

Chapter 6

News online: Uses, perceptions and displacement effects over time

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Abstract

This study examines changes in the profile of online news users, their uses and perceptions of online news and eventually how this affects the use of traditional media between 2002 and 2005 in the Netherlands by means of a two-wave panel survey. Findings indicate that online news users have become more mainstream in some ways, but also more distinct in others. The analyses reveal interesting differences between perceptions of online newspapers and “other,” “non-paper” news sites on the Internet. Trends in uses and effects are most evident among particular socio-demographic groups, among which young people. The first signs of media use displacement effects are visible. Under different conditions online news gradually substitutes for printed newspapers, free local newspapers and teletext, and non-paper news sites for online newspaper sites.

Introduction

So far, users of newspaper Websites still have had the characteristics of the “early majority” or even of “early adopters” (Rogers, 2003): Highly-educated and younger people, men, and high-income earners are still more likely to visit newspapers online than nonusers (e.g., De Waal, Schönbach,

& Lauf, 2005; Dutta-Bergman, 2004; Nielsen//NetRatings, 2005; Zhu & He, 2002). But, the consumption of online news is continuously growing (see e.g., Horrigan, 2006). Some particularly worry about the political consequences of online news becoming more widespread. Increasing options for online users and greater individual power to customize what one consumes have both been hailed and feared. On the one hand, a greater amount and variety of political information is available, and its use is applauded. On the other hand, some fear that the growing options to filter the content may facilitate disengagement from news and public affairs. This is why, Sunstein (2004, p.58) calls *filtering* a mixed blessing. He argues that “unanticipated encounters, involving topics and points of view that people have not sought out and perhaps find quite irritating, are central to democracy and even to freedom itself.” In view of that, new media may dangerously reduce the common core of topics for the public discourse in a democracy (see e.g., De Waal & Schoenbach, in press; Mindich, 2005; Tewksbury, 2003; Sunstein, 2002; Prior, 2005).

The concerns raised will become more urgent if people increasingly rely on the Web as a news source at the expense of traditional media (see Althaus & Tewksbury, 2000). With this study we investigate changes in the profile of online news users, their uses and perceptions of online news and eventually how this affects the use of traditional media. Compared to early adopters, current users may be interested in different kinds of content. Moreover, the time spent on online news, even complete media-use-‘diets’, may have changed, as well as perceptions of (online) offerings. Eventually, all these changes should plausibly affect what people really get from online news.

Literature review

(New) media and the public discourse

Collectively shared information is essential for public discourse in a democracy. Democracy needs citizens able to deliberate on issues relevant for the society as a whole, and not only about the ones that each individual may be personally concerned about (Habermas, 1962). Media have a decisive role in this respect and are supposed to help create the public space for the public discourse (e.g., Gans, 2003; Luhmann, 1971; Schudson,

1995). The media's task is actually twofold: narrowing down the principally infinite number of news issues to the most important ones, but at the same time expanding the scope of topics that individuals consider important to them and society. As early as in 1977, Shaw and McCombs pointed at the differential impact of media channels on the audience agenda. Shaw and McCombs' study revealed a greater influence of newspapers than of television on the salience of issues on the public agenda. Subsequently, the majority of studies on the differential impact of newspapers and television supported that finding (see e.g., Allen & Izcaray, 1988; Culbertson, Evarts, Richard, Sandell & Stempel III, 1994, Guo & Moy, 1998; McLeod, Scheufele and Moy, 1999; Schulz, 2003). The superiority of the classic newspaper was also found in studies that compared audience recall from TV, radio, newspaper and computer (DeFleur et al. 1992; Faccoro & DeFleur, 1993). With the spread of the Internet a number of studies has investigated how Web-based content in general and online newspapers in particular affect the public agenda as compared to print media (e.g., Althaus & Tewksbury, 2002; Eveland & Dunwoody, 2001, 2002; d'Haenens, Jankowski & Heuvelman, 2004; Schoenbach, De Waal & Lauf, 2005; Tewksbury & Althaus, 2000). And again, predominantly the print format seems most successful when it comes to making readers aware of public affairs issues.

The print newspapers' design is an important determinant of its success. The linear structure and finiteness of traditional newspapers encourage a page-through-behaviour while the arrangement and elements of design, such as the location in the paper, page location, amount of space and typography, attract attention (see Garcia & Stark, 1991). Some have argued that technological innovations offering audiences less structure and more choice might make a mass audience obsolete as fewer people will be sharing the same content (Fico, Heeter, Soffin & Stanley, 1987; Rogers and Chaffee, 1983 zie Jeffres). Should we be concerned that the growing popularity of narrowcasting technologies - geared to small fragmented audiences and individuals - isolates small groups and individuals in customized information environments? The Internet certainly challenges the thought of the public sphere: on the one hand it brings more information to public scrutiny and opens deliberative possibilities, but it also fragmentizes discourse and hence threatens one of the best realizations

of democracy that has been achieved so far (Bohman, 2004; Papacharissi, 2002). As far as new media aim to satisfy individual needs they contrast with the common carrier model in which media aim to reach the general public. Accordingly, some warn that media consumption that is increasingly oriented towards personal interests might hasten the erosion of the common good and cast a shadow over the long-term health of democracies (Andersen & Nørgaard Kistensen, 2006; Mindich, 2005; Tewksbury, 2003; Sunstein, 2002). Similarly, some raised concern about the decline of public broadcasting earlier, as they perceived it as a deficient 20th-century equivalent of Habermas' public sphere (e.g., Tambini, 1999).

User control & learning

The extent to which new media contribute to public discourse is largely determined by their capacity to inform their users of public affairs issues. User interests and content preferences may be more crucial indicators than ever of what people get from the media because of the characteristics of the Internet (Prior, 2005). New interactive media typically distinguish themselves from more traditional channels in that they allow, even encourage customization. Visitors of interactive news media for instance can be selective in their news reading and filter information according to their preferences (see e.g., Prior, 2005; d'Haenens, Jankowski & Heuvelman, 2004; Tewksbury, 2003; Boczkowski, 2002; Tewksbury & Althaus, 2000). Accordingly they become, more than ever, the gatekeepers of their own agendas.

Certainly this autonomy enables users to reduce *uninvited noise*, but it also implies that unexpected *chance encounters* are less likely (Sunstein, 2002; 2004). So, *passive* or *incidental learning* (see Krugman & Hartley, 1970; Zukin & Snyder, 1984; Culbertson & Stempel, 1986; Guo & Moy, 1998) about topics beyond individual interests seems more difficult in interactive environments. It has been shown that high-choice media environments such as the Internet indeed decrease chance encounters with news and political content in particular (see also Sunstein, 2002, and Mindich, 2005). In other words, uninterested and unmotivated users may not be accidentally exposed to and "trapped" by the new media content (Schoenbach & Lauf, 2002, 2004).

