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INTERACTIVE TO ME – INTERACTIVE TO YOU?

Anders Olof Larsson
Uppsala University, anders.larsson@im.uu.se

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Research-in-Progress

Anders Olof Larsson

Department of Informatics and Media, Uppsala University
Box 513, 751 20 Uppsala, Sweden
anders.larsson@im.uu.se

Abstract

Previous research has indicated that although online interactive features are not used by the visitors of different web sites, such features can be appreciated by the same visitors. This paper examines the use and appreciation of interactive features by visitors on Swedish newspaper web sites. By means of an online survey (1343 respondents) focusing on different traits and habits of the online news media audience, the study presents a typology of newspaper web site visitor personas, characterized by the different ways they use and appreciate interactive features in the online news media context. Although certain personas tend to make extensive use of the features studied, the overall results of the survey points towards rather low levels of both use and appreciation. As such, newspaper web site visitors might be characterized as "slow learners", taking their time to adapt to the interactive capabilities offered by the online news media.

Keywords: Interactivity, User-generated content, Online newspapers, Survey research, Personas

Introduction

As one of the first buzzwords to be associated with the Internet, 'interactivity' has often been presumed to be an almost intrinsic quality of the new medium (Chung and Zhao 2004; Hujanen and Pietikainen 2004). Perhaps as a result of this widespread classification of various services and media formats as 'interactive', no one clear understanding of what 'interactive' or 'interactivity' means is readily available to researchers interested in the topic (i.e. Bucy 2004; Domingo 2008; Koolstra and Bos 2009; Wu 2005). This study opts for what is often labeled a perceived view of interactivity, looking at how the users themselves experience the concept. Focusing on the visitors of Swedish newspaper web sites, this paper will use a web-based survey in order to gauge variations in newspaper web site visitor usage and appreciation of interactive features. Through gauging these types of user behavior, this study will present a typology of newspaper web site visitor personas. In addition, the research-in-progress will attempt to identify the characteristics of these personas.

In the news media industry, practicioners have struggled while moving from an offline to an online context (Thurman and Myllylahti 2009), often finding it hard to adapt to the opportunities for interactivity with their web site visitors. As the need for international research on these matters has been acknowledged elsewhere (Chung 2007; Mitchelstein and Boczkowski 2009), Swedish conditions, with consistantly high levels of on- and offline media use (Carlsson and Facht 2007; Facht 2008) might be interesting to study in this regard. In identifying user personas and factors that predict the use and appreciation of different interactive features (Chung 2007; Chung 2008; Hwang and McMillan 2002; Sohn and Lee 2005) this paper should be of interest to scholars interested in online newspapers, as well as to practicioners in the news media industry who strive to provide attractive and suitably interactive web sites to their visitors.

Background

Use of interactive features

Although some sources have suggested that "citizen media" initiatives and audience participation on newspaper web sites will lead to audience empowerment as well as better journalistic practice (Bowman and Willis 2003; Gillmor 2004), the media organizations themselves often appear rather reluctant when it comes to letting these assumed amateurs participate in the production of the different newspaper websites (Chung 2007, p. 53; Matheson 2004). A similar, reluctant attitude towards use of interactive features can also be found among their audiences. In Sweden, usage of news web site interactivity such as commenting on articles or journalistic blogging has been reported at rather low levels (Bergström 2008). Perhaps this lack of reader interest stems from what might be labeled an "institutional respect" for the journalistic profession. The findings of Hujanen & Pietikainen (2004) suggest that the respondents non-usage of interactive functions might stem from the fact that many of them saw the news web sites as "untouchable", a finished product prepared by professionals (i.e. journalists), in limited need of participation from the audience.

Conceptualizations of interactivity

Even if several ways of operationalizing the interactivity seem to co-exist, three conceptualizations reappear in the literature available. Although different authors give these conceptualizations different names, the distinction between functional, perceived or process related views on interactivity (Kiousis 2002; Leiner and Quiring 2008; McMillan 2002b; Tremayne 2005) is encompassing in this context.

