

Two Sides of the Same Coin? Analysis of the Web-based Social Media with Regard to the Image of the Agri-food Sector in Germany

Maïke Kayser, Justus Böhm, and Achim Spiller

*Georg-August-Universität Göttingen, Department of Agricultural Economics and Rural
Development, Platz der Göttinger Sieben 5, 37073 Göttingen, Germany*
mkayser@uni-goettingen.de ; Justus.Boehm@agr.uni-goettingen.de ;
a.spiller@agr.uni-goettingen.de

Abstract

The agri-food industry has improved its productivity, especially in developed countries, in an unparalleled way. This development has, however, estranged the agri-food sector in parts from society over the years. Never before has food been as safe and secure, but simultaneously, society has become increasingly critical towards agricultural and food related issues.

In the following, this two-sided development between society and agribusiness - the existence of two sides of the same coin - will be analyzed using framing theory, which is based on media research that complex issues are simplified and reduced in order to improve understanding. An innovative technique was applied, analyzing the web-based social media in Germany. 50,931 web posts were collected in German web discussion forums and weblogs covering 21 issues identified as relevant in the public discourse with regard to the agri-food sector. All posts were analyzed with quantitative semantic software to characterize the respective framing. The results show that all contentious issues are mainly framed in a two-sided way. The modern productivity-driven agri-food industry is judged as a negative development, and trends returning towards a more natural food production are seen as positive.

Keywords: *Agri-Food Industry, Framing, Image, Issue Management, Social Media*

1 Introduction

Every year the German office of Greenpeace publishes a report about pesticides in food (Greenpeace 2010). With each campaign against pesticides, they were able to get attention from the media, and even the big retailers were forced to reduce the pesticide limits for their suppliers. Greenpeace was even able to bring about the situation where the professionally tested legal limits have no importance in the market anymore. As a result, a lot of agricultural distributors have to deal with much stricter limits for their (fresh) food deliveries to the retailers and certainly a loss of acceptance from the consumers.

As in other industries, the agri-food industry is confronted with the problem that critical issues are increasingly becoming the focal point of public discourse. “Mass animal husbandry”, “tainted meat” or “genetically manipulated food” are only a few phrases describing the lack of public acceptance of this sector. Due to poor knowledge about agricultural and food related topics, a one-sided or at least shortened public discourse, disregarding the accomplishments of this sector like the provision of generally safe and affordable food, can be presumed.

This development is followed by an increasing use of the internet, especially the social web,

for campaigning. As described beforehand, Greenpeace for example, not only uses public actions and co-operations with the classical media to promote their campaigns. Nowadays this comes along with a sophisticated web campaign that includes information on the websites, an own blog and a multitude of links to social networks with own Greenpeace groups. This gives join-in actions and calls for boycotts a completely new incidence and power, what involves new challenges for the agri-food industry.

In order to analyse which issues concerning the agri-food industry are in the spotlight of public interest and which resultant frames can be observed, an empirical analysis of the social media as a mirror of society in Germany is applied. Thereby, weblogs and web discussion forums were explored based on pre-defined keywords covering 21 topics of investigation - such as Animal Welfare, Food Safety, Food Related Scandals, Food Additives, etc. - covering the broad challenges of the agri-food sector over the past two years.

First, a summary of the image of the agri-food industry in Germany and the main drivers for this development is given. The second part outlines the definition of web-based social media and its increasing relevance for public communication. This is followed by an overview of the theory of framing and the framing process used in this study as well as the development of our adjusted theoretical construct of a two-sided framing in the agri-food sector. In the results, the formal criteria of the social media communication and the framing analysis are presented. This is followed by a discussion of the results, focusing on the outcomes for the agri-food industry and options to cope with the alert public in the web. Finally, we provide a summary of the most relevant points.

2 Image of the agri-food sector in Germany

The agricultural and food producing sector has undergone unprecedented development in the past several decades. Particularly as a result of new production-related technologies, agricultural yields have kept pace with the constantly increasing world population. In Germany, for instance, the average farmer in the 1950s was able to feed ten people, in 2008 this figure was 148 (DBV 2009).

The fact that a proportion of the 6.8 billion people on Earth today suffer from hunger is more an issue of distribution and not of production. Today, where “milk lakes” and “butter mountains” are more familiar to Western populations than food rationing and undernourishment, questions of food security have largely lost their relevance in recent years. Even though people might appreciate the achievements of the industry, their requirements continue to grow. Protests against intensive animal husbandry, the cultivation of genetically modified crops or the growing consumption of organic products are only a few examples of this tendency. Combined with a lack of knowledge of and proximity to the agri-food industry (“Estrangement”), the demands of society, or at least several groups, are in opposition to the attempts to increase the efficiency of the sector.

In Germany, the structural change in the agri-food industry over the past few decades came together with the loss of the agricultural character of the country in particular. One hundred years ago, 38 % of the labour force was employed in agriculture, whereas the proportion nowadays is about 2 %. This development is accompanied by a reduction in the number of

(but increase in the average size of) farms. Only in the past ten years, a loss of about 35 % of farm holdings has been recorded (DBV 2009).

This implies an increasing alienation of society from agricultural food-producing topics. As a result, the general level of knowledge about this area is poor, particularly in major cities where people completely lack contact to the rural areas. Primary school children in the city of Berlin believe that pigs are solely fed on grass (82 %) and only 10 % know what sugar is made of (Essmann 2001).

In addition, this lack of connection to agriculture has effects on the image of the agri-food sector whose image can be simplified been defined with the question, how this sector is perceived (Aaker 1996). While farmers themselves are held in high esteem and often associated with picturesque county life, other parts of the whole supply chain, especially the meat chain, have a poor reputation (DBV 2009; Albersmeier & Spiller 2009, cf. Figure 1).

