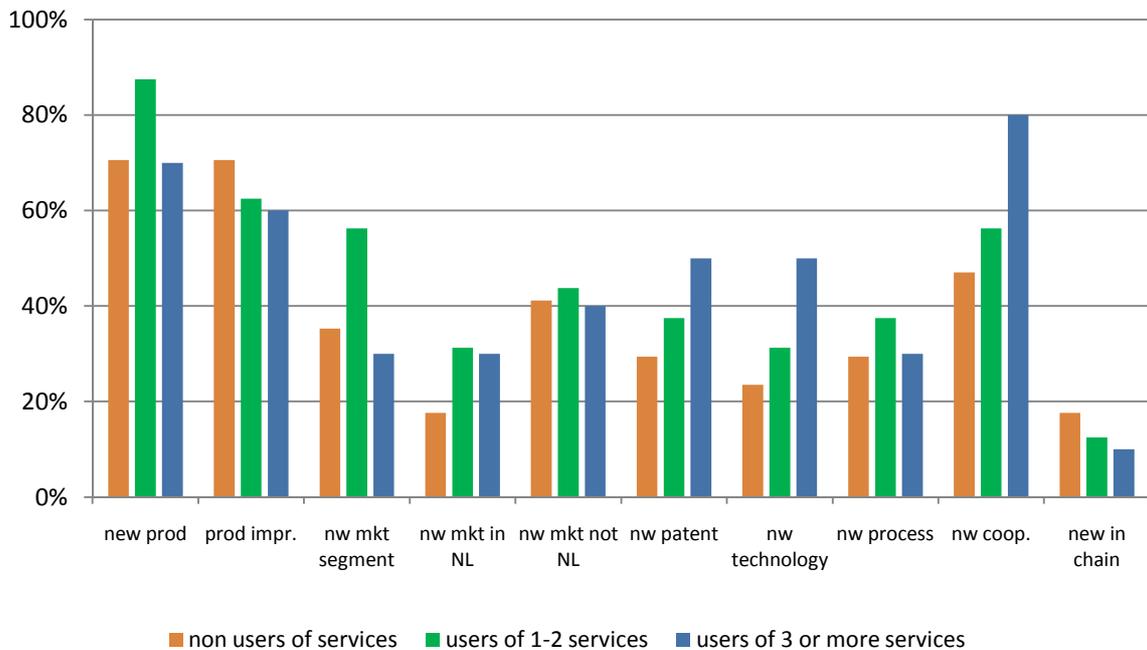


Figure 4.14 realized innovations with a split between users and non users of services

When a split is made between incremental and more radical innovations the difference is even more noticeable. In the categories new prod, new patent, new technology and new cooperation the difference is

4.4.5 Self assessment of performance

The last questions in the questionnaire is linked to the performance of the companies. The question consists of four stands about the current situation and the future outlook.

The outcome is visible in figure 4.15 and it shows that the respondents are rather positive with regard to the development of their turnover for the near future. In general smaller companies tend to expect an higher increase than the larger companies. Remarkable are the results with regard to the ingredient suppliers. They expect an growth for the coming years and the growth will be the main driver for the development of the turnover.

The different type of companies score alike at stand four. This is a bit unexpected as the split in different company types is made because of different type of innovation processes and different types of markets.

