

The image of pig farmers

Pig farmers' reputation among their neighbours.

May 2014

MSc Management, Economics and Consumer studies
B – Consumer studies

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Abstract

Earlier research described that 'Good Farming Star' pig farmers think they have a negative reputation. Several examples show us that conflicts occur between pig farmers and their neighbours. Therefore, this study investigated how neighbours of pig farms value the farms reputation and which factors are influencing that reputation.

The farmers' image and the farmers' reputation among neighbours do not match. The farmers also estimated their reputation among outsiders. This derivative image did not match their reputation either. The sectors reputation is compared with the individual farmers' reputation but it did not match. However, the individual farmer scored more positive than the sector. The sectors reputation does have a positive influence on the farmers' reputation. It is remarkable that the factors living history, distance to farm and relation did not influence the reputation.

Farmers and sector-wide organisations should therefor collaborate in improving the reputation of the complete pig sector. Literature suggests that increasing the experience of outsiders with pig farms using informal communication is a possible method to improve the reputation of pig farmers.

Preface

After finishing the 'Havo' I started with the study Agribusiness and Business Administration at the Hogeschool HAS Den Bosch. This goal of this study was to prepare for a professional career in the field of agriculture. After four years of studying I graduated for this study. Not quite sure what kind of career I was hoping for I decided to continue my school career. The Management, Economics and Consumer studies at the Wageningen University was the most suitable and logical option. Full confident, no, I started with the idea 'let's try it a few months and we will see what happens'.

Here I'm now, about two and a half year later. This thesis will be the end of my master Management, Economics and Consumer studies. The first two years went pretty well. The level was not too high (although my English skills were/are not that good) and my rates were sufficient. The Vion food group enabled me to do my internship at their company and learned me a lot. This research was the last part of the study. Off course, I heard the stories about writing a thesis, but it was worse. After losing the motivation for the subject it was very hard to continue and improve the research. Combining the thesis writing with a part time job and searching for a full time job for after the study helped me to finish the thesis and not going mad. Sadly, this meant some delay in graduating.

Now I'm glad to tell that I've finished my thesis, earned some money for fun things to do and found a job for after my study. So, in the end, everything seems to turn out well.

Special thanks to my internship and thesis supervisor Frans Verhees who often succeeded in motivating me and helped me with the analysis. Anne Marike Lokhorst thanks for all the comments and the help I needed to finish this thesis. Last but not least, I want to thank Harold Theunissen from the Vion food group for his time, help and information during my internship and thesis.

Wageningen, 20 May 2014

Twan van den Brand

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1 Introduction

This research is a continuation on earlier research in the field of pig farmers image (van den Brand, 2013). That earlier study focused on the image of a special group pig farmers and how those pig farmers could influence their own image and reputation. The study recommended exploring the image of pig farmers in the direct neighbourhood of pig farmers because there regularly seem to be conflicts in rural areas between neighbours. How are these conflicts related with the image of pig farmers?

1.1.1 *Examples of conflicts*

Three pig farmers and about seven families were living in the neighbourhood 'de Huijgevoort' in Oirschot. After several years of nuisance and impending expansion of their pig farms the tensions in this neighbourhood ran high. Later, after a new impending expansion of a pig farm the neighbourhood formed a foundation to protest against farm expansions in their neighbourhood. There were already a lot of pigs in a small area and with the upcoming expansions they feared even more nuisance. After years of conflict at the end of 2012 a solution emerged. The municipality Oirschot and the government of Noord-Brabant paid an amount of 2,6 million euro to move one company out of the neighbourhood (Eindhovens Dagblad, 2012; Zembla, 2012) and by means of reducing nuisance and return peace in the neighbourhood.

In Alphen a similar situation occurred two years ago. Citizens blocked the expansion of the neighbours' pig farm. Subsequently, the pig farmer informed the local government about the illegal habitation of the neighbours' farm house. The result is a long lasting conflict between farmer, citizen and government and a spoiled relationship between neighbours (Brabants Dagblad, 2012).

1.1.2 *Public Support on local and national level*

Accordingly, about 14 years after the research of Backus and van der Schans (2000) who told us that there is a lack of public support for pig farms; the examples of conflicts tell us that pig farmers still have trouble with gaining public support, especially in their neighbourhood. Research of Termeer, Dagevos, Breeman, and Hoes (2013) divides "public society" into two levels, the national and local level. They also state that the intensive pig husbandry has a bad image and that the basic problem is the public society that is rejecting the pig sector. Though, there is an important difference between local and national level (Termeer et al., 2013). At local level (direct environment / neighbours) of rejection is based on direct nuisance. This is defined as the implementation of the reconstruction act, building of huge stables and the direct risks for public health. The research showed that environmental arguments, animal welfare or nature / water quality is rarely mentioned in local media. This could be summarized as NIMBY (Not In My Back Yard) behaviour (Termeer et al., 2013). At national level people have other concerns. They care about things like methods of controlling animal diseases, animal welfare, use of antibiotics and public health. Their rejection is in general based on ethical arguments. Note that those conclusions on pig husbandry reputation are based on media research which has its limitations. Pork's taste is for example valued well

and the export of pork is increasing (Termeer et al., 2013). Earlier research mainly focused on perception of livestock systems by consumers on national level (Bos, Eijk van, Goenee, & Lauwere de, 2008; Reisner & Taheripour, 2007; Sharp & Smith, 2003; Sijtsema et al., 2009). The current study will focus on the local level of rejection because the earlier mentioned conflicts occur on a local level.

1.1.3 Importance of public support

Already in 1999 researchers concluded that the Dutch pig sector is losing public support (Backus, Blom, & Frouws, 1999). This was mainly due to the outbreak of the pig flu a few years before which had big impact on citizens. People became suddenly scared and/or conscious about the risks of the intensive livestock and especially the pig sector. In the years after the pig flu outbreak, farmers tried to recover the trust of citizens. In the report of Backus et al. (1999) researchers therefore came up with the term 'licence to operate' to reclaim trust. This means that the individual farmer is responsible for obtaining public support for his company. Backus and van der Schans (2000) noticed at that moment that 'the farmers should create a business plan which helps to create a dialogue with neighbours, citizens and NGO's'. 'Through this dialogue they could inform the public about the risks of their firm'. 'Farmers should be proactive in creating communication channels'. McTavish (2005) stated: 'An informal approach that brings together the farmer and his neighbours to talk, listen and build two-way respect and trust between farmer-neighbour could prevent conflicts to occur'. Conclusion of these studies is that there are various things farmers could and should do. The study of van den Brand (2013) mentioned that farmers also think these suggestions will help them. However, none of these researches asked the neighbours about their thoughts and experience. In other words, little is known about how neighbours perceive the reputation of the pig farm(er). According to Renkema and Hoeken (1997) experience with and informal communication are important factors that influence the reputation of a pig farmer. Informal communication will remain better in one's mind. Either positive or negative informal communication will therefore have influence on the reputation(Renkema & Hoeken, 1997).

1.1.4 Cause of conflicts: communication problems

There are plenty examples of bad relationships between neighbours in rural areas (as shown in the above stated examples). These conflicts usually are the result of a lack (or a stop) of dialogue. This indicates a problem in communication between farmers and neighbours. In earlier research by van den Brand (2013) farmers indicated that they saw this as a matter of 'bad reputation', and that, according to them, 'giving more information about their company' could probably help to improve their reputation in the neighbourhood. In the aforementioned examples farmers start to defend themselves instead of starting a dialogue about the problems and discussing possible solutions. Earlier research by McTavish (2005) concluded that farmers who had conflict-avoidance strategies such as information meetings received fewer complaints. Complaints are often the first sign of a spoiled relationship.

The discussion about mega stables the past few year's causes a lot of confusion among consumers. They want good information about the pros and cons of the intensive livestock (Bokma-Bakker et al., 2011). Generally, the problems appear when a new farm is build or when farmers want to expand or rebuild their company (Bokma-Bakker et al., 2011; McTavish, 2005). Bokma-Bakker et al. (2011) note that most people are not against farmers but they are opposing the increasing industrial character of the sector. They also have little idea of what is happening in the pig farms and what the effects of expansion are (Bokma-Bakker et al., 2011; Verhue, Vieira, Koenen, & van Kalmthout, 2011) That explains why neighbours often start to complain or have requests when a pig farm wants to expand.

1.1.5 Living situation: different interests

Bokma-Bakker et al. (2011) stated that different interest, ideas and thoughts could become a cause of conflicts. Steenbekkers, Simon, Vermeij, and Spreeuwiers (2008) showed that interests in rural areas are changing the last decades. The current process in Dutch rural areas is that more and more agricultural companies are disappearing. About 25 agricultural companies in the whole agricultural field are quitting every week (de Rooij, 2013). Citizen's without an agricultural company settle in these rural regions, or ex-farmers stay living in the same house but without an agricultural company. Therefore more and more citizens are living near the remaining farms. In this research inhabitants without an agricultural firm are described as citizens. Those citizens have another living situation compared to the farmers in their neighbourhood. Those differences in living situations result in different interest between citizens and farmers (Steenbekkers et al., 2008). The research of Simon, Vermeij, and Steenbekkers (2007) stated that citizens described rural areas with idyllic features like scenery and attractive nature. It is remarkable that livestock husbandry is rarely mentioned, while it has a significant footprint in these areas (Simon et al., 2007). In 1997 a research by the Ontario Ministry of Agriculture and Food (OMAF) found correlations between the degree of familiarity between farmer and neighbour, the background of the neighbour (rural or urban), and the potential of complaints and conflicts (McTavish, 2005). When there is lack of dialogue between the citizens and farmers about their interests, conflict situations are more likely to occur. Presumably people knew more about each other's company in the past (eighties), because they had some kind of common knowledge about agriculture. In those years this common knowledge resulted in public support for pig farmers. There were a lot of farmers in the Netherlands and they cared of sufficient food supply which created overall support from citizens (Backus et al., 1999).

