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Changing political communication in Germany: Findings from a longitudinal study on the influence of the internet on political information, discussion and the participation of citizens

Abstract: The internet has been discussed as a major agent of change for political communication and participation. One important dimension of possible effects is the influence of online communication on the participation habits of citizens. In this article, panel survey data from Germany that cover almost the first decade of this century are used in order to test causal hypotheses about this transformation process. The results highlight that new forms of political communication are mainly a complement to existing forms with few substitution effects. Additionally, the data demonstrate the strong role habitualization plays, particularly in the field of political information seeking and traditional forms of political discussion and participation, while online communication is still evolving with yet less fixed patterns of action.

Keywords: internet, online communication, political communication, political discussion, political participation, habitualization

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Introduction

Communication media are an indispensable element in the political process of democratic societies as they provide the infrastructure for interaction of all types of political actors and citizens. The significance of a well-working communication environment is emphasized by its inclusion in most nations' constitutions and other documents securing people's rights and their participation in

the political process, for example, the UN Universal Declaration of Human Rights. The extent to which citizens are able to exercise these rights depends, however, on the factual opportunities to influence political decisions. The communication environments set the stage for the political activities of citizens in a democratic society: How they get information about political issues, how they discuss political problems with others and how they can engage in the political process depends on the media and communication infrastructure.

Over the last two decades, this infrastructure has undergone fundamental changes: The relatively small number of mass media organizations that formerly dominated the public agenda and controlled access to the public sphere was challenged by internet-based communication media that allowed all kinds of actors to bypass them and establish a more interactive and symmetrical kind of communication. This is particularly relevant for political communication because these new actors have the potential to change the political realm as a whole. One result of these changes is that the new modes of communication may affect the political behavior of citizens. From the mid-nineties on, when the internet entered the arena, many authors examined these possible effects theoretically (Barnett, 1997; Grossman, 1995; Hill and Hughes, 1998; Schwartz, 1996). Empirical research during the following years contributed to our understanding of how the internet influences political communication and participation, providing evidence for a tendency towards an increasing number of political activities and a strengthening of democratic values and attitudes but also fueling skepticism about dramatic or revolutionary changes in participatory behavior.

This article will contribute to this research by examining a set of panel data from Germany for the time period from 2002 to 2010 which covers the main phase of internet diffusion. Two characteristics of these data – the panel design and the long period of time, comprising almost a decade – make these data particularly suitable for testing causal hypotheses about how the new options for political communication on the internet have been adopted and how they changed the political behavior of citizens in the medium *and* long term. In addition, panel data allow the enquiry of habitualization as an explicatory factor of media use and human action in empirical research. The analysis is led by two goals: First, it will identify patterns of interaction between online and traditional political communication. Second, it tries to assess how these patterns changed over time.

After a review of the relevant research literature and a theoretical discussion of the proposed typology and a research model, an analysis of the panel survey data will give an answer to the research questions.

Literature review

There is an increasing body of research on the general question of which effects the internet may have on political communication and the participation of citizens. However, most of it is either based on the analysis of cross-sectional data (Best and Krueger, 2005; Mossberger, Tolbert, and McNeal, 2008; Ward, Gibson, and Lusoli, 2003) or consists of experimental analysis of the short- or medium-term effects of specific media platforms on mobilisation in the context of specific political campaigns (Hooghe, Vissers, Stolle, and Mahéo, 2010).

The studies in this field use a broad variety of indicators as independent variables (Boulianne, 2009): Some operate with mere online access or time spent online by citizens (Shah, Schmierbach, Hawkins, Espino, and Donavan, 2002), others go a step further and work with different kinds of political online communication in their models (Johnson and Kaye, 2003). Although many studies do not provide satisfactory explanations for their choice, there may be good reasons for the employment of both approaches: General variables like online access or time spent online are indicators for a changed media repertoire, which might affect the way people communicate – even about politics. More specific variables like search for political information online refer to more concrete characteristics of online communication than traditional media use as causes of possible effects (characteristics like interactivity, multimodality, etc.). This perspective follows the tradition of political communication research that highlights the interaction between use of political information, political discussion and participation (Norris, 2000; Shah, Cho, Eveland, and Kwak, 2005).