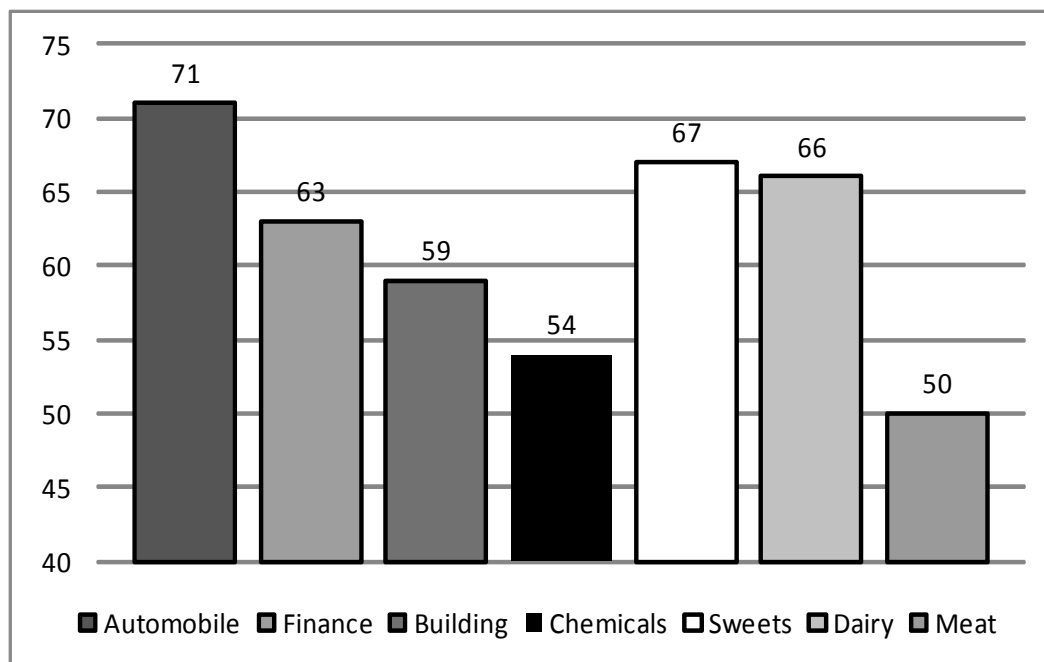


Figure 1. Reputation of different industries (consumer survey; scale from 0 to 100)
Source: Albersmeier & Spiller 2009

In order to analyse which issues with regard to the agri-food sector in Germany are discussed in the web-based social media and how they are evaluated, the present analysis utilises the framing concept to compile a super ordinate structure.

3 Theoretical background: Web-based social media

Social media, also known as Web 2.0, illustrates - besides new specific technologies or innovations - primarily a modified perception and use of the internet. Basically, the idea of social media can be defined by two elemental characteristics: (1.) the possibility of creating or co-composing own web content and (2.) the usage of the internet as public communication platform (Gerhards et al. 2008). Contrary to classical centralized sender-oriented communication, users are - thanks to interactive applications - able to generate, work on and distribute content themselves. This implies a new hybrid form of simultaneous production and usage, the

so called “produsage” (Bruns 2007).

For modern communication management, the above mentioned structural change in public communication in the internet involves new challenges and likewise new opportunities. On the one hand, from the prospect of enterprises the possibilities to shape public opinion are, in comparison with classical sender-orientated comprehension of communication, hindered. However, on the other hand, this participative web technology offers the opportunity to obtain early insights into newly evolving topics which might later become increasingly difficult to manage. In order to benefit from this dynamic communication, the establishment of a systematic internet monitoring system is necessary. This allows the recognition of relevant issues at an early stage, so that communication strategies can be customized accordingly. Besides potential advantages concerning the communication management, the social media enables alternative forms of product development, production and distribution (Zerfaß & Sandhu 2008).

As a research instrument, web-based social media is suitable to give a general impression about the public discourse towards diverse issues and can be seen as a mirror of society. In Germany, 67.1 % of the population already uses the internet, and the trend is increasing, since already 96.1 % of the 14-29 year old are online. This development implies a simultaneous increase of web-based social media user (Ard/Zdf Medienkommission 2009). Furthermore, social media allows profound impressions due to its frankness, its network character and its interactivity. As opposed to, for example, surveys, the active user reveals a plethora of information about his opinions, attitudes, preferences and criticisms without problems of social expectations (Schenk et al. 2008).

In this context, an imbalance of the frequency of positive and negative posts, especially in discussion forums, can be presumed. According to studies concerning consumer behaviour, it can be seen that critical opinions are communicated twice as frequently (or even more often) as positive experiences or attitudes. The motivation for taking part in a discussion is higher if a user is displeased than if he is pleased with a certain situation (Kotler et. al 2007, Hansen & Jeschke 1995).

This analysis concentrates on two applications of social media: web discussion forums and weblogs. Discussion forums are characterized through the participation of several users sharing opinions or knowledge, whereas a blog (short for weblog) is a website managed by a single person (blogger), who journals his thoughts and ideas about a particular subject. As the name “weblog” – a composite of the words “web” (world wide web) and “logbook” – describes, many blogs are personal diaries detailing someone’s experiences in life. As opposed to discussion forums, the blogger controls the content of the postings: visitors may comment on the content but usually only read the latest news of the blogger (Kaiser & Mueller-Seitz 2008).

Web-based social media is a new evolving communication channel which is slowly coming in to the focus of agricultural science and industry, and in future it will be one of the main sources of unbiased information on relevant public issues. In the following, the Framing Theory, which builds the research framework of the presented analysis, is presented and transferred to these relatively new forms of public communication.