Opposing the view that perceptions of interactivity might be individually determined (e.g. McMillan 2000), the functional view conceptualizes interactivity as an attribute of the medium and not of the user (Sundar 2004, p. 386). Interactivity is defined from an alleged objective viewpoint (Wu 2005) and operationalized as "the presence or absence of particular features" (Song and Zinkhan 2008, p. 100). Studies adopting the functional view are often mainly descriptive and tend employ content analysis in order to find ""specific features that can be identified and categorized as interactive" (McMillan 2002a, p. 165). With this conceptualization, the more interactive features that are available on the site, the more interactive the site will be. However, this removal of the human element in the study of interactivity cannot be easily overlooked. The functional view is often seen as limited in that it largely ignores site visitor characteristics that might have influence on how these visitors actually perceive interactive features (Bucy 2004). For example, McMillan (2002b) found that respondents in her study did not necessarily

classify sites with more opportunities for interactivity as more interactive than other sites with smaller amounts of such features.

Taking the "idiosyncracies of visitors" (Gerpott and Wanke 2004, p. 245) into account, proponents of the perceived conceptualization argue that simply adding more features to web sites does not necessarily make these web sites more interactive (Song and Zinkhan 2008, p. 100). Contrary to the functional view, interactivity is seen as a user attribute (Leiner and Quiring 2008, p. 128; Sohn and Lee 2005), and questions of why certain interactive features appear to be judged as "more" interactive by various groups of users are of interest (Quiring 2009, p. 900).

Finally, the process view focuses on the roles of participants in interactive situations. There is often an interest in the reciprocity between the involved participants, and adopting this view often means defining interactivity as the "relatedness" of messages offered in specific communicative situations (as suggested by Rafaeli and Sudweeks 1997). Although this view appears to be less employed than both the functional and perceived views, similar definitions and studies are available (e.g. Koolstra and Bos 2009). Since this study will look into visitor use and appreciation of interactive features, a perceived view of interactivity will be used.

Chung's model of interactive features

However a researcher decides to conceptualize interactivity, the choice must ultimately be made regarding what kind of features promoting interactivity should be included. In everyday contexts, the term is associated with a variety of different features and services (Quiring 2009, pp. 899-900). In the academic milieu, however, we can distinguish two prevailing groupings of interactive features. First, human interactivity largely builds on what might be labeled a sociological definition of the term (Downes and McMillan 2000). As such, it often places an emphasis on the "conversational ideal" of face-to-face communication when studying interactivity (Schudson 1978; Stromer-Galley 2000; Walther and Burgoon 1992). Common online human interactivity features include chat functions and discussion forums.

Second, medium interactivity refers not to interaction between human parties, but between a human user and a technical interface of some sort (i.e. a web page). Here, focus lay on user control over the medium with which interaction is taking place (Downes and McMillan 2000; Massey and Levy 1999). Besides basic navigational options, medium interactive features in the context of online newspapers might include video streams or slide shows.

Where most models of interactive features are purely theoretical constructs, Chung (2008; 2009) provided empirical data on interactivity in the context of online newspapers. Specifically, she showed that her respondents not only identified the two groups of interactive features discussed above, but that they also conceived of combinations of these two. Table 1 outlines the four-part model of interactive features suggested by her results.