Still, if users are motivated, interactive media can be most valuable. Great individual control over what one consumes stimulates attention (Chaffee & Schleuder, 1986) and motivation (Bandura, 1982; Schunk, 1991), which are important conditions for profound information processing. Indeed, if users are motivated to learn about politics from new media, their political knowledge increases (Prior, 2005). So whether we should be concerned about the effects of online customized offerings on the democratic ideal of public deliberation largely depends on users' motivations. Somewhat reassuring in this respect is that not too long ago the feeling of a civic duty to keep informed was an important determinant of both traditional and new media *news* usage (Poindexter & McCombs, 2001). But considering the speculations, even the online news audience may get decidedly mainstream and become less hungry for politics and *hard news*. According to Althaus & Tewksbury (2000) it then becomes increasingly relevant to consider how much (uninterested) people actually rely on the Web as a news source at the expense of traditional media (see Althaus & Tewksbury, 2000).

Changing media use patterns & displacement effects

Media consumption patterns are changing considerably though, and, accordingly, the status and function of media in “*informing*” the political public (Andersen & Nørgaard Kistensen, 2006). Television and radio are increasingly used for entertainment, free newspapers (like *Metro*) have become more popular, fewer people read traditional printed newspapers, and Internet consumption keeps rising. There are indications that relative new users of the Internet go online to check news headlines less than long-time-users and are less interested in politics. In general, newcomers are less news-hungry (see e.g., Bennet, 2001; Pew Research Center, 1999). We have seen that news consumption on the Internet keeps growing. In 2005, 35 percent of adult American Internet users got news online on a typical day (Horrigan, 2006). In Europe too, online news is becoming increasingly popular. In the Netherlands for instance no less than 41 percent of Internet users of 12 years and older specifically looked for online news on the Internet in 2004 (CBS, 2005). But how are changes in media consumption actually related to each other?

Whether new media substitute or supplement existing media has been frequently studied. Displacement theories - that go back to Lazarsfeld (1940) - explain changing media use patterns by the amount of time that people have available to spend on the consumption of different media: Once a new medium enters the arena, individuals must reallocate their limited amount of time across old media and the new channel (see also Robinson & Godbey, 1999). But the time available is not the only relevant factor in this regard. Already in 1958 Himmelweit, Oppenheim and Vince reasoned that existing media suffering most from new media are those which provide comparable gratifications. This is an idea that dates back to the work of the historian Riepl (1913) who in his history of media techniques found that older techniques do not disappear - if they only concentrate on their specific niche, that is, what they can do best for their users (*Riepl's law*). In the light of the *functional equivalence*-hypothesis "a new technology will replace those activities that most closely perform the same functions for users as the old technologies did" (Robinson, Kestnbaum, Neustadt & Alvarez, 2002, p. 22). For example, an overlap in an *escape* function may explain the decline of movie attendance, reading comic books and radio listening at the onset of television.

Considering the *niche theory* and the *uses and gratifications*-perspective "a new medium survives, grows, competes and prospers by providing utility or gratifications to consumers. In doing so, it may have effects on existing media by providing new solutions to old needs or to more contemporary needs" (Dimmick, Chen & Li, 2004, p. 31; see also Dimmick, 2003). It has also been argued that new media do not compete with, but rather supplement, existing media. The fact that different media are used for different functions and different media forms offer different gratifications and opportunities to their users justifies such a complementary model. But also content loyalty, suggested by Dutta-Bergman (2004) might explain the multiple uses of old and new media. He argues that individuals use both new and more traditional channels next to each other in order to optimize the information of their interest. He found that individuals that are drawn to a particular type of content online - political news for instance - also follow political news more closely in traditional outlets than non-users of online political news, the so-called *more-and-more-rule* of media use (Lazarsfeld, Berelson & Gaudet, 1944). Either way, individual channel

preferences depend on the extent to which channels help meet individual needs or goals (see also Katz, Blumer & Gurevitch, 1974).

Research evidence on the extent to which online media displace traditional media predominantly suggests that Internet use in general rather supplements than substitutes traditional media use (De Waal, Schönbach & Lauf, 2005; Neustadtl & Robinson, 2002; Schultz, 2002; Robinson, Kestnbaum, Neustadtl & Alvarez, 2000; Stempel, Hargrove & Bernt, 2000; Pew Research Center 1999; Chyi & Lasorsa, 1999; Stempel & Hargrove 1996; Bromley & Bowles, 1995). It has been shown for instance that Internet use reduces the time spent with television. Heavier Internet users however are shown to watch more television than light Internet users. Research also revealed that online media exposure reduces the time spent with traditional newspapers, particularly for heavy users (e.g., Lin, Salwen, Garrison, Driscoll, 2005; Kayany & Yelsma, 2000). There are signs though that at least for some - particularly younger - users, new media gradually take over several of the more conventional ones (e.g., De Waal, Schönbach & Lauf, 2005).

Of course, use patterns may change over time. On the one hand, the appreciation and usefulness of a new medium will increase with more experience. Kayany and Yelsma (2000) found that the amount of time that people spent online is positively correlated with the perceived value of online media for both information and entertainment. Since the time that people spend online is still growing, should we expect functional displacement effects in the near future? Interestingly, the importance of traditional newspapers for information has not been affected by the growing usage of online media, but online media may gradually take over television's function as primary source of information (Kayany and Yelsma, 2000). On the other hand, Kaye and Johnson (2003) noticed a revival of the broadcast medium, arguing that early displacement findings may be due to novelty effects. Once the novelty of a new medium has faded, users that were drawn to it out of curiosity may gradually return to their previous media usage habits (Perse & Dunn, 1998). So, early displacement effects may not persist in the long run.

Speculations specifically aimed at online news services have pointed to different directions from the beginning: some expected online news to replace traditional news media (particularly among younger cohorts),

whereas others suggested online news media to augment traditional news channels (at least among the so-called news junkies) (see e.g., Davis & Owen, 1998; Dizard, 1997). Trend research aimed at politically interested Internet users, revealed that some hardly altered their news media consumption habits. But those who did mostly decreased the time they spent with traditional media for political information since they started using the Internet for that purpose. The patterns also indicate that online sources accessed for political information may be replacing news magazines and radio news, but rather seem to supplement television news and print newspapers (Kaye & Johnson, 2003).