1.1.6 Conclusion

To conclude, apparently communication and the relation between farmer and neighbours as well as the history of the relation (experience) are of great importance in the development of possible conflicts. Whereby farmers think that a negative reputation is the cause and informing their neighbours would improve this reputation. Therefore, the goal of this study is to find out how both the image and the derivative image is matching their reputation. The reputation in this study is defined as the farmer's or

farms reputation among the neighbours. Communication (or a lack of) between the neighbours and farmer probably has an effect on their mutual relation. As mentioned before, earlier research by van den Brand (2013) showed that farmers think that 'giving more information about their company' could probably help to create a more positive reputation and prevent conflicts to occur.

1.2 Research objective

Various research has already been done to explore the perception citizens and consumers have of different livestock systems (Bos et al., 2008; Reisner & Taheripour, 2007; Sharp & Smith, 2003; Sijtsema et al., 2009). Also the farmers' opinion about their farm is already known (van den Brand, 2013). This research is focusing on the direct neighbours of pig farms and how they value their neighbours company. The objective of this research is to explore how neighbours of pig farms value the farms reputation and which factors influence that reputation. By comparing the neighbours' opinion with results from earlier research interesting insights of the farmers' position in their neighbourhood might come up.

The following research question is formulated:

"Which factors affect the reputation of pig farms among neighbours and to what extent are these perceptions congruent with farmers' perceived image?"

In order to answer the research question the following sub questions are formulated:

- SQ: 1. What do the concepts of image and reputation mean for pig farmers?
- SQ: 2. How does the reputation match the farmers image?
- SQ: 3. Which factors have a positive effect on the reputation?
- SQ: 4. Which factors have a negative effect on the reputation?

1.3 Reading guide

In the following chapter the theoretical background is provided and earlier research related to the field of this subject will be discussed. A model is designed that explains citizens' formation of perception of pig farms. Also we propose in the model the image perception of the farmer and his position in his environment and the society. The chapter on materials and methods provides the questionnaire that is developed to answer the research question. In this chapter is being discussed how the answers of the questionnaire have been analysed. In the results chapter the outcomes of the research are presented. In the last chapter we summarize the results and compare these results with earlier research results. The discussion and suggestions for further research is provided in the last chapter.

2 Theoretical background

In this chapter the most important theoretical backgrounds of this research will be mentioned. In the first paragraph 2.1 the focus is on the reputation, image and identity concepts because these are important concepts in this research. In the next paragraph 2.2 the focus is on the identity of pig farmers. The pig farmers are subject of the research and an earlier study constituted results that are interesting for this research. In paragraph 2.3 variables that possibly could affect the reputation are explained. Those three paragraphs result in a conceptual model and corresponding hypotheses which will be created and explained in paragraph 2.4.

2.1 Reputation

The subject reputation and especially corporate reputation increased in interest among researchers and managers in the last decades. Nevertheless, there was no generally accepted definition for the term corporate reputation (Gotsi & Wilson, 2001). Although, the term reputation is clearly defined as “the estimation in which one is held; character in public opinion; the character to attribute to a person, thing or action’ repute” (“Webster’s Revised unabridged Dictionary,” 1913). The study of Gotsi and Wilson (2001) shows us that there is a lot of indistinctness about the use of the terms corporate reputation and corporate image. The researchers finally came up with the following definition: ‘A corporate reputation is a stakeholder’s overall evaluation of a company over time. This evaluation is based on the stakeholder’s direct experiences with the company, any other form of communication and symbolism that provides information about the firm’s actions and/or a comparison with the actions of other leading rivals’ (Gotsi & Wilson, 2001). Former research into corporate image (Kennedy, 1977; Martineau, 1958) shows conflicts about the definition and the operationalization of the term ‘corporate image’ (Balmer, 2001; Gioia, Schultz, & Corley, 2000). Anyhow, for companies reputation and image could be valuables and in some cases important assets that companies need to manage (Abratt & Mofokeng, 2001). A positive image can have a positive influence on the management of the company through increasing customer satisfaction and loyalty (Andreassen & Lindestad, 1998), as well as satisfy stakeholders (e.g. neighbours). Image is the sum of experience, impressions and feelings that someone has about a company, person, product or organisation. Image consists of two components, ‘knowledge’ and ‘attitude’. In practice this means that image consist of brand recognition and reputation (van Riel, 2001). Therefore, we further explain the terms reputation, image and identity in paragraph 2.1.1.

2.1.1 Reputation, identity and image

Reputation, identity and image are terms which are often used interchangeably. Indeed the terms are very similar but there is a diminutive difference in meaning. Image is the general used concept that is explained by three components. In Figure 1 a simplified overview of the model (Barnett et al. (2006); van Riel (2001)) is shown. We use this model to answer the first sub question:” What do the concepts of image and reputation mean for pig farmers?”

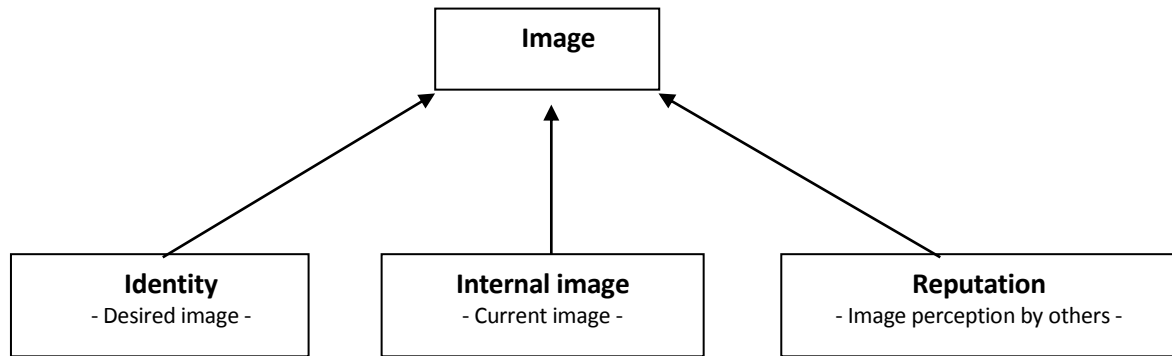


Figure 1: Image model (Barnett, Jermier, & Lafferty, 2006; van Riel, 2001)

Brown, Dacin, Pratt, and Whetten (2006) developed a new model (Figure 2) which explains the interaction between the components. The organization and stakeholders are the most important keys in this model. Stakeholders are all parties who have interests or are involved in the company. For example: Shareholders, customers, suppliers and neighbours. Four different viewpoints between the organization and stakeholder explain the terms.

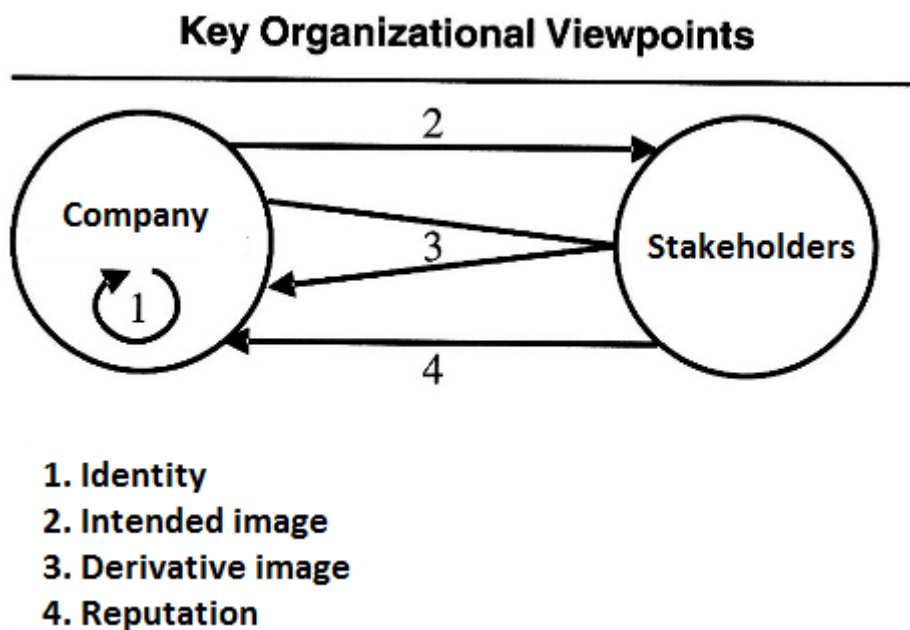


Figure 2: Key organizational viewpoints (Brown et al., 2006)

The first viewpoint explains how the firm is seen by the owner and employees of the company. This is called the identity (1). The intended image (2) is how the company want to be known by their stakeholders. The derivative image (3) is how the company thinks they are known by their stakeholders. The fourth viewpoint is what stakeholders actually think of the organization which is called the reputation (4) of the company (Brown et al., 2006). Herbig, Milewicz, and Golden (1994) formulated reputation as ‘the estimation of the consistency over time of an attribute of an entity’. Therefore it is a multidimensional construct. A company can have different stakeholders and therefore numerous reputations; the overall reputation is based on all those different reputation dimensions.