Table 1. Chung's model of interactive features			
Type of interactivity	Chung (2008), p. 666	Chung (2009), p. 858	Example features
Human	"facilitate interpersonal communication online"	"facilitate user-to-user mutual communication"	Chat, discussion forums, e-mail-a-friend-feature
Human-Medium	"allow users to express their personal opinions"	"allow users to submit customized perspectives and opinions"	E-mail-links to journalists, Reader news tip, Reader blogs, news and pictures
Medium	"allow readers more control in experiencing news stories"	"allow users to select and elicit choice options"	Video streams, News graphics, Links to related news stories
Medium-Human	"allow users to customize news to their liking"	"features that provide interactive tailoring"	Customizable content, RSS feeds, e-mail/SMS-alerts, Search features

As shown in table 1, Chung identifies four types of interactive features. Aside from human and medium type features, Human/medium interactive features allow for users to have their say or "express their opinion" (Chung

2008, p 666). In the context of an online newspaper, human/medium features promote the engagement of users as co-producers (as suggested by Boczkowski 2002, p. 278; Bowman and Willis 2003) by allowing them to contribute to the site in various ways; upload their own photos or news stories, submitting "news tips" to the editors and journalists or hosting their own blogs on the newspaper web site. Furthermore, medium/human interactive features follow an adaptive ideal (Deuze 2003, p. 214) and "allow users to customize news to their liking" (Chung 2008, p 666). For example, users might be allowed to customize the news presented on the web site or get access to the news through RSS feeds or various alert services. This study will use Chung's model of interactive features in order to study if any differences can be discerned regarding how different users perceive and use these four types of interactivity. Next, the method section discusses data collection and analysis.

Method

Data collection was performed by means of a web-based survey. The respondents were asked a variety of questions in order to gauge use and appreciation of interactive features on newspaper web sites. Before the independent and dependent measurements are discussed, the first two sections focus on survey design, pre-tests and respondent recruitment.

Survey design and pre-testing

The survey was administered using the LimeSurvey application, installed on a university hosted server. While designing the survey, several precautions were taken in order to minimize the number of dropouts. For example, the web domain pointing to the survey was clearly associated with the hosting university (as suggested by Cho and LaRose 1999) and the university logo was visible on all pages of the survey in order to indicate academic sponsorship (following Porter and Whitcomb 2005). A progress indicator was used (Crawford et al. 2001) and the questions included in the survey were styled according to the suggestions of previous research (e.g. Couper et al. 2004; Reips 2002). Based on the findings of Cho & LaRose (1999), cookies were not used to identify multiple responses. Instead, IP address information was logged for this purpose (following Chung 2008).

Before the survey was launched, it was submitted to two waves of pre-testing. The first wave employed individual interviews with four independent evaluators. Focus here laid on clarifying any formulations or phrasings that seemed unclear, as well as on assessing the ordering and flow of questions. After the suggestions from the first wave had been considered and incorporated, the second wave had undergraduate students enrolled at a large Swedish university college filling out the survey. In total, 56 out of 82 invited students (68 %) took the survey. Feedback from these evaluators was gathered and integrated to make up the final version of the survey.

Respondent recruitment

Remembering Leiner & Quirings (2008) claim that newspaper web sites are probably among the most familiar and widely spread online media services among the public, respondents for this study were recruited via online advertisements on two different web sites belonging to one of Sweden's largest national tabloid newspapers (source 1) and one of Sweden's largest regional newspaper (source 2). When site visitors clicked the invitation to the survey placed on the sites, they were first taken to an introductory page, featuring an Informed Consent form. The link to start the survey was available at the bottom of this introductory page. Table 2 contains descriptive data regarding the respondent sources.

Table 2. Respondent sources				
	Length of ad exposure on site	Daily circulation of newspaper	Visitors / week during time period	Respondents from site
Source 1	18/3 – 28/3	358 600 (Feb. 2010)	5 124 774	940
Source 2	18/3 – 3/4	121 200 (Feb. 2010)	344 701	403

A total of 1804 respondents took part in the survey and 1343 completed it. The completion rate was 74 %. A slight majority of the respondents who completed the questionnaire were female (54 %), and the mean age for respondents was 47 (SD = 14.64). The survey itself consisted of different measures, described in the following sections.

Independent variables

Demographics

Data regarding the respondents' gender, age, education and income were collected. For example, the respondents were asked: "What year were you born?" for the age variable, and "What is your highest completed level of education?" regarding the education variable.

