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THE EVOLUTION OF A NEW(S) GENRE

Carina Ihlström

*School of Information Science,
Computer and Electrical Engineering,
Halmstad University*

*Department of Informatics,
Göteborg University*

carina.ihlstrom@ide.hh.se
+46 35 16 75 31

DOCTORAL DISSERTATION

ABSTRACT

This thesis describes and analyzes how the online newspaper genre has evolved since its inception on the Internet in the mid-nineties. The overall research question is: What characterizes the online newspaper genre evolution? The thesis is based on both synchronic and diachronic studies with a multimethod approach (including six different studies involving, e.g., interviews, questionnaires and web site analyses) intended to provide a comprehensive picture of this genre evolution. On the basis of genre theory, the thesis proposes a framework for understanding online newspaper genre evolution, integrating design (layout) aspects with publisher and audience views. Applying this framework to the collected empirical material, the thesis presents a comprehensive and integrated view of this evolution. Over time, online newspapers have evolved into a specific digital genre, with genre characteristics such as content and form, distinguishing them from other digital genres. However, this rapid development has also led to diversities in form and function, triggering both academics and practitioners to seek ways to design for consistency within the genre. Several factors have influenced the online newspaper genre evolution, e.g., in-house attitudes, business model shifts and technological progress at the publishers' side. The audience demographics, habits and preferences have also changed. The layout of the online newspapers has been altered into long pages stuffed with content like news streams, headlines, photos, and services not possible in the printed edition. There has also been a shift towards frequent updates throughout the day and more content produced for the web. In addition, the thesis contributes to digital genre theory by modifications relevant to the online newspaper genre. For example, the concepts of genre awareness and genre interdependence are elaborated, a framework for identifying genre characteristics is proposed, and the concept "positioning" is introduced. Further, the thesis also contributes with implications for online newspaper design and publishing with longitudinal mappings of online newspaper layout and the habits and preferences of the audience.

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1. INTRODUCTION

As early as in 1993, newspaper executives started to assess the consequences of the Internet. Some viewed its diffusion as a threat to their industry, while others primarily saw the opportunities associated with this new technology. Addressing this mixed picture, the Newspaper Society, one of the world's largest publisher associations, formed a steering group that was granted considerable research funding from a levy on members. While the resulting reports indeed highlighted threats, they also forecasted significant opportunities for the newspaper industry. In particular, the expertise and trusted brands of newspapers, typically built over decades, were seen as advantages over other media going online (Beamish, 1998).

An online newspaper is created by the convergence of the newspaper and the Internet. As Chyi and Sylvie (2001) describe "technologically, the Internet enables online newspapers to seek a world-wide market. Practically, most online newspapers are owned by their print counterparts, which also serve as online editions' primary content providers" (p. 232). According to Boczkowski (2004) the emergence of online newspapers has occurred "partly as a reaction to major socioeconomic and technological trends, such as changing competitive scenario and developments in computers and telecommunications – trends that, in turn, online newspapers have influenced" (p. 4). In this thesis I define online newspapers as online editions of daily press.

The first fully web based newspaper, The Palo Alto Weekly, appeared in 1994 (Carlson, 2003) and already 18 months later most American newspapers had their own web sites (Hall, 2001). This short period involved a set of new challenges for the newspapers with regard to: design (layout) of the online newspaper, organizational factors at the publisher side, and changes in audience demographics and preferences (cf. McAdams, 1995).

Describing her own work at the Washington Post, McAdams (1995) portrayed the design challenge as taking "...a lot of large pages that are covered with printed text arranged almost haphazardly and that are worthless twenty-four hours after they appear and translate them into a medium where their contents will have value indefinitely, be part of a much larger collection of data, be read on small screen in scrolling format, and be searchable in various ways." (p. 64). Indeed, the new medium involved many important design decisions. These decisions included issues such as the degree of print newspaper resemblance, pros and cons of the newspaper metaphor, and the possible elimination of page one. In view of such design issues, McAdams (1995) concluded that an online newspaper cannot be a strict translation of the print product.

During the late 90s, online newspaper staffs grew considerably. Indeed, the new media required new skills. McAdams (1995) noted that "... we have learned that to produce an appealing online newspaper, an organization needs good, experienced journalists and good, experienced online people and some people who are both, and all of them need to consult closely and frequently" (p. 85). At smaller newspaper companies, this often became a challenge for technology-interested journalists. In Germany, for example, the average online editorial board consisted of three people in 1997. In one third of these boards, this staff also worked for the print edition (Neuberger *et al.*, 1998). At large newspaper companies, the online staff was much larger. At the Washington Post, for instance, 100 people were employed for online news production already in July 1997 (Kirsner, 1997).

Following such growth, approximately 90 percent of the US online newspapers lost money in 1996 (Levins, 1997), but kept on investing in search of new audiences and ultimately new markets. The online newspapers indeed reached new audiences, e.g. people not reading the paper counterpart (Chy & Lasorsa, 1999) and younger readers (Coats, 2002). At the same time, however, they also struggled to meet their different preferences. As McAdams (1995) described it, “some users want the online service to be a perfect mirror of the day’s Washington Post, and others want an altered, online-adapted version” (p. 73). While the audiences grew and still grow (Coats, 2004), making a profit on online newspapers was and still is a challenge. For example, the New York Times announced at the end of 1999 that their expected losses from their online operations would grow more than 100 percent in 2000 (Moses, 1999).