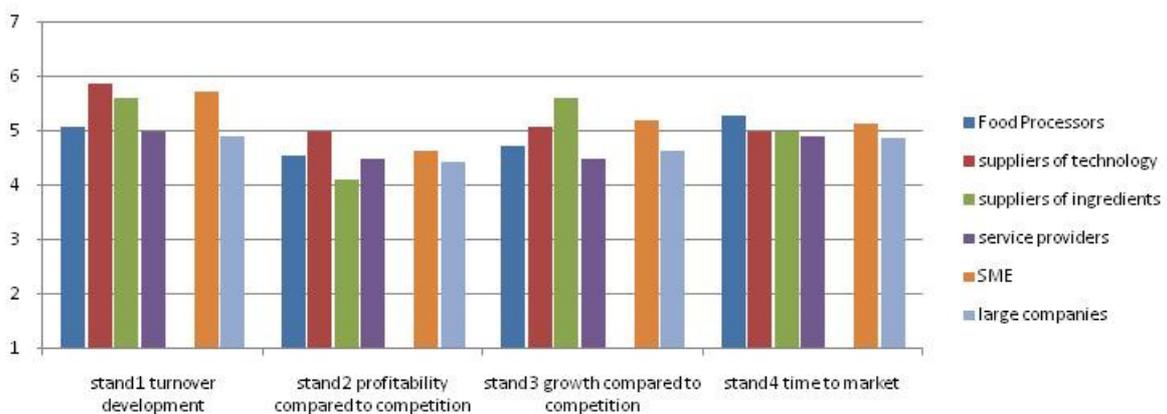


Figure 4.15 performance overview

We expect our turnover in the next few years to:

1 = decline sharply 7 = increase sharply

Compared to our main competitors, our profitability is

1 = much lower 7 = much higher

Compared to our main competitors, our growth is

1 = much slower 7 = much faster

We have a much shorter time-to-market for our new products than our competitors have.

1 = strongly disagree 7 = fully agree

4.5 Summary of results

To end this chapter a summary is given to the results of the fieldresearch.

4.5.1 Importance of activities

When look at the three main functions of IBs: demand articulation, network formation and innovation process management, it is clear that, in accordance to theory that indicates that linking actors in ISs is a core function of IBs (e.g. Batterink *et al.* 2010; Klerkx & Leeuwis, 2008b), the networking function of FVO is mentioned as of the highest importance by all types of companies. Especially the food processors and the service providers are interested in the networking possibilities of FVO. For food processors, FVO provides possibilities to get in contact with right partners for the idea/concept phase of the innovation process, whereas for service providers it is of great importance to get in contact with manufacturing companies in general. The demand articulation and innovation process management needs are clearly different for the different member types of FVO. Where the technology suppliers, being dependent on knowledge based innovation for their future competitiveness, are clearly searching for innovation process (management) support, the food processors are more interested in services aimed at demand articulation.

4.5.2 Usage and quality of services

Respondents have a high participation rate to the events. 80% of the respondents has visited the conference, 70% has visited a society meeting and 61% an innovation meeting. The different activities tend to have different target groups. Ingredient suppliers and service providers give the most importance to the Food Valley conference, technology suppliers give the highest importance to the society meeting and for Food Processors the innovation meeting is most important to their company.

The information sources are well used as well. The more general newsletter and website are both used by more than 80% of the respondents. The specific trend report and top-10 alert are less used and of less importance to the respondents.

The usage of services is very low compared to the usage of information sources and the participation in activities. On average only 20% of the respondents have used the service. 19 respondents, 36% of the respondents have not used any service at all and 21% of the respondents (11) have made use of more than two different activities.

The quality of all activities, services and information sources is perceived well. The average quality of all 16 products offered by Food Valley is 5,15. International business has the highest score in quality (6,27) and the trend report with the lowest quality (4,64) all other are in between.

4.5.3 Contribution of an Innovation Broker to innovativeness

The contribution of Food Valley as an innovation broker to the innovativeness of the respondents is low but recognized. As innovation needs to be done by the companies themselves all recognized contribution can be seen as beneficent to the innovativeness.

The fields Food Valley choose to be active in are recognized as network and development of knowledge and technology are rated high, however the last especially with the users of the services of Food Valley. Further the largest contribution of Food Valley to the innovation process can be found with the Food Processors, the most important target group for Food Valley.

When respondents are asked for the contribution of Food Valley to realized innovation the highest score is found for new technologies. Further new markets and new cooperation score high. When a split is made between users and non users of services users tend to score better in almost all types of innovation and outperform the non-users in the areas: new product, new market segment, new market (within the Netherlands), new patents and new cooperation.

The users of Food Valley services are performing better in areas related to radical innovation than companies who do not use the services. In their innovations the companies who make use of the services recognize a higher contribution from Food Valley Organization.

5 Conclusion and Discussion

This chapter will highlight the conclusions of the research. First some conclusions are given about the research as a whole. Second conclusions with regard to the two sub-questions formulated in the introduction and paragraph 5.4 finally is an attempt to shed light on the central research question.