Civic and political engagement

A variety of studies suggest that offline societal engagement will lead to similar online behavior (Rainie and Horrigan 2005; Selwyn et al. 2005). From this, it seems reasonable to assume that offline engagment will lead to similar behavior while visiting an online newspaper, with engaged visitors providing material to the publication, contacting the staff or writing "letters to the editor" (Chung 2008, p. 664). Eight variables were employed to measure various aspects of civic and political involvement. These variables were inspired by previous research (Chung 2008; Jennings and Zeitner 2003) and were adapted to the Swedish societal context. The respondents were asked: "How often have your taken part in any of the following activities during the last year?". For example, respondents were asked about their frequency of involvement in tenants' associations/housing cooperatives, trade or labor unions, voting habits, partaking in political demonstrations and frequency of signing petitions and protest lists (on- or offline). For all variables, seven-point Likert-type scales were used, where "1" indicated the lowest score (i.e. "never") and "7" the highest (i.e. "10 times or more"). Reliability for the measurements was assessed using Cronbach's Alpha, with a satisfactory result of .71.

Media use

Research has shown that frequency (how often) and intensity (how much) of media use will have effects on how users perceive the specific medium being used (e.g. Flanagin and Metzger 2000; Johnson and Kaye 2004). In order to assess these relationships, a question was included that dealt with length of Internet use. Specifically, the respondents were asked "For how many years have You been an Internet user?". In their paper on interactivity in the context of online stores, Song & Zinkhan stated that "people's relationship to that [the internet] medium contribute to interactivity perceptions" (2008, p. 99). Studying online advertising, Liu & Shrum (2009) reported similar results, indicating that user involvement in the product advertised was an important factor in explaining how users perceived interactivity. In other words, users should be expected to have different relationships to the Internet medium, and these relationships (expressed here as frequency and intensity of use) should have effects on how they perceive and use interactive features. First, for frequency of visits, the respondents were asked "During an average week, on how many days do You visit [the newspaper's] web site?". Second, in order to assess the intensity of visits, respondents were asked how much time they spent on the newspaper's web site on an average day that they visited it (Deborah S. Chung and Seungahn Nah 2009, p. 862). Moreover, the questionnaire included a multiple choice-type question that asked what sections of the web site (e.g. news, entertainment, sports etc.) that the respondents tended to visit on an average day of accessing the specific site.

Web-Oriented Digital Literacy

Following Rafaeli & Ariel, "an advanced internet user […] might have a different interpretation and might perform differently with 'interactive features'" (Rafaeli and Ariel 2007, p. 82). Other studies have proposed parallel conclusions, suggesting relationships between a person's Internet skill and the way they used or perceived various online functionalities (e.g. Jee and Lee 2002; Leiner and Quiring 2008). This study tested respondent Internet skill in two ways. First, the perceived skill level was assessed using a Likert-type scale. The scale employed seven points, where the values "1" and "7" indicated the lowest and highest perceived skill level respectively. Second, the work of Hargittai on Web-Oriented Digital Literacy was consulted. In her original and follow-up studies (2005; 2009), Hargittai shows that respondent familiarity of computer- and Internet related terminology is a good proxy for observed Internet skill measures. Using a series of seven point Likert-type scales, the respondents in this study were asked to indicate their level of familiarity with seven computer and Internet related terms. A value of "1" indicated

that the respondent had no knowledge of the term, and a value of "7" indicated a very high level of familiarity. As per Hargittai's 2009 paper, this list of seven terms was completed with one bogus term in order to test whether the survey items were "simply checked off by respondents in a haphazard manner" or not (Hargittai 2009, p. 131). All examples, both real and bogus, were adapted from Hargittai's previously mentioned studies. Following control and removal of the bogus item, a composite measure of Web-Oriented Digital Literacy was created by summing and averaging the remaining seven indicators. A Cronbach's Alpha score of .86 indicated a satisfactory level of reliability for the variable.

