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## The reputation of horticulture – an internal view of the industry

### RESEARCH ARTICLE

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### Abstract

The reputation of an industry represents an important strategic resource and this has already been highlighted in the past for the horticulture sector. However, the heterogeneity of horticulture makes it difficult for the industry to be perceived by society. An online survey was conducted to identify the most important characteristics of horticulture and to identify the reasons for its good or bad reputation. For this purpose, 102 experts – consultants from the horticultural industry – were asked to describe horticulture and the reputation of the industry. An evaluation of the survey, based on a qualitative content analysis using inductive category formation, indicated that horticulture is primarily associated with its diverse activities and various product groups. In terms of the product groups, the focus is on food products. The reputation of the industry is rated as ‘slightly positive’ on a 7-point Likert scale, with an average of 4.4.

**Keywords:** reputation, horticulture, qualitative content analysis, experts, characteristics

**JEL code:** Q13

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## 1. Introduction

Horticulture is defined as that part of the agriculture industry that produces vegetables, fruit and ornamental plants (Lal, 2008: 19). A particular characteristic of horticulture as an industry is the variety of products and services offered, ranging from fresh products, such as fruit and vegetables, to ornamental plants and nursery products, to various services (Bokelmann, 2001: 273). A distinction is made between plant production in horticulture, on the one hand, and horticultural services and trade on the other. Under the term 'segment', horticultural production is further subdivided – according to the different production methods within the different product groups – into fruit, vegetables, ornamental plants and tree nursery products. Horticultural services and trade include gardens and landscaping, cemetery horticulture, retail trade and floristry as well as public green areas, such as parks and garden shows, which are also considered horticultural products. Horticulture production in Germany is subject to ongoing structural change. In fruit and vegetable growing, the number of production farms have declined while the cultivation area has remained stable and, in some areas, has even expanded (Isaak and Hübner, 2019).

Despite the structural changes, an essential characteristic of horticulture is still its variety of products and services. In addition to this diversity, further developments have led to increasingly complex management requirements. For example, consumers currently purchase fruit and vegetables mainly in supermarkets. As a result, products are mainly supplied via multi-stage distribution systems. This, in particular, distorts consumers' perceptions of the products (Bokelmann, 2009: 119; Yue and Behe, 2008: 764). In addition, supermarket chains procure seasonal products from different countries. All this together results in a lack of transparency in the value chain and, therefore, in a loss of consumer confidence. In addition, the growing interest in environmentally friendly production systems leads to increased management requirements in horticulture (Schimmenti *et al.*, 2013: 162). These examples of developments both within and outside the industry show that horticultural farms are part of a complex environment that requires interaction with the consumer (cf. Section 2). However, successful interaction with consumers can only be effective where knowledge of their perception of horticulture exists.

To find out more about the perception and reputation of horticulture in society, a three-step research approach was chosen. In the first step, an extensive literature analysis was carried out to determine the characteristics and peculiarities of reputation, to distinguish it from related terms (e.g. image and identity) and to identify suitable measurement methods. Building on this, a construct for measuring reputation, using indicators from existing reputation measurement systems, was developed to form the basis of the next step of the research.

The second step consisted of an expert survey, where industry stakeholders evaluated this preliminary construct. For this, the individual indicators from the first step were evaluated by stakeholders with respect to their suitability for describing the reputation of horticulture. In addition, with the help of the stakeholders, new indicators were found to describe the reputation of horticulture. An evaluation of the structural model and these new indicators has already been published (Isaak *et al.*, in press).

The results presented in this paper also derive from the second step, but have an emphasis on the characteristics and product groups that influence the reputation of horticulture. In addition, an initial reputation assessment from the perspective of the industry was determined and the reasons for its supposed good or bad reputation were analysed. All methodological notes on the results presented in this paper can be found in Section 3. The knowledge obtained in these previous steps formed the basis for the subsequent measurement of reputation (third step) of the entire horticultural industry. To this end, a consumer survey is being conducted (still to be published) on the subject of reputation in horticulture (Section 6).

The aim of the study for this paper was to identify the characteristics and product groups associated with horticulture. In addition, from the exploratory investigation into how horticulture is perceived, the paper analyses how experts in the industry assess the reputation of horticulture and the reasons they give for the industry's reputation.

## 2. Literature review

The literature review revealed that reputation is defined in different ways by a large number of authors (Eckert, 2017: 147). The best-known definition by Fombrun (1996: 72) describes (corporate) reputation as: ‘A perceptual representation of a company’s past actions and future prospects that describes the firm’s overall appeal to all of its key constituents when compared with other leading rivals.’ The terms ‘identity’ and ‘image’ are also often equated with the term ‘reputation’. Davies *et al.* (2001) describe ‘identity’ as the internal view of the company by its employees, while ‘image’ reflects the view of external stakeholders, particularly customers. ‘Reputation’ is therefore a collective term that is formed from the sum of the impressions of all stakeholders and includes ‘identity’ and ‘image’ (Davies *et al.*, 2001: 113-114, MacMillan *et al.*, 2005: 215). Whetten (1997: 27) has already described the close connection between the terms ‘identity’, ‘image’ and ‘reputation’, and these three terms can be linked to a large number of other attributes that have been used in this scientific context (Isaak *et al.*, in press).

