

Are your messages being heard? Evaluation of the forest-based sector's communication on sustainable forest management in Austria

Werden Ihre Botschaften gehört? Evaluierung der Kommunikation des Forst-Holz-Sektors über nachhaltige Forstwirtschaft in Österreich

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Summary

Communication is important for the forest-based sector to maintain legitimacy of forestry activities among the general public. The study examines communication activities of the Austrian forest-based sector concerning sustainable forest management. First it is investigated, which key messages are communicated online, and second, how they are perceived. The results suggest that the key messages differ in their effectiveness, and that the perception of the messages is mainly influenced by respondents' involvement in the forest-based sector.

Keywords: communication, forest-based sector, perception, sustainable forest management

Zusammenfassung

Kommunikation ist für den Forst-Holz-Sektor von Bedeutung, um seine forstwirtschaftlichen Tätigkeiten in der Öffentlichkeit zu legitimieren. Die Studie untersucht die Kommunikationsaktivitäten des Österreichischen Forst-Holz-Sektors zum Thema nachhaltige Forstwirtschaft. Es wird zunächst untersucht, welche Botschaften kommuniziert werden und anschließend, wie diese wahrgenommen werden. Die Ergebnisse lassen darauf schließen, dass sich die Botschaften in ihrer Wirksamkeit unterscheiden und, dass deren Wahrnehmung hauptsächlich durch den Bezug der Befragten zum Forst-Holz-Sektor beeinflusst wird.

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Schlagworte: Kommunikation, Forst-Holz-Sektor, Wahrnehmung, nachhaltige Forstwirtschaft

1. Introduction

Due to its dependence on natural resources and increased environmental awareness among the public, the forest-based sector is under constant public surveillance (BOWYER, 2008, 5). According to a survey, EU citizens consider conservation and protection of forests as the most important topic when being asked about forests in their country (RAMETSTEINER et al., 2009, 55). A study on the top 100 forest companies as determined by PricewaterhouseCoopers reveals that sustainable forest management is by far the most prominent topic in their sustainability reports (VIDAL and KOZAK, 2008, 67).

The Austrian forestry law states in §1 (2) production and environmental protection as parallel goals and emphasises sustainable forest management for the provision of forest ecosystem services to society (BGBl I 59/2002). Approximately 69% of the Austrian forest cover is sustainable forest management certified (PEFC, 2013). Forest owners need to balance the provision of raw material for the industry and other societal demands.

About 80% of the forestland in Austria is privately owned (BFW, 2015). Over 120,000 of private owners hold lots smaller than 200 hectares (STATISTIK AUSTRIA, 2008), of which about 78% are considered to have some sort of agricultural background (HOGL et al., 2005).

As communication is an important tool to maintain legitimacy of forestry activities among the general public, corporate social responsibility reports or sustainability reports, are used to manage public opinion. A study on the forest-based sector's online communication in four forestry-rich countries in Europe found that in Austria, economic activities and product characteristics are emphasised, whereas forest ecosystem services are communicated less (KORHONEN et al., 2016).

Against this background the purpose of this study is to investigate which key messages are communicated by the Austrian forest-based sector concerning sustainable forest management, and how these key

messages are perceived by respondents with different sociodemographic background.

2. Theoretical background

Communication can be viewed as the transmission of information, ideas, attitudes, or emotion from one person or group to another and in some cases as an attempt by a sender to produce a predefined attitudinal change in the receiver (VAN RULER, 2004, 128). It is necessary to set communication goals and determine the levels of measurement to assess the effect of communication activities. In their most basic form, communication goals aim to “get certain messages, themes, or ideas out” and levels of measurement give you an answer “if anyone ‘out there’ heard you” (LINDENMANN, 1993, 7f).

The evaluation of communication activities needs to encompass the full communication process from sharing information to the target groups' behavioural change (WATSON and NOBLE 2007, 14f). A simple method to evaluate communication activities is to examine how these messages are perceived by the desired audience.

In this study, perception is referred to as an evaluative belief (i.e. agreement or disagreement) regarding a specific message (see table 1). Beliefs about a phenomenon are considered as important antecedents to attitude or behaviour (AJZEN and FISHBEIN, 1980), such as a negative attitude towards the forest-based sector.