4 Research framework and methodology

4.1 Framing Theory

The Framing Theory has its origins rise in media research analysing possible effects which bias information in mass media. It is presumed that classical public consciousness has given way to a media consciousness, in which journalists function as ‘gatekeepers’. Based on media specific factors, they are the ones selecting which information will be published as news, and which will never reach the public. Awareness of the power of the media to interpret issues in the public consciousness leads to competition among various actors to dominate this channel as spokesperson in order to promote their own interpretation. To this end, actors follow rules of the media (Gerhards et al. 1998). For communication through social media the described limitations are of minor importance. As described beforehand, everybody is hypothetically able to publish news, information and opinions - but even in the breadth of the web, the coverage is limited by the credibility of each user and/or source.

However media coverage is not only shaped by the attempts of the societal actors to exercise influence, but also through the concentration of the reporting on selected interpretive patterns. These patterns are termed framing in the more recent media research (Druckman 2004; Entman 1993). In many cases frames are used that limit the room for interpretation in the public domain through the compaction and simplification of structures (Christmann 1997; Dombrowski 1997). Frames emphasise certain aspects of a subject and thus provide a model for the selective perception of complex topic areas. Accordingly, they allow individuals as well as organisations to quickly come to terms with complex problems with manifold information (Snow et al. 1986).

In communication science, interpretive ‘frames’ are considered a part of three interlinked models. They have been developed in research as approaches to explain the effect of the media on all kinds of groups, and vice versa (Scheufele & Tewksbury 2007). In media-effect studies, a branch of communication sciences, the models “agenda setting”, “priming” and “framing” are differentiated from one-another:

“Agenda setting and priming research stipulate that story selection can alter audience judgments by shifting the odds that particular issues will come to mind easily. Consequently, audience estimates of issue importance (in the case of agenda setting) and approval of public actors (in the case of priming) are affected. Framing research proposes that media messages, by emphasizing some aspects of a problem rather than others, can put people in mind of very different considerations when they contemplate the matter and form opinions about it.” (Price et al. 1997)

Overall, however, no definitive and comprehensive definitions and delimitations for these terms have been established (Ghanem 1997; Scheufele 2003; Willnat 1997). Depending on the approach, framing is seen as the main principle that is complemented by agenda-setting and vice versa. The cognitive model of Price et al. (1997) is frequently used as a basis for the study of frames (Chong & Druckman 2007).

This perception is likewise relevant for social media, since the communication model for web-based communication still relies on a sender-recipient situation which gives the sender the chance to reduce the complexity of a certain issue. Thus, framing is also possible in social media, especially because no “professional” authority like journalists tries to verify the posts.

4.2 Framing Process

As remarked in the preceding chapter, Framing Theory has until now concentrated on the evaluation of frames in the (print) media (Dahinden 2006). However, recipient frames have also been investigated in various works (Graber 1984; Hornig 1992; Iyengar 1991; McLeod & Detenber 1999; Dahinden 2006), that Scheufele (1999) linked to media frames in his model of the framing process. In this process he distinguishes between “inputs”, “processes” and “outcomes”, as well as the two levels media and audience, or recipient (see Fig. 2).

Inputs on the level of the media are objectives and ideologies, but it is also the norms of the journalistic profession (Scheufele 1999) that determine how news is framed. The resulting process of “frame building” is carried out solely by the journalists and/or the producer of the content. It is restricted by the fact that press releases have already been pre-framed for the relevant groups, and journalists/producers can therefore no longer treat these sources of information as fully neutral (Dahinden 2006). Grossenbacher (1986) also talks in this context of the reframing of press releases: in this orientation phase it comes first to an opinion forming process of frame building (Scheufele 1999). Scheufele (2003) attributes a time span of 14 days to this phase, during which particular frames establish themselves. This is followed by the routine phase, in which the formed frames are modified and possibly also extended whilst overall staying relatively stable (Gerhards et al. 1998).

