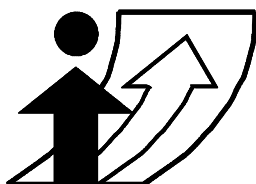


Explaining attitudes and supporting changes of attitudes towards transport policy decisions of stakeholders

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Explaining attitudes and supporting changes of attitudes towards transport policy decisions of stakeholders

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Abstract

There is evidence of a great discrepancy between formulated goals and actual results in the field of transport policy, since the willingness to act in favour of environmentally friendly transport measures lags behind its admitted demand. The research project VEREIN addressed this problem by means of a measurement and explanation of transport policy willingness to act and by the development of suggestions to increase the willingness to act in favour of environmentally friendly transport measures. The study was based on two theoretical models: The Situational Model served for the explanation of attitudes by means of a series of personal characteristics. The Four-phase Model served for the explanation of a change of attitudes in terms of a phased process of awareness raising. The field study was based on a two-stage survey: a written and postal survey (1,173 persons) and a Stated response inter-active in-depth survey (229 persons). The analysis was undertaken by means of descriptive statistics, factor analysis, and multiple regression analysis. Both theoretical models were confirmed in the analysis. The Situational Model was extended to a Communication model, since the expression and change of attitudes not only depends on personal characteristics, but also on the situation of communication. Based on these findings a scheme for a market analysis was developed that enables a separation of different market segments. The chance of actually succeeding in changing attitudes as well as the most promising strategy of a marketing campaign could be identified for each segment. Further suggestions were derived for carrying out a marketing campaign in the field of transport policy.

Keywords

Transport policy, Attitudes, Marketing, International Conference on Travel Behaviour Research, IATBR

Preferred citation

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1. Problem definition

There is evidence of a great discrepancy between formulated goals and actual results in the field of transport policy. Even if measures towards an environmentally friendly transport policy are regularly demanded, the concrete willingness to act in favour of these measures is limited. This applies to decision-makers as well as to citizens, journalists and representatives of interest groups. Measures like the increase of fuel taxes or road pricing could for example effectively change the behaviour towards more sustainable travel patterns, are however not implemented in reality due to their unpopularity.

2. Objectives

The research project VEREIN, implemented by Sammer *et al.* (2002) addressed this problem by means of three objectives:

- Measurement of the transport policy willingness to act by focusing on the attitudes towards transport policy measures.
- Explanation of the willingness to act as well as an explanation of a possible change.
- Development of suggestions for action to effectively promote the willingness to act towards environmentally friendly transport measures.

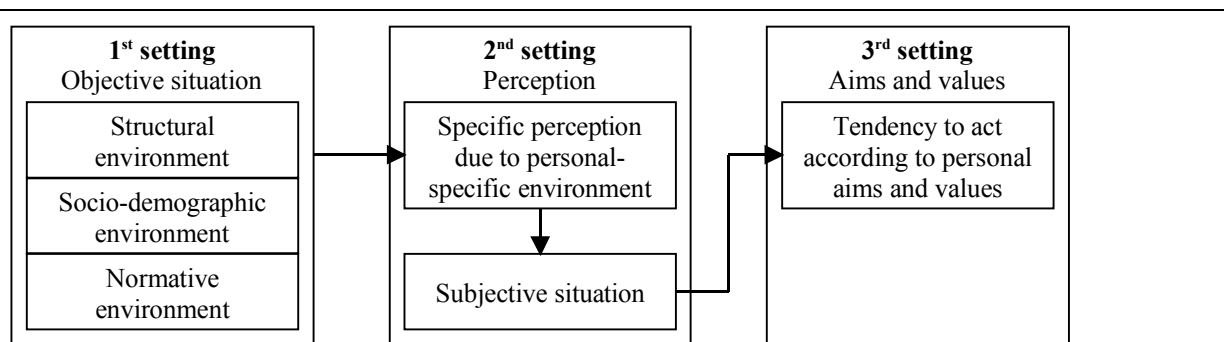
Target groups addressed in the study were citizens, decision-makers, enterprisers, lobby groups, journalists and transport experts.

3. Theoretical approach

The study was based on two theoretical models, one for explaining the transport policy willingness to act, the other one focussing on the process of changing the willingness to act.