5.1 Conclusions on Research Methodology

This research is different from most other researches. First it is conducted to the effect of the efforts of a single innovation broker instead of innovation brokers as a phenomenon. Second this research has used a company perspective, therefore having a different angle to this matter.

The fact that a single innovation broker is used has some import limitations with regard to the validity of the results for innovation brokers in general. Although the response is high and diverse enough to generalize about FVO. But because this innovation broker is industry as well as regionally focused it is impossible to generalize about innovation brokers.

The company perspective however provided some new findings. Innovation Brokers need to address the actors in the innovation system in a more differentiated matter. The needs of high tech suppliers are different from the needs of Food Processors where both of them are seen as an important target group of Food Valley.

5.2 What services do companies need most from an Innovation Broker?

First of all a remark should be made about the averages in this study. Importance is measured on a 1-7 point likert-scale and all average scores and most individual scores tend to be very in the middle. Clear results and high loadings were not present in the study, the perceived importance of all activities, services and information sources never had a high average score of more than 5. Therefore results as well as conclusions are based on statements like “a higher importance than” or “less important” whereas before every importance the word relative should appear to stress the fact that results are never very high or low.

The most known and used services tend to be more important for the companies than specialized services. The newsletter, conference and website are of more importance to most companies than custom made market information report. This is unexpected as Food Valley Organization puts lots of effort in the tailor made services.

5.2.1 Different type of companies, different needs

Where the differences between large and small companies are not very visible, with exemption of internationalization business. More interested differences occur looking at type of organization. The different type of companies show significant differences in importance of specific services.

Technology suppliers find the help in obtaining subsidies significantly more important than the Food Processors and the service providers and the same holds for international business.

5.2.2 Function categories and phase in the innovation process

Dividing the products in functional categories shows the differences between the different type of companies even better.

Food Processors are not interested in internationalization as a whole category, this is more important for suppliers of technology. These suppliers of technology are also more interested in Innovation project type of services. Service providers only score high for networking activities. This might implicate that Food Valley is seen by service providers more as a market place than as an innovation broker.

When the innovation phases are the criteria to group the activities technology suppliers score highest in all categories and service providers lowest. The greatest difference is surprisingly found in the release to market phase between Food Processors and Technology suppliers. It can be stated that an innovation broker is important for technology suppliers to market their product and of no importance for a Food Processor often active in the business to consumer market.

The other three groups, Food Processors, Ingredient suppliers and service providers give more/most importance to the idea/generation phase. In this phase most of Food Valley effort can be found. There are less support services for the later stages in the innovation process. This can be seen as a gap in the product portfolio of Food Valley.

5.3 Food Valley's contribution to the companies innovativeness

In the questionnaire the respondents were asked for the influence of Food Valley to their innovation process and second to the importance of Food Valley for their realized innovations.

5.3.1 contribution of Food Valley to the companies innovation process

Most contribution is found in the following three areas: Network, Knowledge and Technology and new market possibilities. Food Processors score highest for all categories with exemption of the new market possibilities. For all other types of contribution scores are low, just between 1.0 and 2.0. Looked at the current Food Valley activities they hardly target this areas. Although subsidies has a strong link with money, this function has not been recognized.

For all these three types of innovations and most of other types of innovations the users of Food Valley services score higher than non-users, so contribution of Food Valley increases with the use of services. For the contribution of Food Valley to the innovation process the largest difference is found between the users and non-users of services in the area of knowledge/technology. This is an area multiple services are targeted at so the score is explainable.

When looked at company type the most contribution is found in the main target group of Food Valley Organization, the Food Processors and the suppliers of technology. The suppliers of ingredients recognize a low contribution, the same level as service providers.

5.3.2 Contribution of Food Valley to the realized innovations

Food valley contributed to one or more innovations of 28 out of 53 respondents. The contribution of Food Valley is highest when it comes to new cooperation, new technologies, new market opportunities and new products. Those four innovation types are all targeted by Food Valley.

The users of Food Valley services out-perform the non-users of services in multiple types of innovations. The largest difference can be found in new market segments, new markets in the Netherlands, new technologies and new cooperation. The differences is larger in radical type of innovation than in the more incremental type of innovations.