Most of the studies dealing with the impact of the internet have found that there is no evidence for the fear that increasing online communication will result in a decline in the level of political activity. Quite contrary, the studies generally support the assumption that the internet may have some kind of a mobilising potential, increasing several forms of political activity like voter turnout, civic engagement or campaign participation: Rice and Katz in an early study (2004), for example, supported this mobilisation hypothesis using data from US presidential election campaigns in 1996 and 2000, which showed that internet use correlated with a greater amount of campaign activity online and offline. Shah, Cho, Eveland, and Kwak showed in a short-term two-wave panel study that the use of online media positively affects political discussion, which in a further step influences participation (2005). In a meta-analysis of more than 130 studies, Boulianne (2009) found almost no evidence for negative effects of online use on political and civic participation in the literature. The positive effects, particularly on participation, were also quite limited.

One reason for this finding might be that human communication is a common everyday activity and therefore to a large extent determined by habitualization of behavior (Aarts, Verplanken, and Knippenberg, 1998; Berger and Luckmann, 1991), even if it is about politics. A high frequency of repetition of actions is likely to lead to an establishing of habits and serves sometimes – particularly in standardized surveys on media use and communication – as indicator for habitualized media exposure (Oehmichen and Schröter, 2002). For explanatory quantitative analyses with cross sectional data habitualization can be a handicap, because – if there are no variables included that measure habitualization directly – it usually remains part of unexplained variance. If panel data are available, however, habitualization can be included in empirical models by explaining current behavior with previous behavior of the same kind (Ouelette and Wood, 1998). Habitualization very probably plays a role in explaining how the political communication of citizens changes over time, as it may be an obstacle for people to acquire new forms of communication and participation: The more often a person executes a traditional, offline activity, the more likely his or her actions become habitualized and the less likely would be the adoption of a new, online-based activity. It might also be plausible that – after some habits concerning online communication have been developed – these new habits might affect older ones. Including habitualization in an explanatory model opens an alternative route for the effects of online communication: They are not directly, but indirectly moderated by building up habits of online communication first and influencing traditional communication second.

A general characteristic of most of the research on the effects of the internet and changes of political communication and participation has already been mentioned: Usually studies work with either cross-sectional data sets or combine several of these studies in trend analyses (like data provided by regular national opinion surveys).[1] When using such data, changes over time can be analyzed just on an aggregate level and *interpreted* in a causal way (Eimeren and Frees, 2009; Jones, 2009; Madsen, 2006), but they are insufficient for *testing* causal hypotheses. Furthermore, such interpretations might be misleading because the relation between external conditions and the way people use these opportunities is neither deterministic nor linear: Some parts of the population adopt the new communication opportunities sooner, others later. Some just try

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them out but then return to their former ways of communicating, some intensify their political communication and participation activities in general, others just change patterns. Furthermore, changing patterns can take place within traditional (offline) activities or between traditional and digital (online) activities, and also within online activities. Until now, little research has been done to explain how these complex relationships really work.

Research approach

Due to the lack of studies and data that are adequate to investigate causal relations between different dimensions of traditional political communication on the one hand and internet-based political communication on the other, the authors decided in 2001 to develop a sophisticated, longitudinal study design which should be able to investigate these relationships more in depth. In order not to fall victim to ecological fallacy as may happen when waves of cross-sectional data are analyzed, a panel design was developed.

Another shortcoming of previous research is the selectivity of the concepts scrutinized in most studies: Very often, researchers focus on single or just a few variables when trying to assess the effects of internet use on, for example, voting participation, political information use or other activities (see literature review above). All conclusions drawn from these studies are limited to these specific variables and cannot be assigned to political communication in general. A comprehensive understanding of political communication at the micro level of analysis therefore needs to include a theoretically-based broad perspective on a wide range of political communication activities.