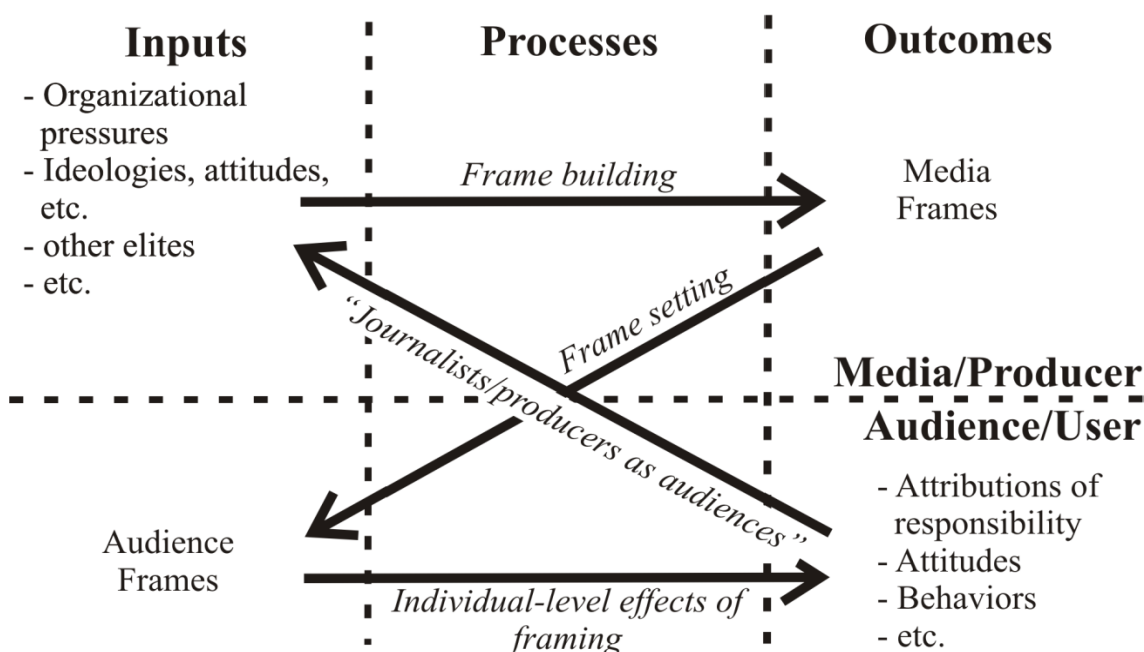


Figure 2. Framing Process

Source: modified according to Scheufele 1999

Once this process is completed, the established “media frames” or media content frames are communicated to the recipients/user (Scheufele 1999). Whether they perceive the media frames as their own opinion is heavily dependent on whether the specific frames are perceived as salient and important. Only when it comes to an adaptation, is the frame subjected to individual classification adjusted to personal attitudes and points of view. This modified or adjusted frame is then in turn regularly communicated by the recipient/user, and thus sooner or later reaches the journalists/producer once more as new external input (Gerhards et al. 1998) or is directly communicated in an own social media source. Hence in the social media, the classical framing process is more like a network of user and producers who confront each other with their personal frames leading to a vast heterogeneity in personal frames. Even though the Framing Theory is based on a classical sender-orientated understanding of media, it can also be transferred to the analyses of social media, presented in this paper. Due to the characteristic that a recipient of social media can be user and producer of contents at the same time (Gillmor 2004), we have to deal with media and recipient frames at the same time.

4.3 Frames “Productivity” and “Naturalness”

As described previously, the (German) agri-food industry is confronted to some degree with a bad reputation and a growing lack of knowledge about food production by the consumers. The improvements in efficiency and productivity that have been achieved in the last century are not sufficient to satisfy the consumer. Organic products, GMO (Genetically Modified Organisms)-free food and free-range animal husbandry are only a few of the new alternative developments in the food chain.

These trends indicate a split into two opposing frames that communication about agricultural and food related issues could be based on. In classical media as well as in social media, journalists and producers supposedly frame “alternative” methods of production with different attributes than “conventional” methods, which are named in the following as the frames “Naturalness” and “Productivity”.

This paper targets the categorization of the obtained social media posts on the pre-defined topics of investigation to the frames “Productivity” and “Naturalness” on the basis of its structure as regards content. Thereby, also the displayed tonality is considered, so that finally a classification in the following matrix (Fig. 3) is possible.

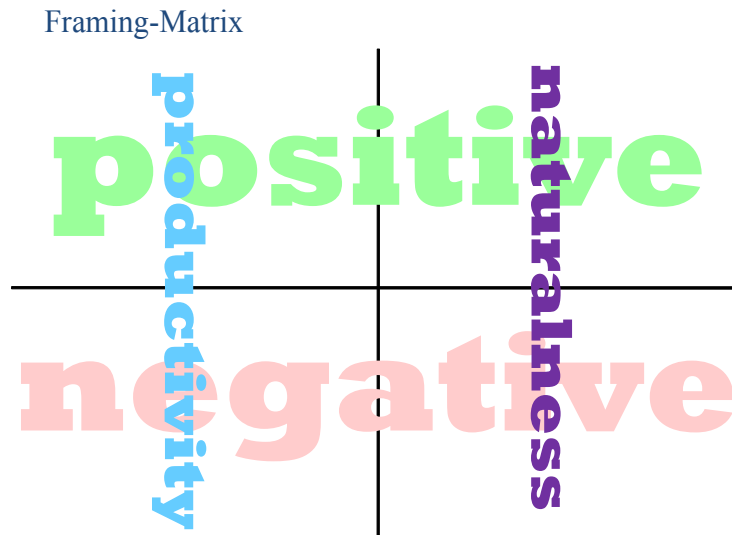


Figure 3. Framing-Matrix

5 Research design

In the last decade, the number of social media sites rapidly grew in the internet and the communication changed from a technical focus to a discourse about all relevant issues in life. In Germany, the web-based social media content on food and beverages only has a share of 2.3 % of all blogs (Fank 2009). Although 21 issues could be identified in an explorative pre-study, in which the search engines “[http://blogsearch .google.com/](http://blogsearch.google.com/)”, “<http://technorati.com>” and “www.blogpulse.com” were used to identify keywords that deliver enough relevant posts. These issues were broad and newsworthy enough and were characterized through up to 72 keywords¹ per issue:

Agricultural Lobbyism, Agricultural Policy, Agricultural Structure, Agriculture and Climate Protection, Agriculture and Environmental Protection, Agri-Food Company Names, Alternative Animal Husbandry, Country Life and Agriculture, Crop protection, Farm Animal Welfare, Food Additives, Food Prices, Food Related Scandals, Food Safety, Genetic Engineering for Agriculture, Industrial Agriculture, Milk Strike, New Breeding Methods, Renewable Resources, Traditional Breeding and World Food Affairs.

On the basis of these issues, the framing concept of “Productivity” and “Naturalness” will be analyzed in the following. For this, the posts containing the keywords were extracted from the internet. In cooperation with the private market research company for social media “VICO Research & Consulting GmbH” the whole German-speaking social media community in the internet was scanned and the relevant posts were automatically saved and categorized. Here, VICO used a two-step method, where first all relevant web sources were located and second all relevant posts are extracted from this sources, providing a data set with the following variables for the semantic analysis:

1. We used limited (e.g. mass production if meat) and unlimited (e.g. “Meat-Mafia”) keywords.

Date, content of the post, title of the post, title of the forum discussion (only forums), name of the community, type of community, type of issue.