5.4 Food Valley Organization as an innovation broker

Much authors put forward the argument that innovation brokers will not serve all companies and will not employ all functions equally. Innovation brokers tend to shape itself. In the case Food Valley this is clearly visible, though they take the role of enhancing innovation seriously. Food Valley contributes in cooperation, new technologies and in the process of idea to realization.

The three broad functions of demand articulation, network formation and innovation process management are all employed by Food Valley Organization.

This study was not yet able to provide a good link between functions and actual activities employed, one of the gaps in literature. Although none of the activities is perceived as very important to the respondents business Food Valley support is recognized in the fields of network creation, development of knowledge and new market segments. These results are in line with literature findings.

The question of how should an innovation broker provide services within the innovation system is still at hand.

5.5 The influence of Food Valley on the innovativeness of companies

The central research question posted in the introduction:

What is the influence of Food Valley as an innovation broker on the innovativeness of companies?

The influence of Food Valley to the innovativeness is not very high but definitely there. As companies do clearly recognize the role of Food Valley in foremost new technologies and besides in new cooperation and possibilities in the chain. For Food Processors realizing ideas can be added. The companies who made use of the specific services indicate a higher number of realized new products, new technologies, new patents and new cooperation. All these innovations are more radical than incremental in nature. Users of Food Valley services score overall higher in all types of realized innovation with exemption of product improvements.

Not clear is how Food Valley influences the companies, the importance of activities, services and information sources is on the 7 point likert-scale never really high (3-5 on average) so it is the combination of all together and being part of the network that might be of importance.

6 Recommendations

I would like to end my thesis with a few recommendations. They are divided in two sections. The first group consists out of a few recommendations for Food Valley and the second section are recommendations for future research.

6.1 Recommendations for FVO

This research is conducted within FVO. Based on the conclusions I would like to point out a few important recommendations.

Optimize the portfolio of services

Most service are single activities. It might be useful to be more involved in research projects, especially if Food Valley Organization is involved in the idea generation phase or in the project set-up. By familiarizing with the latter stages in the innovation process Food Valley might develop new services.

The services offered are of high quality, but when quality is considered as value for money this indicator fails. Services are complementary to the membership and even non-members can receive free services. When Food Valley Organization strives to increase the quality of their services prices should be introduced. As with prices also the expectations will increase. This might implicate a change of culture at Food Valley Organization. On the other hand it will be very motivating to know that companies are willing to pay for the advice of Food Valley.

In 2010 the theme of the Food Valley Conference is: "Money: Revealing Business Models in Food". To my opinion a discussion might be useful about the used business model in innovation clusters, as subsidy is not always the right driver for excellence.

Different companies, different needs

Be aware that different companies need different services. At this moment it seems like members of the type food processor and suppliers of technology are better served than members of the type supplier of ingredients / raw materials and service providers. For the ingredient suppliers a split might be possible between more knowledge driven companies and more volume driven companies. The more knowledge driven ingredient suppliers will behave more like technology providers and the volume driven might behave more like processors.

For the service providers membership seems to be more a marketing tool as a way to increase their own innovativeness by partnerships or product development. For the future it should be more clear what they contribute to the network and what the network contributes to the service providers.

The technology providers indicate an importance in international events and see a contribution of Food Valley in marketing their products. They are interested to develop knowledge and have difficulties in finding markets for their specific products

or services. The IFT expo is a good event for these companies but might be further expanded to international showcases. When Food Valley Organization is abroad they can organize small gatherings with the local processors in which Food Valley members can show what they have to offer.

Food Processors are looking for new product ideas, they can find those ideas by interacting with the technology suppliers as well as ingredient suppliers. At this moment the information is pushed to the Food Processors. It is important that they use the Food Valley network more proactive. Food Processors should be asked to submit input for intervention meetings. These intervention meetings can be held with Food Valley staff and if possible with knowledge partners in the network.

Promote services more.

For the future it is useful to use the well read newsletter or website to promote the available services. At this moment all events are often only mentioned in the agenda. For the specific services Food Valley has to offer you have to search on the website.

23 companies have used 1 or 2 services. This group have actively used their membership of food valley or has used a service as a non-member. This is the main target group to strengthen the network of Food Valley. Why did they only use one service? Are they fit to house an ambassador? Looking for partners to innovate? Keep these companies close as there is room as they are the most interesting leads for new developed services. Personal contact will be very important and they deserve the focus.