As early as the 1990s, experts pointed to the early development of image improvement activities for horticulture in order to consolidate its reputation and position (Schenk, 1992). At the same time, the influence of NGOs contributed to increasing pressure from society to change horticultural production in terms of social and ecological standards (Havardi-Burger *et al.*, 2020: 21). In addition, food scandals caused by individual companies led to uncertainty in consumption and damaged the reputation of the industry (Bitsch *et al.*, 2014).

Consumers can also act as voters and/or stakeholders and, in these roles, they can influence the introduction of ecological regulations by politics (Selfa *et al.*, 2008). For this reason, it is necessary to analyse their conceptions and desires, not only from a sales policy perspective. If the gap between the ideas or expectations of consumers and those of businesses is too wide, purchasing decisions can be made to the detriment of the business (Bokelmann, 2009). Insight into societal perception of individual horticultural businesses or the entire horticultural industry can therefore provide a new entrepreneurial scope for better and, consequently, increased long-term positioning. Concrete ideas relating to the reputation of an industry form the basis for the development of communication strategies to ensure long-term social acceptance. A good reputation can, thus, contribute to the legitimization of entrepreneurial activities (Sageder *et al.*, 2018: 343, 354).

Winfrey and McCluskey (2005: 211) follow the assumption that homogeneous product groups, as are often found in fruit and vegetable growing, influence the reputation of the entire industry or segment and that, due to a lack of product differentiation, individual companies cannot control the reputation of their products. But the company’s reputation can help differentiate it from competitors and reduce consumer uncertainty (Boyd *et al.*, 2010; Wærass and Byrkjeflot, 2012: 191). Product quality, in particular, is closely linked to customer satisfaction and the resulting reputation (Carmeli and Tishler, 2005). Following from this, Eckert (2017: 154) describes the impact of bad product quality as a reputational risk. However, an exclusive focus on product quality is not always sufficient for reputation management, as product quality is closely linked to corporate performance (Helm 2011: 11). If companies want to control the perception of product quality by consumers, they need knowledge about the consumers’ perception of products and their associated characteristics. The perception and awareness of the product or, more generally, the object (person, company or industry) is important in order to be able to carry out a measurement of reputation (Wærass and Byrkjeflot, 2012). This requires knowledge about the current perception of the most important aspects of the relationship between the consumer and the object (or industry) (MacMillan *et al.*, 2005: 219). This perception must be measurable, since only something that is measurable can be managed (Luoma-aho, 2008). However, since reputation is a latent variable and therefore not directly measurable (Quagraine *et al.*, 2003), indicators – which have not yet been specifically described for horticulture – are necessary.

The information processing that follows perception depends on the level of knowledge that a person has (Cowley and Mitchell, 2003: 444). Since knowledge about the object can be very different, the aspects perceived by individuals are valued differently and thus also the reputation. Overall, social cognitions, such

as knowledge, impressions, perceptions and beliefs, are important characteristics that influence reputation (Rindova *et al.*, 2010: 614).

For the targeted control of reputation, different levels of consideration can be distinguished. Each person, each company and each sector has a reputation, and this reputation can arise both consciously and unconsciously (Aula and Mantere, 2008: 33). However, reputation management can influence a reputation by controlling perceptions through targeted self-presentation (Wærass and Byrkjeflot., 2012: 191). This can be done directly or indirectly through media or multipliers (McDonnell and King, 2013: 411). Thus, the reputation of a company can be understood as a variable resulting directly from perception, i.e. the ideas about the company and the attitudes towards the company by its stakeholders (Kim, 2019: 1145). In addition, the reputation of a company and the reputation of an industry also influence each other. However, it is unclear whether and to what extent a positive corporate reputation can be influenced by a negative industry reputation (Mahon, 2002: 425).

Overall, reputation is an important strategic resource (Boyd *et al.*, 2010) and has a significant influence on the economic success of a company. The reputation of an industry, a company or a product is decisive for the consumers' willingness to pay for the product or the service provided (Keh and Xie, 2009). The legitimacy of entrepreneurial action and the attractiveness to specialists and managers are only two examples of the influence of reputation on entrepreneurial success (Meyerding, 2016; Sageder *et al.*, 2018).

### 3. Methods

This paper presents the results of the stakeholder survey from the second research step. Attributes and product groups that have a special influence on horticulture were determined and the results that focus on horticultural attributes and products are presented in this paper.

The stakeholder group of consultants was interviewed in their role as experts. Because of their professional activities, they are assumed to be closely linked to the industry. An internal view of the industry includes extensive knowledge of the special features in the industry that consultants have gained through their professional experience. In contrast to consumers, consultants have an overview of the heterogeneity of the industry (segments, product diversity, etc.), which consumers often do not associate with horticulture.

Through their employment or self-employment as consultants, they are not directly economically dependent on the success of the horticultural business, in contrast to entrepreneurs or plant managers, and, as such, they can independently assess industry-specific characteristics. In Germany, a large number of horticultural consultants are employed by the official extension services, which are financed by the federal states. In some cases, the horticultural companies have to make small financial contributions to the extension services. Nevertheless, the consultants themselves are not directly dependent on the business success of the companies.