This data set then was purged of irrelevant posts by hand and finally had 50,931 posts; 47,427 posts in discussion forums and 3,504 posts in weblogs. The time period of investigation for the blogs was limited to January 2009 to August 2009, while the time period for the discussion forums was from July 2007 to August 2009. The difference between the two lies in the variation of the accessibility of the web sources, because blogs are usually not managed as professional as forums and exist for shorter periods of time. Thus, all time series analyses are only based on the forum posts.

The next step was the integration of the data in the semantic software tool “SPSS PASW Text analytics for surveys 3” which is able to detect single words and their synonyms as well as semantic terms (e. g. adjective + noun). Therefore only a random selection of 10,000 posts was used, because of a limitation of IT-resources. In a qualitative evaluation, the surrounding texts of the terms were reviewed to group and assign them to one of the four blocks in the framing matrix.

6 Results of the social media analysis

6.1 Formal criteria of the social media communication

The relevance of social media continues to grow, as increasing numbers of users exchange their views in discussion forums and blogs. In the case of food and agriculture related issues the posts per week rose from consistently from 300 posts in forums in the middle of 2007 up to around 700 posts in the middle of 2009 (cf. Fig 4), but the course of growth is quite heterogeneous. In holiday times during summer and around Christmas the intensity is quite low (<200) while, when issues are discussed in the classical media, the intensity rises up to over 1,000 posts per week. In 2008, the discussions about high food prices and hunger in developing countries in the springtime and in 2009 the ban of the GM-maize MON810 by the German agricultural minister (also in spring) are the most discussed events in the social media.

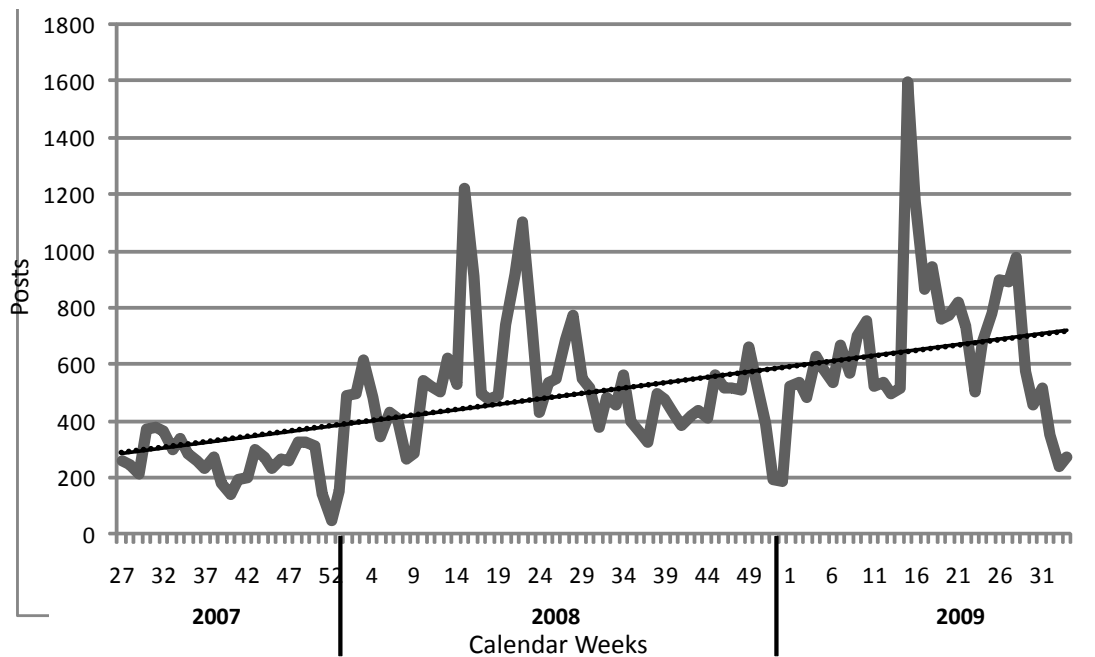


Figure 4. Course of the communication about food and agricultural issues in discussion forums

The top 5 issues of the last two years were Renewable Energy, the Agricultural Structure in Germany, Genetic Engineering for Agriculture, Industrial Agriculture and Farm Animal Welfare (with 40,424 hits¹ by itself, which are almost two third of all hits; cf. Tab. 1). Especially the three issues GMOs, Industrial Agriculture and Animal Welfare are of special interest, because they have discussed in the German public for years and the proponents and the opponents are irreconcilably opposing each other. Each group has its own framing of the issues and tries to position it in the public (web) discourse.

1. We differentiate between posts and hits, because especially blogs sometimes target two issues in one post. So in the data set are 23 % more hits (62,803) than posts (50,931).

Table 1. Total hits per issue

Issues	Hits (total)
Renewable Resources	10,026
Agricultural Structure	9,261
Genetic Engineering for Agriculture	9,126
Industrial Agriculture	7,772
Farm Animal Welfare	4,239
Food Related Scandals	3,215
Agricultural Policy	2,668
Crop protection	2,622
Food Prices	2,248
World Food Affairs	2,059
Alternative Animal Husbandry	1,809
Country Life and Agriculture	1,514
Food Additives	1,460
Agriculture and Environmental Protection	1,370
Food Safety	1,055
Agri-Food Company Names	728
Agricultural Lobbyism	610
Agriculture and Climate Protection	570
Milk Strike	181
Traditional Breeding	181
New Breeding Methods	89
SUM	62,803

6.2 Results of the Framing Analysis

In the analysis it was possible to allocate 35.8 % of all posts to at least one frame-type and 6.1 % to more than one, because especially weblogs tend to address more than one frame. This left 64.3 % of all posts unallocated, as they were lacking specific terms that indicate a special pattern of interpretation.