We will distinguish between three dimensions of political communication: First, from a media and communications studies point of view we look at the use of news media (and other media going beyond news distribution, as they provide background and analysis of political events and issues), since it is a major dimension of the concept and a crucial element in many theories that explain communication relations in societies (Dalrymple and Scheufele, 2007; Price, Tewksbury, and Powers, 1997). Second, research on media effects has highlighted the relevance of political discussion in political contexts, for example, as a factor of accelerating news diffusion or as a source for opinion building in social networks (Robinson, 1976; Schmitt-Beck, 2003). A third aspect to be included in this study's definition of political communication is the whole field of political participation. Being part of the realm of political science and being usually regarded as a specific kind of action rather than "just" communication (in the sense of passing on information), it can nevertheless be considered

communication. Following a definition of political participation as an activity that aims at influencing political decision making (Nie and Verba, 1975, p. 1), it can be interpreted as strategic communication: Walking down the street together with others as part of a rally or demonstration carrying hand-written signs with political slogans is surely an act of strategic communication with the purpose not only to tell journalists, local representatives or politicians what people think about an issue, but to influence their decisions. The same can be said of almost every political action conducted by citizens (including voting in a presidential election or burning down the town hall in outrage): They usually aim to send messages to the political system and can therefore be understood as a public form of political communication. As interpersonal and mass communication are intertwined, as already seen above, this "participation communication" is connected to both of these concepts. Scholars in political participation have discussed several theoretical concepts related to these dimensions of communication, even if they give them different names. Milbrath, for example, saw them hierarchically related with political media use being a "spectator" activity and participatory activities being the actions of "gladiators" (Milbrath, 1965).
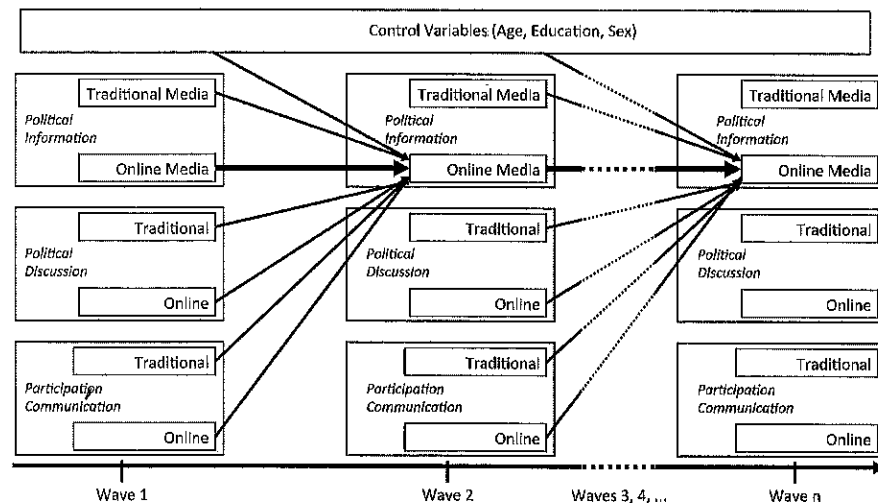
Note. The figure shows an example of expected influences on one dependent variable: political information by online media. The subsequent analyses were conducted in the same way by testing the effects of all activities in an earlier wave on every single of the six activities in a later wave.

Figure 1: Analytical model: Causal relations between dimensions and forms of political communication

For a full understanding of the process of change we investigated over time a comprehensive set of political communication and participation activities both from the online and offline sphere. Figure 1 illustrates the relevant relations for one (of six) dependent variables (*political information by online media.*) Of special interest are the relations that are marked by bold arrows: They indicate the influences of political activities in the earlier wave on political activities in the later one and represent the above discussed habitualization effects.

It can be expected that these relations are influenced by third factors. As controls, we include several demographic variables like age, level of education and sex in our analytical models. Furthermore, political attitudes (political competence, political efficacy etc.) presumably have a modifying impact on the relations between the different forms of political communication. However, owing to spatial limitations they are not included in this paper.