The users of services rate the importance and quality of service as good. But non-users do not see the importance. For the importance this can be translated in two ways. It is not important so they do not use it, or it is important but companies do not know because they have not used it. As long as there is no trial the real importance stays unknown to the companies.

Non-members in this research behaved like members, they do not differ in importance, perceived quality or realized innovations. They are invited for the research because they used a service but often visited the conference as well. All nine are small companies or organizations and most of them are food processors. Food processors in the right region but the companies are run as a small scale company (goat farm, green house) and have little added value for the Food Valley network. The bigger question for the future will be how to cope with this type of entrepreneurs, what will Food Valley Organization offer them and are these small scale companies charged for those service as non-members.

6.2 Recommendations for future research

The company perspective approach presented in this research may be a good starting point for other IBs who want to assess the relevance of their innovation brokering activities and services by their target companies. In addition to taking the framework of the three main IB this research used the company's innovation process as a framework to analyze the needs for innovation support. In doing so, we have identified a number of "support gaps" of FVO that were probably missed when taking the IB functions framework only. In addition, by taking a company perspective, more in particular an innovation process perspective, an IB would be able to align its resources better to the needs of their target companies. Future research should, however, point out whether this innovation process perspective is also useful in other contexts, e.g. in other sectors, for other IBs.

This study identified functions not included in the IBs functions framework. In addition to the demand articulation, network composition and innovation process management functions, FVO makes quite some effort in getting downstream market information by food processors and in helping in internationalization for SMEs in general and technology suppliers in particular. FVO turns out to play a major role providing independent market information outside the supply chain to food processors. The high competition level in the agri-food sector, especially between retailers and food processors, might explain the relatively high need for market information. Moreover, being a neutral party, FVO can provide legitimate information for relatively low costs. Given the recent emphasize on the importance of the presence of an impartial party in the (collaborative) innovation process, FVO could become more aware of this "status" and exploit this role also in other services

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Appendix 1 Definitions

Definitions of Theoretical concepts

Innovation

An innovation is 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.

Innovation System (IS)

All societal subsystems, actors, and institutions contributing in any sense to the emergence or production of innovations (Hekkert et al. 2007).

Innovation intermediary

An intermediary organization is an organization or body that acts as agent or broker in any aspect of the innovation process between two or more parties. (Howells 2006)

Innovation broker (IB)

Innovation brokers are facilitators of innovation acting as a member of a network of actors in an industrial sector that are focused on enabling the other actors in the network to innovate (Den Hertog, 2000)

Functions of Innovation brokers

Functions are global issues addressed and not tangible activities, although some functions can be translated into activities easily. EG Function is Network Formation, Activity is Network event.

Activities of Innovation brokers

The activities organized to enhance innovation, services offered and information sources shared by an Innovation broker. Activities are always of a tangible character.

Definitions with regard to the Case Study

Food Valley Organization (FVO)

The organization Food Valley as an innovation broker for companies in the agri-food with a geographical focus to the Gelder Valley.

FVO member

A company with a member status, implying access to all activities, services and information sources in return for payment of contribution.

Food Processor

A company which turns raw materials or semi products in products which are suitable for use by an end user

Technology Supplier

A company providing high tech services, equipment or knowledge to other companies in the chain

Ingredient supplier

A company providing raw materials or semi products to other companies in the chain

Service provider

A company providing non agri-food industry related services to other companies

Appendix II Questionnaire

Food Valley Evaluation

[\[check bullet\]](#) I would like to fill out a new form
[\[check bullet\]](#) I would like to retrieve my (temporarily) saved form
Enter access code

[\[Button\]](#) Continue

This questionnaire has 2 pages containing a total of 9 questions. It should take about 15 minutes to fill in. You may skip any questions that are not relevant to your company, or check the N/A bullet. If a question is unclear, please click on the question mark to see a brief explanation.

1 General information

Company name:

Your name:

Are you a member of the Food Valley Society?* Yes No

[\[bottom of page\]](#)

* required field

2 Food Valley activities

Food Valley Conference

[\[pop up behind question mark\]](#)

Every year, Food Valley organizes a conference featuring interactive workshops and keynote speakers from various organizations in the food industry.