Dependent variables

In order to assess respondent use and appreciation of interactive features, a series of variables were included to measure these aspects of site visitor behavior. Measurements from Chung (2008; 2009) where combined with measurements from Larsson (2009) and grouped according to the four different categories (human, human-medium, medium and medium-human) in Chung's model. The newspaper web sites were also visited beforehand in order to see if any features not identified by previous studies could be found. As shown in table 3, 14 features were included as indicators.

Table 3. Indicators of interactivity	
Type of interactivity	Indicators included
Human	Comment, Chat, Email content to friend
Human-Medium	Reader blogs/news, Contribute picture/video, Contribute news tips, Contact staff, Reader questions/polls
Medium	Video/audio/slideshow, Links to similar content
Medium-Human	Share content to SNS, News updates, Search, Customization

The respondents were asked to state their level of use and appreciation for each feature, using a series of seven point Likert-type scales. 28 statements were posed to the respondents – 14 for use and 14 for appreciation. For the variables measuring use, a score of "1" indicated non-usage and a score of "7" indicated frequent use (i.e. "On a daily basis"). Specifically, the respondents were asked: "When You visit [NAME OF WEB SITE], how often do You use the following features?". For example, the respondents were asked how often they took part in chat sessions (example of human interactivity) or how often they contributed to the site with their own news texts or news tips (both indicators used independently as examples of human-medium interactive features).

For the variables measuring appreciation, the respondents were asked to judge a series of statements dealing with their experiences of online newspapers. Using seven point Likert-type scales, a score of "1" indicated that the respondent did not at all agree with the statement and a score of "7" indicated the opposite. For example, respondents were asked to judge statements such as "I enjoy watching video streams when visiting the site" (example of medium interactivity) or "If site visitors are given too much opportunity for individual customization, they might miss out on news of importance or public interest" (example of medium-human interactivity, reverse coded in order to assess respondent attentiveness).

Results

In order to identify newspaper web site visitor personas, a principal components factor analysis using varimax rotation was employed. All 28 variables measuring use and appreciation of interactive features were used as items in the initial model. Items that cross-loaded on two or more factors were excluded from the final model, as were items with factor loadings lower than .50. As shown in Table 4, the final model included 23 of the initial 28 variables as items. Consequently, these 23 items loaded on five factors, together accounting for 50,2 % of the variance.

Table 4. Factor analysis					
	1 – The Bystander	2 – The Prosumer	3 - The Lurker	4 – The Filter	5 – The Critic
Appr. H – email article to friend	.702				
Appr. H – Chat	.658				
Appr. HM – Reader blogs/news	.555				
Appr. HM – Contact staff	.711				
Appr. M – Links to similar content	.670				
Appr. MH – Share content to SNS	.608				
Appr. MH – Search	.557				
Use H – Comment		.677			
Use H – Chat		.703			
Use HM – Reader blogs/news		.739			
Use HM – Contribute image/video		.588			
Use HM – Contribute news tips		.554			
Use HM – Contact staff		.634			
Appr. H – Comment			.589		
Use HM – Reader questions/polls			.617		
Use M – Video/audio/slideshow			.703		
Use M – Links to similar content			.708		
Use H – email article to friend				.582	
Use MH – Share content to SNS				.675	
Use MH – News updates				.580	
Appr. HM – Reader blogs/news					.567
Appr. MH – News updates					.582
Appr. MH – Customization					.646
Eigenvalues	3.46	2.67	1.97	1.79	1.66
Variance explained	15.03	11.61	8.58	7.8	7.2
Reliability (Cronbach's Alpha)	.82	.70	.63	.56	.58
Mean inter-item correlation	.40	.31	.30	.25	.30