Based on the model from Figure 1, the following empirical analysis will give answers to two questions:

1. Which patterns of political communication can be observed?
2. How do these patterns change over time? Are online activities replacing traditional political communication activities, are they complementary or do they even activate each other?

From the literature review and the theoretical considerations discussed above we deduce the following hypotheses:

> H1a Habitualization: The activity levels from the year before are the strongest predictors of the same political communication activities in the following year.

Because the online options are still quite new, giving people little time to include them in their communication repertoire, we assume:

> H1b: The habitualization effects are stronger for traditional media than for online media.

> H1c: For online media the habitualization effects increase over time.

Previous research has shown that there are no negative effects of online access and online use on political participation and the use of traditional media. But as most research relied on cross-sectional data and did not always discriminate between different forms of communication as we do, these findings might be due to methodological shortcomings. That is why the following general hypotheses about changing patterns of political communication will be tested again in this study:

> H2a Substitution: Citizens with more intensive online communication activity in the three dimensions of political communication (information, discussion, participation) subsequently show lower levels of activity in the corresponding traditional forms of communication.

These negative effects are expected to be limited to the corresponding forms of online versus traditional communication like, for example, online news reading replacing newspaper exposure. For cross-dimensional-relations (e.g., effects of political information on participation communication) we do not expect substitution but a complementary relationship:

> H3a Complement: The intensity of online communication activities in one dimension has no impact on traditional activities in other dimensions.

> As known from the political communication research literature, political information, discussion and participation communication are positively related. Thus, we expect the same effects for online communication.

> H4 Activation: Political information, discussion and participation communication positively affect each other. This holds true both for online and for traditional communication.

As argued above it is not plausible to assume that traditional communication activities are affected unidirectionally by online communication. Especially in the long run it seems logical that changing activities in the traditional communication sphere retroact on online communication. As we still do not know much about these effects, we hypothesize that the impact of online to traditional forms will be inverse.

> H2b Substitution: Citizens with more intensive traditional communication activity in the three dimensions of political communication show subsequently lower levels of activity in the corresponding online forms.

> H3b Complement: The intensity of traditional communication activities in one dimension has no impact on online activities in others.

Method

To test these hypotheses an eight-wave panel-survey was set up starting in 2002 and finishing in 2010. The data were collected by telephone interviews using an RLD-sample of the German population aged 16 and above living in households with telephone. The response rate varied from 29.2 % to 45.8 %; the yearly loss by panel mortality (between 23.6 % and 38.3 %)[2] was refilled by new random samples until 2008, thus holding the number of cases for cross-sectional analyses constantly at about 1,500 in every wave. In 2009 and 2010 the panel was not refilled anymore, so the number of cases declined. Due to the

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2 As the interval between the 4th and 5th wave was two years, panel mortality was considerably higher (54.6 %).

end of funding in 2005 and the time-consuming application process for a succeeding project, there are no data available for 2006. For the following analyses the data are weighted by level of education in order to adjust them to the distribution known from official German census statistics and compensate the usual distortions known from survey research (underestimation of segments of population with lower socioeconomic status).

The questionnaire provides variables for the assessment of all of the three dimensions of political communication as described above, from online and daily newspaper use (political information), political talks with friends (political discussion) to activities like demonstrations or membership in political organizations (participation communication). Using the variables from the three communication dimensions, we built six indices (three for traditional and three for online communication), consisting of two to four indicators for each dimension (Figure 2). All six indices range from codes 0 to 3.