The influence of a company's reputation which is also called corporate reputation is initially important for companies who have direct contact with customers (Herbig et al., 1994). For example, companies with a high level of service such as consulting firms and financial institutions. However, as mentioned before conflicts often occur when a company (e.g. a farm) wants to expand or rebuild. At that moment the corporate reputation becomes important for those companies as well. Company reputation has been described as the stakeholders estimation about what the firm is, how well the firm conforms to the stakeholders expectations and how its performance fits with socio- political environment (Logsdon & Wood, 2002). Therefore, farmers should be aware of the potential difficulties people have with the system of producing meat nowadays because it is affecting their company's reputation. Whetten and Mackey (2002) formulated company reputation as "a particular type of feed-back received by an organisation from its stakeholders, concerning the credibility of the organisation's identity claims" (Whetten & Mackey, 2002). According to Renkema and Hoeken (1997) the reputation of companies is in general influenced by four factors. The most important factor is the own experiences people have with a company. Positive or negative experiences with a pig farm are influencing their perception of pig farms image and indicate a value judgement. There are several variables that are expected to be part of the experience neighbours have drawing on attribution theory (Folkes, 1988), for example perceived quality, nuisance and reliability of the farmer. The second factor is the informal communication of a company which is also influencing people's perception. Informal communication is everything what is being said or written by people who 'know' the company. The informal aspect of the communication ensures the message will remain better. Therefore it has a lot of influence on people's perception (Renkema & Hoeken, 1997, 1998). The third factor which has an impact on companies' reputation is a media statement. These are mainly articles in newspapers or news messages on television. The last factor which influences the reputation is paid communication. These are for example advertisements or promotional articles. Often this is done by a sector-wide organization. This kind of communication has the least impact on citizens (Michels, 2005).

After 'own experience' three ways of communication (informal, media statement and paid communication) are factors which have influence on the perceived reputation of a company. Gray and Balmer (1998) created a model (Figure 3) that inter alia explains the relation between communication and reputation. In addition to understand the corporates reputation and how it could be influenced, farmers should know their corporate identity and how communication influences those concepts.

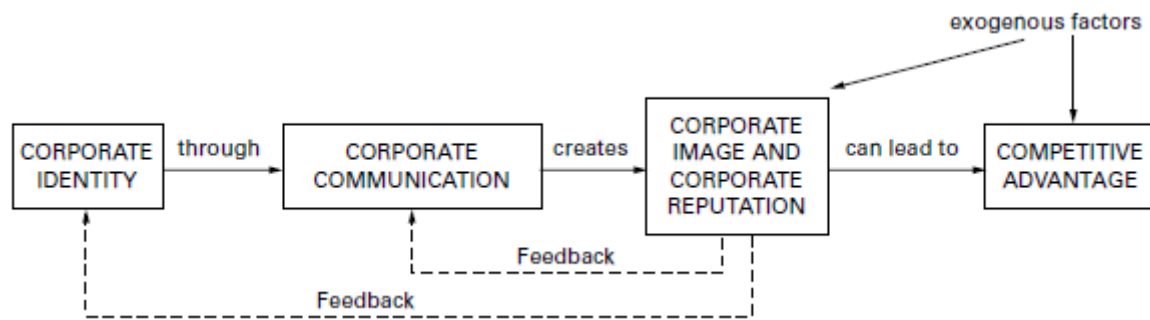


Figure 3: Operational model of corporate reputation (Gray & Balmer, 1998)

The key concepts of the model are the corporate image and corporate reputation. When the firm has a positive image and reputation this may lead to competitive advantages. The model shows that feedback is very important to keep improving the image and reputation of a firm.

2.1.2 Feedback

The influence of feedback in this corporate reputation model is very important. Feedback is necessary to update the firm's owner about the changes of the corporates reputation during time (Gray & Balmer, 1998). In this case with neighbours as important stakeholders it is hard to recognize feedback. Most of the time there are no official feedback moments like questionnaires or meetings. When feedback is given it usually happens during common conversations. It is unknown if the farmer recognizes the feedback in such situations (Corver & Veerman, 2012). However, this feedback could be very helpful for the company for modifying its communication methods.

Often farmers start communicating with their neighbours when they want to expand on the current location. Corver and Veerman (2012) stated that communication with the neighbours is an continuous process. People get suspicious when the communication starts at the moment the company want to expand. Therefore, giving information and receiving feedback should be a continuous process and be independent of expansion plans (Corver & Veerman, 2012).

2.1.3 Corporate communication

As showed in Figure 3, corporate communication is the link between the identity of a company and its reputation. It contains the communication from a firm to its stakeholders. Besides the first line communication it contains also the third and second line communication. This is communication between stakeholders and between stakeholders and outsiders. Those communication influences the company's reputation. Stakeholders could and will be reached by communication through all possible methods and channels. For small company's like pig farms this also includes the behaviour of the owner and employees in their spare time. What is being said or not be said on parties for example could have great influence on people's perception of the firm.

There are many ways and channels which are used by companies worldwide to communicate the firms' identity. Graphic designs such as logo's or advertisements are used to add a visual component to its image. This visualisation makes a company recognizable which is important in communication. Another method of

corporate communication is a formal media statement. This includes mission statements, annual reports and company slogans. Those statements are a manner of potent means of communicating to stakeholders. Other channels of communicating are architecture, media relations and routine interactions. The place, countenance and appearance of a building are giving a lot of information about the company. Publications in the media and interaction with employees are also important sources of information for stakeholders of the company (Gray & Balmer, 1998).

2.1.4 Corporate identity

Corporate identity contains the company's strategy, philosophy and culture. Or simplified 'what the firm is'. The choices that a company has made determine the identity. Some pig farms for example choose to produce meat for the "Good Farming Star" concept in the Netherlands. This concept is characterized by high animal welfare, animal health and reducing antibiotics. Other farmers choose to deliver pigs for traditional meat whereby less attention is paid to those fields. The corporate/product relationship should therefore be in accordance. It defines what is important for the company and therefor explains why particular choices are made. In small firms such as pig farms the identity of the firm often equals the philosophy of its owner (van Riel & Balmer, 1997).

2.2 Pig Farmers identity

The perception that people who are living near a pig farm have about that farm also influences the farmer as has been shown in Figure 2, viewpoint 1. In earlier research about 60 'Good Farming Star' pig farmers are questioned about their perception of their farms corporate identity, internal image and the reputation he thinks he has (van den Brand, 2013). Now it is interesting if the perception of the pig farmer matches the perceptions of their own neighbours. Good Farming Star (GFS) is a Dutch pork meat concept developed by the VION food group in cooperation with the Dutch organisation for animal protection. GFS distinguishes itself by additional actions in animal welfare and animal / human health. Farmers who contribute to this concept have often made an investment to achieve the higher level of animal welfare. Therefore, they are rewarded with a revenue bonus when they sell their animals. The research by van den Brand (2013) is executed among GFS pig farmers because they were a special group of pig farmers who attached more attention to their reputation.

The corporate identity of the farm is the image he (owner) wants to emit to the environment. The farm is positioning itself in the market and wants to express certain norms and values and creates certain goals for his farm. A common value could for example be 'producing healthy pigs' (van Riel & Balmer, 1997). Farmers are searching for resources to express their values and more practical, the way they work. There are several resources and activities which can contribute to this expression. Large projects like view sheds or small projects like inviting school excursions can help to improve the corporate identity of the farm (van den Brand, 2013). There are three important factors that influence the way people accept an particular expressed image (Harris & Chernatony de, 2001). Those three factors are *equality between sector*

members, shared values and communication. In this research we focus on the pig sector which means that farmers should act quite similar, no outliers are permitted because a consumer does not recognize an individual farmer but the sector as a whole. In case of citizens who are living near a pig farm this is a bit different because they recognize that farmer as an individual. Also the shared values are important for farmers, they should agree about e.g. the level of animal welfare and sustainability. The last factor is the communication, farmer should clarify what the sector is doing and being transparent about the way they practice (Harris & Chernatony de, 2001).

The internal image of the farm is the perception the farmer and his employees have of the firm. Often this differs a lot from the perception outsiders have called reputation. Also the corporate identity often differs from the internal image. Many companies think they are doing better than their colleagues, but of course not everyone can do better than average. Interesting for this research is to compare their own opinion with the opinion of their neighbours.

In an earlier study pig farmers are asked to define items which they think are important for their image. In face-to-face interviews different items came up. Those eleven items are shown in Table 1. The first four items are about the characterization of the farmer (van den Brand, 2013). The different definitions emphasize the different character attributes. For example, pig farmers are mainly associated with taking care of animals while an entrepreneur is mainly associated with innovation. The items five till eleven are about the product 'pork and how this meat is produced.

Table 1: Image items of pig farmer and pork

Character attributes	Pork (production) attributes
1. As a pig farmer	5. Animal friendly
2. As a food producer	6. Environment friendly
3. As an entrepreneur	7. Healthy product
4. As a manager	8. Reliable
	9. cheap
	10. High quality
	11. Sustainable

Table 2 shows an overview of the scores given by the farmers. The first column is about the internal image of the farm. In other words, how the farmer rates his own farm at this moment. The second column represents the reputation of consumers and citizens expected by the farmer. The table shows that pig farmers think that consumers/citizens have a more negative image of pig farms (reputation) than the farmers have themselves (internal image) on those seven image factors.

Table 2: Image factors of pig farms

	Internal image (2) (current)	Reputation (3) (consumer/citizen)
As pigfarmer	4,48	4,18
As foodproducer	4,45*	3,53*
As entrepreneur	4,43*	3,27*
As Manager	3,67*	3,05*
As animal friendly	4,48*	3,13*
As environment friendly	4,13*	2,73*
As healthy product	4,75*	3,4*
As reliable	3,88*	3,43*
As cheap	4,63*	3,17*
Off high quality	4,1*	3,40*
As sustainable	4,58*	2,93*
* =< 0,05 Significant difference		

In this research the focus is on the reputation of the pig farm among their neighbours. Therefore, the same image items are used as in the previous research done by van den Brand (2013). This makes it possible to analyse the combination of results. Thereby, some other factors (paragraph 2.3) are expected to affect farmer's reputation. The four factors: Living history, distance, sector reputation and relation are expected to affect the reputation of the pig farms.