From the functional inequality perspective it may be that online news services do not serve individual needs as good as, or in the same way as, newspapers and the television news. Indeed, not too long ago, online newspaper users in general valued television and traditional newspapers over online newspapers for all kinds of news: politics, economy, sports, crime, and so forth (De Waal, Schoenbach & Lauf, 2005). But there are also signs that at least for some groups online newspapers may replace traditional printed ones: We found a significant negative relation between *mere* exposure to online newspapers and print newspapers among young people (De Waal, Schönbach & Lauf, 2005). It is very plausible though that the uses and perceptions of online newspapers in relation to traditional media are still changing, especially as the number and diversity of users is still increasing. What's more, the proportion of experienced long-time users should have become bigger and online newspapers themselves may have matured in terms of content and features.

Focus of the study

With this study we investigate - with a two-wave panel study - developments between 2002 and 2005 in the Netherlands with regard to both uses and effects of online news, more specifically: Who are the users of online news? For what types of information do they value online news? Does news online displace other information channels?

As evidence on the diffusion of innovations shows, socio-demographic characteristics such as age, education and gender divide between those who are the first to use new technologies and those who join

in later. This also applies to Internet use and adoption (e.g., Zhu & He, 2002; Anderson & Tracey, 2001). It has often been shown that younger people, for instance, are more attracted to new technologies and are less reluctant to try and adopt them (Venkatraman, 1991). But online news consumption is still growing and there are indications that the users of online news will gradually become more average. Accordingly we expect that:

H 1: The difference in the socio-demographic composition of online news users and non-users has become smaller between 2002 and 2005.

To get a more detailed picture of the profile of online news users, next to socio-demographics, we look at interests and general media-use-diets of online news users.

RQ 1: What topical areas are online news users typically interested in? How is this different from the interests of non-users? And how has this changed between 2002 and 2005?

RQ 2: What other media channels do online news users typically use? How is this different from the media-use-diets of non-users? And how has this changed between 2002 and 2005?

We do not only want to know about changes in differences *between* users and non-users, but also about changes *within* the group of online news users:

RQ 3: How has the profile of online news users changed over time?

In addition we look at how important users perceive online news for different types of content:

RQ 4: How do online news users value online news sites for different types of content? And has this changed over time?

If users increasingly perceive online newspapers important for information about topics they are interested in - at the expense of other channels - it is

likely that at some point online newspapers will (functionally) displace traditional media. In order to further examine possible displacement effects, we investigate - next to perceptions - changes in the uses of various media channels.

RQ 5: How does exposure to online news affect exposure to print newspapers and other media channels? Does this differ among different demographic groups? And, has this changed over time?

Method & measurement

Our analyses are based on data from a two-wave panel telephone survey in the Netherlands. In December 2002 and a little more than two years later in January 2005 the same 411 adults were interviewed¹. The first survey was conducted in December 2002. The second survey was carried in January 2005. The questionnaires of the two waves include identical measures of media exposure, perceived value of the channels for different kinds of information, interests, and demographics (see below). The minimum response rate (AAPOR, 2004) was 41 percent for the first wave. 42 percent of the original 977 respondents (412) participated in the second wave². To reflect the real distribution of the Dutch adult population in terms of gender, age and education we weighted for these variables in our analyses. We capture developments over time by comparing the 2002 data that are illustrative for the early stage of online newspaper use in the Netherlands to the more recent 2005 data.

Media exposure/interests/perceived value/demographics

To get a picture of actual media use, we gauged exposure to a wide variety of media channels: online newspapers, other news sites on the Internet, print newspapers, television, teletext, radio, free local papers and magazines. We measured exposure in terms of time (*generic exposure*). For exact wording see appendix A. The time spent with a channel is converted to minutes a day. We also discern *mere exposure*, that is, using a channel at all. We gauged the following interests: politics, economy, sports, crime, culture, celebs and local news and, additionally, the perceived individual value of all the media

channels for the exact same themes. Finally, we measured the age, gender and education³ of each respondent.

Analysis

Although the studies reviewed earlier in this paper do not discern different types of online news, in our analyses of the uses and effects of online news we do distinguish between websites of newspapers, and non-paper news sites such as web editions of radio and TV stations and online-only news sites. We do so, because - unlike non-papers websites - the online editions of newspapers for a large part resemble the content of their offline counterparts. So, off- and online editions of newspapers are comparable in terms of content, and both types of online news sites are equivalents in terms of the layered format in which their content is presented. Accordingly, separating between online newspapers and other types of news sites may yield valuable insights.

We use samples t-tests to examine the differences between users and non-users of both online newspapers and other news sites in terms of demographic profile, interests, media-use-diets and perceptions of news(paper) websites.

To investigate displacement effects, we use partial correlations between mere and generic exposure to online newspapers and other news websites on the one hand and other media channels on the other hand, controlled for demographics and exposure to the media channels not under scrutiny. We address these relations on an aggregate level, that is, the general trend at time 1 and time 2, but also on an individual level, that is, individual changes between time 1 and 2.

Finally, to reflect the real distribution of the Dutch adult population, all the above mentioned analyses are weighted for age, gender and education.

Results

Exposure to online newspapers

Almost two thirds of the respondents did not visit online newspapers either in 2002 or in 2005. If we look at different demographics groups, though, it becomes clear that some gained new online newspaper users whereas other

groups lost. There has been an impressive increase in the proportion of younger people (below the age of 25) who use online newspapers at all, from 28 percent in 2002 to 57 percent in 2005, but among the 36 to 55 year olds fewer visited online newspapers in 2005 (29 percent) than before (36 percent). As for education, we see that the proportion of lower educated that use online newspapers increased, but the higher educated seem to be gradually abandoning online newspapers and open to other news websites instead.

The time that our respondents spent with online newspapers increased in the intervening two years. This is true for nearly every demographic group. But the strongest increase can be found among younger, lower educated and female respondents. The 26 to 35 year olds, for instance, spent on average 2.2 minutes a day on online newspapers in 2002 and in 2005 almost 8 minutes. Although the time spent with online newspapers grew most for those with an elementary or at most a lower secondary professional education, the more highly educated still spent the most time with these web papers (table 6.1).

Exposure to other news websites

Exposure to other news sites on the Internet is definitely booming - both in terms of mere exposure and the time spent with them - and not only among higher educated people. We see increased exposure for all demographic groups. Only among respondents from the 36 to 55 age category the time spent with news sites did not increase. The strongest increase can be found among the young, the higher educated and women. Of those aged below 25, for instance, a little more than 30 percent visited online news sites in 2002, for well over two minutes a day on average. In 2005, 50 percent visited online news sites at all, for over nine minutes on average (table 6.1).