Given its multi-faceted nature, online newspaper research has come to be multidisciplinary including such disciplines as media communications, computer science, and economics. Despite the vast interest in online newspapers, little has been done to provide a longitudinal understanding of the online newspaper evolution. Encouraged by Boczkowski’s (2002) review of online newspaper research suggesting that “there has been a dearth of historical analysis about the evolution of online newspapers” (p. 278), this thesis therefore outlines an integrated view of the evolution of online newspapers, including aspects of all three challenges introduced above (i.e. regarding publishers, audience and the design of online newspapers). Such a view promises to provide a coherent and rich description of online newspaper evolution. Being an Informatics thesis, providing such a view is both possible and relevant. The Informatics discipline in Scandinavia is a social science focused on the design and use of information technology (IT), attempting to capture the interplay between technology, humans and context with the purpose of adding value to IT-use in society (e.g. e-government), organizations (e.g. new forms of organization and work enabled by IT), business (e.g. business models and services enabled by IT), or the everyday life of individuals (e.g. IT-based consumer products).

One way of studying the emergence of new media or sub-media is to use genre theory (see e.g., Orlikowski & Yates, 1994; Yates & Orlikowski, 1992). Genre theory is a theoretical lens that I have found particularly useful for providing an integrated view of online newspaper evolution. In this thesis, genre theory forms the basis for understanding this evolution as a recursive process involving producers (publishers), users (audience), and technology (online newspapers). Genre is widely used as a classifying statement, especially in arts, literature and media, and it was first introduced to the Information Systems (IS) field in the early nineties by Yates and Orlikowski (1992). When subjected to communication, specific genre features (e.g. content and form) are recognized a priori to and in the process of communication, thereby reducing the cognitive need for information and interpretation (Toms & Campbell, 1999). For example, a reader typically recognizes a newspaper even before reading the content, because its appearance matches her understanding of the genre. Newspapers and TV news broadcasts, for example, can be perceived as sub genres of the news genre (Bell, 1991), while the newspaper is a genre which in turn differs from magazines.

Yates and Orlikowski (1992) suggest that genres are produced, re-produced and changed over time and that genre inquiry can increase our understanding of the historical and contemporary changes of a media. One trigger to modifications of existing genres or the emergence of new genres is the introduction of new communications media (Yates *et al.*,

1997). With regard to this research, online newspapers are examples of a new class of genre existing on the Internet (such genres are often denoted digital genres, see e.g. Erickson, 1999 and Schmid-Isler, 2000). Yates and Orlikowski (1992) argue that “longitudinal studies of genre would explore the process underlying the ongoing evolution of genres [...] Whether the time period covered is short or long, diachronic analysis is essential to observing the processes of genre emergence, maintenance, elaboration, modification, and decay” (p. 322).

Thus, I address the following overall research question in this thesis: *What characterizes the online newspaper genre evolution?*

As suggested above, a coherent view of this genre evolution must integrate aspects from publishers, audience and the design of online newspapers. Inspired by Yates and Orlikowski (1992), who suggest that modifications of genres, and thereby also of genre evolution, may be caused by material or perceptual changes (i.e. changes to the social, economic or technological contexts), in how groups recognize and responds or by changes in elements of form, I have divided the overall research question into the following sub-questions:

- *What organizational factors (social, economical or technological) have influenced the evolution?*
- *How have online newspapers been recognized by the audience and what is their response?*
- *How has the form (layout) changed over time?*

The objective of this thesis is to describe and analyze the evolution of online newspapers. The thesis also contributes to digital genre theory applicable to online newspaper genre research and practice and to online newspaper design and publishing. The target audiences for this thesis are IS academics and newspaper publishers and designers.

The thesis consists of a cover paper and six individual papers (Table 1). The cover paper includes six sections. The next section presents related research on online newspapers followed by an outline of the theoretical framework in section three. Section four discusses the research approach while section five presents the research contributions, including summaries of the conclusions from the six papers and a description of the online newspaper genre evolution. Section six concludes the cover paper and points out further research areas.