Reliability analysis (using Cronbach's Alpha) was performed for each of the factors. As can be seen in table 4, three of the factors (3, 4 and 5) fall below the often suggested lower limit of .70 for Alpha scores. However, each of the factors scored close to or past the limit of .60 often suggested for exploratory studies such as this one (Hair 2010, p. 125; Robinson et al. 1991). Also, Alpha is sensitive to the number of items in each factor, as values of Alpha tend to increase with number of items included in the scales (Cortina 1993; Streiner 2003). As shown in table 4, factors 3, 4

and 5 are made up of 3 to 4 items respectively. In situations like these, reliability can be assessed by examining the mean inter-item correlation between the items that make up the factors (Pallant 2001, p. 6; Streiner 2003, p. 103). Following Briggs and Cheek (1986), mean inter-item correlation values should range from .2 to .4. Similar recommendations were given by Clark and Watson (1995, p. 316). Looking at the mean inter-item correlations for the factors in table 4, we can conclude that the values reported all fall within the suggested ranges.

The factors were labeled according to their characteristics regarding use and appreciation of interactive features. The labels given were: *The Bystander*, *The Prosumer*, *The Lurker*, *The Filter* and *The Critic*. The first factor, *The Bystander*, is characterized by high scores on variables measuring appreciation, but not use, of interactive features. By contrast, the variables loading on *The Prosumer* are all "Use" variables, indicating a visitor who regularly contributes, chats and comments on the site. According to the items that make up *The Lurker*, this factor is characterized by a rather passive front, enjoying the comments of other visitors but with "Use" variables limited to partaking in reader questions and polls. The fourth factor was labeled *The Filter* because of the tendency to share site contents with friends, via e-mail or social network sites. Finally, *The Critic* might be described as an opinionated visitor who appreciates various opportunities for visitor input and influence on the site.

Following factor extraction, multiple regression analyses were employed to test the influences of the independent variables on the five factors. These analyses are presented in table 5 below.

Table 5. Regression analysis					
Predictor variables	1- The Bystander	2 - The Prosumer	3 - The Lurker	4 - The Filter	5 - The Critic
Gender (0=female,1=male)	-.092**	.114***	.042	-.063*	.083**
Age	-.078**	.048	-.022	.058	.077*
Education	.031	.034	-.070	-.001	-.088**
Earnings	-.076**	-.030	-.037	.002	-.038
Years online	.029	.001	.003	-.003	.005
Self-assessed Internet skill	.001	.063	.008**	.070*	.005
Measured Internet skill	.269***	.190***	.113**	.191***	.164***
Civic/Political engagement	.113***	.128***	.054	.128***	.054*
Days per week	.022	.049	.184***	.070*	.011
Length of visit per day	.067*	.127***	.176***	.016*	.054
Parts of site visited	.127***	.080**	.189***	.041	.080**
R (R2)	.361 (.131)	.369 (.136)	.428 (.183)	.289 (.084)	.250 (.063)
Standardized Beta values presented. *** = p< .001, ** = p < .01, * = p < .05					

In assessing the results presented in table 5, the main characteristics of the five visitor personas can be summarized as follows. *The Bystander* can be described as a passive visitor of newspaper web sites, who does not use interactive features, but who tends to appreciate their presence. *The Bystander* is a young, internet-savvy female with low earnings characterized by infrequent visits to many different parts of the newspaper site. The arguably most active persona, *The Prosumer*, tends to be a man with high levels of internet skill and societal engagement. He does not visit the site on a daily basis, although when he does, he spends a comparably large amount of time on the site and tends to visit different sections of it. Rather few of the independent variables employed in this study helped predict *The Lurker*, a persona characterized mainly by passive behavior. This persona stands out as the only one not predicted by the variable measuring civic and political engagment. *The Lurker* is also a very frequent and intense visitor, with highly significant positive values for all variables measuring site visits (*Days per week, Length of visit per day, Parts of site visited*). *The Filter* is often a female, quite focused visitor. This might relate to the fact that *The Filter* tends to use news updates (via email, RSS et.c.) and therefore does not have to visit as many parts of the site in order to get their information as other personas might have to. Finally, results indicate that *The Critic* often is a man,