User profile

Demographics. As compared to non-users, users of both newspaper websites and *other* news sites were younger, had completed higher education, and were more often male than non-users at both measurement points. Only about one third of the online newspaper users was female, both in 2002 and 2005. The proportion of female non-paper news site users increased significantly between 2002 and 2005 from 24 to 34 percent. What's more,

Table 6.1: Exposure to online newspapers and *other* news websites over time

	<i>Online newspapers</i>						<i>Other news sites</i>					
	<i>Mere exposure</i>			<i>Generic exposure</i>			<i>Mere exposure</i>			<i>Generic exposure</i>		
	2002	2005	<i>t-test</i>	2002	2005	<i>t-test</i>	2002	2005	<i>t-test</i>	2002	2005	<i>t-test</i>
<i>All respondents</i> (N at least 408)	35	31		1.7	3.6	**	25	33	****	2.5	3.9	*
<i>Age (at t1)</i>												
25 and younger (48)	28	57	***	0.8	3.2	***	32	50	***	2.4	9.1	****
26-35 (90)	40	39		2.2	7.9	*	18	43	****	1.3	3.3	****
36-55 (164)	36	29	*	2.4	3.3		29	31		4.5	3.3	
56 and older (105)	10	11		0.7	0.5		8	13		0.4	3.1	*
<i>Education¹</i>												
Low	16	23	**	0.9	3.9	*	13	20	**	1.3	2.6	
Mid	30	32		2.0	2.6		26	34	**	3.6	3.8	
High	52	39	**	2.7	4.6		30	47	***	2.9	6.8	**
<i>Gender</i>												
Male (194)	40	44		2.2	3.5	*	34	43	**	4.8	5.6	
Female (214)	19	17		1.2	3.7	*	10	20	****	0.4	2.4	***

Note. Cell entries are percentages and minutes a day, weighted for age, gender and education to reflect the real distribution of the Dutch adult population. Calculated: paired-samples t-tests (sorted by time 1 measures of age and education). ¹ Education categories: elementary/lower secondary professional (low); intermediate vocational/higher general secondary/ pre-university (mid); higher vocational and university (high). *p<.10; **p<.05; ***p<.01; ****p<.001

Table 6.2: Characteristics of online news users: Differences between users and non-users in 2002 and 2005, and within the user groups between 2002 and 2005

	<i>Online newspaper users</i>									<i>Other news website users</i>								
	<i>User 2002</i>			<i>User 2005</i>			<i>User</i>			<i>User 2002</i>			<i>User 2005</i>			<i>User</i>		
	<i>yes</i>	<i>no</i>	<i>t-test</i>	<i>yes</i>	<i>no</i>	<i>t-test</i>	<i>2002</i>	<i>2005</i>	<i>t-test</i>	<i>yes</i>	<i>no</i>	<i>t-test</i>	<i>yes</i>	<i>no</i>	<i>t-test</i>	<i>2002</i>	<i>2005</i>	<i>t-test</i>
<i>Demographics</i>																		
Age (years)	39	46	****	38	49	****	39	38		39	45	****	40	49	****	39	40	
Education (1-5) ¹	3.2	2.6	****	3.0	2.6	****	3.2	3.0	**	3.1	2.7	****	3.1	2.5	****	3.1	3.1	
Female	35	60	****	30	62	****	35	30		24	60	****	34	61	****	24	34	**
<i>Interests²</i>																		
Politics	95	80	****	98	80	****	95	98	***	95	81	****	92	83	***	95	92	
Sports	71	64		76	71		71	76		74	64	*	72	73		74	72	
Theatre, films and literature	73	58	***	83	58	****	73	83	***	75	59	***	81	59	****	75	81	
Finances and economy	79	63	****	78	73		79	78		80	65	***	77	74		80	77	
Reports on celebs	35	40		29	44	***	35	29		42	38		34	42		42	34	*
Reports on crime and accidents	71	85	***	92	88		71	92	****	80	82		89	89		80	89	****
Local news	97	88	****	95	95		97	95		95	90	**	94	96		95	94	

table to be continued

table 6.2 continued

<i>Mere media exposure</i>																		
Online newspapers	100	0	****	100	0	****	100	0	****	79	23	****	56	18	****	79	56	****
Other news sites	60	9	****	58	19	****	60	58		100	0	****	100	0	****	100	0	****
Printed newspapers	87	79	*	75	83	*	87	75	***	87	80		95	75	****	87	95	****
Television	97	97		99	97		97	99	*	96	97		97	98		96	97	
Teletext	74	54	****	58	51		74	58	****	72	57	***	63	48	***	72	63	**
Radio	86	75	***	79	79		86	79	*	81	77		83	77		81	83	
Free local papers	74	78		76	83	*	74	76		78	76		74	84	**	78	74	
Magazines	83	76	*	80	75		83	80		86	76	**	83	73	**	86	83	
N	119	290		122	287		119	122		87	321		126	282		87	126	

Note. Cell entries are percentages (except for age and education), weighted for age, gender and education to reflect the real distribution of the Dutch adult population. For gender, interests and exposure column percentages are reported. Calculated: independent-samples t-tests. For the comparison of online newspapers users at time 1 and 2 -different cases, but not independent samples- we used one-sample t-tests to test scores on time 2 against time 1-values. ¹ Education categories: elementary (1); lower secondary professional/intermediate vocational (2); higher general secondary/pre-university (3); higher vocational (4); university (5). ² At least somewhat interest in the respective themes. *p<.10; **p<.05; ***p<.01; ****p<.001

the education level of online newspaper users decreased within the same time span (table 6.2).

Interests. Compared to non-users, users, both of online newspapers and other news sites, have been more interested in politics (users: well over 90 percent; non-users: 80 percent) and in information about cultural events (i.e. theatre, films and literature). As to interest in cultural events, the discrepancy between users and non-users of online news even increased between 2002 and 2005. On the other hand, online newspaper readers have been evidently less interested in reports about celebrities than non-users; only less than 30 percent of them reported some interest in this area in 2005. And even though users of other news websites do not differ significantly in this respect from non-users, the proportion of them that reported interest in celebrity-related news dropped by almost ten percent from 42 to 32. Finally, online news users no longer differ significantly from non-users in their interest in financial issues and the economy, and in local news (table 6.2).

Media-use-diet. Online newspaper users are also more often exposed to other news websites and vice versa than non-users, and this was true at both of our measurement points. The difference between users and non-users in terms of exposure to other channels is still large, but becoming smaller. Interestingly, users of non-paper news sites are much less likely to also visit the websites of newspapers than before. In 2002 still almost 80 percent of them also turned to newspaper sites, but in 2005 only little more than half of them did so. Online newspaper users, on the other hand, do not seem to turn their back on other news sites. A stable 60 percent of them also visited other news sites, in both years.