How important is this activity to your company?

1 = not at all important 7 = very important

How often have you taken part?

Never Once Twice More often

How would you rate this activity in terms of quality?

1 = very poor 7 = excellent

Food Valley theme / innovation meetings

[\[pop up behind question mark\]](#)

Food Valley organizes several meetings per year on particular topics. The meeting held on 2 July 2009 was devoted to sustainability and energy consumption. Other topics have included nanotechnology and innovation management.

How important is this activity to your company?

1 = not at all important 7 = very important

How often have you taken part?

Never Once Twice More often

How would you rate this activity in terms of quality?

1 = very poor 7 = excellent

Food Valley Society meetings

[\[pop up behind question mark\]](#)

Food Valley organizes four to six meetings per year for (and in cooperation with) the members of the Food Valley Society. Each of these members-only meetings is hosted by a Society member who can take this opportunity to introduce their company to the other members. Meetings are topical, putting current issues on the joint agenda. In 2009, four meetings were held:

- Food Valley Society @ Keygene N.V.
- Food Valley Society @ Scelta Mushrooms B.V.
- Food Valley Society @ Ziekenhuis Gelderse Vallei
- Food Valley Society @ FrieslandCampina Innovation

How important is this activity to your company?

1 = not at all important 7 = very important

How often have you taken part?

Never Once Twice More often
How would you rate this activity in terms of quality?
1 = very poor 7 = excellent

Food Valley Award

[\[pop up behind question mark\]](#)

Food Valley awards an annual prize to the most distinctive project or initiative in the food industry. Potential winners of the Food Valley Award must stand out in terms of innovation, cooperation and Corporate Social Responsibility. The Food Valley Award winner is announced during the annual Food Valley Conference.

How important is this activity to your company?
1 = not at all important 7 = very important

3 Food Valley Services

Food Valley Market Insights, tailor-made market intelligence

[\[pop up behind question mark\]](#)

Food Valley has access to the Innova Market Insights database containing data on innovations, trends and other relevant food industry developments around the globe. Food Valley offers product development and marketing support by selecting the most relevant innovation for a particular project. Society members can also ask Food Valley to supply specific product or market information for presentations (for more information, see www.foodvalley.nl/marketinsights).

How important is this service to your company?
1 = not at all important 7 = very important
How often have you made use of it?
Never Once Twice More often
How would you rate this service in terms of quality?
1 = very poor 7 = excellent

Food Valley Innovation Link

[\[pop up behind question mark\]](#)

Food Valley's [Innovation Link](#) is a free matchmaking service that finds research institutes with expertise related to your business idea or concept.

How important is this service to your company?
1 = not at all important 7 = very important
How often have you made use of it?
Never Once Twice More often
How would you rate this service in terms of quality?
1 = very poor 7 = excellent

Food Valley Ambassador Program

[\[pop up behind question mark\]](#)

The Food Valley Ambassador program recruits foreign Master's students at Wageningen University and offers them a year-long work experience program at one of the participating companies. The program also offers financial grants to bring promising Bachelor's students to the Netherlands for a Master's program extended by a one-year work placement.

How important is this service to your company?
1 = not at all important 7 = very important
How often have you made use of it?
Never Once Twice More often
How would you rate this service in terms of quality?
1 = very poor 7 = excellent

International services: supporting internationally active businesses

[\[pop up behind question mark\]](#)

Food Valley supports internationally active Dutch agro-food companies, for example by coordinating Dutch participation in the IFT food expo.

How important is this service to your company?
1 = not at all important 7 = very important
How often have you made use of it?
Never Once Twice More often
How would you rate this service in terms of quality?
1 = very poor 7 = excellent
Which countries are you considering expanding to in future?

International services: finding foreign partners

[\[pop up behind question mark\]](#)

Food Valley has a wide international network with numerous contacts abroad. Not only in similar food clusters outside the Netherlands, but also with international businesses and research institutes. Food Valley helps companies in the Food Valley region to establish ties with foreign business and organizations.

How important is this service to your company?

1 = not at all important 7 = very important

How often have you made use of it?

Never Once Twice More often

How would you rate this service in terms of quality?