THE THESIS PAPERS	
Paper 1	Eriksen, L. B. & Ihlström, C. (2000). Evolution of the Web News Genre - The Slow Move Beyond the Print Metaphor. In <i>Proceedings of 33rd Hawaii International Conference on Systems Science</i> . Hawaii. CD-ROM issued by IEEE Press.
Paper 2	Ihlström, C. & Lundberg, J. (2002). The Audience of Swedish Local Online Newspapers – a Longitudinal Study. In <i>Proceedings of ICC3 6th International Conference on Electronic Publishing, ELPUB2002</i> (pp. 92-102). Karlovy Vary, Czech Republic.
Paper 3	Ihlström, C. & Palmer, J. (2002). Revenues for Online Newspapers - Owner and User Perceptions. <i>Electronic Markets - International Journal of Electronic Commerce and Business Media</i> , Vol. 12, No. 4, pp. 228-236. - Revised version of paper published as Ihlström, C. (2002). Local Swedish Online Newspapers in Trouble? - New Services and New Roles. In <i>Proceedings of International Conference on Electronic Commerce 2002</i> . Hong Kong. CD-ROM.
Paper 4	Ihlström, C. & Åkesson, M. (2004). Genre Characteristics - a Front Page Analysis of 85 Swedish Online Newspapers. In <i>Proceedings of 37th Hawaii International Conference on Systems Science</i> . Hawaii. CD-ROM issued by IEEE Press.
Paper 5	Ihlström, C. & Lundberg, J. (2004). A Genre Perspective on Online Newspaper Front Page Design. <i>Journal of Web Engineering</i> , Vol. 3, pp. 50-74. - Revised version of paper published as Ihlström, C. & Lundberg, J. (2003). The Online News Genre Through the User Perspective. In <i>Proceedings of 36th Hawaii International Conference on Systems Science</i> . Hawaii. CD-ROM issued by IEEE Press.
Paper 6	Ihlström, C. & Henfridsson, O. Online Newspapers in Scandinavia - A Longitudinal Study of Genre Change and Interdependency. Accepted subject to revisions for the special issue of <i>Information Technology & People</i> on “Genres of Digital Documents”.

Table 1. The thesis papers

2. RELATED RESEARCH ON ONLINE NEWSPAPERS

In the literature that I have read and studied, there exist divergent and somewhat inconsistent results, due to factors such as different timing, markets, and scope of the research done. However, three paths of research are visible and they correspond to the areas of original challenges discussed in the introduction, concerning publishers (organization, production and economy), audience (demographics, preferences and habits) and design (layout) of online newspapers. This section contributes to the discussion about the online newspaper genre evolution and I will in short summarize the changes over time that are visible in the literature. There also exists research concerned with the journalistic aspects of online newspapers, which I have chosen not to discuss due to the scope of the research in this thesis.

2.1 PUBLISHERS

The research related to publishers is mainly focused on organization, production and economy. Boczkowski (2004) has conducted a longitudinal study at three online newspapers and concluded that three factors have shaped their innovation paths and media artifacts: relationship between the print and online newsrooms, user views and news production.

Print newsrooms have the advantage over online newsrooms in that they have been around for a long time, have standardized procedures and most online newspapers have to a large extent been financed by the revenue from the print edition (Boczkowski, 2004). From his results he argues that on the one hand “the more extensive the efforts undertaken to align print and online newsrooms, the more the reproduction of the print’s ways of doing things in the online environment” (p. 174). On the other hand, “the less extensive such work of alignment, the less “repurposing” of print’s world in the nascent online domain” (p. 175). However, in the initial years the traditional newsroom production in the print and online newsroom remained relatively unchanged. The primary work task in the online newsroom was to select and re-format stories from the print edition (Martin, 1998). In 1999, almost half of the respondents expressed that their online edition differed from their print edition due to either taking advantage of the unlimited space for in-depth coverage or to limit the length and number of stories presented (Peng *et al.*, 1999).

Moving published content from print onto the Internet without further development is called “shovelware production”. This production only requires small staffs, while interactive sites require more work (Chyi & Sylvie, 1998). Sabelström *et al.* (1997) propose two degrees of content synergy, re-purposing and re-editing. The former relates to the use of the same material in both print and online without any editing, while the latter concerns re-writing, editing or shortening the content from the print edition before publishing it online. The problem with “showelware” or re-purposed material is that the readers may not bother to read it, if the same material also is available in print. According to Tankard and Ban (1998), the average percentage of original content in online newspapers was 13 percent in 1998, suggesting a heavy recycling of material from the print edition. However, the 1999 survey of Chyi and Sylvie (2001), with a mean of 22% of online newspapers providing unique content and 40% in the Börjesson (2002) study, suggest an increase in this area.

In 1997, most of the 83 online newspapers in the study of Gubman and Greer (1997) only updated their websites once daily. This can be compared to about 41 percent of the 135 online newspapers which updated more often than once daily in 1998 (Tankard & Ban, 1998), and about 51 percent of 47 which updated several times a day in 2002 (Börjesson, 2002). In 2003, Greer and Mensing (2003) suggest from their longitudinal study of 83 online newspapers that “online newspapers are more likely to update frequently, providing more timely information” (p. 14).

The increased amount of unique online material and continuous updates requires more personnel. Online newspapers employ a variety of staff. A single person could be an editor, writer, webmaster, technical wizard and advertisement seller at the same time at a small newspaper. However, larger newspapers often employ staff with special skills in different areas such as; new media director, online editor, newsroom liaison, online producer, editors, webmaster, programmers, online ads director, online ads sales representatives, marketing director and designer (Outing, 2000). As described in the introduction, the number of employees increased dramatically at the large newspapers during the initial years (Kirsner, 1997), while at smaller newspapers these new tasks often fell on the shoulders of technology-interested journalists. In a survey of local online dailies in Sweden, about 57 percent employed 1-2 persons for updating their online newspapers, only 3 percent employed 15 or more, while the rest span from 3-14 persons (Börjesson, 2002).