It has been argued that the perception of agriculture is mostly built indirectly through media consumption, since many people lack personal, first-hand experiences (HELMLE, 2010, 52). This proposition can be applied to the forest-based sector: studies show that many respondents have little knowledge of the forest-based sector and its activities (EUROPEAN COMMISSION, 2002, 21f; PAULI et al., 1998, 12). Thus, personal experiences with the forest-based sector, as a result of profession, formal education or forest ownership, are considered to have a strong influence on the respondents' knowledge and their perception of the forest-based sector.

To catalogue existing knowledge, the three-stage memory model is applied (BETTMAN, 1979), arguing that consumers encode new information by linking it with other information already present in their long term memory.

3. Method and material

To evaluate the communication activities of the forest-based sector, this case study consists of two parts: first, a content analysis is conducted to identify key messages from webpages of the forest-based sector. Second, statements are generated from these key messages and their perception is analysed in a survey.

For the content analysis, data was taken from a larger study (KORHONEN et al., in press), in which a selection of 16 Austrian companies and organisations covering wood, pulp and paper, and bio-energy production were analysed. Selection criteria were different size of annual turnover, the position in the value chain, and the amount of information available on their websites. Except for pictures, reports in PDF form, job advertisements and news older than six months, all text and tables from the webpages were saved as raw data text files and analysed with MAXQDA software in fall 2014. All paragraphs on sustainable forest management including the origin of the raw material wood and impacts of forestry on forests were coded and grouped into different categories.

A questionnaire with 20 polarised statements was developed, covering the categories identified in the content analysis. Since the level of environmental awareness is considered to have an important influence on the perception of forestry activities, the New Ecological Paradigm (DUNLAP et al., 2000) was used in the form of a nine item version already used in previous research (BARTCZAK, 2015, 362).

The questionnaire was available online and advertised via e-mail and social media. In order to increase the diversity of the sample, personal interviews were made based on quotas (i.e. at least half of the respondents without involvement in the forest-based sector, wide range of different age groups, gender, and urbanity). Thus, respondents were selected through convenience sampling and no conclusions can be drawn on the opinion of the Austrian population.

In total, 204 responses were received in summer 2015. The sample displays an above average level of education with 45% holding a university degree and 30% being university students. Slightly more women 52% than men took part in the survey, half of the respondents were aged 30 or over, and half of the respondents were involved in the

forest-based sector through profession, formal education or forest ownership.

The level of environmental awareness was measured in a range from 9, indicating the lowest level, to 45 points, indicating the highest level of environmental awareness. With a median of 36, respondents displayed an above average level of environmental awareness.

Depending on their sociodemographic characteristics, respondents were split in two groups. To compare their answers, behaviour crosstabs and Chi-Square tests of independence were used at a significance level of $\alpha = 0.05$. For that, the six-point Likert-scale was recoded into a 3-point Likert scale distinguishing between agreement, neutrality, and disagreement. The answer 'I don't know' was added to 'undecided', since both answers indicate a neutral position.

4. Results

Two key messages on the topic of sustainable forest management were identified based on 120 hits in the content analysis. The first message emphasises the responsible use of forests for economic purposes, the second message emphasises the role of forestry in providing welfare services to society. They are summarised as:

1. "The forest-based sector in Austria uses forests responsibly" (short: "responsible use"). This message covers: legal compliance, use of certification schemes, ecological origin of wood, annual increment exceeds harvest.
2. "Forestry in Austria takes care of the forest" (short: "taking care"). This message covers: supporting forest health, supporting species diversity, supporting protection services, forestry with ecological expertise.

"Responsible use" accounted for 93 hits, whereas "taking care" only accounted for 27 hits. The survey reveals that the key messages were perceived differently (measured in levels of agreement): "taking care" messages were perceived more positively than "responsible use" messages.

High agreement was observed for statements that forestry contributes to protection services, and/or forest health, or that foresters contribute to nature protection. At the same time, high disagreement was observed

for statements that forestry or wood production has a negative effect on forests, suggesting a positive perception of forestry activities and its impact on forests. This is in contrast to statements that wood in Austria comes from ecologically sound sources, the increase of forest cover or that legal compliance is kept, for which lower levels of agreement were observed.

When considering the respondents' involvement in the forest-based sector, half of the statements revealed significant differences. In general, respondents involved in the sector had higher rates of agreement (or disagreement, depending on the polarisation of the statement), and lower rates of neutral answers, compared to respondents not involved. Table 1 shows the distribution of answers for selected statements grouped by respondents' involvement in the forest-based sector. Significant relationships with the respondents' involvement are marked with an asterisk (*). Interestingly, differences between sector involvement are smaller for statements of the key message "taking care", in comparison to statements of the key message "responsible use".