The Situational Model serves to explain the transport policy willingness to act by focusing on three influencing settings: Every individual is at first embedded in an objective situation, consisting of several environments (transport infrastructure, household characteristics, etc). This objective situation is specifically perceived due to the personal specific environment of the individual, resulting in a subjective situation. Based on the subjective situation there follows a tendency to act according to personal aims and values. The tendency to act is considered as “willingness to act” in terms of an attitude preceding a realised action.

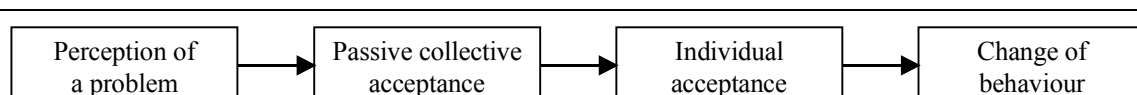
Figure 1 Situational Model



Source: adapted according to Brög (1982) 1-4

The Four-phase Model focuses on the change of the willingness to act (and behaviour). The change of attitudes is considered as a phased process of awareness raising: (1) perception of a problem, (2) passive collective acceptance of a solution to the problem, (3) individual acceptance of according actions, e.g. favouring a certain transport measure, (4) the actual change of behaviour. The 3rd stage (individual acceptance) is considered as “willingness to act”, the last stage (change of behaviour) was however not measured in this study. The model assumes that the achievement of one stage can only be expected after reaching the previous stage, and that the number of persons in agreement with one stage decreases from stage to stage.

Figure 2 Four-phase Model



Source: Sammer *et al.* (1999) 5

4. Data collection and analysis

A two-phase survey process was carried out. Both phases focused on the Austrian population, which was stratified by different groups of actors and also by different sizes of location.

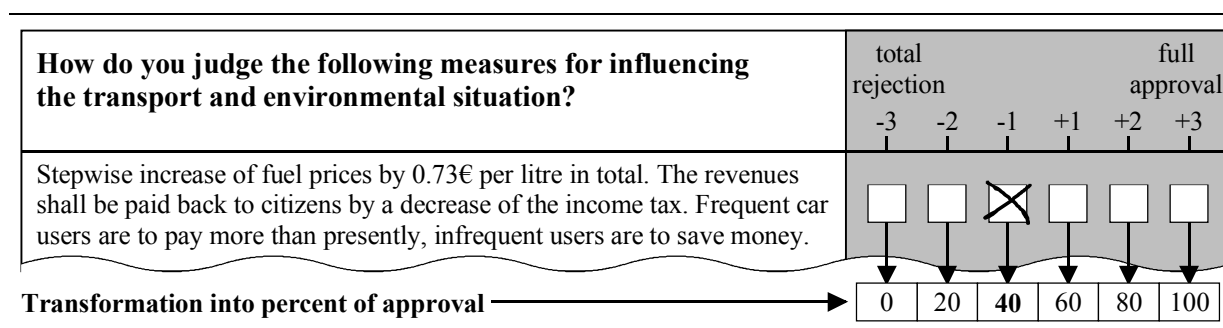
Step 1 was a written postal survey. It served to measure the transport policy willingness to act (dependent variable), and to record the assumed influencing factors on it: socio-demographic characteristics, aims and values, and the perception of transport and environmental problems.

Table 1 Step 1: Sample of written postal survey

	Vienna	Regional capital	Small city	Rural	TOTAL
Citizens	165	132	108	100	505
Politicians	106	30	24	48	208
Lobby groups	98	42	17	24	181
Journalists	72	21	4	2	99
Transport experts	111	45	17	7	180
TOTAL	552	270	170	181	1,173

Subjective variables such as attitudes and estimations were generally measured with a Lickert rating scale and in a next step transferred to a scale of approval as shown in Figure 3.

Figure 3 Measuring of attitudes and transformation of scores: an example



Step 2 was a Stated response interactive in-depth survey. It served to record the basis of knowledge, the motivation, the potential to change the willingness to act, and influencing factors for a change.