What's more, early users of online newspapers distinguished themselves from non-users in their preferences for teletext, radio, print newspapers and magazines. Only two years later this was no longer the case; the proportion of those also using teletext and print newspapers decreased dramatically. For users of other news websites, the picture looks somewhat different. They typically use teletext and magazines more than non-users; this was true both in 2002 and 2005. Interestingly, compared to non-users, in 2005 fewer users of news websites read free local newspapers, but more

read printed newspapers. Contrary to online newspaper users, the proportion of other news site users that also read printed dailies increased spectacularly (from an already high 87 percent in 2002 to no less than 95 percent in 2005) (table 6.2).

Preferred content

Between our two points of measurement the proportion of users that consider online *newspapers* important for information on theatre, films and literature and crimes and accidents increased, as opposed to the proportion that considers these web papers relevant for sports and political topics - even if they are interested in these kind of themes. Of those interested in politics for instance, the percentage that considered online newspapers important sources for information of this kind dropped from over 80 percent in 2002 to less than 75 percent a little more than two years later. *Other* news websites however have been increasingly valued for politics. In 2005 these news sites were even regarded as more important for political information than the *newspaper* websites. Other news sites are - like online newspapers - considered increasingly important for information on crime and accidents.

But what do users of online newspapers think of other news sites and vice versa? Interestingly, users of non-newspaper sites considered online newspapers to be considerably less important for information about politics and sports in 2005, than was the case two years before, and the users of online newspapers increasingly valued other news sites for political information (table 6.3).

Displacement effects⁴

The relation between online newspapers and non-paper news sites. Not surprisingly the correlations between different forms of exposure to online newspapers and *other* news sites are positive, and mostly strong and significant. This is true for both points in time. The correlations between the mere exposure measures predominantly have become somewhat lower, which could mean that it becomes less self-evident that online newspaper users automatically also use other news web sites and vice versa. The correlations between the time spent on either channel on the other hand, have become higher and stronger for some groups, the mid-aged, medium and higher educated and

Table 6.3: Perceptions for different topical areas: Differences between 2002 and 2005 by online newspaper users and users of *other* news sites

	<i>Online newspapers</i>						<i>Other news sites</i>					
	<i>online newspaper users</i>			<i>users of other news sites</i>			<i>users of other news sites</i>			<i>online newspaper users</i>		
	2002	2005	<i>t-test</i>	2002	2005	<i>t-test</i>	2002	2005	<i>t-test</i>	2002	2005	<i>t-test</i>
<i>All respondents</i>												
Perceived value for												
Politics	77	73		63	47	****	68	73		37	46	**
Sports	49	39	**	40	26	****	49	51		29	28	
Theatre, films and literature	49	57	*	39	35		50	54		26	30	
Finances and economy	47	50		40	39		51	53		29	36	
Reports on celebs	15	13		13	12		20	16		8	8	
Reports on crime and accidents	40	52	***	40	40		51	58	*	26	32	
Local news	49	48		40	34		50	53		29	32	
N	119	122		87	126		87	126		119	122	

table to be continued

table 6.3 continued

<i>Respondents interested in the respective themes</i>												
Perceived value for												
Politics	81	74	*	67	51	****	72	79	*	39	47	*
Sports	68	52	***	55	37	****	67	71		40	36	
Theatre, films and literature	67	68		52	43	*	66	68		35	36	
Finances and economy	60	64		49	50		63	69		36	46	*
Reports on celebs	42	46		30	35		48	47		23	26	
Reports on crime and accidents	56	57		50	45		64	66		36	35	
Local news	51	51		42	36		50	57		29	34	
N	A	B		C	D		C	D		A	B	

Note. Cell entries are percentages of users that perceive the sites personally important for different types of information, weighted for age, gender and education to reflect the real distribution of the Dutch adult population. For gender, interests and exposure column percentages are reported. (Calculated: independent-samples t-tests. ^A N varies between 85 and 116 (with the exception of reports celebs: N= 42); ^B N varies between 92 and 120 (with the exception of reports celebs: N= 35); ^C N varies between 64 and 82 (with the exception of reports celebs: N= 36); ^D N varies between 90 and 116 (with the exception of reports celebs: N= 43). *p<.10; **p<.05; ***p<.01; ****p<.001

male respondents. So apparently for these groups spending more time on online newspapers and other news sites increasingly go hand in hand (see table 6.4a). The change scores on an individual level show that changes in the amount of time spent on online newspapers and other news sites are positively related for young and high-educated people, and both men and woman (see table 6.5).

The relation between online newspapers and other channels. We see no significant negative relations between exposure to online and print newspapers for the 2002 data. However, for the 2005 data we do find negative relations between mere exposure to online and print newspapers in general, and for young, low educated and male respondents in particular. As for the time spent, again only our second wave data reveal significant negative relations between online and print newspapers, and only for respondents aged between 36 and 55 and high-educated respondents. Especially among people younger than 25 there are clear changes, from positive relations between online and print newspaper usage at the end of 2002 to negative ones a little more than two years later (see table 6.4b). This pattern is confirmed at the individual level, that is, people under the age of 25 increased the amount of time spent with online newspapers and decreased the time they devoted to printed newspapers (table 6.5).

Another striking finding is that - on an aggregate level - young online newspaper users spent significantly less *time* with free local newspapers, the more time they spent with online newspapers. This is true for both points in time. And, to a lesser extent this is also applies to lower educated and female respondents (table 6.4c).

Moreover, the relation between *mere* exposure to online newspapers and teletext has changed. The correlations switched from predominantly positive (first wave) to predominantly negative (second wave). This pattern is best visible among low educated and female respondents. So, at least for some, it seems that online newspapers make it unnecessary to use teletext at all. Only the *generic* exposure pattern among those aged below 25 is reversed; it changed from negative to positive: In 2002, the more time these young respondents spent with online newspapers, the less time they spent on teletext. But in 2005 spending time on both channels is supplemental (table 6.4d).

Finally, on an individual level the negative relation between online newspapers and radio among the youngest group of respondents catches the eye. This suggests that increased time devoted to online newspapers is at the expense of listening to the radio.

The relation between non-paper news sites and other channels. Contrary to the competition between on- and offline newspaper use, there are no negative relations between mere exposure to other news sites and print newspapers in 2005. So in 2005 users of news sites are typically print newspaper readers. Neither do our results show significant negative correlations between the *time* spent with news websites and print newspapers in 2005, even though in 2002 the most relations between our indicators of exposure were negative. Again our youngest, most highly educated and male respondents show interesting patterns of change: from substitutive to supplemental use of news websites and printed newspapers (table 6.4b). On the individual level this supplemental use is confirmed for young and high-educated respondents (table 6.5). So online newspapers seem to replace printed newspapers, but other news sites seem to supplement traditional dailies.