2.3 Factors affecting reputation

Pig farmers have a reputation in their neighbourhood which could be positive, negative or somewhere in between. This reputation is not solid but could change over time. During the formation and change of the reputation several factors probably influences that process. Former research shows that farmers who are living at the same place for years, farmers with small companies and farmers who had more interaction with neighbours were seen as less controversial by those neighbours (Reisner & Taheripour, 2007). Other research tells the degree of acceptance in their direct environment is depending on the degree of relations with their neighbours (Sharp & Smith, 2003). For example, the study of McTavish (2005) describes the results of a 1997 survey in Ontario, Canada. The research showed that there are factors that directly correlate with the farmer-neighbour relation (McTavish, 2005). In this paragraph the possible influence of those factors on the relation between farmer-neighbour will be described.

2.3.1 Living history

The living history is the history of places where someone has lived during his live. Each place has its own characteristics and experiences for the citizen. Especially the experience with an environment is important for the bond with that place (Steenbekkers et al., 2008). Experience and informal communication are

important influences of persons (Renkema & Hoeken, 1997). Therefore, it seems logical that the experience with a place also has influence on the perception of the environment and especially of a nearby pig farm. Steg and Buijs (2004) concluded that this effect is strengthened when that place has a clear identity. Information given by or a conversation with a farmer is also a type of informal communication (Renkema & Hoeken, 1997). It seems likely that people who were living longer in the same place had also more conversations with the neighbours.

The difference in living history can be defined as new entrants, old entrants or natives (Steenbekkers et al., 2008). The new entrants are people who are moved to this region in the last five years, before that, they have lived in another region or village. The old entrants are living in this region for more than five years but they have not lived there their entire life. The natives are born and/or raised in this region. People who moved to the new area could also be coming from another rural area.

There are important differences between these three groups of rural citizens. For example, their identity because new entrants living in a rural area feeling themselves an urban citizen instead of a rural citizen. Also old entrants and new entrants even more are higher educated than natives. Those natives have in general also a higher age (Steenbekkers et al., 2008). This could influence the perspective of people living in these rural areas near a pig farm.

2.3.2 Distance

The physical distance from the neighbour to the farm could have an influence on the reputation. People who are living close to a pig farm usually experience more nuisances such as noise, smell and sound from the farm. Therefore, the assumption is made that a smaller distance between farm and neighbour results in a more negative reputation.

2.3.3 Relation

The study of social interaction between two persons is an important basis of social psychology. Several issues in social psychology such as person perception, pro-social behaviour and persuasion can be viewed from a dyadic perspective (Kenny & La Voie, 1984). Therefore, social interaction is a variable that could influence the relationship between neighbour and farmer. Social interaction between two persons consists of three effects denoted as actor, partner and relationship effects (Kenny & La Voie, 1984). The actor effect refers to the average level of behaviour in the presence of a variety of other partners (Kenny & La Voie, 1984). The partner effect refers to how much behaviour a person elicits from others consistently (Kenny & La Voie, 1984). So the average reaction given to a person is the partner effect for that particular person (Kenny & La Voie, 1984). The behaviour against others will not be totally explained by the knowledge of how they relate or what response elicits. The unique relationship between the two persons also influences the response to one other. This is called the unique adjustment and is referred to as the relationship effect (Kenny & La Voie, 1984). In other words, when A's behaviour toward B cannot be explained by A's actor effect or B's partner effect we speak of the relationship effect (Kenny & La Voie, 1984). Those three effects

probably also count in a farmer-neighbour relationship. They show which processes are influencing this relationship from a dyadic perspective. The kind of relationship therefore is apparently a variable in the image perception of neighbours.

Assumed is that in 'normal' circumstances neighbours are seeing each other regularly. For example, they greet each other on the street or join each other's birthday party. Those neighbours have a more positive perception of the farm than neighbours who barely know each other. It is known that farmers who have conflict-avoidance strategies receive fewer complaints from their neighbours (McTavish, 2005). The same study states that offers of assistance and one-to-one conversations can prevent problems (McTavish, 2005). Therefore, the intensity of the relation between neighbour and pig farmer has possibly an influence on the reputation.

2.3.4 Sector reputation

Another possible variable that could influence the reputation is the reputation of pig husbandry in common. In the study of van den Brand (2013) farmers mentioned that a lack of knowledge by customers and citizens of pig husbandry has a negative impact on their image. Furthermore, a negative perception of the pig sector probably also affects the neighbours pig farm. Lot of researchers described subjects which are very important for the sector (Beckers et al., 2004; Bokma-Bakker et al., 2011; Dagevos & de Bakker, 2013; LTO, 2006; Poelsma-post, Vaal de, & Lemaire, 2001; Termeer et al., 2013; Verhue et al., 2011) and have social implications. It is likely that those themes also have their influence on individual farmers. Possibly the image of an individual farmer is inferior of the sectors image. In that case the farmer is depending on the sector to improve its image.

2.4 Research model

As described in the literature the image of a pig farmer consists of three aspects (identity, internal image and reputation). In the study done by van den Brand (2013) these three aspects are measured among Good Farming Star pig farmers. The companies' identity which can be described as the image it wants to emit to its environment. In this study defined as 'Farmer identity'. The internal image which is the farmers own perception of its company. In this study defined as 'Farmer image'. The reputation is the by GFS pig farmers estimated perception that outsiders have about the company. In this study defined as 'Farmer derivative image'. Those three aspects are shown as the upper three pillars in Figure 4. The arrows between those three pillars show that the farmers' identity influences the farmers' image and the farmers' image has influence on the derivative image. These relations will not be measured because this already has been done in the prior study.

This research is focusing on the farmer's reputation observed by their own neighbours. Therefore, it will be defined as 'reputation' in this study. While the results of this research will be compared with the study of van den Brand (2013) the measured items of the aspects farmers Identity, farmers image, farmers derivative image and reputation should be the same to make it possible to analyse the results. The first

hypothesis is about the differences between farmers' image and the reputation and formulated as: 'The pig farmers' image matches the reputation'. The second hypothesis is formulated as: 'The reputation matches the farmers' derivative image'.

The third hypothesis is about the sectors reputation. We presume a relation between the reputation of the farmer among their neighbours and the pig sector. The hypothesis is formulated as: 'The sectors reputation matches the reputation'. Based on the literature, there are other variables that are presumed to influence the reputation. Those variables are shown in Figure 4 as well and the associated hypothesis four is formulated as: 'Each of the external factors influences the reputation'.

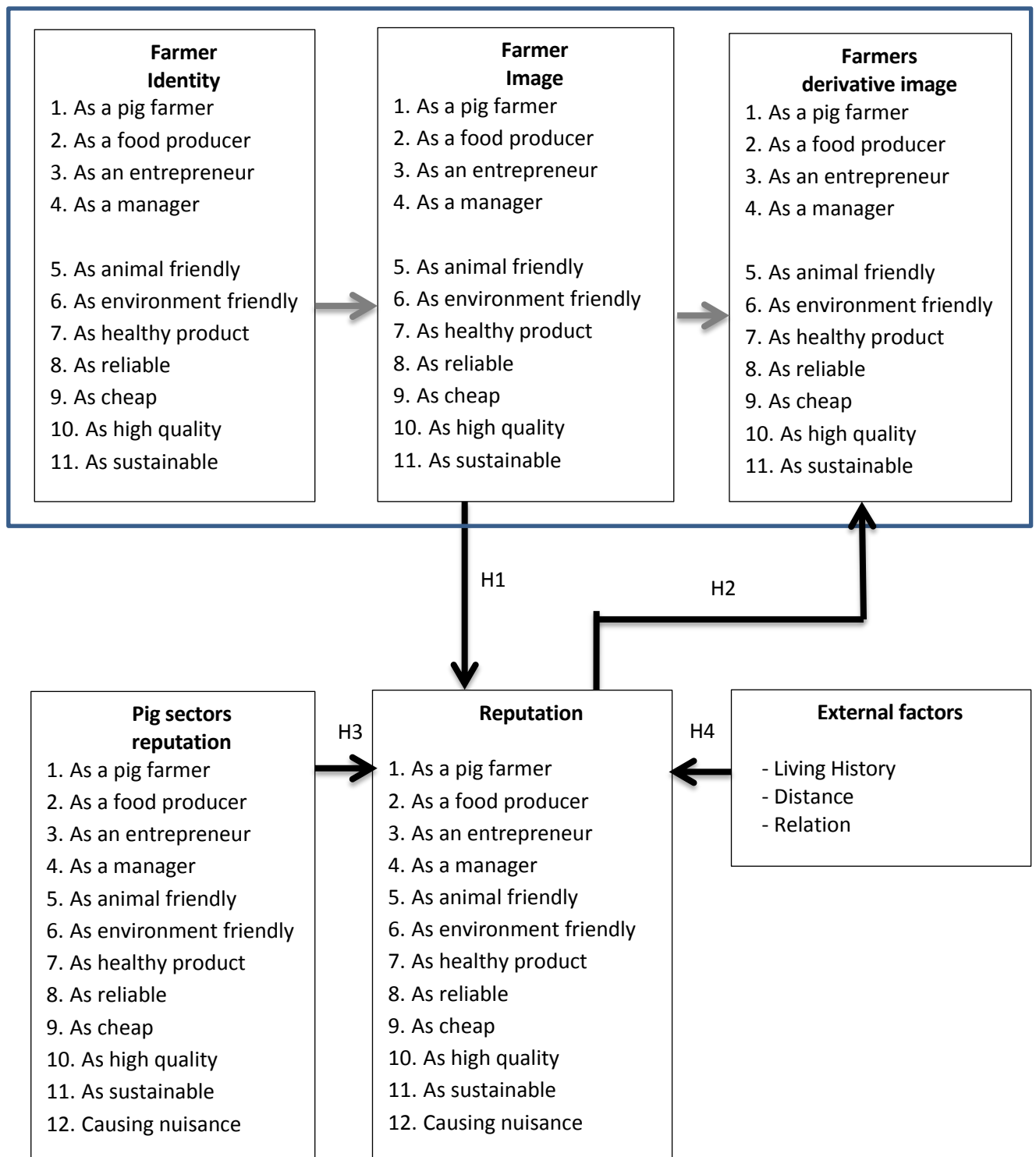


Figure 4: Research model

3 Materials and Methods

The aim of this chapter is to give a description of what needs to be applied in the research to come up with an answer to the research question.