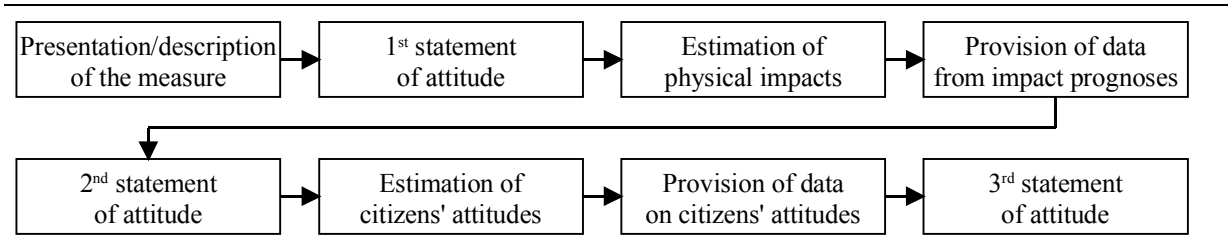
Table 2 Step 2: Sample of stated response interviews

	Vienna	Regional capital	Other location	TOTAL
Citizens	37	25		62
Politicians	64	27	25	116
Lobby groups	39	12		51
TOTAL	140	64	25	229

The interviewees were asked to state their attitude towards a specific transport policy measure and in a next step to estimate the physical impacts as well as the citizens' attitudes towards this measure. After each stage they were provided with information taken from impact prog-

noses and from the written survey. In order to identify a change, the interviewees were then again requested to state their own attitude towards the measure. In addition to the scaled answers (attitudes and estimations) any verbal expression of an interviewee was recorded..

Figure 4 Stated response interviews: procedure



The data obtained in both surveys were analysed by means of descriptive statistics, factor analyses, as well as linear and non-linear multiple regression analyses.

5. Explanation of attitudes and change of attitudes

5.1 Situational Model

The explanation of attitudes followed the approach of the Situational Model. The three anticipated settings of influencing factors turned out to bear a strong effect on the transport policy willingness to act. As an example, Table 3 shows an excerpt of two regression models, each serving for the explanation of a transport policy attitude. The example also shows that the influencing factors partly differ due to the respective attitude to be explained. But from a general point of view the three settings of the Situational Model can be specified as follows:

- Objective situation: Within this setting the mobility behaviour proves to be most important. It is directly connected to certain values and views on transport policy. A frequent car usage is associated with an emphasis on individual freedom and a declared intention to support the car traffic as well as mobility in general. An infrequent car usage and a more diverse mobility behaviour stands for a stronger social orientation and for the claim to restrict the car traffic in favour of its alternatives.
- Aims and values: In contrast to the original model this setting has to be ranked 2nd, since the values do not only influence the transport willingness to act, but also the perception of situations and the estimation of impacts to be expected from a specific transport measure. Depending on personal values, the request to judge the increase of fuel taxes can for instance lead the view towards environmental or towards economic impacts. Three categories of values are most relevant in the field of transport policy: "individual freedom" that is often associated with responsibility for a competitive economy, "social solidarity", and "environmental awareness". These values provide

the last and no longer questioned reasons for transport policy attitudes. "Individual freedom" and "social solidarity" partially exclude each other. "Environmental awareness" is on the contrary rather independent. It can, but does not necessarily need to appear alongside the other values.

- Perception: When it comes to the transport policy willingness to act, the perception of the current situation plays a less important role - in fact the estimation of impacts to be expected from a specific transport measure comes to the fore. This is the most complex influencing factor on the willingness to act. A strong variation appears in the kind of impacts which are considered and provide the background for judging a transport measure. It depends on the individual person and also on the occasion of expressing an attitude. This variability reveals an essential starting point for the change of attitudes. Two characteristics of the perception are particularly important:
 - Kind of reflection: The estimation of impacts can arise from a spontaneous estimation as an act of instinct (affective reflection) – or it can be the well practised result of a long term thinking process (cognitive reflection).
 - Point of view: The estimation of impacts can be centred around detailed aspects, e.g. to the private situation (local viewpoint) – or it can be centred around larger units, e.g. to the countries' economy or to the whole society (global viewpoint).