For those below the age of 25 online news sites significantly supplemented free local papers both in terms of mere and generic exposure at our first point of measurement, in 2002. Even though that was still the case for generic exposure in 2005, we see a downward pattern for both types of exposure. This downward trend has even resulted in a negative relation between the mere use of free local newspapers and news websites. So, youngsters decreasingly use news websites next to free local newspapers (table 6.4c). This is confirmed on the individual level, and additionally for those with an average education (table 6.5).

In addition, our latest results show positive relations between exposure (both mere and generic) to news sites on the Internet and teletext for old, low-educated and female respondents. But, youngsters again reveal interesting patterns of change: As to the time spent with both media types their relationship turned around from strong positive to strong negative.

The most recent figures show that more time people aged below 25 spent with news websites, the less time they spent on teletext (table 6.4d). The change scores also indicate a negative relation between news websites and teletext for young people (table 6.5). This finding is completely

opposite to the one we saw earlier for online newspapers. So, apparently online newspapers do not satisfy the (customized) needs of young people and accordingly they turn to teletext. Other news sites on the Internet apparently do satisfy those needs and so teletext becomes superfluous.

Finally, the individual changes in generic exposure to news sites and magazines suggest displacement of the latter among female, higher-educated and young (below the age of 25) respondents, as well as time substitution of television among the youngest respondents (table 6.5).

Table 6.4a Relationships between exposure to *online newspapers* and *other news websites*

	<i>Mere exposure</i>		<i>Generic exposure</i>	
	2002	2005	2002	2005
<i>All respondents</i> ¹	.46****	.32****	.09*	.14***
<i>Age</i> ²				
25 and younger	.47***	.36****	.80****	.57****
26-35			.22**	.21*
36-55	.46***	.36****	.07	.26****
56 and older			.52****	.18*
<i>Education</i> ³				
Low	.55****	.36****	.15*	.11
Mid	.43****	.48****	.04	.20**
High	.37****	.22**	.37****	.44****
<i>Gender</i> ⁴				
Male	.54****	.36****	.07	.32****
Female	.32****	.33****	.46****	.18**

Note. Cell entries are partial correlation coefficients controlled for exposure to other media channels, age (only for all respondents), gender and education, and are *weighted* for age, gender and education to reflect the real distribution of the Dutch adult population. ¹ N t1&2 (at least): 407. ² For the mere exposure measures age is separated into two categories only: 35 and younger (N t1: 138; t2: 131), and 36 and older (N t1: 270; t2: 276). Categories for generic exposure 25 and younger (N t1: 48; t2: 41), 26 to 35 (N t1&2: 90), 36 to 55 (N t1: 164; t2: 162), 56 and older (N t1: 105; t2: 115). ³ Mere & generic exposure - N low t1: 173; t2: 186, mid: t1: 146; t2: 133, high: t1: 88; t2: 88. ⁴ Male mere exposure N t1&2: 194; generic exposure t1&2: 193; female mere and generic exposure t1&2 t2: 214. *p<.10; **p<.05; ***p<.01; ****p<.001

Table 6.4b Relationships between exposure to online news and *print newspapers*

	<i>Online newspapers</i>				<i>Online news sites</i>			
	<i>Mere exposure</i>		<i>Generic exposure</i>		<i>Mere exposure</i>		<i>Generic exposure</i>	
	2002	2005	2002	2005	2002	2005	2002	2005
<i>All respondents¹</i>	.03	-.14***	-.08	-.07	-.01	.28****	-.05	.02
<i>Age²</i>								
25 and younger			.70****	-.11			-.66****	.22
26-35	.14	-.24***	-.12	.06	-.12	.49***	.19* *	.31***
36-55			-.11	-.20**			-.06	.13
56 and older	-.07	-.09	-.07	-.05	.05	.13**	-.03	-.10
<i>Education³</i>								
Low	-.09	-.21***	.00	-.12	.18**	.36****	-.18**	-.04
Mid	.18**	.14	-.11	.06	-.08	.01	-.01	-.05
High	.09	-.13	-.13	-.19*	-.15	.33***	-.09	.29***
<i>Gender⁴</i>								
Male	.19***	-.18**	-.09	-.09	-.14*	.46****	-.09	.14*
Female	-.09	-.12	-.05	-.08	.09	.10	-.02	-.07

Note. Cell entries are partial correlation coefficients controlled for exposure to other media channels, age (only for all respondents), gender and education, and are *weighted* for age, gender and education to reflect the real distribution of the Dutch adult population. ¹N t1&2 (at least): 407. ² For the mere exposure measures age is separated into two categories only: 35 and younger (N t1: 138; t2: 131), and 36 and older (N t1: 270; t2: 276). Categories for generic exposure 25 and younger (N t1: 48; t2: 41), 26 to 35 (N t1&2: 90), 36 to 55 (N t1: 164; t2: 162), 56 and older (N t1: 105; t2: 115). ³ Mere & generic exposure - N low t1: 173; t2: 186, mid: t1: 146; t2: 133, high: t1: 88; t2: 88. ⁴ Male mere exposure N t1&2: 194; generic exposure t1&2: 193; female mere and generic exposure t1&2 t2: 214. *p<.10; **p<.05; ***p<.01; ****p<.001

Table 6.4c Relationships between exposure to online news and *free local papers*

	<i>Online newspapers</i>				<i>Online news sites</i>			
	<i>Mere exposure</i>		<i>Generic exposure</i>		<i>Mere exposure</i>		<i>Generic exposure</i>	
	2002	2005	2002	2005	2002	2005	2002	2005
<i>All respondents¹</i>	-.03	.02	-.06	-.13***	.08	-.09*	.05	-.03
<i>Age²</i>								
25 and younger			-.78****	-.69****	.18**	-.24***	.98****	.52***
26-35	-.05	.17*	-.10	-.31***			.05	-.17
36-55			-.02	-.07			-.06	.05
56 and older	-.04	-.08	-.02	-.08	.01	.02	.04	-.03
<i>Education³</i>								
Low	-.15*	.10	-.14*	-.19***	.07	-.09	.11	-.02
Mid	.04	-.03	-.04	-.11	.05	-.08	.03	-.11
High	.11	-.11	.03	-.12	.12	.01	.10	.00
<i>Gender⁴</i>								
Male	-.05	.11	.00	-.07	.13*	-.18**	.04	-.07
Female	-.03	-.14*	-.13*	-.19***	.04	.05	.02	.05