#### 3.1 Questionnaire

An online survey was conducted to interview the experts. In the questionnaire, qualitative and quantitative methods were combined to identify the characteristics and products of horticulture that are relevant to the reputation of the horticultural industry. The qualitative method involved open questions to identify and describe specific characteristics relating to horticulture. In addition, this method was used to generate an understanding of the relationship between horticultural characteristics and a good or bad reputation. According to the quantitative method, specific closed questions were asked in order to obtain a reputation evaluation of the experts on a 7-point Likert scale. Both methods were combined in one online questionnaire, which was designed using LimeSurvey (Version 2.6.6).

### 3.2 Expert sample

Employees from associations, institutes, chambers of agriculture and consulting firms were selected as experts in order to be grouped together as stakeholder group consultants. Contact data was obtained through an online search, systematised according to the federal states. The experts (132) were contacted via email with a link to the survey and a request to forward the study to colleagues. This procedure made it possible to achieve distribution by using the snowball effect. After 14 days, a second email was sent as a reminder. The survey took place from the beginning of May to the middle of July 2018.

### 3.3 Statistical evaluation: qualitative content analysis

The free text questions were processed using qualitative content analysis according to Mayring (2014) and evaluated in the form of inductive category formation. The statements of the experts were systematically summarised into categories and, where possible, into further subcategories (Mayring, 2014: 106). The selection criteria for defining the categories and the levels of differentiation into more specific categories were formulated under consideration of the research question, which was defined at the beginning of the study. These definitions served as guidelines for the creation of new categories in the course of further work. In an iterative process, categories were defined on the basis of the selection criteria and the level of abstraction. Text sections or statements were also organised hierarchically in the existing categories that fitted the content. A definition and description of each category is given in the Supplementary Material. For statements that could not be assigned to an existing category, new categories were created and the previously organised material was then re-edited.

For quality assurance, the procedural rules for the individual steps in the inductive category formation were followed. The analysis of the material was performed by two people. First, samples of the material were discussed to develop a common understanding of the dimensions (Schilling, 2006: 32). After about 50% of the material had been analysed, the results were compared and the categories were revised (inter-coder agreement). The process was repeated by reviewing and editing the entire material (Mayring, 2014: 80).

IBM SPSS Statistics 25 (IBM, Armonk, NY, USA) was used to evaluate the closed questions and MAXQDA Analytics Pro 2018 (VERBI Software, Berlin, Germany) was used to evaluate the open questions.

## 4. Results

Of the total of 102 experts interviewed, 77% worked in associations, research institutes, teaching, laboratories and public authorities. The remaining 23% of the respondents worked as consultants in industrial companies upstream and downstream in the value chain.

In an additional specification, the respondents were asked to assign themselves to a horticultural segment or closely related area. In this case, 41.2% of the respondents chose the free text option. Of the free text answers, 30.4% could be assigned to the category 'service for horticulture', for example, in the form of advice and research, while the remaining free text answers could be grouped together in the category 'all segments' (10.8%).

A further 14.7% of the respondents were focused on vegetable production, while 34.3% were assigned to other horticultural activities (fruit growing, ornamental horticulture, gardening and landscaping, tree nursery, floristry and retail). The remaining 9.8% of the respondents did not assign their task directly to horticulture, but rather to the closely related areas of agriculture and the soil and substrate sector.

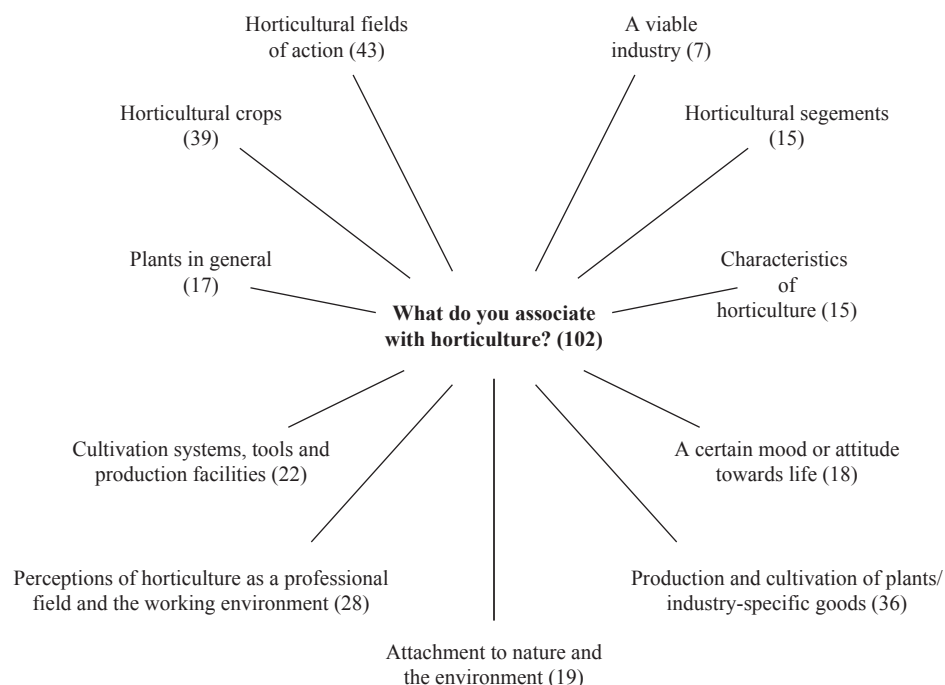
#### 4.1 Attributes of horticulture

For the experts, horticulture was mainly associated with ‘horticultural fields of action’ (43 citations) (Figure 1). This includes horticultural services such as ‘grave planting and cemetery maintenance’, ‘creating and designing gardens’ or ‘the targeted design of open spaces’. In addition to properties relating to distribution, ‘allotment activities’ were also assigned to the category ‘horticultural fields of action’. A detailed description of this category, as well as all the other categories, can be found in Supplementary Tables S1, S2 and S3.