The newspapers paid attention to the “cannibalization effect”, i.e. the possible negative impact the launch of the online newspaper would have on the amount of subscribers to the print edition (Chy & Lasorsa, 2002). But, at the same time there was an growing conviction industry wide “that newspapers need an online presence to explore cheaper production and distribution methods; to reverse circulation declines by building a new base of young and computer-savvy readers; to develop new advertising revenue potential; and to protect their advertising base” (Kamerer & Bressers, 1998, p. 2).

The first Swedish newspaper with an online version was *Aftonbladet* in 1994 (Ahlström *et al.*, 2001). Already in 1997, 37 percent of the Swedish dailies had established an online edition (Hedman, 1998a), a figure that increased to about 82 percent in 2002, but decreased to 75 percent in 2003 (WAN – World Press Trends, 2004). The two initial main reasons for the Swedish newspapers to go online were to reach a potential future market and to enlarge their audience and to reach the youth (Hedman, 1998b). This is partly in line with the findings of Peng *et al.* (1999) who found that important reasons for going online were e.g. reaching more readers (40%), generating income through advertising (26.9%) and using the online edition as a promotional tool of their print products (23.9%). They conducted an e-mail survey and a content analysis of 80 U.S. daily newspapers, and also found that revenues from advertising only covered part of the cost for publishing the online newspapers. Though, questions about the economic viability of online newspapers were raised early (Molina, 1997). Molina argued that even though the Internet provided the newspapers with a relative low-cost way to enter “multimedia learning”, major business issues and dilemmas had to be solved before the commercial online newspaper could take off. Indeed, profitability was a particular sensitive issue for online newspapers. In the study of Neuberger *et al.* (1997) for example, none of the 63 German online newspapers made any profit, all were making a loss on their online newspapers.

Most online newspapers offer free content and make revenues from banner advertising and from publishing print classifieds online. Four basic categories of business models for online newspapers were identified early by Mings and White (1997). The identified categories are: *the subscription model*, *the advertising model*, *the transaction model* and *the bundled model*. They conclude that “there seems to be a general consensus that, given the complex challenges for online newspaper publishers trying to turn a profit, no one economic model, or particular mix of models, can be entirely suitable” (p. 30).

Subscription models are familiar to newspaper readers from the print paper, i.e. readers pay a subscription fee to the newspaper to have the newspaper delivered everyday in their mailboxes. Palmer and Eriksen (1999) found that only 16 percent of the online newspapers in their study (8 of 48) had a payment scheme in place for subscribers. Of these eight online newspapers, it appeared that online newspapers with specialized content (topic or geographic area) were the ones charging a subscription or usage fee. The percentage was even lower in the study of Peng *et al.* (1999), where only 6 percent charged subscription fees for their online newspapers and 10 percent charged for access to archives, of which most were national online newspapers. The results of Chy and Lasorsa (2001) also followed that trend with only 3 percent of the online newspapers in their study of 1999 having adopted the subscription model. This is a part of the “no one would pay for online content” phenomenon according to Chyi (2002). This trend is also in line with the results of Mensing (1998), in that the newspaper respondents did not favor charging subscription fees or providing Internet access to customers, when rating profitability strategies.

Advertising models build on the revenues coming from the advertisers. Display advertising followed by Internet access fees and classifieds was the main source of revenue in 1998, whereas salaries were the largest expenditure for online newspapers (Mensing, 1998). Palmer and Eriksen (1999) noted that the most common advertising strategy among publishers was to charge advertisers a fixed amount for a specific period.

Transaction models can be described as e.g. the provision of a transaction between advertisers and consumers or “pay-per-view” for a provided service. As much as 43 percent of the German online newspapers acted as Internet providers in 1997 (Neuberger *et al.*, 1997). Providing Internet access was also common in the study of Peng *et al.* (1999), as well as providing web design services and hosting services.

An example of a bundled model is partnership. The favored profitability strategies, in the study of Mensing (1998), were coordinating local alliances which could be considered a bundled model, together with premium services, niche advertising products and transaction fees between advertisers and customers.

The portal model and the digital portal model are proposed by Picard (2000). In the portal model the producers seek to gain advantage of the advertising revenues by controlling the exposures, e.g. when a user chooses to read something of interest, additional or related advertisements appears. A digital portal contains the same information as the previous model, but also provides video and audio. The portal model is supported by the findings of Chyi and Sylvie (2000) and Nerone and Barnhurst (2001). Newspapers with greater resources have moved to a portal model, in which their site serves as a gateway to other, more community-based material, most of which cannot be defined as “news” (Chyi & Sylvie, 2000). The portal function is most apparent in the business and sports sections, in larger

online newspapers, where links to other information providers and related commercial ventures are provided (Nerone & Barnhurst, 2001).