	Traditional communication	Online communication
Political information	– Television news – TV magazines – Newspapers (political information) – Print magazines	– Search for information online – Visiting Websites of politicians

Political discussion	– Talking with friends or other
	  people about politics
	– Having contact with officials
		– Talking online with friends or
		  other people about politics
		– Having online contact with
		  officials

Participation communication	– Signing petitions
	– Writing letters to the editor
	– Participating in a demonstration
	– (Active) membership in a
	  political organization
		– Signing petitions online
		– Writing letters to the editor
		  online

Figure 2: Operationalization of political communication

Results

The kinds of political communication and participation are partly different in the online and the offline sphere, so it was not in every case possible to use exactly the same operationalization to compare the activities in both spheres. Nevertheless, as all six political communication indices are standardized on scales from 0 to 3, it is possible to compare the means of the scales in order to

n =	2002 1460	2003 1415	2004 1573	2005 1655	2007 1414	2008 1199	2009 809	2010 486
Traditional information	1,77	1,83	1,77	1,81	1,72	1,70	1,69	1,74
Online information	0,29	0,30	0,50	0,54	0,49	0,58	0,73	0,72
Traditional discussion	1,11	1,16	1,24	1,23	1,16	1,17	1,15	1,25
Online discussion	0,12	0,13	0,18	0,18	0,17	0,18	0,17	0,20
Traditional participation com.	0,36	0,40	0,38	0,39	0,37	0,36	0,35	0,37
Online participation com.	0,17	0,16	0,16	0,14	0,15	0,13	0,11	0,16

Note. The online categories were calculated on the basis of the whole sample, including the (declining) segment of the population with no online use.

Table 1: Scale means of political communication variables

get a rough impression concerning differences in engagement between the activities and the developments over time.[3]

Two observations from Table 1 are important: First, the mean intensities of traditional political activities are much higher than the corresponding online activities. The second important finding is that the degree of *traditional political communication activity* is stagnating or, in the case of political informational communication, even going down, while the mean intensity of *political discussion online* and especially of *political information online* is increasing significantly. On a descriptive level these findings demonstrate that there are significant changes in political communication over time.

In order to test Hypotheses 1 to 4, six analytical models were developed (as visualized in Figure 1), which were tested using regression analyses with backward exclusion of non-significant variables ($p > .01$). Three models employed the indices of political online communication as dependent variables and three used the indices of traditional political communication. These models were tested seven times, each time including the data from two subsequent waves. The measures of the second year provided the dependent variable while the six political communication indices from the year before were tested as independent variables. Age (in years), education (low, medium, high) and sex were used as controls.

Before discussing the findings from the models (Tables 2 to 7) in detail, we will give some general remarks concerning the structure of the overall results. First of all, there is *strong support for the habitualization thesis* (H1): In almost

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3 This means, however, that it is assumed that both online and traditional forms of communication have in sum the same weight when being compared, regardless of the number of variables the index is formed with.

all of the models over all of the years of study, the measurement of the dependent variable in the earlier year is by far the strongest predictor.

The second observation refers to the *amount of explained variance* and puts the strong habitualization effects into perspective. Despite these strong effects the variance explained by most of the models accounts for just 40 to 55 %; very few models go beyond that. But there are also some less effective models – especially in the field of political discussion online and participation communication online – with roughly 30 % of explained variance. Obviously, there are still some other yet uncontrolled factors – for example, the current political situation, including more or less relevant issues, structures of opportunity for participation, etc. – that may influence the political communication of the citizens.

The third general finding already provides an answer to the substitution hypotheses H2a and H2b: There is *not a single negative effect* of political communication variables in any of the 42 regression models; therefore both hypotheses must be rejected. We can find nothing that supports the hypothesis of a substitution of traditional political communication activities by online communication or vice versa.

The fourth general result refers to the complement hypotheses H3a/H3b and the activation hypothesis H4: Online communication affects online communication and traditional communication affects traditional communication; there seems to exist *a great divide between both realms*. In addition to the habitualization effect sparked by the same activity a wave earlier, the remaining two variables – online and traditional – influence the corresponding dependent variables. Cross-sectional influences from traditional to online media and especially from online to traditional media appear less frequently and are much weaker in most cases. At this general level, without discriminating between different communication dimensions, H4, H3a and H3b are supported by trend.