Other frequently mentioned characteristics were found in the category ‘horticultural crops’ (39). This category was divided into the subcategories of ‘food products’ (31) and ‘non-food products’ (22). Another important category was the ‘production and cultivation of plants/industry-specific goods’ (36), which included statements on production processes. Here, references to food or plant production were found. In contrast, the group ‘perceptions of horticulture as a professional field and the working environment’, had fewer than 30 mentions. Statements in this category included the wide range of job opportunities in horticulture, working in the countryside and reasons for working in this industry.

The category ‘horticultural crops’ was the second most common category mentioned in the experts’ descriptions of horticulture (Figure 1). This information was determined by three product groups that the experts associated with horticulture (Figure 2). The entries could be grouped into three categories: ‘food products’, ‘non-edible plants’ and ‘building/working materials and services’.

The category ‘food products’ generally describes edible plants (biotic). All other plants are included in the category ‘non-edible plants’ (biotic). If there was an overlap between these categories, e.g. apple, it would be assigned to the category ‘food products’ as a foodstuff, whereas an apple tree would be classified as a tree nursery product and assigned to the category ‘non-edible plants’. The category ‘building/working materials and services’ included materials or objects indirectly related to horticulture and of an abiotic (inanimate) origin. This category also included work material, such as concrete or shovels. The results, which are a combination of the three categories, are presented in percentages below (Figure 2). Further results, which can be calculated from Figure 2 and which refer to the number of mentions within the categories, are given by absolute frequencies.



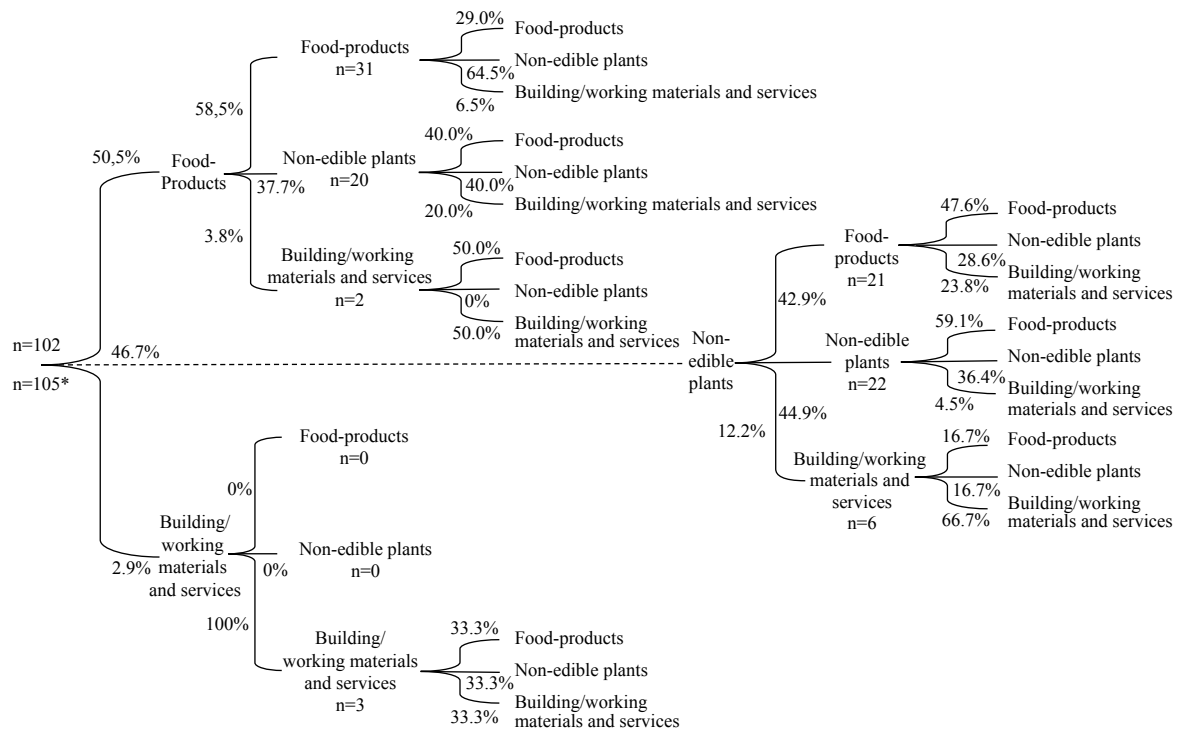
**Figure 1.** Characteristics of horticulture – associations by expert group (n=102).

The category names, independent of position, showed that ‘food products’ were most frequently listed, with a total of 149 mentions. Within the category ‘food products’, vegetables (103) were cited twice as often as fruit (46). If an individual product was specified within the vegetable group, then salad (12), tomato (9) and herbs (6) were the main products listed. The additional specification of individual products was rare in the fruit group and apples were mentioned by eight experts. The category ‘non-edible plants’ received a total of 128 mentions. In this category, ornamental plants (82) dominated over nursery products (31). In ornamental plants, individual products were specified with a few entries being assigned to flowers (20) and bedding and balcony plants (18). Tree nursery products were also further subdivided into trees/woody plants (22) and roses (4). The category ‘building/working materials and services’ was mentioned only 29 times, with only three of these making reference to services.