1 = very poor 7 = excellent

Supporting start-ups

[\[pop up behind question mark\]](#)

Food Valley assists start-ups in finding production facilities and building networks.

How important is this service to your company?

1 = not at all important 7 = very important

How often have you made use of it?

Never Once Twice More often

How would you rate this service in terms of quality?

1 = very poor 7 = excellent

Food Valley Project Development: Assistance in applying for subsidies

[\[pop up behind question mark\]](#)

Food Valley supports parties developing or running innovation projects in the food industry. Services include matchmaking and assistance in applying for available funding.

How important is this service to your company?

1 = not at all important 7 = very important

How often have you made use of it?

Never Once Twice More often

How would you rate this service in terms of quality?

1 = very poor 7 = excellent

Food Valley Project Development: Finding partners in innovation

[\[pop up behind question mark\]](#)

Food Valley supports parties developing or running innovation projects in the food industry. Services include matchmaking and assistance in applying for available funding.

How important is this service to your company?

1 = not at all important 7 = very important

How often have you made use of it?

Never Once Twice More often

How would you rate this service in terms of quality?

1 = very poor 7 = excellent

4. Food Valley information sources

Food Valley website

How important is this as a source of information to your company?

1 = not at all important 7 = very important

How often do you visit our website?

Once a day Once a week Once a month Less frequently Never

How would you rate our website as an information source?

1 = very poor 7 = excellent

Food Valley Market Insights: Top 10 Alert

[\[pop up behind question mark\]](#)

Every month, Food Valley Market Insights highlights the 10 most remarkable product introductions on our website. The Top 10 includes products made using innovative technology or new ingredients and products with a unique market positioning. For more information see

<http://www.foodvalley.nl/Paginas/Innovation/Market%20Insights%20Alert.aspx> How important is this as a source of information to your company?

1 = not at all important 7 = very important

How often do you read our Top 10 Alert?

Every month Sometimes Never

How would you rate our Top 10 Alert as an information source?

1 = very poor 7 = excellent

Food Valley Market Insights: Trend Reports

[pop up behind question mark]

Food Valley Society members regularly receive trend reports on specific topics such as "Satiety", "Towards Sustainable Packaging" en "Traditional: Folklore or Fake Lore". <http://www.foodvalley.nl/fvs/default.aspx> (members log on screen)

How important is this as a source of information to your company?

1 = not at all important 7 = very important

How much use does your company make of this source of information?

1 = very little 7 = very much

How would you rate the trend reports as an information source?

1 = very poor 7 = excellent

5. Contact with Food Valley

Do you consider it important to have a personal liaison at Food Valley?

1 = not at all important 7 = very important

How many different people are you in contact with at Food Valley?

None One Two More than Two

How would you rate the frequency of contact between you and Food Valley?

1 = not often enough 7 = too often

How would you rate the availability of your liaison(s) at Food Valley?

1 = very hard to reach 7 = very easy to reach

Do you have any comments regarding Food Valley activities, services, information sources or contacts?

Which additional activities, services or information sources should Food Valley provide in your opinion?

[bottom of 1st page] Click **Next**. Only click **Store entries, finish later** if you want to continue at a later time.

6. To what extent has Food Valley contributed to innovation in your company?

Please score on a 1-7 scale how Food Valley has contributed to innovation in your company in the following respects:

a) Acquiring new knowledge or technology

1 = contributed nothing 7 = contributed greatly

b) Improving your skills or those of your employees

1 = contributed nothing 7 = contributed greatly

c) Stronger focus on innovation in your corporate culture

1 = contributed nothing 7 = contributed greatly

d) Setting up or expanding a network

1 = contributed nothing 7 = contributed greatly

e) Acquiring funding for innovation

1 = contributed nothing 7 = contributed greatly

f) Making organizational and process changes in order to innovate

1 = contributed nothing 7 = contributed greatly

g) Identifying new opportunities in existing or emerging markets

1 = contributed nothing 7 = contributed greatly

h) Access to highly-trained personnel

1 = contributed nothing 7 = contributed greatly

i) Turning ideas into results

1 = contributed nothing 7 = contributed greatly

j) Housing or expanding production facilities

1 = contributed nothing 7 = contributed greatly

k) In another way, namely:

7 Actual Innovations

Which of the following innovations have been implemented in your company over the past year?