Political information

When comparing the models of traditional and online political information over time, it was found that in the first years of the study the habitualization effects were stronger for traditional media. In the later years strong habitualization effects can be observed for both forms of communication. Thus, for political information H1c is underpinned by the data, while H1b is only partly supported. In the model explaining the use of traditional media, only traditional political discussion had a small additional effect in the first four years of investigation (Table 2). None of the other communication variables – neither online nor off-

	2003	2004	2005	2007	2008	2009	2010
R^2	.39	.42	.49	.48	.49	.51	.52
$n =$	872	933	1156	712	878	791	473
Traditional information	.56	.56	.63	.62	.63	.68	.65
Online information							
Traditional discussion	.11	.10	.09	.12			
Online discussion							
Traditional participation com.							
Online participation com.							
Age	.09	.11	.14	.10	.15	.08	.16
Education		.15				.07	
Sex (male)					.08		

Note. The year in the column header indicates the time of the measurement of the dependent variable; for independent variables the measurements from the survey one year earlier were used. Only significant effects ($p < .01$) displayed.

Table 2: Effects on traditional information communication (regression analyses)

line – can explain further variance. In summary it can be said that for traditional political information H4 is just partly supported while H3a and H3b are completely affirmed.

The picture is quite different for the models of *online* political information (Table 3). Besides the observed and over time increasing habitualization effects, some other communication variables have a remarkable impact: In four models political discussion online and in five models participation communication online has a positive influence on political information. But also traditional communication activities stimulate online information search, at least to some extent in some years. These unpredicted effects might be called activation effects as they are an indicator that activities in one sphere are intensifying activities in the other. With respect to our hypotheses stronger support can be found for H4, while at least some findings cast doubt on whether H3b can be applied generally.

In contrast to the models concerning political discussion online and participation communication online, which will be discussed below, the socio-demographic variables account in all models for some further variance. These findings are quite remarkable because at the individual level these factors are constants. The fact that they explain additional variance is therefore an indicator for a changing population structure in both spheres of communication: The most striking difference is that on the aggregate level the people using means of online information are tending to get somewhat younger while those using traditional information media are continuously getting older.

	2003	2004	2005	2007	2008	2009	2010
R^2	.48	.45	.54	.50	.53	.64	.63
$n =$	872	933	1156	712	878	791	473
Traditional information					.08	.08	
Online information	.49	.40	.54	.62	.51	.70	.68
Traditional discussion	.08			.07			
Online discussion	.10		.10		.14		.13
Traditional participation com.							
Online participation com.	.17	.25	.08		.09	.10	
Age	−.09		−.07		−.08	−.15	
Education		.19	.06	.13			.12
Sex (male)		.10	.09	.11	.08		

Table 3: Effects on information communication online (regression analyses)

Political discussion

Compared to the models designed to explain political information, the explained variance is lower in all of the models dealing with political discussion, which can be traced back especially to the weaker habitualization effects. This is in particular true for the case of online political discussion in which in several years – especially in the first ones – habitualization effects were quite small. H1b is therefore also supported for political discussion and, furthermore, we find at least a tendency towards endorsement of H1c.

Unlike in the models for political information, additional effects from the remaining communication variables of the corresponding spheres (online and offline) can be found continuously over all the years. In the dimension of political discussion *online*, especially political information has an impact (Table 5), while for *traditional* political discussion this is true for participation (Table 4). These findings lead to the conclusion that the intensity of political discussion is less habitualized than other forms of communication and instead depends much more on preceding experience in other dimensions of communication and participation. This finding is quite plausible taking into account that people need to have some kind of experience (from personal or media communication) as a source and motive for discussions about politics. Even though hypothesis H1 is hereby supported, also for political discussion it must be noted that the support is weaker than it was with political information, while the support for H4 is stronger.