In Figure 2, ‘food products’ was mentioned in the first instance by 50.5% of the experts. Of these, three quarters of all responses were assigned to the ‘vegetables’ segment and one quarter to the ‘fruit’ segment. A total of 52 experts mentioned ‘food products’ in second place and this category was also dominated by vegetables (35). Less than half (43) of the respondents cited ‘food products’ as the third category, and again this was dominated by vegetables.

An analysis of the combination of the three product specifications shows that 58.5% of the experts also classified a ‘food product’ in second place when ‘food products’ were mentioned in the first place. This was followed in the third place by a figure of 64.5% for ‘non-edible plants’. ‘Food products’ were named in this position by 29.0% of the respondents. This means that eight experts exclusively associated ‘food products’ with horticulture.

Also from Figure 2, it can be seen that ‘non-edible plants’ were mentioned in first place by 46.7% of the respondents, with ornamental plants dominating (31). Just as vegetables dominated the category for ‘food



**Figure 2.** Horticultural products – three spontaneous product associations with horticulture (n=102). \*n=105 (three people provided more than one answer or product group for each field).

products', ornamental plants dominated the category of 'non-edible plants'. Where the category of 'non-edible plants' was chosen as the first entry, the second entry was either a 'food product' (42.9%) or a product from the category 'non-edible plants' (44.9%). In both cases, 'food products' were the third most frequent response. In addition, 12.2% of the respondents cited 'building/working materials and services' in second place, followed by 'building/working materials and services', which was also the third highest ranked product (66.7%).

The category 'building/working materials and services' was named in first place by only three respondents (2.9%). These experts also classified the category 'building/working materials and services' in second place. Aspects from this category were mainly mentioned in second (11) or third position (18). The minor importance of the category 'building/working materials and services' may also be due to a bias in the sample: in this survey only ten experts assigned themselves to the field of gardening and landscaping.

The explanation of horticulture described in the introduction refers to all three categories – 'food products', 'non-edible plants' and 'building/working materials and services' – equally. Consequently, expert responses that covered all three categories were consistent with the understanding of horticulture explained here. These categories, regardless of their order, were identified in ten of the experts' responses.

#### 4.2 Reputation evaluation and justification

##### ■ Evaluation

The experts' view of the industry's reputation was surveyed regardless of the indicators. The experts (n=102) rated the reputation of the entire industry on a 7-point Likert scale as 'slightly positive' ( $\mu=4.4$ ). However, the distribution also showed that eight of the surveyed experts rated the reputation of the industry as very bad (1) or bad (2). On the other hand, according to the evaluation of six experts, the reputation of the industry was also seen as very good (7).

In addition to this closed question, the experts were asked to explain their reputation evaluation in a free text field. Each of the 102 experts interviewed gave the reasons for their evaluation. Since the answers often covered different aspects, the frequency with which the categories were mentioned was greater than the number of surveyed experts (Figure 3). In total, 55 experts who assigned a more positive reputation rating mentioned 111 reasons, 19 experts with a neutral reputation evaluation named 43 reasons and 27 experts with a more negative reputation rating listed 52 reasons (Figure 4). Thus, each expert provided, on average, two reasons for their reputation assessment.

##### ■ Justification

Aspects and justifications that can be assigned to the category 'attributes of horticultural products, services and distribution' were most frequently described. This category included attributes that characterise or evaluate products, services and distribution channels in horticulture. Examples in this category included beautiful flowers and gardens, a good service or the regional marketing of products. Of the characteristics in this category, 71% were cited by experts who rated the reputation as 'rather good' (>4) (cf. Figure 4). One expert described this as follows: 'If you explicitly ask the consumer for the reputation of horticulture, the reputation is good and generally refers to the products that are assessed as predominantly positive'. On the other hand, consumer price awareness was cited as an argument for a 'rather bad' reputation (<4).

Many statements can be assigned to the category 'consumer preferences, perception and appreciation'. In addition to preferences, this included the perception and appreciation of work, products and the entire horticultural industry. Slightly more than half of the explanatory statements in this category were given by experts who rated the reputation as 'rather good'. However, the reasons for a bad reputation, such as 'little valued and anyone can become a gardener' or 'very often the negative headlines [...] remain in the minds



of many, but they are caused, if at all, by only a few companies [...]', indicate, above all, the problems for the industry in society.

The category 'horticultural professional field' was partly described by the prevailing horticultural job description as perceived by society. These included positive associations with the profession of gardener, such as 'taking care of nature and the green in town and country', but also more negative statements such as '[...] poor pay; physical work in all weathers [...]'. In addition, half of the experts who mentioned characteristics in this category ('horticultural professional field') gave a positive reputation rating. In each case, a quarter of the respondents who mentioned the category in their statement rated the reputation as neutral (8) or bad (7).