Table 3 Excerpt of two regression models for explaining transport policy attitudes

Transport policy willingness to act (= dependent variables)	(1) Support of increasing means used for extending the street network			(2) Support of increasing the fuel taxes by 0.73 € per litre		
	b	B	P	b	B	P
Influencing variables						
Objective Situation						
Location Vienna				0,12	7,59	0,001
Location regional capital	-0,10	-9,27	0,001			
Male (female=0, male=1)	0,07	4,89	0,029			
Mobility behaviour: no. of car trips per week	0,08	1,22	0,023	-0,14	-2,16	0,000
Aims and values						
Value "Indirect democracy" (decisions should be taken by politicians rather than with participation)	0,08	2,73	0,006	0,08	2,51	0,016
Value "global environmental awareness" (demand of solving global environmental problems)	-0,08	-2,61	0,025	0,08	2,61	0,035
Aim: Demand of improving the situation for car drivers	0,42	13,79	0,000	-0,26	-8,33	0,000
Aim: Demand of restricting the car traffic in favour of its alternatives	-0,25	-8,28	0,000	0,21	6,72	0,000
Perception						
Estimation of convenience of cycling and walking	-0,08	-2,66	0,008	0,07	2,08	0,052
Estimation of expensiveness of public transport	-0,07	-2,17	0,028			
Estimation of infrastructure for cycling and walking in the vicinity				-0,09	-2,69	0,011

b = standardised regression weight; B = not standardised regression weight; P = P-level

Figure 5 Situational Model: Specification of influencing settings

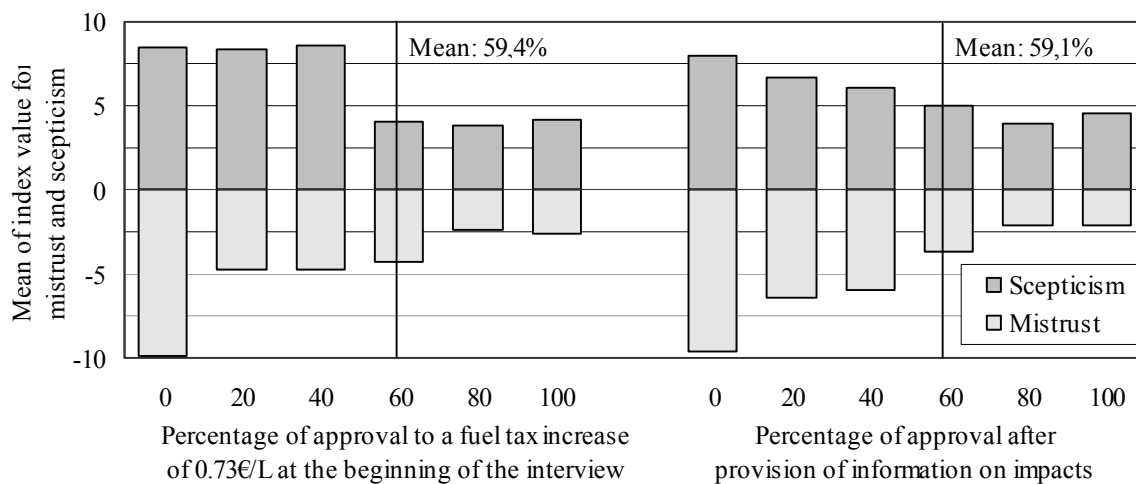
Objective Situation	Aims and values	Perception (estimation of impacts)
- Mobility behaviour: dominant car usage versus a more diverse mobility behaviour	- Individual freedom incl. responsibility for the economy - Social solidarity - Environmental awareness	- Kind of reflection: affective versus cognitive - Point of view: local versus global

Apart from these factors according to the anticipated Situational Model, two further factors were identified which strongly influence the transport policy willingness to act. These factors are derived from the fact that any expression, measurement and manipulation of attitudes takes place within an act of communication:

- The situational frame of communication: The three influencing settings mentioned above are not set out in a stepwise approach as the Situational Model suggests. Potentially all three settings take effect simultaneously. It depends on the specific situation which one of them comes to the fore. Every transport project has its own frame, determining the way of emergence, expression and changing of attitudes. In the frame of a discussion on a local relief road, climate change and potential effects on the countries' economy will be less important topics than local values and the local mobility behaviour. Finally each single act of communication has its own frame. If the frame changes, a switch over from one setting to another is likely to follow. The availability of parking spaces for example can be estimated with view on the everyday experience - or with view on the goal of not losing parking spaces, e.g. within a public meeting for a transport project. The latter case often appears. It suggests a retroactive effect from values to the perception. In this context the principle of lobbying (the strategic retention of rooms to negotiate) plays an important role. The knowledge of the frame is a precondition for an effective change of attitudes.
- The factor "trust": Trust is based on the perception of the (obvious or presumed) counterpart in the communication, including his/her background. The counterpart can be the interviewer in the frame of a survey, a politician on TV, an expert who carried out a report, etc. There again the three settings of the Situational Model can be separated: The objective situation: Where does the counterpart come from, e.g. from a political party or from a citizens' initiative? Aims and values: What are his/her motives to contact me? The perception: How realistic are his/her claims? The factor "trust" turned out to be the strongest influencing factor on the potential to change individual attitudes. In the survey two kinds of "deprived trust" were identified, both of them leading to different results:
 - "Mistrust" seen as a basic and offensive rejection. It can be centred around various objects: the counterpart as a person or institution, the policy in general, buyable experts, a specific transport measure or certain aspects of it, etc.
 - "Scepticism" seen as an unemotional and factually founded distance.

In case of "mistrust" the experiment to change individual attitudes will induce a backlash rather than a change in the intended direction. Only a rejection based on "scepticism" can be overcome during communication. Figure 6 shows the results. Those with a high mistrust value tended to intensify their rejection after provision of information on impacts, since they suspected a trial to be wheedled. Those who, due to scepticism, rejected the increase of fuel taxes at first, tended to state a higher approval after provision of concrete information (mistrust was negatively scored, scepticism positively).

Figure 6 Change of attitudes: Different effect of "mistrust" and "scepticism"