As shown in the second part of the paper, the agri-food industry is faced with a bad reputation as well as with countering critical public comments, especially in the social media. As mentioned before, the motivation to write a post is mostly negative, so the web discourse is usually dominated by critical opinions. This situation could also be found in the web discourse about the agri-food sector.

Most of the posts framed agricultural and food-related issues with a negative opinion on the frame “Productivity” with 63 % of all four specifications (cf. Fig. 5). These posts are characterized through negative connotations about GMOs, animal husbandry, and unhealthy food and living habits induced by the agri-food industry (cf. Fig. 6). A positive framing of the benefits of the agri-food industry are much more infrequent with only 9 % and characterized predominantly through economical terms.

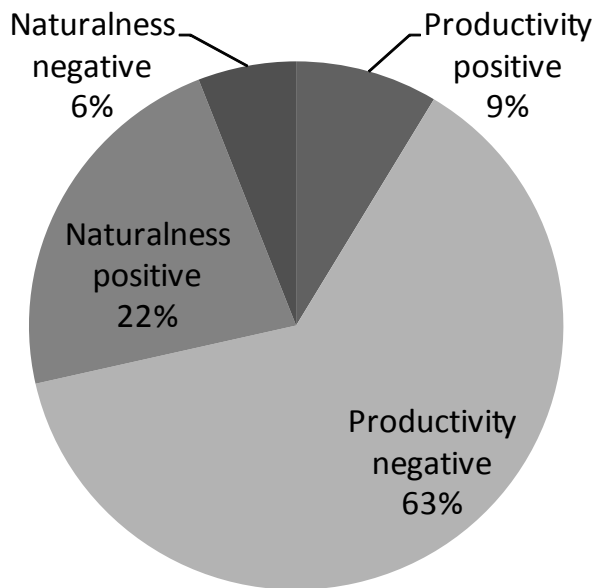


Figure 5. Allocation of the different frame-types

Concerning the frame “Naturalness”, the situation turns out to be exactly the other way around. Here the positive aspects are mostly stated (22 %) with components that reflect an organic and animal welfare orientation. The negative perceptions of “Naturalness” are only represented with 6 % and base mainly on economical connotations and terms concerning hunger.

In Figure 6. Major components of the different frames and their frequencies Figure 6 the major components of the four blocks are summed up and show that the discourse about food and agricultural issues has fundamental lines of conflict. On the one side, the economic consequences of modern, productive and efficient food production as opposed to the traditional, sustainable and animal friendly ways are the interpretative patterns, which are cumulated in the positive frame “Productivity” and the negative frame “Naturalness”. They appear in posts 49 times (expected value 9; std. residual 13), which indicates a strong coherence. On the other side, the ethical, moral, environmental effects of these two types of food producing are in the focus of the discourses cumulating in the frames “Productivity” and “Naturalness”. Here also a high coherence is discovered with 394 posts containing both frames (expected value 257; std. residual 8.5), while the two other combinations only have standard residuals of 2.3 (P neg/ N neg) and 5.8 (P pos/N pos). So the “coin” has economical effects on its front and plurality of moral, ethical and sustainability effects on its back.

P o s i t i v e			
P r o d u c t i v i t y	Effective (42) High yields (35) Economical (33) No hazard (29) Cheaper meat (23) Large farm (17) Modern agriculture (14)	Free-range breeding (65) Sustainable (61) Cage free animal husbandry (60) Wholefood shop (57) Species-appropriate animal husbandry (57) Organic (56)	N a t u r a l n e s s
	Mass animal husbandry (1181) Tainted meat (292) GMO-corn (266) Pesticides (246) GMO-food (113) Cruelty to animals (107) Monocropping (90)	High prices (60) Hunger in the world (41) World hunger (38) Expensive food (24) High costs (22) Money + expensive (10) Low yields (10)	
N e g a t i v e			

Figure 6. Major components of the different frames and their frequencies

7 Discussion

In earlier days a typical phrase was: “[You’ll] eat what’s put on the table!” demonstrating a lack of choice in food consumption unimaginable nowadays in child education and Western daily life. In any case, the improvements lying between lack of food and total choice were achieved in the agri-food industry and promoted by the Common Agricultural Policy. These achievements became the “normal standard” as today’s society is faced with an overabundance of diverse foods. In conjunction with the growing disconnection between food production on farms - as well as in the food industry - and the food consumption in private households, a critical view of the food chain with the first food scandals in the 70s (Kapfelerger & Pollmer 1983) and new specialized publics were formed (Gerlach et al. 2005). Beck (1986) proposed the term “risk society” for this transition from insufficiency to risk orientation in his theory for the entire society.

The agri-food industry continues in their pursuit of producing more, safer and cheaper food (DBV 2009), in order to be competitive at the local and today also at global markets. The intensification involved in this process, i.e. the increasing use of chemicals (pesticides, fertilizer, hormones and artificial food additives) and the industrialization of all processes in the chain, especially in animal husbandry, were the topics brought to the consumers by the media and increasingly through the internet/social media. Thus, the information and the relevant frames of the public were not longer basing on unique personal experiences as in former times, but published through media that rather tends to publish bad news (Ruhmann 1999).

The results of the analysis show that the web community and, to a certain extent, modern society are becoming more interested in agricultural and food related issues, including controversial themes like GMOs, industrial agriculture and animal welfare. These controversial issues are mainly discussed under ethical and risk aspects, with the two-sided line of argumentation from opposing the “conventional” food producing methods to honoring “alternative” methods. The positive sense of the discussed “natural” aspects lies in the reduction of unethical and risk-inducing ways of producing as well as in the consumption of food. The discussion about the economical “productivity” aspects has only minor importance in the web discourse. Even though the framing of agricultural and food related issues is not totally congruent with the actual consumption habits which are still strongly price-driven (Nielsen 2009). This imbalance of the frequency of positive and negative post can be seen as typical. According to studies concerning consumer behavior, it can be assumed that critical opinions are communicated twice as much (or even more) as positive experience or meanings (Kotler et al. 2007; Hansen & Jescke 1995).