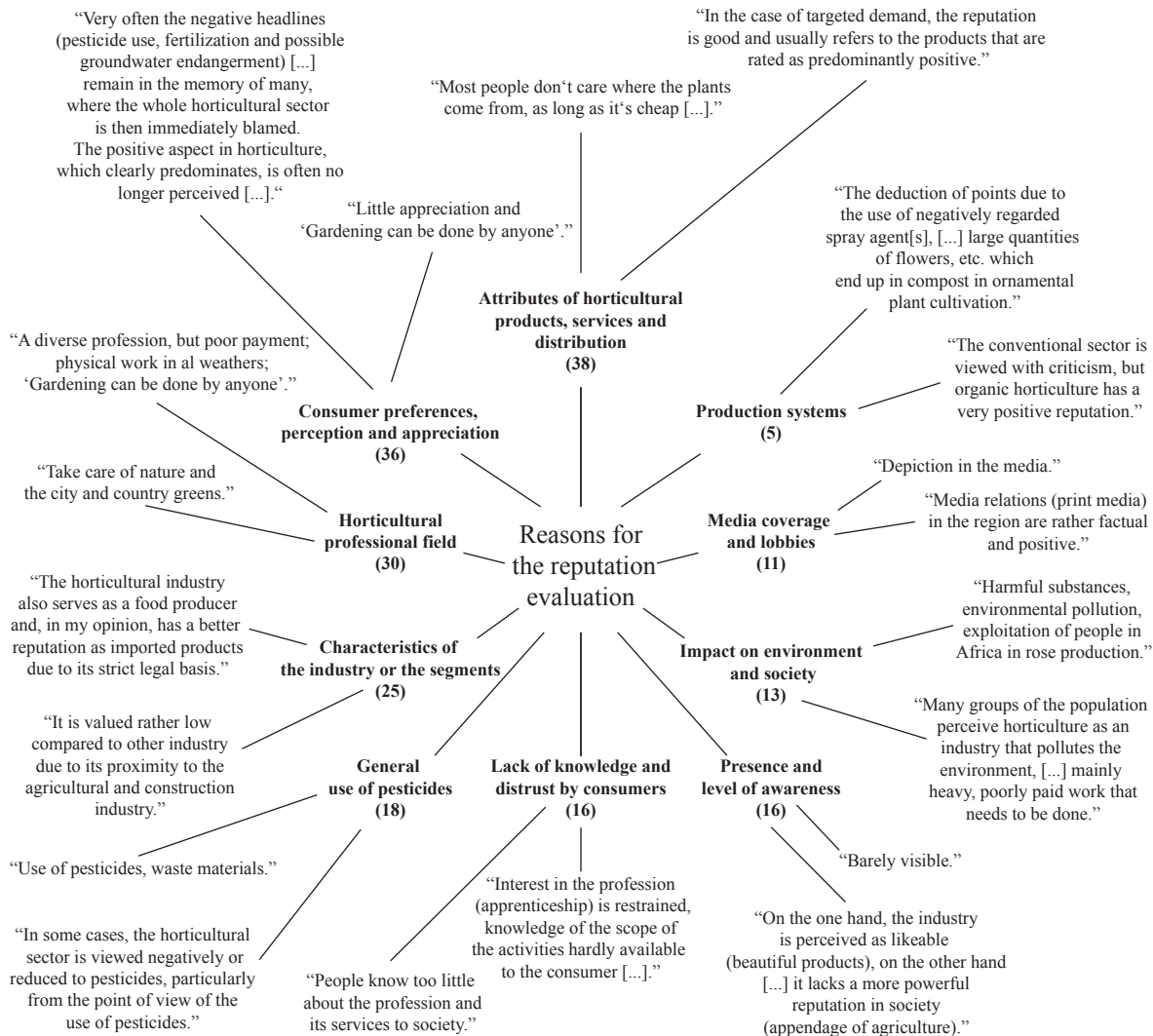
The category 'general use of pesticides' could also be assigned to the categories of 'impact on environment and society' or 'production systems'. The unique position of this category highlighted the importance of pesticide use and the numerous references to it in various contexts. Since statements on pesticide use are often not directly linked to effects on the environment or society, a separate coding for this category would seem to make sense. The experts highlighted 'pesticide use, [and] residues'. In addition, one expert noted that '[...] especially from the point of view of the use of pesticides, horticulture is seen negatively or reduced to this'. From this category, it could be concluded that only statements that have a negative impact on reputation are found here. However, half of the attributes of this category were described by experts who had previously given a positive reputation assessment. This shows that experts that gave a positive reputation evaluation also recognised issues that could have a negative impact on reputation. However, for these experts, characteristics other than reputation seemed to influence the category more than 'general use of pesticides'.