Moreover, some cross-sectional influences can be observed: In all seven years, traditional political communication affects online political discussion; in

	2003	2004	2005	2007	2008	2009	2010
R^2	.33	.36	.40	.35	.39	.41	.34
n =	872	933	1156	712	878	791	473
Traditional information	.12	.10				.09	
Online information	.12						
Traditional discussion	.44	.48	.58	.44	.48	.53	.51
Online discussion				.14	.14		
Traditional participation com.	.09	.14	.12	.18	.18	.11	.16
Online participation com.							
Age							
Education		.08				.11	
Sex (male)							

Table 4: Effects on political discussion (regression analyses)

	2003	2004	2005	2007	2008	2009	2010
R^2	.32	.30	.41	.31	.34	.35	.50
n =	871	933	1156	711	878	791	473
Traditional information							
Online information	.17	.13	.11	.22	.11	.18	.22
Traditional discussion			.12			.09	
Online discussion	.37	.25	.37	.30	.45	.37	.58
Traditional participation com.		.14			.12		
Online participation com.	.17	.20	.21	.15			
Age				-.07		-.13	-.10
Education							
Sex (male)		.08	.08				

Table 5: Effects on political discussion online (regression analyses)

three years it is the other way round: To some extent other dimensions of political communication can stimulate political discussion. According to these effects, H3a and H3b are partially falsified. Instead, the findings support the assumption of a reciprocal activation.

As already mentioned, the effects of socio-demographic variables are less frequent in the case of political discussion. Just the negative effects of age on interpersonal online communication can be replicated, indicating that on the aggregate level the population of online media for political discussion is getting younger, too.

Participation communication

The most striking difference between the models for traditional and for online participation communication is the amount of explained variance. Particularly in the last few years of the scope of this analysis, the explained variance of traditional participation activities was almost twice as high as for the online activities. As in the case of political discussion, the lower explanatory power of the online models is first and foremost due to the very slight habitualization effects. Once again the data support H1b.

	2003	2004	2005	2007	2008	2009	2010
R^2	.44	.47	.47	.43	.58	.56	.59
n =	872	933	1156	712	878	791	473
Traditional information							
Online information							.12
Traditional discussion		.09	.08	.13	.10	.12	
Online discussion					.09		
Traditional participation com.	.66	.65	.66	.59	.70	.69	.73
Online participation com.							
Age	.07						
Education			-.07				
Sex (male)							

Table 6: Effects on traditional participation communication (regression analyses)

Unlike in the two former dimensions of online communication, no tendency towards increasing habitualization can be identified for online participation. The beta coefficients never exceed .45 and in four of the years, they are even lower than .35. Thus, H1c is refuted with respect to political online participation. Furthermore, in two of the years, the activating impact of political online discussion equals or exceeds the habitualization effect (Table 7). In addition, important effects of other communication dimensions can be observed, especially from the online forms of political communication. These findings put the appropriateness of H1 in the dimension of online participation into question while H4 is supported once again. Beyond that, traditional participation or political discussion also have an impact on online participation in most of the years. This outcome casts H3b in doubt as well.

Concerning traditional participation activities the situation is quite different: Almost all of the explained variance can be traced back to habitualization (Table 6). Besides that, only small effects from traditional political discussion

	2003	2004	2005	2007	2008	2009	2010
R^2	.40	.29	.33	.28	.29	.34	.31
n =	871	933	1156	711	878	791	473
Traditional information							
Online information	.18		.18			.16	.21
Traditional discussion				.09		.13	
Online discussion	.19	.22	.08	.35	.31		.14
Traditional participation com.		.08			.10		.16
Online participation com.	.42	.33	.42	.20	.31	.45	.26
Age							
Education		.10		.09			
Sex (male)							

Table 7: Effects on participation communication online (regression analyses)

can be detected. Slight cross-sectional effects appear in just two of the years. Socio-demographic variables play a negligible role in both spheres, too. So, in the field of traditional participation, just H1 is strongly supported while H4 is neither backed up nor refuted by the data.

All in all, it can be concluded that traditional participation is highly routine while for online participation the opposite is true. The explained variance for online participation is much lower and this activity reacts much more sensitively to communication experiences in other dimensions. In the field of online participation communication just a low amount of routine behavior can be observed.