Only few significant results were observed for other socio-demographic variables, such as age, gender and level of environmental awareness: respondents younger than 30, women, or with higher environmental awareness were more sceptical towards some statements. This may relate to respondents' involvement in the forest-based sector, since this group has a higher share of men and respondents aged 30 or older.

The survey has limitations due to the sample. It is assumed that some of those who participated in the survey did so for a reason, such as familiarity either with the topic, the research institution or the interviewer. It likely attracted respondents interested in forestry and forest issues even when not formally involved in the sector. Thus the existence of a response bias must be considered.

Tab. 1: Distribution of answers (%) grouped by the respondents' involvement in the forest-based sector

| Statements | Involved | | | Not involved | | |
|--|----------|----|----|--------------|----|----|
| | - | ~ | + | - | ~ | + |
| Key-message "taking care" | | | | | | |
| Areas used for forestry provide protection from erosion, avalanches, and water pollution | 7 | 14 | 79 | 13 | 19 | 68 |
| Forestry keeps the forest healthy and strong* | 9 | 12 | 79 | 8 | 28 | 64 |
| Foresters contribute to nature protection | 6 | 22 | 73 | 12 | 16 | 72 |
| Forests are endangered due to wood production* | 79 | 14 | 7 | 63 | 17 | 20 |
| Forestry negatively influences the forest ecosystems* | 61 | 31 | 8 | 56 | 24 | 20 |
| Areas used for forestry are home to many animal and plant species | 24 | 17 | 58 | 22 | 25 | 54 |
| Key-message "responsible use" | | | | | | |
| Forest cover is increasing* | 19 | 12 | 70 | 40 | 30 | 39 |
| Forestry follows the law* | 3 | 34 | 63 | 8 | 55 | 38 |
| Wood produced in my country comes from ecologically sound sources* | 10 | 31 | 59 | 19 | 43 | 39 |
| Forestry regulations need adjustment to protect the forest* | 31 | 23 | 46 | 10 | 41 | 50 |
| Wood processing companies in my country mainly use certified (FSC, PEFC) wood | 4 | 44 | 52 | 6 | 56 | 39 |
| Wood processing companies in my country do not use illegally harvested wood | 18 | 38 | 44 | 8 | 58 | 35 |

Strongly disagree/ disagree (-), undecided/I don't know (~), agree/strongly agree (+)

*Significant relationships with the respondents' involvement in the forest-based sector"

Source: OWN DATA AND CALCULATIONS

4. Discussion and conclusion

The results reveal that in the online communication of the forest-based sector, messages on "responsible use" are being communicated more often than messages on "taking care". However, messages on "taking care" are perceived more positive than "responsible use". This suggests that, when forestry activities are communicated as activities that take

care of the forest, they are perceived in general more positive than when communicated as economic activities.

A study (ERIKSSON, 2012, 1102) explained differences in the perception of forest ecosystem services between forest owners and the general public: forest owners were found to emphasize the economic function, whereas the general public was found to emphasize recreational and ecological functions. Thus, the lower agreement rates for "responsible use" may also be explained through respondents' lack of recognition of the economic function of the forests.

When looking at the perception of the messages based on respondents' sociodemographic background, the results suggest that people without forest-based sector involvement are more sceptical and indecisive towards messages communicated by the sector. Differences concerning sector involvement were found to be smaller for statements of the key message "taking care", than for "responsible use". This suggests that the adoption of the key message "taking care" is less affected by respondents' sector involvement.

Applying the three-stage memory model (BETTMAN, 1979), it is argued that the respondents involved in the sector have higher agreement levels since they are able to connect the provided information to their existing knowledge. It is suggested that people without sector involvement do not have sufficient background information and therefore cannot connect the information as well as the group with sector involvement. This is exemplified by the large number of neutral responses for some items. Results for the statement that Austrian wood "comes from ecological sound sources" suggest that some messages are too complex to be comprehensively communicated.

In conclusion, the two key messages differ in the amount being communicated and in their perception (measured in agreement). Especially sector involvement makes a difference in the perception of communicated key messages, but it depends on the content. Messages on "taking care" are more comprehensively understood than messages on "responsible use".

People without sector involvement, consequently lacking background information seem to have difficulties in connecting the provided information to their existing knowledge. To target this group in order to

avoid negative attitudes towards forestry activities, messages to which they are interested in and can easily relate should be chosen. To identify which messages to use, more research, e.g. with focus groups, is necessary.

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