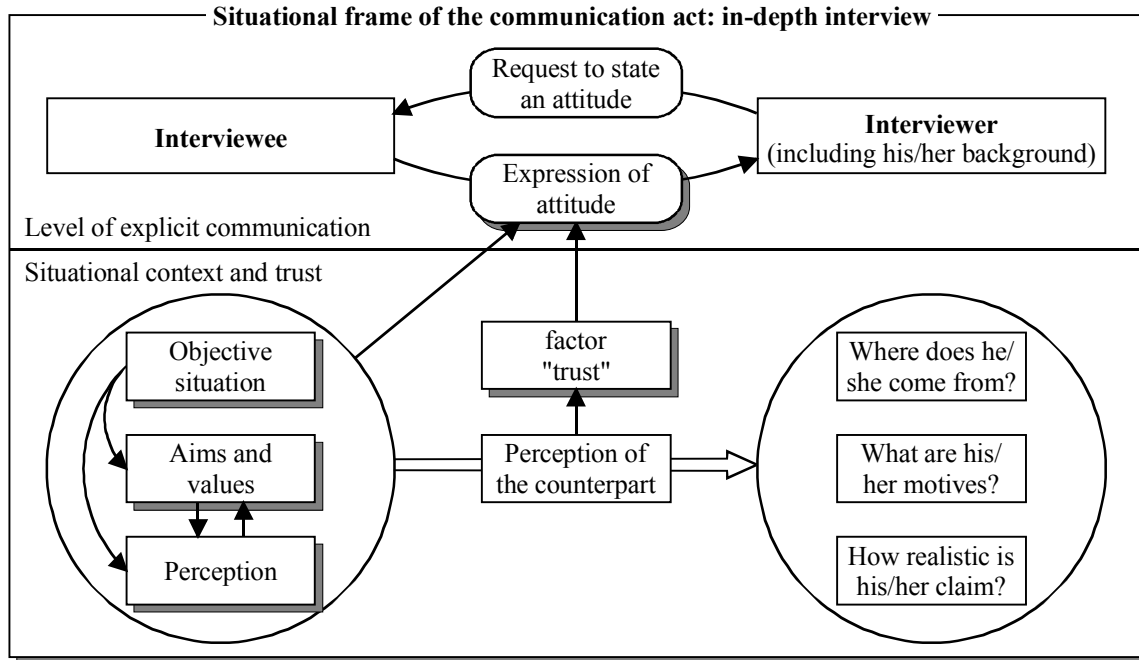


5.2 Communication Model

The factors of communication as described above are indispensable for the explanation of attitudes. Therefore the Situational Model was extended to a Communication Model. Figure 7 shows this model by means of an example. The situational frame of the communication act is an interview dealing with the issue transport policy measures. The situational context of the involved persons is shown from the point of view of the interviewee. He is at first characterised by his own situational context, consisting of three settings according the Situational Model (objective situation, aims and values, perception). Furthermore he perceives the interviewer as coming from a transport institute. His motives are obviously to change my attitudes. For this purpose he provides me more or less realistic information on impacts to be expected from a specific transport measure. This perception determines the factor trust (full trust, scepticism or mistrust). The stated attitude of the interviewee strongly depends on this factor.

The Communication Model is no longer limited to the explanation of attitudes, but also describes the main factors determining an actual change of attitudes: the situational frame, the factor "trust", and the perception of impacts to be expected from a specific transport measure.

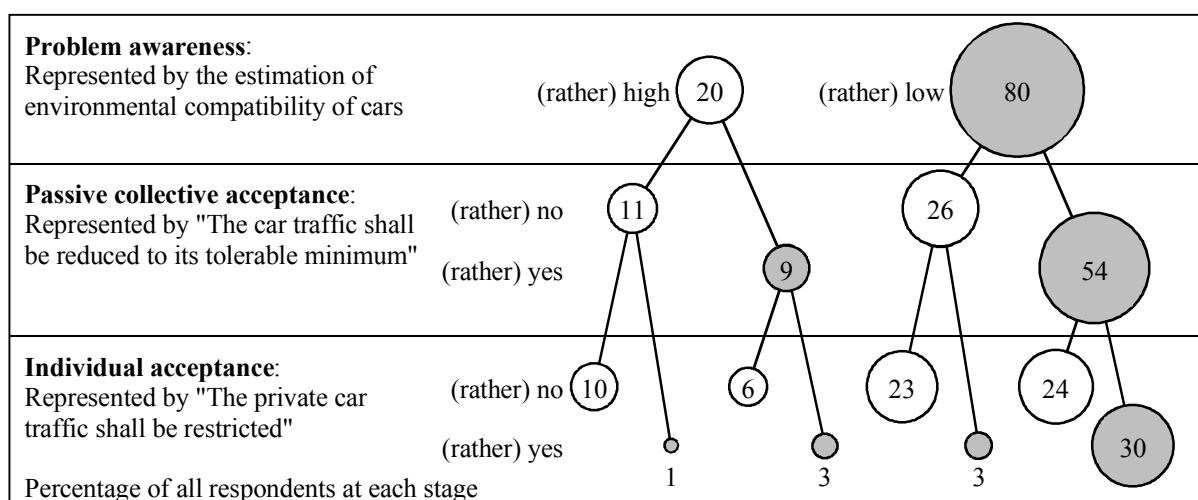
Figure 7 Communication model: illustrated by means of an interview situation



5.3 Four-phase Model

Another theoretical approach of the study was the Four-phase Model (see section 3) that focuses on the change of attitudes in terms of a phased process. In order to test this model to each stage of the awareness process a variable was allocated and measured (see Figure 8).