During 2002, the most important question facing the media companies in Sweden was the financing of their online newspapers. They had to find ways to profit from their online ventures otherwise they could not go on (Hedman, 2002). This was due to the deterioration of the newspapers' economies in 2001 because of the recession in society, which resulted in less investment in advertising. The strategies for increasing profitability varies among the Swedish newspapers, e.g. developing special fields, integrating the print and online edition, re-edit information and publish it in new forms, portals, and local markets on the Internet (Hedman, 2002).

However, Enlund *et al.* (2002) mean that the future prospects for Swedish online dailies looks promising, due to the strength in journalistic tradition, competence, professional skills and highly trustworthy trademarks. They state that: "the Swedish dailies have a fantastic opportunity to obtain a strong position in the forthcoming media landscape. But at the same time we see risks if the media companies do not capitalize on this situation. Not according to 1999:s expensive and pompous model, rather on a smaller scale, with a long-term, one step at a time strategy and with the whole organization on board. [...] The playhouse is closed. Now it is about creating business. At least as fun but somewhat harder." (p. 9).

In 2003, two earlier promising revenue streams (serving as an Internet service provider and creating or hosting web pages for clients) seemed abandoned (Greer & Mensing, 2003). They found that online newspapers instead had enhanced advertising, started to charge for archive use, and were more likely to require registration for use. Nerone and Barnhurst (2001) confirm that many of the major sites charge users for access to archives. Already in 2000, Palmer and Eriksen (2000) proposed a new merging business model, building on potential new approaches such as customized product development, charging for access to archives, and becoming a market intermediary, which is in line with the above.

More recently, Outing (2002) proposes 5 different revenue models for online newspapers: *e-commerce*, *banner ads*, *classified advertising*, *subscription and charging for content*, and *other newspaper web revenue sources*. These models partly correspond to the abovementioned but are refined with the first years taken into account. Outing (2002) describes the e-commerce model as e.g. taking a commission for each sale referred from the ads at the online newspaper (cf. transaction models). The banner ads model includes ads targeted at special audiences, e.g. placing ads for football goods on the sports pages (cf. advertising models and portal models). The classified ads model involves charging extra for publishing classified ads both in the print edition and in the online newspaper. Many newspapers have formed relationships with e.g. employment agencies, with a direct feed into their database (cf. bundled models). Regarding the subscription model, very few newspapers have succeeded in charging for access to their online editions, and those who have usually provide niche information, e.g. The Wall Street Journal. However, charging for access to text and photo archives has been a lucrative business for many newspapers. The "other" revenue models include e.g. online coupons, city guides, web design and hosting, community publishing and regional portals (Outing, 2002).

In sum, online newspaper organizations have grown bigger during the years, especially at the larger newspapers. The amount of unique online material has increased as well as the

number of news updates during the day. Obtaining increased revenue online has become a very important issue due to diminishing revenues from print. The business models and revenue streams have changed during the years, some have been abandoned while new have been proposed. In recent years, revenues from advertising and charging for archive use are the most dominant, while transaction models like serving as an Internet service provider or web host have been abandoned. Larger online newspapers also have adopted a portal model.

2.2 AUDIENCE

Looking at the literature, it seems that online newspapers have affected the use patterns and the preferences of the audience, as well as attracted new audiences beyond the print editions.

Several studies concern use patterns and preferences and some compare print with online. Aikat (1998), for example, studied the usage trends at Philadelphia Online. Aikat measured the number of visitors, the time spent and activity. He found that most users visited the web site from their workplaces, resulting in a higher degree of activity during working hours. He concludes that the introduction of new interactive features may contribute to increased usage (Aikat, 1998). On the basis of a survey of the access, use and preferences of online newspapers, Chyi and Lasorsa (1999) found that print editions of the local newspapers were preferred, while national online newspapers were gaining audience online. They also found that most of the readers of the national newspapers were non-readers of their print counterpart, while the traffic to local online newspapers mostly came from existing readers. Their findings show further that users do not view the print and online version as competing alternatives. Sundar (1999) studied whether news seekers perceive news stories differently online than in print, and found that overall the respondents judged stories similarly regardless of medium.

The use of online newspapers differed during the week according to Nicholas and Huntington (2000), e.g. midweek was the busiest for the number of downloaded pages while Saturday was the quietest of the week. They also found three different types of users; heavy (4.3%), medium (14.5%) and light (81.1%). Heavy users often visited the online newspaper every day, while light users usually only made one visit each week. The heavy users also spend more time each visit than the other two categories. This can be compared with the results of Conway (2001) where over half (58%) of the respondents read the online newspaper at least once a week, while 23 percent read it every day, and Coats (2004) with 63 percent checking news daily in 2004.