Note. Cell entries are partial correlation coefficients controlled for exposure to other media channels, age (only for all respondents), gender and education, and are *weighted* for age, gender and education to reflect the real distribution of the Dutch adult population. ¹ N t1&2 (at least): 407. ² For the mere exposure measures age is separated into two categories only: 35 and younger (N t1: 138; t2: 131), and 36 and older (N t1: 270; t2: 276). Categories for generic exposure 25 and younger (N t1: 48; t2: 41), 26 to 35 (N t1&2: 90), 36 to 55 (N t1: 164; t2: 162), 56 and older (N t1: 105; t2: 115). ³ Mere & generic exposure - N low t1: 173; t2: 186, mid: t1: 146; t2: 133, high: t1: 88; t2: 88. ⁴ Male mere exposure N t1&2: 194; generic exposure t1&2: 193; female mere and generic exposure t1&2 t2: 214. *p<.10; **p<.05; ***p<.01; ****p<.001

Table 6.4d Relationships between exposure to online news and *teletext*

	<i>Online newspapers</i>				<i>Online news sites</i>			
	<i>Mere exposure</i>		<i>Generic exposure</i>		<i>Mere exposure</i>		<i>Generic exposure</i>	
	2002	2005	2002	2005	2002	2005	2002	2005
<i>All respondents¹</i>	.09*	-.07	.00	-.05	.01	.08	.16***	.09*
<i>Age²</i>								
25 and younger			-.60****	.49***			.83****	-.48***
26-35	.10	-.03	.12	-.24**	-.11	-.02	-.05	-.02
36-55			-.02	-.07			.16**	.06
56 and older	.11*	-.08	.06	-.08	.08	.22****	-.06	.23**
<i>Education³</i>								
Low	.15	-.34****	-.01	-.08	.02	.33****	.38****	.26****
Mid	-.06	.07	-.03	.07	.08	.00	.12	.02
High	.22*	-.07	-.17	-.02	-.17	.05	-.06	-.13
<i>Gender⁴</i>								
Male	-.02	.01	.04	-.01	.07	.00	.20***	-.06
Female	.19***	-.18***	-.03	-.18***	.06	.22****	-.05	.46****

Note. Cell entries are partial correlation coefficients controlled for exposure to other media channels, age (only for all respondents), gender and education, and are *weighted* for age, gender and education to reflect the real distribution of the Dutch adult population. ¹ N t1&2 (at least): 407. ² For the mere exposure measures age is separated into two categories only: 35 and younger (N t1: 138; t2: 131), and 36 and older (N t1: 270; t2: 276). Categories for generic exposure 25 and younger (N t1: 48; t2: 41), 26 to 35 (N t1&2: 90), 36 to 55 (N t1: 164; t2: 162), 56 and older (N t1: 105; t2: 115). ³ Mere & generic exposure - N low t1: 173; t2: 186, mid: t1: 146; t2: 133, high: t1: 88; t2: 88. ⁴ Male mere exposure N t1&2: 194; generic exposure t1&2: 193; female mere and generic exposure t1&2 t2: 214. *p<.10; **p<.05; ***p<.01; ****p<.001

Table 6.5 Individual media change scores: Relations between *changes* in the *time* spent on online news (newspaper sites^A & other news sites^B) and other channels

	Online newspapers		Other news sites		Print newspapers		Free local newspapers		Radio		Television		Teletext		Magazines	
	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B
	1		1		1		1		1		1		1		1	
<i>All respondents</i> ¹	.09*		.09*		.00	.04	.04	-.03	-.01	-.04	.04	.04	-.04	.12**	.12**	-.05
<i>Age</i> ²																
up to 25	.40**		.40**		-.37**	.70****	.28	-.36**	-.62****	.17	.35**	-.55****	.28	-.63****	-.33*	-.58**
26-35	.23**		.23**		.09	.37****	.04	-.10	.01	.00	.04	.33***	-.22*	-.08	.38****	-.06
36-55	.01		.01		-.10	.01	.01	-.05	-.02	-.06	-.03	-.05	.04	.06	.14*	.05
56 and up	.12		.12		-.05	-.09	-.06	.08	.03	-.02	.06	.27***	-.11	.19*	-.07	-.06
<i>Education</i> ³																
Low	.08		.08		.02	.02	-.01	.13*	.00	-.05	.04	-.08	-.06	.32***	.19***	.00
Mid	-.01		-.01		-.07	.04	.01	-.19**	.00	.01	.03	.19**	-.01	-.08	.15*	.00
High	.30***		.30***		.02	.19*	-.05	.13	-.02	-.07	.13	-.01	-.04	-.10	.02	-.38***
<i>Gender</i> ⁴																
Male	.15**		.15**		-.01	.03	.05	-.10	-.11	-.11	.07	-.04	-.01	.04	.00	-.03
Female	.15**		.15**		.00	.05	.01	.01	.00	-.12 *	.00	.19***	-.16 **	.52****	.21***	-.15**

Note. Cell entries are partial correlation coefficients controlled for change scores of other media channels, relevant demographics (age gender and education for all respondents; education and gender for the age groups; age and gender for the educations groups, and age and education for the gender groups), and are *weighted* for age, gender and education to reflect the real distribution of the Dutch adult population. ^A Online newspaper users. ^B Users of *other* news sites. ¹ N: 407. ² Age at t2 - 25 and younger N: 41; 26 to 35 N: 90; 36 to 55 N: 162; 56 and older N: 114. ³ Education - low N: 185; mid N: 133; high N: 88. ⁴ Gender - male N: 193; female N: 214. *p<.10; **p<.05; ***p<.01; ****p<.001

Conclusion & Discussion

With this paper we investigated the uses and effects of online news over time and focused on three questions: Who are the users of online news? What type of information are news sites valued for? Does online news displace other information channels? It may come as no surprise that the use of online news sites increased impressively between 2002 and 2005, and that the most interesting patterns of change are found among people with the characteristics of “innovators” and “early adopters” (Rogers, 2003). Our data also suggest that a separation between online newspapers and other news sites makes sense, as the uses and effects of both types of online news are far from similar. Although online newspapers seem a logical choice for those looking for news on the Internet, other news websites catch up rapidly.

But who are the users of online news? Despite a significant decrease in the education level of online newspaper users, and an increase of the proportion female non-paper site users, Dutch online news users are still younger, higher educated and more often male than non-users. Accordingly, our expectation that the difference in the socio-demographic composition of online news users and non-users has become smaller between 2002 and 2005 is only partly confirmed. Furthermore, users of online news are still more interested in politics and information about cultural events (i.e. theatre, films and literature). Online newspaper users distinguished themes even further from non-users in this respect. But online newspaper users have become more mainstream when it comes to their interest in crime issues for instance.