Figure 8 Four-phase Model: Confirmation by means of measured variables



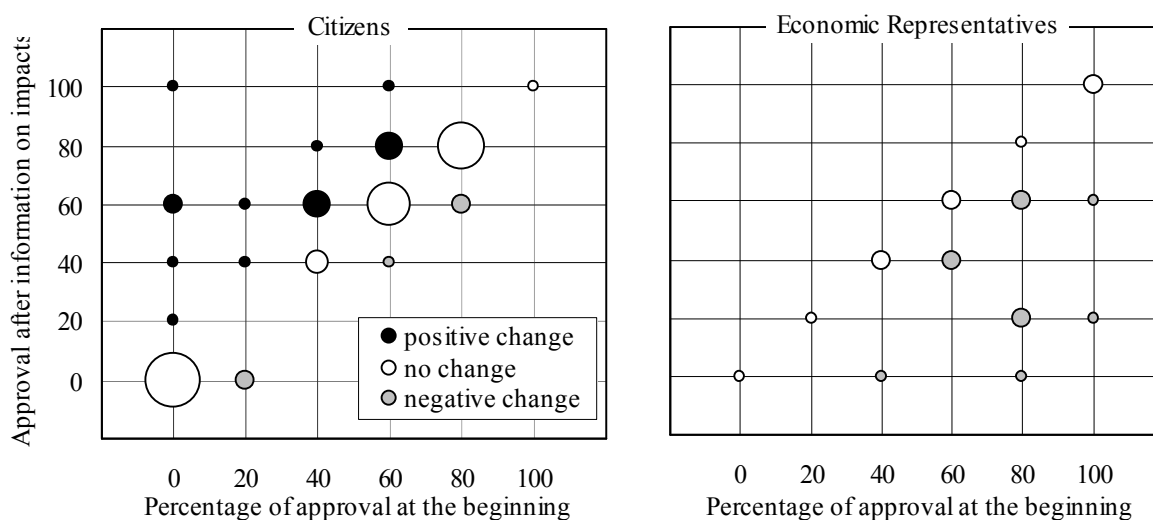
The results confirm both assumptions of the model: It is more likely to reach an agreement at a subsequent stage if the previous stage was already judged positively, and the number of persons who have reached a stage decreases from one stage to the next. This leads to the procedure of a successful campaign to change attitudes: In the 1st stage the awareness that a specific problem exists must be increased. The 2nd stage should address the passive collective acceptance of a solution of this problem. The 3rd stage should focus on concrete measures, e.g. by means of examples in other cities where a measure was successfully implemented.

6. Successful marketing campaigns

The actual development of suggestions for marketing campaigns to increase the acceptance of measures towards a more sustainable transport system was a further aim of the study. At first it has to be considered that the "market" of transport policy attitudes is predetermined by different actors and also by specific prevailing topics (well known arguments, catchwords, etc.). As an example Figure 9 shows that the potential to change individual attitudes is dependent on the group of actors (the size of circles represents the number of persons):

- The citizens started with a relatively low approval rate, but revealed a significant potential to change their attitudes in the intended direction. They rather admitted the expert status of the interviewer and therefore believed the provided information.
- Economic representatives are to be characterised by a more definitive attitude, since they are experts on their own as regards a fuel tax. The provided information did hardly any influence them, the interviews followed another logic. They started with a higher approval, but it was merely a judgement on principle. The stated response game increasingly revealed their "official position" with view towards their clientele.

Figure 9 Change of attitudes towards an increase of fuel taxes depending on group of actors



6.1 Market analysis

Based on the findings of the survey a proposal for a market analysis was developed in order to measure the factors for reaching a change of attitudes. The proposal is based on three factors:

- Position of attitudes (rejection versus approval) according to a usual opinion poll. In a wider scope, dominant topics (lines of arguments, catchwords, etc.) are also an aspect of the position. For a more in-depth view these should additionally be recorded.
- Mobility of attitudes (persistent versus flexible). It primarily depends on the factor "trust" (mistrust versus scepticism, see chapter 5). It is therefore important to measure how the target persons view potential implementers of the campaign (persons or institutions) and which aspects of the measure give most reason for mistrust.
- Kind of reflection (affective versus cognitive). This factor is important in order to select the appropriate language style, e.g. an academic or an illustrative style. Finally the form and content of information to be provided is a more complex matter, depending on other criteria too: detailed or global point of view, stage of awareness, as well as specific prevailing topics (lines of arguments, catchwords, etc.).