Audience demographics have been studied extensively (e.g., Neuberger *et al.*, 1998; Weir, 1999; Conway, 2001; Coats, 2002, 2004). The findings of the main studies are summarized in Table 2. The results of Coats (2002) show that about 50 percent access the online newspaper from home and 50 percent from work, and the most popular hours are equally divided between working hours and 5 p.m to 10 p.m. Compared to the study of Aikat (1998), there has been a shift towards more use in homes and at evenings. Multimedia and interactivity were the lowest-rated features of online newspapers (Coats, 2002, 2004), which contradict the prediction of Aikat (1998). The amount of newsreading among Internet users in Sweden has increased from 25 percent in 1998 to 36 percent in 2000 (Hedman, 2002). In 2002, reading newspapers online was the fourth activity (after

e-mailing, surfing and banking) regarding time spent on the net in Sweden (World Internet Institute, 2002), compared to ninth place in a study of expected use of the Internet by the European commission in 1999 (Ahlström *et al.*, 2001). Almost half (45%) of the audience that had a positive attitude towards online newspapers in 1998 where under the age of 30 years (Hedman, 2002).

AUTHORS	N =	GENDER	AGE	EDUCATION	OCCUPATION	PREFERRED READING
Neuberger <i>et al.</i> (1998)	2524	85% male and 15% women	73% under 40	50% University degree	---	---
Weir (1999)	1366	69% male and 31% women	Average age 44 years	College degree 24% Some grad. school 13% Grad. Degree 29%	---	---
Conway (2001)	606	Of the respondents 48% were men and 52% women. Of these 70% of the men and 48% of the women read online newspapers	Two-fifths were under 35	Over half had college degrees or higher levels of education	86 % employed	National news (92%) Weather information (83%) International news (78%) Sports (56%)
Coats (2002)	2000	Evenly split between males and females	43% under the age of 35, and 47% between 35-54, 9% are 55+	At least college degree 51%	88% employed	Breaking news 68% Search 49% Background 31% Substitute for reading print at all 39% Multimedia 21% Interactive features 16%
Coats (2004)	25415	More women than in 2002	The mean age of online newspaper users is 38, compared with 45 for all Web users, 44% of online newspaper readers are between 18-34 years	53% of online users who visit newspaper sites have college degrees	88% employed	Breaking news 75% Search 46% Background 31% Substitute for reading print at all 44%

Table 2. Online newspaper demographics

In sum, over the years, national newspapers have gained a new type of audience, i.e. non-readers of their print edition. The audience tends to read the online newspapers more often and in their homes as well as at work. Reading news online has become more common. Recently, more women are beginning to read online newspapers.

2.3 DESIGN OF ONLINE NEWSPAPERS

Research about online newspaper design has mainly focused on form (layout) and content (features). One of the first to study online newspaper layout was McAdams (1995), who studied the launch of the Washington Post's online edition. She states that the importance of a good user metaphor can not be underestimated (McAdams, 1996) and suggests keeping the interface simple, and argues that "one of the great things about a broadsheet newspaper is how easy it is for the human eye to scan an entire page in seconds. Although the screen is different from the page, it is still a two-dimensional space. Many of the same rules apply" (McAdams, 1997).

The digital broadsheet for layout of online newspapers has also been discussed by Watters and Shepherd (1997a,b), who mean that it "provides a consistent, familiar metaphor for reading news, and is very appropriate for the integrated presentation of text, photographs, video clips and advertisements" (1997b, p. 22). From their empirical results (1997b), preferred features of the broadsheet presentation include e.g.: multicolumn format, multiple stories on a page, juxtaposition of text and photographs, easy to skim and browse, and a familiar metaphor which allows simple and immediate interaction. The broadsheet metaphor was later evaluated as a presentation metaphor together with a hierarchical pick-and-read WWW-window metaphor by Watters *et al.* (2000). Their results show that the broadsheet metaphor was strongly preferred by the respondents. They suggest a move towards the broadsheet metaphor on all pages, not only the front page at online newspapers. However, in the study of Badre and Laskowski (2001), the respondents preferred the "shopping" layout to the news layout, even when reading news content.

According to Enlund (2002), the first online newspapers looked like miniature newspaper pages, with the same structure and content as in the print edition. But after a while they converged towards a form and format more suitable for the media and attractive for the users. National/metropolitan online newspapers tend to follow the traditional newspaper format whereas local newspapers are more likely to choose the format of directories according to the findings of Peng *et al.* (1999). Nerone and Barnhurst (2001), who have studied the visual forms of the eight largest online newspapers in the U.S. as well as six local online editions, found substantial differences between major and local online newspapers. The major online newspapers had more extensive links to other sites, more options for interaction and more elaborated design. Many of the major sites produce updates during the day with the latest update prominently placed. The local online newspapers do not provide as timely or varied service, and they also look like web pages, not newspapers, whereas the longest-running news sites provide an experience like a large search engine or gateway, and have abandoned the distinctiveness of the newspaper form (Nerone & Barnhurst, 2001). This is in line with the findings of Greer and Mensing (2003) who found that "while medium and large-sized newspapers now have equally sophisticated sites, the small newspapers lag behind" (p. 16) and Zaharopoulos (2003) who concluded that the larger newspaper the more available material online, which is especially true in the area of technology.