However, the agri-food industry missed initiating a more distinguished dialog with the consumer and is operating more or less independently from society. This development is likely to accelerate as a result of the growth of social media, as the process of sharing frames and stabilizing them in users’ minds is not limited, as in classical media. Every highly involved producer is able to place his framing of the agri-food industry in the web and every interested user can find each post about the agri-food industry. At the moment, this would be for the most part a very negative framing of the agri-food industry and its processes. But this seems to be a general public development, since all important industries, such as e.g. the chemical or the automobile industry in Germany are faced with a bad reputation and a lack of confidence (GPRA 2009).

8 Conclusion

The ongoing structural change in public communication, particularly in the internet, involves new challenges for modern communications management. While today’s prevailing marketing communication is mass-media-orientated, the emphasis in the social media is shifting towards its recipients, who can be user and producer of contents at the same time (Gillmor 2004).

As has been shown in the analysis of the social media, the agri-food sector, broken down into a large number of single issues, is a permanent topic in the web, and also in the general public discourse in Germany, with critical comments dominating. Even though the participative and dynamic structure of social media complicates the overview of the discourse, the complexity of the various discussions can provide deep insights in the recipient’s (consumer’s) point of view.

The results shown here are limited through the quality of constructs behind the frames. Software-based analysis always tends to be static and inflexible, and users tend to publish negative comments exclusively. Thus, the accumulation of different frame types can differ from the average personal framing (passive user). Only 9 % of the web users are actively producing

web content, even though this user can be seen as opinion leader (Tns Infratest 2007).

Hence, in order to benefit from the dynamic process of web-based social media, the establishment of systematic online monitoring is helpful for enterprises or whole industries. This would allow the recognition of relevant issues at an early stage so that communication strategies can be customized accordingly. Especially for the agri-food industry, whose enterprises are confronted with various issues and stakeholders, like local target groups or NGOs, strategic Issue Management is of particular importance.

Social media offers the agri-food industry two powerful opportunities to cope with the public reservations towards them. Firstly, all opinions of the public are accessible in an unbiased form, because the posts are published voluntarily. This is an advantage towards professional surveys, which tend to be socially biased, even though the presented results are not representative. All critical points can be evaluated and analyzed in the framework of professional issue management to get a picture of the consumers' requests in order to integrate them in companies' strategy. And secondly, social media provides the opportunity to publish an own interpretation about e.g. the company's actions to counteract the momentarily dominating framing of the agri-food sector or single companies.

By taking advantage of modern communication platforms, not only the advanced possibility to react to an upcoming issue is valuable, but also the costs of coping can be reduced. In this context, the quality of the issue analysis decides the possibility of an effective and efficient (re)action (Liebl 2000, Downs 1972). In other words: "An issue ignored is a crisis invited" (Henry Kissinger).

9 References

- Aaker, D. A. (1996). *Building Strong Brands*, London: Simon & Schuster.
- Albersmeier, F. & Spiller, A. (2009). Das Ansehen der Fleischwirtschaft: Zur Bedeutung einer stufenebergreifenden Perspektive. In: Boehm, J., Albersmeier, F. & Spiller, A. (Ed.): *Die Ernährungswirtschaft im Scheinwerferlicht der Öffentlichkeit*. Lohmar, 213-250.
- Ard/Zdf Medienkommission (2009). ARD-ZDF-Onlinestudie 2009. Frankfurt/Mainz. In: <http://www.ard-zdf-onlinestudie.de>.
- Beck, U. (1986). *Risikogesellschaft. Auf dem Weg in eine andere Moderne*, Frankfurt am Main, Suhrkamp.
- Bruns, A. (2007). "Prousage: Towards a Broader Framework for User-Led Content Creation." Paper presented at Creativity & Cognition Conference, Washington, DC, June, 14th 2007.
- Chong, D. & Druckman, J. N. (2007). A Theory of Framing and Opinion Formation in Competitive Elite Environments. *Journal of Communication* 57 (1), 99-118.
- Christmann, G. B. (1997). *Oekologische Moral*. Wiesbaden.
- Dahinden, U. (2006). *Framing: Eine integrative Theorie der Massenkommunikation*, Konstanz. UVK.
- Dbv (2009). *Situationsbericht 2010. Trends und Fakten zur Landwirtschaft*. Berlin.
- Dombrowski, I. (1997). *Politisches Marketing in den Massenmedien*. Wiesbaden.