Online newspaper users are typically exposed to other news websites and vice versa. But we have witnessed interesting patterns of change. In 2005, users of non-paper news sites were much less likely to visit the websites of *newspapers* than was the case in 2002. Online newspaper users, on the other hand, do not seem to turn their back on other news sites. This could mean that non-paper news sites gradually become more popular at the expense of online newspapers. In fact, it was the high-educated people who ‘migrated’ from newspaper sites to other news sites between 2002 and 2005.

Changes in the perceived value of channels can explain changes in media use behaviour. Our data show particularly interesting patterns in the

evaluation of online news for political information. Online newspapers are decreasingly considered important for information on political topics, not only by users of *other* news sites, but also by online newspaper users themselves - even if they are interested in politics. *Other* news sites, on the other hand, rapidly *gained* value for information about politics, interestingly also among politically interested online *newspaper* users. This might help explain the increasing popularity of non-paper news sites.

A further investigation of the media uses has shown that online newspapers and *other* news sites are supplementary used, but their complementary relation becomes gradually less obvious. This could be an indication that online news seekers favour one above the other. From the functional displacement perspective the source that serves the needs of its users best will prevail. But maybe both types of news sites do not compete and will continue to co-exist. If, for instance, news sites are preferred for news alerts and quick overviews, and *newspaper* sites for background information and editorial interpretation, their complementary relation may persist. But that of course all depends on how both sites will further develop. It is also possible that their supplementary use will remain, just *because* they compete. Like Dutta-Bergman (2004) suggested, content loyal people may use various news sources next to one another simply because they are interested in the news. We have seen that, the correlations between the time spent on online newspapers and other news websites have become higher and stronger for the mid-aged, mid and higher educated and male respondents. Maybe they are online news savvy, using multiple news sources on the Internet.

As to the relation between online news and printed newspapers, again, we found interesting differences between the users of both types of news sites. The proportion that reads national printed dailies decreased dramatically among users of the online newspaper editions, but *increased* spectacularly amongst users of other news websites. This suggests that online newspaper users have replaced printed national newspapers with the online editions, whereas users of other news sites use printed dailies complementary. Our analyses indeed suggest that non-paper news sites supplement print newspapers and show that this is an upcoming trend among people below the age of 25, those high educated and males. Online newspapers, on the other hand, indeed seem to replace their offline

counterparts, at least among some people. For instance, increased use of online newspapers is related to decreased use of printed newspapers among young people. It is plausible that at least some consider online newspapers an exclusive alternative for traditional printed newspapers.

But our data also show that if young respondents use print newspapers at all, the time spent actually increased. This could be a result of the introduction of free printed national dailies in the Netherlands, such as *Metro* and *Splts*. These free newspapers are very popular among younger generations. At this point, the newspaper market (aiming at younger generations) is far from steady; in March 2006 *NRC Next* was introduced. This tabloid format morning paper is not free of charge but aims at higher-educated young readers. In January and May 2007 another two tabloid papers, both free of charge, have been launched: *De Pers* - it uses the slogan "Free of charge, but not cheap" - and *DAG*. So it is hard to predict if print newspapers will sooner or later belong to the past for young people. It is just as likely that print newspapers will revive among youngsters in the Netherlands, although possibly in a new form. Still, we should take into consideration that - at least traditional - printed newspapers will lose younger generations. There are also indications that youngsters decreasingly use free *local* newspapers next to online news.

Finally, online news seems to be a substitute for teletext in some cases. Possibly, reasons to use these channels - be that a desire to control content or to get breaking news - are better gratified by online newspapers than teletext. As before, the most interesting and remarkable trends and differences between online newspapers and other news sites can be found among young people. Young people use online newspapers and teletext supplementary, but they do seem to abandon teletext for other online news sites. Apparently, online newspapers do not satisfy their need for breaking news (or customized content) enough, and accordingly they turn (back) to teletext. Other news websites seemingly *do* satisfy those needs and accordingly teletext may have become superfluous.

Notes

1. Almost 1,000 respondents were interviewed in the first survey in December 2002. TNS NIPO (the Dutch Institute for Public Opinion and Market Research) carried out the interviews. Veldkamp - a research company affiliated to TNS NIPO - carried out over 400 interviews a little more than two years later, in January 2005. The respondents were randomly selected from the sample of respondents that were interviewed in the first wave.
2. The completion rates were as follows: Of all persons randomly selected for the interview 26 (wave 1) and 29 (wave 2) percent could not be contacted (no answer, busy lines, or for wave 2 e.g., moved, died) and 26 (wave 1) and 23 (wave 2) percent refused; 7 (wave 1) and 6 (wave 2) percent was not contacted a second time after having agreed to have an interview on another hour.
3. Education was gauged as one's highest school or university degree.
4. Presented are the tables of the news media that are most influenced by news on the Internet: printed dailies, free local newspapers, and teletext. The figures for the relationships with radio, television and magazines are available from the authors on request.

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Appendix: Question wording

Generic exposure

- On average, how many days a week, do you visit sites of Dutch national or local newspapers on the Internet?

This question was also asked for “visiting *other* news websites” and for “reading Dutch national or local printed newspapers.”

For websites of newspapers and *other* news sites, questions about the frequency of their use were even more extensive:

- On average, how many times a day do you read websites of Dutch national or local newspapers on the Internet?

Again the same question was asked for “*other* news sites on the Internet.”

- On average, how long a time do you read Dutch national or local newspapers on the Internet?

This question was also asked for “reading *other* news websites” and for “reading Dutch national or local printed newspapers.”

- On average, how long do you watch television a day?

The same question was asked for “reading teletext on television or the Internet” and “listening to the radio.”

- On average, how long do you read magazines a week?

For every channel the answers to the above mentioned questions were recoded into minutes per day.

Interest

- In general, how much are you interested in politics: very much, somewhat or not interested?

The same question was asked for interest in “sports,” “theatre, films and literature,” “economy and finance,” “reports on celebrities,” “reports on accidents and crime,” and “local news.”

Perceived value

- How important are online newspapers for you personally if you would like to get informed on politics: very important, somewhat or not important?

The same question was asked for the other topical areas “sports,” “theatre, films and literature,” “economy and finance,” “reports on celebrities,” “reports on accidents and crime,” and “local news.” And this whole battery was also asked for all other communications channels: “other news sites on the Internet”, “printed newspapers,” “television,” “teletext,” “radio,” and “magazines.