Online newspapers are characterized by some features inherited from print, such as ads and nameplates, but all items lead elsewhere, e.g. small photographs to larger and headlines to chunks of text etc., according to Nerone and Barnhurst (2001). They mean that online newspapers only provide headlines, blurbs, and index listings and have removed all extensive text as a first encounter to the readers. However, Watters and Shepherd (1997b) found that readers expect the content to be restricted to fairly short news stories, and assigned to categories familiar from print, such as sports and international news. Scrolling down a page to find information or following a hyperlink took about the same time in the study of van Oostendorp and van Nimwegen (1998), which indicates that long pages with much information are not a problem. The web ads are becoming more sophisticated according to Outing (2000), i.e. by adding multimedia elements such as mini videoclips or enabling personalized information by letting the user type in e.g. their zip-code. A new variant is the pop-up ads, which open up in a separate window.

Online newspapers are described as different from their counterparts in that they enable: 1) customization; 2) vertical form with unlimited newshole; 3) both micro-local and global content due to lower distributions costs; 4) permanently available digital library; 5) constant updates; 6) multimedia; and (7) include consumer produced material (Boczkowski, 2004). Jankowski and van Selm (2000) propose a list of potential added values of online news services drawn from suggestions made in the literature (which partially overlap the above): hyperlinks to additional information sources; discussion groups for online media users; feedback to journalists and editors; availability of news service archives; multimedia publishing – integration of text, sound and video; elimination of the traditional media newshole; integration of online and off-line services; and the updating and timely release of news stories. In their study they found that hyperlinks, discussion groups, feedback, updates and archives were used at the examined online newspapers, whereas multimedia was only sparsely used.

Several content analyses of online newspapers have been conducted (e.g. Gubman & Greer, 1997; Tankard & Ban, 1998; Kamerer & Bressers, 1998; Schultz, 1999; Peng *et al.*, 1999; Kenny *et al.*, 2000; Greer and Mensing, 2003 and Zaharopoulos, 2003). The findings regarding the presence of archives, search engines, multimedia and interactivity at online newspapers from these studies are summarized in Table 3.

AUTHORS	NO. OF SITES	ARCHIVES / SEARCH ENGINES	MULTIMEDIA	INTERACTIVITY
Gubman and Greer (1997)	83	69.9% archives 10% search engines	14.5% provided audio, video or animation	95% e-mail 40% forums
Tankard and Ban (1998)	135	64% archives 64% search engines	Less than 10% used animated graphics, audio or video clips, 77% photos	96% e-mail 26% discussion forums 12% chat rooms
Kamerer and Bressers (1998) (April November)	74	34% 52% archives 37% 39% search engines	33% 42% animation 6% 2% audio	73% 94% e-mail
Mensing (1998)	83	43.4% archives 43.4% search engines	36.6% audio/video	15.9% chat 26.6% bulletin boards
Schultz (1999)	100	---	14% multimedia applications	94% e-mail 33% discussion forums 5% chat rooms 24% polls and surveys
Peng <i>et al.</i> (1999)	80	80% archives (national) 60% archives (local)	---	98.8% e-mail 33% discussion forum or chat
Kenny <i>et al.</i> (2000)	100	23% search engines	---	51% e-mail 17% discussion forums 12% chat rooms
Börjesson (2002)	47	---	21% video/web-TV	70% chat/discussion forums
Gunnarsson (2002)	103	55.3% archives	25.2% web-TV	79.6% e-mail 38.8% discussion forums 7.7% chat
Greer and Mensing (2003)	83	---	45% audio 45% video 93.8% animation	100% e-mail
Zaharopoulos (2003)	142	67% archives	12% audio 13% video 77% photos	11% chat rooms

Table 3. Online newspaper features

Tankard and Ban (1998) conclude that “it appears that many online newspapers are simply using the online site to mirror or reproduce the content of the print newspaper associated with the site” (p .5). However, the fast growing increase of interactive features between April and November 1998 contradicts the earlier criticism of only providing re-purposed material according to Kamerer and Bressers (1998). Shultz (1999) mean that since e-mail has become widely accepted and since almost all online newspapers are providing e-mail addresses to enable reader correspondence, they have started to adopt the potentials of the Internet. However, Kenny *et al.* (2000) argue that online newspapers still only provide low

levels of interactivity and that providing hyperlinks and e-mail addresses is not enough since interactivity requires a two-way or multi-directional flow of information. In 2003, Greer and Mensing (2003) concluded that there is “more of everything” at the online newspapers, but no real growth has been seen in interactivity, while the use of multimedia has increased specially in the last few years.

In sum, the newspaper metaphor has been partially abandoned by major online newspapers with more advanced layouts, while smaller online newspapers tend to still look like common web sites. The ads have become more sophisticated, the number of search engines has increased while the availability of archives seems about the same as in 1997. E-mail addresses are provided at almost every site while the amounts of chat rooms and discussion groups have only slightly increased. However, the use of multimedia has increased substantially over the years.

3. THEORETICAL FRAMEWORK

In this section an introduction to genre theory is given, followed by a presentation of digital genres and digital genre evolution. The section is concluded with a framework for understanding the online newspaper genre evolution. This framework is built on theory and the concepts used are highlighted in bold in the following text. Parts of this theoretical framework are also presented in various forms in four of the papers in this thesis.