#### ■ *Justification for the evaluation*

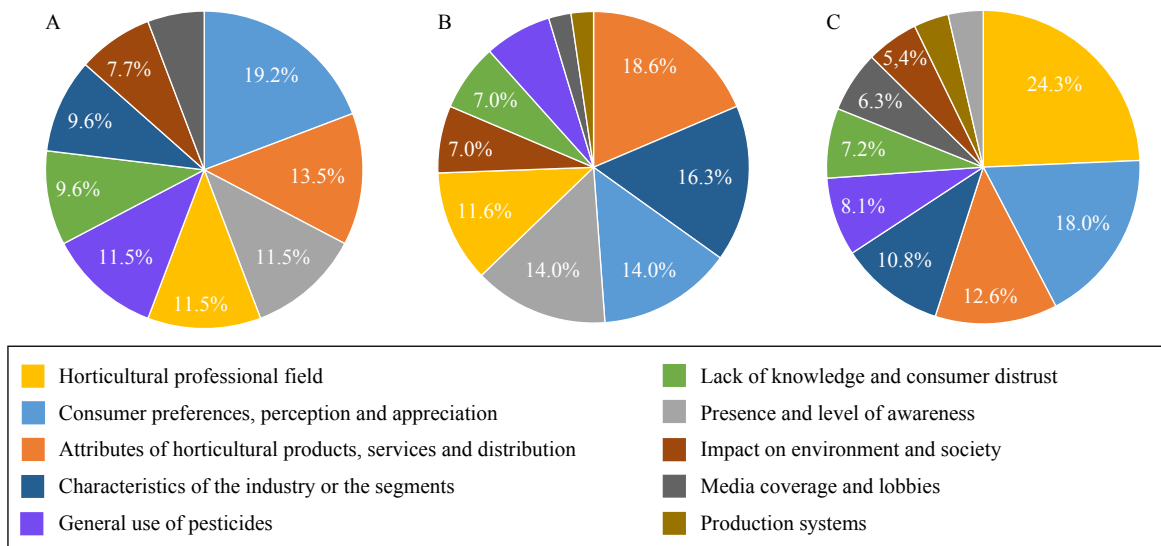
An analysis of the categories with respect to the previously evaluated reputation showed the different significance of the categories for each particular reputation (Figure 4). A rather bad reputation (<4) was justified by a total of 52 characteristics, and the most frequent justification for a bad reputation was 'consumer preferences, perception and appreciation' (19%). It is notable that the categories 'horticultural professional field' (14%), 'presence and level of awareness' (12%), 'attributes of horticultural products, services and distribution' (12%) as well as 'general use of pesticides' (12%) were chosen with approximately the same frequency when experts decided what determines a bad reputation.

In both cases of a rather bad and a neutral reputation, the category 'presence and level of awareness' was particularly prominent. In the case of a rather good reputation, however, it was insignificant. The category 'horticultural professional field', which also played an important role in the justification of a rather bad reputation, was the most frequently cited source for the justification of a neutral reputation (19%). In addition, the attributes of the category 'characteristics of the industry or the segments' (16%) also gave a neutral reputation. A neutral reputation assessment by the experts was primarily linked to general characteristics of the public's perception of the industry and less with the products. This effect and its development is generally not directly foreseeable, not exclusively controllable within the industry, dependent on time and trends and is influenced by many other factors of social coexistence. Therefore, the experts who regarded the reputation of the industry as neutral probably considered the reputation as not controllable by the industry itself. Instead, they probably viewed the industry in a network of dependencies arising from society and over which the industry and its actors cannot exert any direct influence. The industry could use image campaigns to promote and enhance the appeal of the features of its product. It is more difficult, however, to influence the characteristics that affect the entire industry or occupational group.

A rather good reputation was justified by a quarter of the experts with the category 'attributes of horticultural products, services and distribution'. This category was much less frequently cited in the case of a rather bad reputation. Therefore, it can be concluded that the characteristics of products, services and distribution are a major influence on a good reputation. As with a rather bad and a neutral reputation, the category 'consumer preference, perception and appreciation' also provided characteristics to justify a good reputation. The



**Figure 3.** Reasons for reputation evaluation – justification of evaluation regarding the reputation of the industry in society (n=99, multiple answers possible).



**Figure 4.** Reasons given for reputation evaluation (n=101, multiple answers possible). Reputation evaluation: (A) very bad to rather bad (<4) n=52; (B) neutral (=4) n=43; (C) rather good to very good (>4) n=111.

categories ‘media coverage and lobbies’, ‘production systems’ and ‘impact on environment and society’ were rather insignificant for all three types of reputation.

In summary, it can be stated that both a bad reputation and a good reputation can consist of a multitude of multi-faceted reasons. Neither a positive nor a negative evaluation of reputation is based on one single significant cause. The category ‘consumer preferences, perception and appreciation’ was an important category, regardless of whether the reputation was ‘good’, ‘neutral’ or ‘bad’.

## 5. Discussion

The results show that the perception of horticulture and, therefore, also its reputation are influenced by many aspects of horticulture. Overall, it can be seen that horticulture is associated with ‘certain activities and fields of activity’ (43) and ‘a specific product group’ (39), as well as the ‘production and cultivation of plants or industry-specific goods’ (36) (Figure 1). These aspects of perception are further differentiated by MacMillan *et al.* (2015: 291) through the question: ‘Reputation for what, to whom [?]’. For horticulture, these questions can be answered from the experts’ point of view. It can be deduced from the most frequently mentioned categories that the products and the cultivation of horticultural products are of particular importance. This means that both the description of reputation in the form of a latent variable and reputation management must take into account the products (cf. Quagraine *et al.*, 2003).