These factors are used to assign the target persons to a cross-table as shown in Table 4:

Table 4 Market analysis: Development of strategies for a marketing campaign

Position	Mobility	Reflection	
		affective	cognitive
Supporter	persistent	Strong emotional support, but factual reflection is yet outstanding. <i>Danger of disillusion, careful preparation for factual reflection by showing continuous progress.</i>	Strong support, although factual reflection did already take place. <i>Need usually no treatment, in this group accessories can be gained.</i>
	flexible	Conditional emotional support, long term approval is still unsure. <i>Confirm the trust in the measure, preparation for factual reflection first after that.</i>	Sceptical supporters, approval depends on kind of realisation. <i>Highlight competency of operators and care for a smooth solution of upcoming factual problems.</i>
Opponent	flexible	Conditional emotional opponents, change of attitude is still possible. <i>Increase the problem awareness prior to promotion of the measure.</i>	Opponents due to concrete factual retentions which may be removed. <i>Reveal reason for scepticism, define them as a problem to be solved and work on a credible solution.</i>
	persistent	Strong emotional opponents on principle, without a factual basis. <i>Not open for factual arguments, direct treatment impossible, maybe change of mind after introduction.</i>	Strong opponents due to concrete factual reasons. <i>Direct treatment impossible, prevent that they gain influence on other groups by means of lobbying.</i>

This procedure enables an estimation of the number of persons where a change of attitudes is first of all needed (position) and secondly promising (mobility). It also gives an indication of the appropriate kind of information to be provided (reflection). The main results are as follows:

- a series of individual strategies for separate market segments; each strategy can be evaluated by means of the expected cost-efficiency,
- an identification of persons or institutions that enjoy confidence from the target persons as well as an identification of suspicious aspects of the measure.

6.2 Marketing campaign

The aim of the study was not to reinvent the basic principles of marketing, some suggestions could however be gained with particular view on a campaign supporting an unpopular (e.g. car restrictive) transport measure:

- **Gain of trust:** Trust primarily results from many-sided confirmation. During the preparation stage of the campaign accessories from different factions should be gathered who enjoy confidence from different target groups (nobody enjoys confidence from everyone). The many-sided positive effects of the measure must also be confirmed by addressing less obvious side effects.
- **Transparency:** This is important for avoiding the impression that the problems of citizens are ignored. Citizens are therefore to be involved at an early stage and are additionally to be provided with information on the person in charge as well as on objectives, conditions and possible problems. It must also be assured that the responsibility of the implementers continues after actual implementation.
- **Action instead of reaction:** As a result of the market analysis the implementer is in knowledge of the most important concerns of the target persons and can therefore address them in an appropriate way. This advantage enables a purposeful action and a gain competence from the outset. The benefits to be expected as well as possible problems should be addressed before opponents do so and force a reaction.
- **Objectivity:** Upcoming restrictive transport measures often generate fears due to an excessive estimation of negative impacts. It is a common and effective strategy of opponents to allude to these fears, whereas an objective reflection can reduce them. But this cannot be achieved just by objective reasoning. The target persons need to be prepared for an objective reflection, and this is again a question of trust.

Aside from these suggestions based on the findings of the study the final report of the VEREIN project provides further information drawing on general experience:

- a series of concrete marketing instruments which are appropriate to be used for marketing campaigns in the field of transport policy, and
- a plan of procedures for carrying out a campaign.

7. Conclusions

- The study revealed the influencing factors on transport policy attitudes and on a change of attitudes. The Situational Model and the Four-phase Model proved its usefulness, the former had to be extended to a Communication Model, since attitudes not only depend on personal characteristics but also on those of communication.
- The study also revealed a certain potential to increase the willingness to act towards environmentally friendly transport measures. This potential varies depending on the group of actors. One significant (but not the only) example was highlighted:
 - The most difficult challenge is doubtless the conviction of institutional representatives. Even if they can be (or are already) convinced personally, they are not free to express their opinion but are tied to the presumed wishes of their clientele.
 - If the setting up of a broad based alliance of opinion leaders from different factions who support the measure succeeds, then the conviction of citizens would provide a less difficult task. The latter are more likely to change their mind if influenced by a profound expert's statement.
- Due to the strongly differing disposition of target groups a market analysis should be an inherent part of a marketing campaign. An analysis instrument was developed that enables the separation of market segments and a recording of the main factors determining the chances of success.
- Further suggestions were developed for an actual campaign. A marketing campaign in the field of transport policy differs from commercial marketing. It should therefore be carried out from experts with significant experience.

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