further characterized by his higher age and lower level of education. He appreciates user-generated content and news update services and would like to see more options for user customization of the sites. Following the non-significant results for the variables measuring frequency and intensity of visit (*Days per week* and *Length of visit per day*) we can conclude that he does not appear to be a habitually low- or high frequent visitor. However, when he chooses to visit newspaper web sites, *The Critic* tends to visit several parts of it, as suggested by the significant result for the *Parts of site visited* variable.

In sum, the results presented above suggest that the identified visitor personas take rather different approaches towards the newspaper web sites that they frequent. The results also give rise to a number of over-arching questions regarding visitor use and appreciation of interactive features in the newspaper web site context. These questions are raised for further discussion in the following, final section of this paper.

Conclusion

The identification of newspaper web site visitor personas, their habits and characteristics should be of interest to scholars who do research into these and similar matters. The results presented above are also relevant for practicioners in the media industry as well as for other professionals who work in similar areas of online publishing. On the one hand, practicioners might be releaved that rather few of their visitors want to contribute to any greater extent. From the early days of the Internet, the media have taken on the role of "cautious traditionalists" (Chung 2007), when attempting to adapt to the new medium. This neglecting attitude might derive from what is sometimes described as traditional journalistic schooling, as stated earlier (Domingo 2008; Gillmor 2004). On the other hand, this *status quo* of the sender-receiver relationship might be challenged by tendencies that are increasingly emanating from online newsrooms in Sweden (Engebretsen 2006; Frisk 2008; Karlsson 2006) and elsewhere (Chung 2004; 2006; Mitchelstein and Boczkowski 2009). For example, younger media practicioners seem to take a more open view when it comes to audience participation (Deuze and Dimoudi 2002; Larsson 2009). As such, the readers might not be alone in being characterized as "slow learners" – it might take time for old and new generations of media professionals to adapt to the new possibilities as well.

If practioners are serious about creating more than "readers' playgrounds"' (Ye 2006) on their web sites, they need to adapt their sites to fit the needs of the audience. This challenge could be approached with the visitor personas identified above in mind. The characteristics associated with these personas should be of interest to professionals who strive to create appealing and suitably interactive web sites for their visitors. The result that most visitor personas tend to appreciate features more than they actually use them should be interesting in this regard. In a shorter temporal perspective, practicioners might want to draw on the results regarding appreciation of interactive features presented above and augment their sites with these types of features (following McMillan and Hwang 2002) in order to please the visitors. As for long-term goals, practicioners need to set up interactive structures on their sites that could attract visitors not interested in interaction to take part in "higher" forms of interactivity, combining appreciation of these features with actual use. Sohn and Lee (2005) highlighted the fact that although several studies have emphasized the need for highly interactive web sites in order to successfully communicate with visitors, few of these studies suggested guidelines for designing such sites. The visitor personas, their characteristics and preferences regarding interaction presented in this paper should be helpful for online news practicioners planning and developing lively and competitive web sites.

Finally, although one might argue that the context of online newspapers is large enough to itself constitute an area of study, the matter of generalizability beyond this area is an important one. While the study deals specifically with online newspapers, perhaps the commonplace use of these kinds of web services could serve as an indicator of the personas being plausible also in other online contexts. As noted by Mitchelstein & Boczkowski (2009), online news media have grown rapidly in importance in a number of societies over the last decade. Also, newspaper web sites are probably among the most well-known types of internet sites (Leiner and Quiring 2008). Although the personas presented bear with them some characteristics unique to the online newspaper format, the widespread use of this particular format could serve as an indicator of the potential for generalizability. However, future studies using the personas presented above are needed both within the context of online newspapers and elsewhere before any claim of generalization can be done.

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