When asked about products that were spontaneously linked to horticulture, the bias of the sample towards production horticulture was again evident (Figure 2). While the categories ‘food products’ and ‘non-edible plants’ were of great importance to the question of typical products, ‘building/working materials and services’ was of little relevance. Regardless of the position in which ‘food products’ were mentioned, vegetables were the most important product group. This means that gardening and landscaping are more likely to play a secondary role here. Only a few experts covered the entire diversity of the industry by mentioning a set of products that covers the complete definition of horticulture. However, the heterogeneity of the industry was reflected by respondents in the large number of other possible subcategories. The literature review shows that social cognitions, such as knowledge, impressions, perceptions and beliefs, are important features of reputation (Rindova *et al.*, 2010: 614). Product quality as corporate performance can be selected as a starting point for active reputation management at the corporate level. However, this first requires insights into the perceived products and their associated characteristics (Section 2). The results presented in this paper lead to the conclusion that it is mainly food, and in particular vegetables, that is perceived as having horticultural characteristics. For reputation management at the industry level, this means that targeted self-presentation, as demanded by Wærass and Byrkjeflot (2012: 191), should be made primarily through food products.

It is not only the products and the cultivation of the products that create perceptions, but also the reputation that is based on the products and the service (Figure 3). In the literature, it has been emphasised and noted that public green spaces, as a product of horticulture, form an important contribution to the leisure activities of society (Priego *et al.*, 2008).

It is not only the product that is an important feature for creating the reputation, but also the reputation that influences the choice of the product. In particular, since the quality of horticultural food products is largely a matter of trust for the consumer, the reputation can reduce the consumer’s uncertainty (Rindova *et al.*, 2005).

In the literature, it has already been mentioned that reputation can arise both knowingly and unknowingly (Aula and Mantere, 2008). The results of this study also support this statement since the reputation of horticulture is not only influenced by the performance of the industry (e.g. products), but also by its interaction with society and consumers. The categories ‘consumer preferences, perception and appreciation’, ‘lack of knowledge and consumer distrust’, ‘media coverage and lobbies’ and ‘presence and level of awareness’ enabled the authors to conclude that horticulture can only exert a direct influence on its reputation to a certain extent. Accordingly, the reputation of horticulture can be developed specifically through its products

and services, unknowingly through its emotional appeal to interest groups, or it can be influenced by third parties (e.g. the media).

The media is the main source of public information regarding agribusiness (Albersmeier and Spiller, 2010: 258). The media provides the public with information on the use of fertilisers and pesticides in plant production. However, the literature shows that parts of society have no confidence in the application of pesticides and fertilisers (Basha *et al.*, 2015; Oroian *et al.*, 2017). When compared to the agricultural industry, the experts did not confirm the overriding negative influence of pesticides on the reputation of horticulture to the same extent. However, it can be stated that the use of pesticides was a point of social criticism in this study. Nevertheless, the general impact on the environment was of rather minor importance to the reputation of horticulture.

Homogeneous product groups complicate product differentiation (Winfree and McCluskey, 2005: 11). The lack of product differentiation makes targeted reputation management more difficult in this context. Since the reputation of individual companies in an industry cannot be easily differentiated and thus considered, free-riding by individual companies could affect the entire industry. This problem was also recognised by one of the experts, who pointed out that ‘many [remember] negative headlines [...], which are, however, only caused by individual companies [...]’. The willingness to be transparent and to internally promote cooperation can make it more difficult for free-riders to do this and, at the same time, can more easily ensure that they are held accountable. On the other hand, it seems necessary for companies to clearly differentiate themselves from other businesses in the industry in order to prevent customers from linking them to the misconduct of other companies.

## 6. Conclusions

It can be concluded that the reputation of the entire industry is currently assessed as slightly positive by the experts. In addition, the heterogeneous structure of the industry is reflected in the associations around horticulture and the products spontaneously associated with the industry. This clearly highlights the essential finding of this study, i.e. that, according to the experts, consumer perception is particularly important when assessing the reputation of the German horticulture industry. From this, it can be concluded that the industry should connect with consumers, in particular through its positively associated products. In addition, the industry should specifically strengthen its public presence and the perception of the industry by consumers in order to present its public identity in a self-determined manner and to prevent negative reporting. This requires the right business strategy, not only for the entire industry, but also for each individual company. Every company needs a strategy for how it communicates with its customers via its products.

This results in a number of challenges for the horticultural industry, where interaction with society and especially with consumers is the dominant task. This allows the industry to engage in a direct exchange on negatively-viewed issues, such as the use of pesticides, even though this issue did not dominate the reputation in this study. In addition, increased interaction can prevent mistrust and promote media presence.

For this reason, the results of this work were used to develop a consumer survey that is as precise as possible. In this third step as further research (still to be published) the reputation of the industry as a whole was measured. The indicators from the expert survey that emerged as particularly important for the entire industry were formulated using the example of two horticultural segments and then evaluated by consumers in an online survey.

In addition, with the help of the indicators, recommendations for action for the industry should be derived. Timely knowledge about the perception of one’s own industry in society enables customer-oriented communication. This can enable efficient public relations work and an adjustment in marketing activities. It is important to understand how reputation can be an influencing factor and, in some cases, it is also helpful

to know how reputation is relevant to the behaviour of stakeholders that could be detrimental to the industry. This can serve as an orientation aid in planning the scope and budget for reputation-enhancing measures.

## Supplementary material

Supplementary material can be found online at <https://doi.org/10.22434/IFAMR2019.0192>

**Table S1.** Codebook – What do you associate with horticulture?

**Table S2.** Codebook – Which three products do you spontaneously associate with horticulture?

**Table S3.** Codebook – Please justify your evaluation regarding the reputation of the industry in society. Questionnaire for horticultural consultants.

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