3.1 Method

The research started with a qualitative research to test if we were measuring all dimensions of reputation. The questionnaire was presented personally to the respondents in order to receive any comments and/or explain ambiguities. The quantitative research is executed by a questionnaire and are prepared with output from the qualitative research.

3.1.1 Qualitative research

The first goal of this qualitative research was to complete the variables to measure reputation. The qualitative research is used to check if all reputation dimensions are measured. The second goal was to pre-test the questionnaire of the quantitative research. Problems with unclear questions or unclear answers could be obviated with a pre-test. The qualitative research also helped to interpret the results of the quantitative research through observation and comments when respondents were filling in the questionnaire.

3.1.2 Quantitative research

Earlier research and available literature are used to define and formulate a questionnaire for quantitative research. The survey was sent to people living near a Good Farming Star pig farm. In an earlier study, van den Brand (2013) collected data about reputation from those Good Farming Star farms. In this research the data was collected from neighbours of those companies. The database is analysed and compared with the data from earlier research. The survey of this study is attached in Appendix I.

There are several methods known for measuring a company's reputation. The so called 'likert-scale' asks the respondent for a rating on a five or seven point scale and is therefore useful to obtain scores on reputation items. Respondents needed to rate the reputation items on a five point scale. This method creates space for nuance the rating of a reputation item. The seven point scale method makes it harder to distinguish the difference between two points.

3.2 Operationalization

The items which are measured in the questionnaire are similar to the factors used in the study by (van den Brand (2013)). This is necessary to compare the results of both studies. The list is expanded based on the results from the qualitative research. As a result the item 'causing nuisance' is added. An overview of the items is shown in Table 3. Respondents were asked to rate those items on a 5-point likert scale which is also shown in Table 3.

Table 3: Measuring reputation

	Certainly no (1)	No (2)	Neutral (3)	Yes (4)	Certainly yes (5)
1. As a pig farmer	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
2. As a food producer	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
3. As an entrepreneur	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
4. As a manager	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
5. As animal friendly	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
6. As environment friendly	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
7. As healthy product	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
8. As reliable	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
9. As cheap	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
10. As high quality	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
11. As sustainable	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
12. Causing nuisance	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

From the theoretical framework other variables that are probably influencing the reputation are distinguished. Those variables are:

3.2.1 Living history

The living history was measured by the scale developed by Steenbekkers et al. (2008). The respondents were asked to which category they belong. The three categories are:

- New entrants (≤ 5 years living in this neighbourhood)
- Old entrants (> 5 years, but not their whole live in this neighbourhood)
- Natives (Born or raised in this neighbourhood)

3.2.2 Distance

The distance between farm and neighbour was measured in meters. The respondents are asked to estimate the distance between their house and the neighbours' farm. We both asked the distance by road and as the crow flies. The distance is measured in Meters and converted in Kilometers.

3.2.3 Relation

There are several methods to study the relation among two people. In this study we want to know if a stronger or better relation has an effect on the ratings of the neighbour. Therefore we have chosen for asking the respondents to rate their friendship on a 5-point likert scale. The respondents were asked to rate the relation with the neighbour farmer on three items. These items are 'as friendly', 'regularly contact' and 'as good' as shown in Table 4. By comparing the scores of those three items an overall score of the relation is obtained. The respondent was asked: 'How would you describe the relation with your neighbour farmer?'

Table 4: Measuring relation between neighbour and farmer

	Certainly no (1)	No (2)	Neutral (3)	Yes (4)	Certainly yes (5)
1. As friendly	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
2. With regularly contact	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
3. As good	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

3.2.4 Pig sector reputation

The (pig) sector reputation is measured in the same way as the reputation. Respondents are asked to rate the Dutch pig sector on the same image items as shown in Table 3.

3.2.5 Farmers identity, image and reputation

As mentioned before the results of an earlier study by van den Brand (2013) are used in combination with the data of this study. The former study asked Good Farming Star farmers to rate their farms Identity (The image they want to emit to outsiders), Image (The way they value their own company) and reputation (How they think that outsiders perceive their company). In this study these are defined as farmers' identity, farmers' image and farmers' derivative image. Each of them consists of the first eleven items as shown in Table 3, the item 'causing nuisance' is not measured among farmers. Respondents had to rate those items on the same 5-point likert scale.

3.3 Sample

In earlier research about 150 Good Farming Star pig farmers are asked to fill in a questionnaire with questions about their perception and thoughts on their farms image (van den Brand, 2013). Those companies are spread over the Netherlands but as well as the whole pig sector mainly focused in the south of the Netherlands. In this research we investigate inter alia the relation in results between pig farms and their neighbours. To gain the most interesting results we focus on neighbours of farms that have completed the questionnaire from the earlier research. Because the information could be sensitive it is important to take care of anonymity of the participants in this and the earlier research. The datasets could be linked but it is impossible to trace back the result to a specific farm or participant.

3.3.1 Procedure

In a random procedure a few farms are selected for the research. Around every farm about two to three neighbours are asked to participate in the research. This result in a dataset of 122 respondents linked with the dataset of 58 farmers. In the description of the questionnaire we explain that earlier research at the farm is done and we will explain the goal of this research. They are asked to fill in the questionnaire and received an instruction to do so. The participants were told that the results of individual participants will only be known by the researcher and cannot be linked to their individual answers.

3.4 Analysis

3.4.1 General

After receiving the data first the results were studied. With frequency tables irregularities in the dataset were checked; e.g. outliers or missing values. If necessary those respondents are removed from the dataset. In this study it was not necessary to remove any data. After checking the dataset the scale was validated. By running a factor analysis there is searched for an underlying structure between the factors of the variables 'relation' and 'distance'. The factor analysis searches for a few underlying factors among the measured factors based on patterns and correlations. When the dataset was restructured the hypotheses were tested.

3.4.2 Internal consistency

The research model in chapter two is showing which external variables are probably effecting the reputation. These independent variables are the farmers' identity, living history, distance, sector reputation and the relation. For the variables distance ($\alpha = 0.933$) and relations ($\alpha = 0.880$) the Cronbach's alpha is used to measure the internal consistency. As expected both measures have a high internal consistency. Therefore the mean scores on these items are used as the executed variables.

3.4.3 Testing hypothesis

The first two hypotheses (1: 'The pig farmers' image matches the reputation', 2: 'The reputation matches the farmers' derivative image') are developed to answer sub-question two. Those hypotheses are tested using a paired t-test. The means are compared to see if there are significant ($p < 0.05$) differences between the reputation and farmers derivative image.

The third hypothesis (The sectors reputation matches the reputation) is also tested using a paired t-test. The mean scores are compared to see if there are significant ($p < 0.05$) differences between the sectors reputation and reputation.

In order to test Hypothesis 4 (Each of the external factors influences the reputation) a linear regression analysis is executed with reputation as the dependent variable and Farmers image, Living History, Distance, Relation and Sector reputation as the Independent variables. The reputation exists of the twelve image items as shown in Table 3. The R^2 indicates to which extent the model explains the dependent variable. The unstandardized B coefficients indicate the degree of influence of the variable. When the value of the dependent variable increases with 1 point; the independent variable increases with the value of the B coefficient. Before testing the hypotheses, the model assumptions of independence, equal variance and normal distribution were checked and approved.

4 Results

In this chapter the results of the research will be presented. The results will be discussed based on the research question and sub-questions. The research question was formulated as: *“Which factors affect the reputation of pig farms among neighbours and to what extent are these perceptions congruent with farmers’ perceived image?”*

The first sub-question has already been treated in paragraph 2.1.

- SQ: 1. What do the concepts of image and reputation mean for pig farmers?
- SQ: 2. How does the reputation match the farmers image?
- SQ: 3. Which factors have a positive effect on the reputation?
- SQ: 4. Which factors have a negative effect on the reputation?

4.1 How does the reputation match the farmers image?

The first interesting result is if the farmers’ image matches the reputation. In Table 5 the mean scores of the different variables are shown. The marked (*) numbers differ significantly ($p < 0.05$) from the reputation score. The mean scores of the farmers’ image are higher than the means scores on the reputation items. This means that the farmer gave himself higher scores on all the image items than the neighbour did. All the mean differences are significant ($p < 0.05$) which tells us that the reputation does not match the farmers image. Also interesting are the items with the highest differences in means. The farmer and neighbour clearly disagree on the items ‘High quality’, ‘Reliable’ and ‘Animal friendly’. The farmer is a lot more positive about these items than the neighbour is. The scores on the item ‘cheap’ are most similar but do still differ significantly. The first hypothesis “The pig farmers’ image matches the reputation” is rejected. The pig farmers image and reputation do not match.