Conclusions

The present analysis was designed to disclose processes of change in the political communication of citizens in the wake of internet diffusion. A panel survey conducted in Germany between 2002 and 2010 provided the basis for the description of the development of political communication and the test of causal hypotheses in order to explain these developments.

The analysis first highlighted some general characteristics: Forms of online communication are used much less for political purposes than traditional forms of communication, but the differences are shrinking over time due to a continuous increase in online activity. Hypothesis H1, which expected habitualization to play an important role in explaining the political behavior of citizens, was largely confirmed: Previous activity was the strongest predictor for present

activity in most of the models tested, with beta coefficients up to .73. But regarding the relation of online and traditional communication, traditional forms are obviously still much more routinized than online forms. In both the traditional and the online fields of action, it is the political information that is most habitualized, while in the other dimensions of political communication the effect of previous action is significantly lower.

In a second step the relations between online and traditional communication were scrutinized. Hypotheses 2, 3 and 4 defined three main relations between online and traditional communication: First, a substitution of traditional communication and participation by online forms was expected within the same dimensions of communication (e.g., substitution of traditional news consumption by online news); second, online activities in one dimension (e.g., political discussion) should not affect traditional activities in other dimensions (and vice versa); third, activities in some dimensions were expected to activate behavior in others.

The findings do not support the substitution hypothesis (H2) at all: None of the 42 different models from all the years and all dimensions of political communication show decreasing traditional activities parallel to increasing online activities. This means *that there are mainly complementing effects of online communication* (H3): Political online communication is an addition to existing forms of political activity. The tests for activation effects show that there is a divide between the online and offline world: Most of the existing activation effects occurred within the spheres, while very few cross-sectional influences were detected. As previous studies indicated, particularly political discussion appeared as a mediator between political information communication and participation. The confirmation of H4 is therefore restricted to the respective dimensions of online and traditional political communication.

A third perspective, asking for feedback effects of traditional communication on online communication, reveals that online media should no longer be regarded as an external factor (technically, as an independent variable) that affects the traditional communication world; meanwhile, online media are part of the ubiquitous communication environment and therefore subject to influences by traditional communication activities (and other variables) as well. This interaction should be taken into account in future research and in our theoretical understanding of political communication.

To sum up, the data from this longitudinal panel study support some important findings from previous research but add several insights that are due to the structure of the data. First, the general positive influence of political online communication is confirmed. The longitudinal perspective allowed for the inclusion of habitualization of political behavior, which gave us a valuable

insight into the state of incorporation of forms of online communication in the political communication repertoires of the German citizens: Even if the internet has now been an issue for almost 20 years and three quarters of the population are online, the online forms of communication are still much less routinized than traditional forms; this may partly be due to the continually strong dynamics of technical and social innovations on the internet.

A second aspect that adds to these findings is the ongoing division between online and offline worlds: Activities in one sphere are only weakly related to those in the other. On the other hand, classic effects of political information and political discussion on participation were confirmed for both spheres.

All in all, there is not a general effect of online communication on traditional communication activities. Nevertheless, in some segments of the population and for some forms of communication there are influences. Other findings on the basis of these data concerning the relationship between attitudes towards democracy and political communication (without distinguishing between online and offline activities) show, for example, that age is an important intervening variable that modifies the relationship between the variables (Emmer, Vowe, and Wolling, 2011). The analyses support the assumption that political attitudes and political interest can influence the relationship of internet use and political communication. Therefore, it is reasonable and even necessary to develop and test hypotheses for distraction activation and habitualization also for subsamples of the population: It seems to be plausible that especially younger people or population segments with high affinity for political online communication (Emmer and Füting, 2007; Emmer, Füting, and Vowe, 2006) might develop habitualized online communication patterns more quickly than other segments. In these groups we might find much stronger effects of ritualized habits in online communication and weaker effects of traditional communication. On the other hand, it cannot be rejected definitely that in some segments of the population (for example, alienated citizens) even negative relationships between the variables under investigation might be observed. The development and test of adequate models which include all these processes and modifying factors is a demanding challenge for researchers of political online and offline communication today.

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