- Downs, A. (1972). Up and Down with Ecology – The “Issue-Attention Cycle”; in: *The Public Interest*, No. 28, Spring, 14-20.
- Druckman, J. (2004). Political preference information: Competition, deliberation, and the (ir)relevance of framing effects. In: *American Political Science Review* 98 (4), 671-686.
- Entman, R. (1993). Framing: Toward clarification of a fractured paradigm. *Journal of Communication* 43 (4), 51-58.
- Essmann, S. (2001). Die Entfremdung der Verbraucher von der Nahrungsmittelproduktion und ihre Auswirkungen auf das Marketing, Eine empirische Studie, unpublished Master-Thesis.
- Fank, M. (2009). Web-2.0-Studie 2009. Studie über Blogger und Foren-Betreiber. Ergebnisse einer empirischen Forschung. In: <http://www.webknowledge.de>.
- Gerhards, J., Neidhardt, F. & Rucht, D. (1998). Zwischen Palaver und Diskurs. Strukturen oeffentlicher Meinungsbildung am Beispiel der deutschen Diskussion zur Abtreibung. Opladen. Westdeutscher Verlag.
- Gerhards, M., Klingler, W. & Trump, T. (2008). Das Social Web aus Rezipientensicht: motivation, Nutzung und Nutzertypen. In: Schmidt, J. (Ed.): *Kommunikation, Partizipation und Wirkungen im Social Web*, Band 1, Koeln, 129-148.
- Gerlach, S., Kropp, C., Spiller, A. & Ulmer, H. (2005). Die Agrarwende, Neustrukturierung eines Politikfeldes. Discussion Paper, Goettingen.
- Ghanem, S. (1997). Filling in the tapestry: The second level of agenda setting. In: McCombs, M. E., Shaw, D. L. & Weaver, D. H. (Ed.) *Communication and democracy: exploring the intellectual frontiers in agenda-setting theory*. Mahwah, NJ, Lawrence Erlbaum Associates, 3-14.
- Gillmor, D. (2004). *We, the media. Grassroots journalism by the people, for the people*. Sebastopol, O'Reilly.
- GPRA, Gesellschaft Für Public Relations Agenturen (2009). GPRA-Vertrauensindex. In: <http://www.pr-guide.de/index.php?id=384>.
- Graber, D. A. (1984). *Processing the news: how people tame the information tide*, New York, Longman.
- Greenpeace (2010). Pestizide & Lebensmittel. In: http://www.greenpeace.de/themen/chemie/pestizide_lebensmittel/.
- Hansen, U. & Jescke, K. (1995). Beschwerdemanagement fuer Dienstleistungsunternehmen. Beispiel des KFZ-Handels. In: Bruhn, M. & Stauss, R. (Ed.) *Dienstleistungsqualitaet. Konzepte – Methoden – Erfahrungen*. Wiesbaden, 525-550.
- Hornig, S. (1992). Framing Risk: Audience and Reader Factors. *Journalism Quarterly* 69 (3), 679-683, 686-690.
- Iyengar, S. (1991). *Is anyone responsible? How television frames political issues*, Chicago, Univ. of Chicago Press.
- Kaiser, S. & Mueller-Seitz, G. (2008). Nutzereinbindung bei Innovationsprozessen im Social Web: Fallstudie Windows Vista. In: Schmidt, J. (Ed.): *Kommunikation, Partizipation und Wirkungen im Social Web*, Band 2, Koeln, 338-351.

- Kapfelsperger, E. & Pollmer, U. (1983). *Iss und stirb. Chemie in unserer Nahrung*, München, Dt. Taschenbuch-Verlag.
- Kotler, P., Keller, K.L. & Bliemel, F. (2007). *Marketing-Management. Strategien für wertschaffendes Handeln*. München, Pearson Studium.
- Liebl, F. (2000). *Der Schock des Neuen: Entstehung und Management von Issues und Trends*. München.
- McLeod, D. & Detenber, B. (1999). Framing effects of television news coverage of social protest. *The Journal of Communication* 49 (3), 3-23.
- Nielsen (2009). *Universen 2009 - Handel und Verbraucher in Deutschland*. In: http://de.nielsen.com/pubs/documents/universen_2009_000.pdf.
- Price, V., Tewksbury, D. & Powers, E. (1997). Switching Trains of Thought: The Impact of News Frames on Readers' Cognitive Responses. *Communication Research* 24 (5), 481-506.
- Ruhrmann, G. (1999). Medienberichterstattung über Ausländer: Befunde–Perspektiven–Empfehlungen. In: Butterwegge, C. (Hrsg.) *Medien und multikulturelle Gesellschaft*. Opladen, Leske + Budrich, 95-108.
- Schenk, M., Taddicken, m. & Welker, m. (2008). Web 2.0 als Chance für die Markt- und Sozialforschung? In: Schmidt, J. (Ed.): *Kommunikation, Partizipation und Wirkungen im Social Web*, Band 1, Koeln, 129-148.
- Scheufele, B. (2003). *Frames - Framing - Framing-Effekte: theoretische und methodische Grundlegung des Framing-Ansatzes sowie empirische Befunde zur Nachrichtenproduktion*, Wiesbaden, Westdeutscher Verlag.
- Scheufele, D. A. (1999). Framing as a theory of media effects. *Journal of Communication* 49 (1), 103-122.
- Scheufele, D. A. & Tewksbury, D. (2007). Framing, Agenda Setting, and Priming: The Evolution of Three Media Effects Models. *Journal of Communication* 57 (1), 9-20.
- Snow, D. A., Rochford, B. E., Worden, S. K. & Benford, R. D. (1986). Frame Alignment Processes, Micromobilization, and Movement Participation. In: *American Sociological Review* (51), 464-481.
- Tns Infratest (2007). *TNS Infratest Studie zum Nutzungsverhalten im Web 2.0*, In: http://www.tns-infratest.com/Presse/pdf/Presse/20071126_TNS_Infratest_Web20_Prosumenten.pdf.
- Willnat, L. (1997). Agenda setting and priming: Conceptual links and differences. In: McCombs, M. E., Shaw, D. L. & Weaver, D. H. (Ed.) *Communication and democracy: exploring the intellectual frontiers in agenda-setting theory*. Mahwah, N.J., Lawrence Erlbaum Associates, 51-66.
- Zerfaß, A. & Sandhu, S. (2008). Interaktive Kommunikation, Social Web und Open Innovation: Herausforderungen und Wirkungen im Unternehmenskontext. In: Schmidt, J. (Ed.): *Kommunikation, Partizipation und Wirkungen im Social Web*, Band 2, Koeln, 283-310.