It is interesting that the farmer rated his own farm significantly higher than the neighbour did. He is more positive on all the image items. This means that there is a gap between the image/reputation perception of farmers and neighbours. For example, farmers think their pig (meat) is a high quality product while neighbours are more negative about the quality of the pig (meat).

Table 5: Comparing means of Farmers image, farmers derivative image, pig sectors reputation with the reputation

	Paired samples t-test			Reputation
	Farmers image	Farmers derivative image	Pig sectors reputation	
Pig Farmer	4,48*	4,16*	3,71	3,52
Food producer	4,46*	3,49	3,11*	3,48
Entrepreneur	4,44*	3,25*	3,25*	3,59
Manager	3,46*	3,05*	2,63*	2,19
Animal friendly	4,48*	3,06	2,75*	3,17
Environment friendly	4,12*	2,68*	3,01*	3,46
Healthy product	4,6*	3,41*	3,15*	3,78
Reliable	4,76*	3,45*	3,07*	3,44
Cheap	3,9*	3,20	3,02*	3,32
High quality	4,66*	3,39*	3,02	2,97
Sustainable	4,09*	2,88*	3,09*	3,44
Causing nuisance	-	-	2,93*	2,51
N	58	122	122	122
* =< 0,05 Sig. difference with reputation				

In Table 5 the difference in farmers' image and reputation was shown. Anyhow, in the study of van den Brand (2013) the farmers is also asked how they think that others will rate their company. They estimated the reputation of their company by others, in this study defined as farmers' derivative image.

In Table 5 the results of those means comparisons is shown. The items 'food producer', 'animal friendly' and 'cheap' are showing us that the farmers had a good idea about how others were thinking about their company. Anyhow, for all other items there is a significant ($p < 0.05$) difference in scores. The farmer was wrong about how he thought that his farm scored on these items. Therefore, the second hypothesis (The reputation matches the farmers' derivative image) is partly rejected. The reputation only matches the farmers derivative image for the before mentioned three items.

As shown, farmers and neighbours have other opinions about the farm. These results also show us that the farmer also estimated his reputation wrong. The farmers already thought that others would rate them lower than they did themselves. However, for the items 'pig farmer', 'manager', 'reliable' and 'high quality' the neighbours rated even lower as the farmer had estimated. Especially for the items 'reliable' and 'high quality' it is remarkable that the scores are lower than estimated by farmer.

The respondents is asked to rate the sectors reputation on the same image items. Comparison of the mean scores on sector reputation and reputation gives us information about the position of individual farmers. On most items the mean scores are higher for the reputation. This means that the neighbour is more positive about their neighbour farmer than about the sector on those items. Only the items 'manager' and 'causing nuisance' scored significant ($p < 0.05$) higher means for the sectors reputation. In case of the item 'causing nuisance' this is important because it means that neighbours experience less

nuisance from their neighbour than from other farmers. The largest difference in scores between sectors reputation and reputation is on the item 'Healthy product'. Neighbours apparently think that the pork of their neighbour farmer is healthier than pork in general. The third hypothesis 'The sectors reputation matches the reputation' is rejected, except for the items 'pig farmer' and 'High quality'. For almost all items there is a significant difference in mean scores. This means that the respondents think different about their neighbour farmer than the pig sector.

The results show us that the farmer is doing better as individual than the sector due to the neighbours. Off course, this could be because know their neighbour farm probably better. This is positive because it means that when they know a company better they will perceive it more positive in general. It is also possible that they give socially desired answers to 'protect' their neighbour.

4.2 Which factors have an effect on the reputation?

The research model in chapter two is showing which variables are probably influencing the neighbour's perception. In Table 6 the output of the regression analysis is shown. All regression analyses have a significant F-value ($p < 0.05$) which tells us that the model has explanatory power.

The model explains for almost all variables, except for 'as pig farmer' and 'cheap', for more than 50% the variance in values (R^2 is higher than 0.50). Sector reputation has a significant ($p < 0.05$) positive influence on the scores of all items of the reputation. This means that sectors reputation is influencing the reputation. The results in Table 6 are giving doubts about the causality of the sectors reputation in relation with the reputation. Therefore, the analysis is also executed without the variable sectors reputation. In Table 7 the results of this analysis are shown. We expected significant coefficient for the independent variables. However, the results show that the model hasn't any explanatory value without 'sector reputation'.

The variable 'Living history' has a negative influence ($p < 0.05$) on the reputation item 'as a food producer' which means that the longer people are living in the neighbourhood they perceive their neighbour less as food producer. The variable 'Relation' has a negative influence ($p < 0.05$) on the reputation items 'High quality' and 'Causing nuisance'. This is an interesting result because it means that if the relation with the farmer is better this has a negative influence on the item 'High quality'. They also experience fewer nuisances when the relation is better. This implies that a better relation could reduce conflicts about nuisance. The fourth hypothesis (Each of the external factors influences the reputation) is partly rejected; only the external variable 'sectors reputation' is influencing the reputation. When neighbours know more about the pig sector in general they will react more positive on all image items. This result is consistent with the opinions from farmers in the study of van den Brand (2013) where the farmers suggested that people will be more positive about pig farmers if they have more information about the industries work. However, it is interesting that although the sector has influence the sectors reputation scored lower than the individual farmer reputation. The positive effect of the sector is apparently projected on the individual farmers. The other variables only influence the reputation on a few items as shown in Table 6.

4.3 Answer research question

The research question is answered by answering the sub questions. The research question was formulated as: *“Which factors affect the reputation of pig farms among neighbours and to what extent are these perceptions congruent with farmers’ perceived image?”*

The conclusion is that the farmers’ image and the reputation don’t match. Whereby, the farmers’ image is more positive than the reputation.

The farmers’ derivative image matches the reputation only on the items ‘food producer’, ‘animal friendly’ and ‘cheap’. The other items differ significantly ($p < 0.05$). The farmers derivative image is significantly ($p < 0.05$) more positive than the reputation on the items ‘Pig farmer’, ‘Manager’, ‘reliable’ and ‘High Quality’. This means that the farmer expected higher scores than the neighbours actually gave. In general, the conclusion is that the farmers’ derivative image does not match the reputation.

Only the items ‘pig farmer’ and ‘high quality’ match in the score comparison of sectors reputation with reputation. Therefore we can conclude that the sectors reputation and the reputation do not match. In general the scores of the reputation are more positive than the scores on sector reputation except for the items ‘Manager’ and ‘Causing nuisance’.

The pig sectors reputation is positive influencing the reputation for all image items. The other factors only have influence for some items. Therefore, the conclusion is that only sectors reputation is affecting the pig farms reputation.

Table 6: The influence of farmers' image and external factors on the reputation.

	Unstandardized B coefficients											
	Dependent variable: Reputation											
Independent variables:	As pig farmer	As food producer	As an entrepreneur	As a manager	Animal friendly	Environmental friendly	Healthy product	Reliable	Cheap	High quality	Sustainable	Causing nuisance
Farmers image	-0,15	-0,08	-0,05	-0,09	0,18	-0,06	0,18	-0,19	0,04	0,22	-0,03	-
Living History	-0,19	-0,201*	-0,04	-0,06	-0,05	0,02	0,01	-0,07	0,04	-0,08	0,09	0,05
Distance	0,07	-0,301*	-0,17	-0,02	0,02	-0,07	0,08	-0,12	-0,01	-0,20	-0,13	-0,548*
Relation	0,12	-0,04	-0,01	0,09	0,06	-0,05	-0,02	0,06	0,05	-0,167*	0,02	-0,445*
Pig sectors reputation	0,344*	0,465*	0,685*	0,716*	0,655*	0,669*	0,564*	0,557*	0,536*	0,633*	0,495*	0,573*
R²	0,15	0,52	0,66	0,71	0,63	0,70	0,68	0,51	0,49	0,57	0,57	0,61
F	3,984*	25,279*	44,741*	55,334*	38,975*	54,096*	49,809*	23,998*	22,471*	30,764*	30,176*	45,628*
N	122	122	122	122	122	122	122	122	122	122	122	122
* =< 0,05 Sig.												

Table 7: The influence of farmers' image and external factors on the reputation without the variable sector reputation.

	Unstandardized B coefficients											
	Dependent variable: Reputation											
Independent variables:	As pig farmer	As food producer	As an entrepreneur	As a manager	Animal friendly	Environmental friendly	Healthy product	Reliable	Cheap	High quality	Sustainable	Causing nuisance
Farmers image	-0,12	-0,06	-0,09	-0,07	0,22	-0,08	0,489*	-0,24	0,08	0,36	0,14	-
Living History	-0,14	-0,22	-0,25	0,04	-0,01	-0,09	0,11	0,04	0,15	-0,04	-0,07	0,04
Distance	0,08	-0,35	0,13	-0,03	0,03	-0,505*	0,31	-0,11	-0,11	-0,26	0,03	-0,27
Relation	0,17	-0,09	-0,16	0,15	0,11	-0,01	0,05	0,08	0,16	-0,07	0,03	-0,866*
R²	0,04	0,06	0,05	0,02	0,02	0,04	0,09	0,02	0,03	0,05	0,02	0,32
F	1,06	1,94	1,46	0,55	0,61	1,19	2,78*	0,46	0,99	1,41	0,63	18,61
N	122	122	122	122	122	122	122	122	122	122	122	122
* =< 0,05 Sig.												

5 Discussion and Conclusion

In the discussion of this study the focus is on the explanation of the results. The results will be interpreted and the theoretical and practical implications of the results will be explained. This research also has its limitations and requests some questions for further research. We end with the conclusion of the research.