Please check the appropriate box(es). If you have checked a box, please indicate on a 1-7 scale to what extent Food Valley contributed to these innovations.

a) New products or services [checkbox]

To what extent did Food Valley contribute to this?

- 1 = contributed nothing 7 = contributed greatly
- b) Improved products or services [\[checkbox\]](#)
To what extent did Food Valley contribute to this?
1 = contributed nothing 7 = contributed greatly
- c) New market segment; different type of customers [\[checkbox\]](#)
To what extent did Food Valley contribute to this?
1 = contributed nothing 7 = contributed greatly
- d) New foreign market [\[checkbox\]](#)
To what extent did Food Valley contribute to this?
1 = contributed nothing 7 = contributed greatly
- e) Applied for patent(s) [\[checkbox\]](#)
To what extent did Food Valley contribute to this?
1 = contributed nothing 7 = contributed greatly
- f) New technology [\[checkbox\]](#)
To what extent did Food Valley contribute to this?
1 = contributed nothing 7 = contributed greatly
- g) Process innovation [\[checkbox\]](#)
To what extent did Food Valley contribute to this?
1 = contributed nothing 7 = contributed greatly
- h) New cooperative partnerships [\[checkbox\]](#)
To what extent did Food Valley contribute to this?
1 = contributed nothing 7 = contributed greatly
- i) Innovation in the sales chain [\[checkbox\]](#)
To what extent did Food Valley contribute to this?
1 = contributed nothing 7 = contributed greatly
- j) Other, please describe here:

8 Cooperation and Innovation

If you feel that someone else in your organization is better suited to answer this question, please check this box.
Who in your organization should we approach? Name Phone (please include country code)

Are you currently cooperating with other organizations in order to innovate?

[\[pop up\]](#)

In our definition, cooperating is actively working together to develop innovations (new technologies, processes, products or services). This kind of partnership may be, but is not necessarily, laid down in an official contract. In many cases, the partners will share the costs and revenues of innovations.

If you are currently not cooperating in an innovation project, please proceed to question 9.

How important are the following partners for the cooperative innovation project you are currently involved in?

Parent company, holding company, subsidiary, sister company

N/A = did not cooperate 1 = not important at all 7 = very important

Please check the box if Food Valley played a role in bringing your company and this partner together.

Buyer (customers, buyers of your products or services)

N/A = did not cooperate 1 = not important at all 7 = very important

Supplier of raw materials (supply chain)

N/A = did not cooperate 1 = not important at all 7 = very important

Supplier of (processing) technology

N/A = did not cooperate 1 = not important at all 7 = very important

Competitor (operating in the same market)

N/A = did not cooperate 1 = not important at all 7 = very important

University

N/A = did not cooperate 1 = not important at all 7 = very important

HBO (higher professional education)

N/A = did not cooperate 1 = not important at all 7 = very important

Research Institution (public or private, e.g. TNO, NIZO, DLO)

N/A = did not cooperate 1 = not important at all 7 = very important

Consultant, consultancy (in innovation)

N/A = did not cooperate 1 = not important at all 7 = very important

Sector-wide organization (e.g. marketing board)
N/A = did not cooperate 1 = not important at all 7 = very important

In which (technological) fields would you like to cooperate in the future?

9 And finally

We would appreciate it if you answered the following additional questions:

We expect our turnover in the next few years to:
1 = decline sharply 7 = increase sharply

Compared to our main competitors, our profitability is
1 = much lower 7 = much higher

Compared to our main competitors, our growth is
1 = much slower 7 = much faster

We have a much shorter time-to-market for our new products than our competitors have.
1 = strongly disagree 7 = fully agree

Do you have any additional questions or comments about this questionnaire?

Do you have any additional questions or comments about Food Valley (unrelated to this questionnaire)?

May we contact you if – based on this questionnaire – we wish to ask you for additional information or clarification?

Phone:

Thank you for your time!

[\[bottom of page 2\]](#)

Page 2/2 Press **Send**. Press **Store entries, finish later** only if you wish to continue at a later time.

[\[Buttons\]](#) Back Save Send