5.1 Summary of results

The results show us that there is no match between the farmers' image and reputation. The neighbour of the farmer has another perception of the farm than the farmer himself. This is interesting because it implies that there is a gap in image perception between the farmer and the neighbour. The farmers' derivative image does not match the reputation either. However, at the start of this research we already mentioned that farmers think they have a bad image. Therefore it is interesting to see that the estimation of their image was wrong. The neighbours were in general more positive than the farmers had estimated (the derivative image). This means that the farmers have not right ideas about their own reputation. However, the real reputation scored higher than the estimation of the farmers. The 'bad image' of pig farmers therefore seems to be less severe than thought.

Also the sectors reputation and reputation do not match. Apparently, the neighbours think different about the pig sector in general and individual farmers. The neighbours are more positive about the neighbour than the sector. However, their opinion about the pig sector is influencing the reputation positively. Therefore, a more positive perception of the sector will also help the individual farmer's reputation.

5.2 Implications of research

5.2.1 Theoretical implications

In paragraph 2.1.1 we presented a model (Brown et al., 2006) that explained the relation between a company and shareholders such as neighbours in terms of identity, image and reputation. In this research we studied if the image perception of farmer and neighbour match. In Figure 5 an version adjusted for this study of the model of Brown et al. (2006) is shown. The farmer has his ideas and thought about his own farm which we call the farmers identity. In an optimized situation the neighbours have exactly the same ideas and thoughts about his farm. In that case the farmers' image (2) and the reputation (4) are matching.

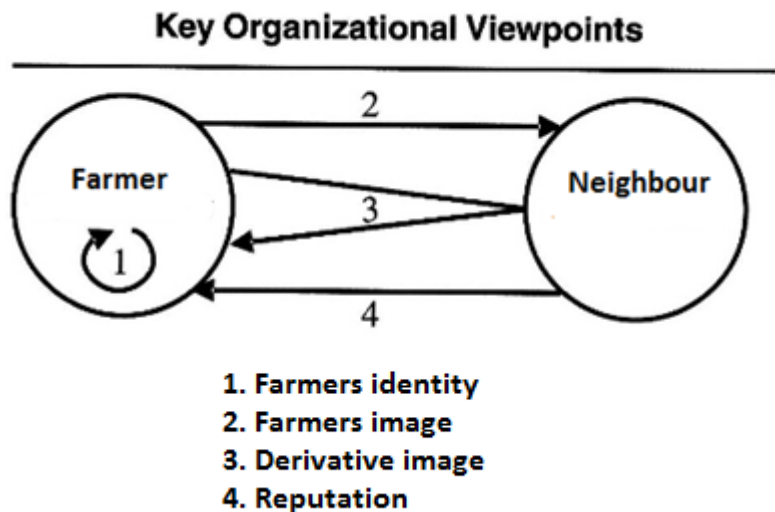


Figure 5: Adjusted viewpoints of farmer and neighbours (Brown et al., 2006)

The first result of the study is that the reputation does not match the farmers' image. Therefore, the conclusion is that there currently is not an optimal situation. However, it is possible that neighbours do not know enough about the company to give realistic scores. On the other hand, the neighbours formed an opinion about it for some reason. That opinion is also part of the development of the reputation and therefore relevant for this study.

The second result of the study is that the reputation and the farmers' derivative image do not match either. Not only do the farmers have other ideas and thoughts about their companies, they also misjudged the ideas and thoughts others have of their companies. This could be the basis of the conflicts we noticed in the introduction of this study. Bokma-Bakker et al. (2011) mentioned that differences in interests and ideas in rural areas are a possible cause of conflicts. Research of Verhue et al. (2011) shows that only a small group of citizens has an outspoken opinion about issues in the pig sector (e.g. 13% is in favour of 'Mega stables' and 17% is against 'Mega stables'). About 60% of the respondents did not have a conclusive opinion. This contributes to the idea that farmers and citizens do not understand each other and have different ideas, thoughts and interests.

The next question to be asked is why the image and reputation do not match. According to Brown et al. (2006) owners of a firm can develop an intended image that has the potential to become adopted by stakeholders, in this case the reputation. The farmer can influence the adaptation of his image by communicating about it in a particular way. By emphasizing particular image aspects they can become more salient for neighbours (Brown et al., 2006). However, this study shows that the farmers' image does not have an influence on the reputation. Apparently, farmers do not succeed in transferring their ideas and thoughts to their neighbours. There is a problem in communication and different causes are possible which are not studied in this research. Bosco, Bucciarelli, and Bruno (2003) stated: 'The discrepancy between the actor's meaning and the partner's interpretation is the central defining feature of misunderstanding'. This is probably the core problem. The farmer has an idea about how his farm is operating and wants to transfer that message to others. The results of this study clearly show that neighbours do not have the same idea, which implies that something is going wrong.

Possibly the farmer is not able to communicate well about his image. This misunderstanding in communication could have various causes. Linguistic communication is an interactive process where failure occurs when the felicity conditions are not satisfied. Unsuccessful communication is considered as an 'all or none' phenomenon. When the conditions are satisfied, communication succeeds, or, the conditions are not satisfied and communication fails (Bosco et al., 2003). Bosco et al. (2003) also stated that a speech act consists of three parts. The first part is the locutionary act which is the specific utterance with a determinate sense and reference. The Illocutionary act which is the orators' communicative intent in uttering the message. The third part is the perlocutionary act which is the effect the orator wants to achieve in the mind of the listener by means of the specific utterance (Bosco et al., 2003). Those three parts are provided with different sets of felicity conditions which are determining the success or failure of each part. The felicity conditions are very different in each situation. In case of the communication between pig farmer and neighbour some conditions are apparently not met. As Bosco et al. (2003) stated 'The discrepancy between the actor's meaning and the partner's interpretation is the central defining feature of misunderstanding'. Probably this is the case in the communication between farmers and neighbours. In the study of van den Brand (2013) farmers already mentioned that outsiders didn't understand them. Earlier research also concluded that farmers are for example proud of realizing a better life for pigs by placing them in bigger pens and provide them with play equipment. Consumers or outsiders did not share that opinion and did still see pigs which are captured in small dirty stables (Dagevos & de Bakker, 2013). The message of a better life for pig or higher animal welfare is not interpreted that way by non-pig farmers. Further research is necessary to determine which conditions were not met when conflicts occur.

Another result from this study is the lack of influence of the factors living history, distance and relation. This is in contradiction with the study of McTavish (2005) which suggested that the degree of familiarity and the background (rural or urban) has influence on the potential of complaints and conflicts. The research of Reisner and Taheripour (2007) also described that people who were living longer in the same place and farmers who had more interaction with their neighbours were seen as less controversial. The variable living history is based on the amount of experience that people have with their direct environment or neighbourhood. Apparently, this experience is less important nowadays and people form an opinion based upon other factors. As mentioned before, the last few years there is a lot of media attention for themes like scaling in the pig sector. This media attention could have made the neighbours more aware of the daily practice in the pig sector (Hoeken & Renkema, 1997). It is also possible that neighbours are frightened with the possible consequences of bigger stables (Verhue et al., 2011). The livestock husbandry in general but also the pig sector changed over the years in a more industrial sector (Bokma-Bakker et al., 2011; Verhue et al., 2011). Perhaps this affects the experience or opinions of citizens in such way that the living history is not of any influence anymore. Possibly this awareness reduced or overruled the influence of a variable like living history.

Another assumption was the influence of distance between neighbour and farm. People living close to a pig farm could experience more nuisances such as noise, smell and/or sound from the farm was the assumption. The results of this study show that indeed the distance has influence on the experienced nuisance. Except for the experience nuisance the distance between farm and neighbour it doesn't have an influence on how they perceive the farm. It seems logical that only experiences with nuisance are influenced by distance and not the opinion about, for example, animal welfare.

It is also remarkable that the relation between neighbour and farmer does not have an influence on the reputation of pig farmers. The relationship effect is not proven in this study (Kenny & La voie, 1984). When there is a stronger relation, there should be an influence on the reputation due to this theory. However, the results show us that there nearly is an effect. The theory describes that when A's behaviour toward B cannot be explained by A's actor effect or B's partner effect we speak of the relationship effect. While there is no relationship effect the behaviours can probably be explained by the actors' effect or the partner effect (Kenny & La voie, 1984). It is also possible that the behaviour towards someone else is significantly different from the opinion about the other. If farmer and neighbour are friends and have a good relation this apparently does not mean that the neighbour has automatically a more positive opinion about the farmers company. Obviously, people's intelligence and their opinions are independent of the relationship they have. Improving the relation with neighbours is therefore not useful to improve the reputation of the farm. These results also suggest that there isn't a difference between neighbours and other outsiders. Apparently, specific features that differentiate neighbours from other outsiders like distance and living history do not have an influence on the reputation.

The pig sectors reputation does have influence on the reputation. Termeer et al. (2013) stated that there is a difference in rejecting the pig sector between local and national level. The (lack of) public support on national level seems to influence the local public support. The results of our study shows that neighbours have more concerns about the pig sector than about their neighbour farmer. This means that individual farmers suffer from concerns of the whole sector. Earlier research (Beckers et al., 2004; Bokma-Bakker et al., 2011; Dagevos & de Bakker, 2013; LTO, 2006; Poelsma-post et al., 2001; Termeer et al., 2013; Verhue et al., 2011) already described several social implications of the pig sector. The researches describe that people are often influenced by issues like 'Mega stables', 'animal diseases' and 'use of antibiotics'. These subjects are important for people and have impact on their perception of the sector. The results of this study show that this has his influence on the individual farmers as well. The importance of these subjects and their social implications make it difficult to separate an individual farmer from the sector.

5.2.2 Practical implications

Now we have reflected on the theoretical implications of the research it is also interesting to think about translating these findings to practice. We have demonstrated that there is a problem in communication between farmers and citizens. Farmers and neighbours have different ideas and thoughts of the farm. The farmer did not success in transferring his ideas and thoughts to the neighbour. Therefore, farmers should

give more information about their business or transfer their message better to others (Renkema & Hoeken, 1997). The results show us that neighbours probably have the same perception of pig farms as other outsiders. The distance, relation and living history doesn't have an influence. Therefore, local communication strategies do not seem to be very effective while neighbours due get influenced by the pig sector. At national level people concern about things like: methods of controlling animal diseases, animal welfare, use of antibiotics and public health (Termeer et al., 2013). When the sector and thus individual farmers want to improve their image they should focus on these subjects. Neighbours and also other citizens should be informed about how they improve on these subjects. Renkema and Hoeken (1997) explained that experience and informal communication has an positive influence on reputation. Therefore, initiatives like 'view sheds' are useful, people see and experience how pigs are living in sheds. Anyhow, there are only 26 view sheds in the Netherlands and lots of people will not just go to such a pig stable. For a really effective campaign other communication channels seem to be more useful. Sector broad organisations such as ZLTO or LTO should collaborate and start a campaign to show citizens what is going on in their sector. Probably, a television program which has attention for these national concerns and also shows the regular life on pig farms could be helpful. The Dutch television program 'Boer zoekt vrouw' which is reaching an enormous number of 'regular' people is showing that people are interest in farmers and their background. This program is filming farmers on their farm and during their activities. Thence, viewers experience a part of the life on a farm and they receive the farmers' message in an informal way. In the end, those efforts in a communication campaign should result in more public support for pig farmers and hopefully prevent conflicts to occur (Backus et al., 1999; Backus & van der Schans, 2000).

5.3 Limitations

As every research also this one has its limitations. An important limitation is the cross sectional dataset which makes it impossible to say something about the direction of the relations. It does not become clear if the farmer is influencing the opinion about the sector or the sector is influencing the opinion of the individual farmer. It is possible that different variables each have influence on the neighbours' perception. However, it is also possible that one variable influences another and then influences the neighbours perception (Kenny, Bolger, & Kashy, 1998).

There is a gap in time between the questionnaire sent to farmers and the one sent to neighbours. There is almost a year difference between those two studies. The past year (end of 2013 and start of 2014) an discussion about pig farms and pork raised in the media; e.g. regular pork meat that was sold as 'Good farming star' pork which has a higher price. These scandals and media attention could have influenced the citizens. While earlier research showed that people often did not have an outspoken opinion about the pig sector (Verhue et al., 2011). These often discussed scandals could have made people form an opinion about the production of meat.

It is also possible that respondents tried to be polite or gentle about their neighbour although they were ensured that neighbours could not see their answers. The opinion of farmers is based upon Good farming

star farmers who are already more concerned with issues like animal welfare. They probably are not a sufficient sample for the whole pig sector. It is also unknown if neighbours know about the Good farming star concept of their neighbour farmer.

We assumed that neighbours could rate their neighbours' farm on all the image items. However, probably some people do not know enough of their neighbours' farm to rate those items well. It is for example difficult to rate the animal welfare if you have not been in the stables yourself. This makes it difficult to say something about the real status of e.g. animal welfare at the farms. For the results of this research it is not that important because the focus is on the opinions or ideas of the neighbour. Though, this could probably explain the differences between the farmers' image and the farmers' reputation.

The dataset with data from neighbours and farmers together has lots of information that is not used for this study. For example, further analyses are possible over all image items together.

5.4 Suggestions for further research

Further research could also focus on how citizens and/or neighbours can be better informed about the pig sector. In earlier research farmers proposed some methods. Study into which methods really have an effect could be helpful for the pig sector.

Also a longitudinal study seems to be helpful to interpret the results of this research. This research measured the reputation of pig farmers at one moment in time. Therefore, there is none information about the direction and thus the causality of the results. In any case, it is interesting to know if reputation is improving or declining.

Generate understanding of the major and important middle group of passive observers. The research of Verhue et al. (2011) stated that the major middle group does not have an outspoken opinion. It is interesting to know the composition of this group, their attitude towards several image aspects and possible tilting moments or triggers after which a moderate positive attitude can switch into active protest. It could provide essential information as input for communication strategies that improve social support for pig farms (Bokma-Bakker et al., 2011). Also the fidelity conditions which should be met in order to succeed in communication could be a topic for further research.

It is shown that the pig sectors reputation is influencing the individual farmers' reputation. Subjects like public health and the use of antibiotics are important subjects for the sector on a national level (Termeer et al., 2013). Further research could study which subjects are really important for most people and how they are influencing the sectors reputation. Further research could also analyse if the reputation among neighbours match the reputation among other groups like citizens or consumers.

The combined dataset with information about both farmers and their neighbours is special and valuable. It contains a lot of not used information and several more complicated analysing techniques are available to extract information. It could be useful to extract the information for a better understanding of the farmer-neighbour relationship and the influence of several image aspects.

6 Conclusion

The goal of this research was to explore how neighbours of pig farms value the farms reputation and which factors are influencing that reputation. This study based upon data collected from farmers as well as their neighbour's gives us information about the image and reputation of Good Farming Star pig farmers in the Netherlands.

The results show that farmers and their neighbours have different ideas and thoughts about the farm. The image of the pig farmer does not correspond with the farms reputation among neighbours. Neighbours get influenced by the whole pig sector. Therefore, it is difficult for individual farmers to improve their reputation. In order to improve farmers reputation, neighbours but presumably also other citizens should positive experience the pig sector. Also informal communication could help to improve their reputation. An television program with attention to important subjects in the pig sector could be an example. Misunderstandings are more likely to reduce when the pig farmers' image and reputation match because it means that the farmer and neighbour have similar ideas, thoughts and opinions.

As mentioned in the introduction conflicts often occurred when farmers wanted to expand their company. The neighbours were afraid of the effects of these expansions although they knew just a little about what the effects are. Therefore, solving the gap between image and reputation and increasing the experience and/or knowledge of the pig sector by informal sector-wide communication will possibly result in better informed citizens.

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8 Appendix

8.1 Appendix I: Questionnaire

Goede - Reputatie bij burens van varkensboeren

N1 Hartelijk bedankt alvast voor uw medewerking aan dit onderzoek. De vragen gaan gedeeltelijk over de Nederlandse varkenssector en gedeeltelijk over het varkensbedrijf van uw buurman (zoals genoemd in de mail). Probeert u de vragen zo zorgvuldig mogelijk in te vullen. Let op, u krijgt een foutmelding als u een antwoord niet ingevuld hebt, geef daarom antwoord op alle vragen. De gegevens zullen anoniem verwerkt worden, uw antwoorden zijn dus niet te koppelen aan u of het bedrijf van uw buurman.

N2 Deze vragen hebben betrekking op de Nederlandse varkenssector in het algemeen.

Q1 Welk beeld hebt u van de Nederlandse varkenshouderij in het algemeen? Ik zie varkenshouders over het algemeen als:

	Zeker niet (1)	Niet (2)	Neutraal (3)	Wel (4)	Zeker wel (5)
Als Varkenshouder (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Als voedselproducent (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Als Ondernemer (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Als Manager (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q2 Hoe beoordeelt u de producten van varkensbedrijven in het algemeen? (Varkensvlees producten)

	Zeker niet (1)	Niet (2)	Neutraal (3)	Wel (4)	Zeker wel (5)
Als diervriendelijk (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Als milieuvriendelijk (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Als gezond product (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Als betrouwbaar (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Als goedkoop (5)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Van hoge kwaliteit (6)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Als duurzaam (7)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Als overlast veroorzakend (8)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

A1 Bij deze vragen gaat het specifiek over het varkensbedrijf van uw buurman.

Q3 Welk beeld hebt u van de eigenaar van het varkensbedrijf? Ik zie de eigenaar als:

	Zeker niet (1)	Niet (2)	Neutraal (3)	Wel (4)	Zeker wel (5)
Als varkenshouder (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Als voedselproducent (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Als ondernemer (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Als manager (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q4 Hoe beoordeelt u de producten van het varkensbedrijf van uw buurman op dit moment?

	Zeker niet (1)	Niet (2)	Neutraal (3)	Wel (4)	Zeker wel (5)
Als diervriendelijk (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Als milieuvriendelijk (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Als betrouwbaar (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Als goedkoop (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Van hoge kwaliteit (5)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Als duurzaam (6)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Als gezond product (7)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Als overlast veroorzakend (12)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

A2 Nu volgen er nog wat algemene vragen:

Q5 Wat is uw geboortjaar?

Q6 Hoelang woont u al in deze buurt / omgeving?

- 0 t/m 5 jaar (1)
- >5 jaar maar niet altijd (2)
- Geboren en/of opgegroeid in deze buurt (3)

Q7 Wat is de geschatte afstand (in meters) van uw woning tot het varkensbedrijf van uw burens?

_____ Afstand deur tot deur via weg: (1)

_____ Kortste afstand tot het bedrijf (hemelsbreed): (2)

Q8 Hou zou u de band met uw buurman (varkenshouder) omschrijven?

	Zeker niet (1)	Niet (2)	Neutraal (3)	Wel (4)	Zeker wel (5)
Als vriendschappelijk: (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Met enige regelmaat contact: (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Als goed: (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q9 Heeft u momenteel zelf een varkensbedrijf?

- Ja (1)
- Nee (2)