3.1 GENRE THEORY

The term genre comes from Latin (*genus*) and dates back to classical philosophy, where it was used in the sphere of classification. According to the online version of Encyclopedia Britannica (2002), genre is defined as “a distinctive type or category of literary composition, such as the epic, tragedy, comedy, novel and short story”.

Genre theory has mainly been elaborated within the field of discourse analysis of textual units. (e.g. Swales, 1990; Berkenkotter & Huckin, 1995; Paltridge, 1997) but was introduced to IS research by Yates and Orlikowski in the beginning of the nineties (Yates & Orlikowski, 1992; Orlikowski & Yates, 1994).

Genre theory has not consolidated itself as one universally agreed upon theory. Rather there are competing definitions based on differences in research area, media and case evidence. The classification and hierarchical taxonomy of genres is not a neutral or objective procedure, e.g. one theorist's genre may be another's sub-genre. Despite competing definitions, the notion of genre has proven its value as an analytical tool in IS research on topics spanning from organizational communication (Yates & Orlikowski; 1992; Orlikowski & Yates, 1994; Yates *et al.*, 1997; Orlikowski & Yates, 1998; Yates *et al.*, 1999; Yoshioka *et al.*, 2001) to web enabled communication (Roberts, 1998; Shepherd & Watters, 1998, 1999; Crowston & Williams, 2000; Dillon & Gushrowski, 2000; Schmid-Isler, 2000). Further the concept of genre has been advocated as a potential tool for structuring design of new IT appliances (Brown & Duguid, 1996).

To exemplify these differences, but also the similarities, some of the definitions of genre are presented below. For extensive discussions of genre definition see e.g. Miller, 1984; Bazerman, 1988; Swales, 1990; Orlikowski and Yates, 1994; and Berkenkotter and Huckin, 1995.

- “A genre becomes a complex of formal and substantive features that create a particular effect in a given situation.” (Miller, 1984, p. 25)
- Swales' (1990) notes that: 1) a genre is a class of communicative events; 2) this class of communicative events shares a set of communicative purposes; 3) exemplars or instances of a genre will vary in their prototypicality; 4) the communicative purpose of a genre will constrain content, position, and form; and 5) the language used by a discourse community is an important source of insight. He argues that genres are products of discourse communities, maintaining and sustaining discourse communities over time via communicative events. He concludes that: “A genre comprises a class of communicative events, the members of which share some set of communicative purposes. [...] In addition to purpose, exemplars of

a genre exhibit various patterns of similarity in terms of structure, style, content and intended audience.” (Swales, 1990, p. 58)

- Berkenkotter and Huckin (1995) argue for five principles of genre: 1) genres are dynamic forms; 2) genre knowledge is situated; 3) genre knowledge includes both form and content; 4) genre is created, and re-created, through use by a community; and 5) genre conventions belong to a certain discourse community. They argue that a genre is ‘owned’ by a community and that a genre is shaped by its norms, epistemology, ideology, and social ontology which are made present through communication.
- Orlikowski and Yates (1994) defines genre as “a distinctive type of communicative action, characterized by socially recognized communicative purpose and common aspects of form.” (p. 543)

However the uncertainty as to what a genre is, there seems to be some agreed upon features of genre among the different uses of the concept. Genre by definition is situated. Since a genre represents a **recurring communicative act**, this recurring act occurs in specific situations, locations and among the members of the owning community (cf. Berkenkotter & Huckin, 1995, Orlikowski & Yates, 1992, 1998).

A specific genre consists of a set of **genre rules** that are recognized and enacted by human actors in their use of the genre. As Yates and Orlikowski (1992, p. 302) describe, genre rules can be portrayed as social rules that “...associate appropriate elements of form and substance with certain recurrent situations”. Not all but enough distinctive rules must be followed for a particular instance of a genre to be recognizable. Genre rules “may operate tacitly, through socialized or habitual use of the communicative form and substance, or they may be codified by an individual or body into specific standards designed to regulate the form and substance of communication [...] genre rules may also be standardized by being embedded in a medium...” (p. 303).

Over time, genres are altered both deliberately and by instance in response to conditions in the situation and community using the genre (Berkenkotter & Huckin, 1995). Yates and Orlikowski (1992) argue that genres are produced, reproduced and changed over time. Genre change, thus genre emergence can also be described as “...a new conjunction of form and purpose becomes recognized by its community as different from the old” (Orlikowski and Yates, 1994, p. 545). The potential of genre modification is inherent in every act of communication. This is described as a **recursive cycle** with every act being maintained, elaborated or modified. Modifying acts may be triggered by a) material or perceptual changes (i.e. changes to the **social, economic or technological** contexts), b) how groups **recognize and respond** or c) changes in elements of **form** (Yates & Orlikowski, 1992). When changes to established genres become widely shared among members of a community, genre variants or even new genres may emerge. Such changes may be triggered by the introduction of a new communication medium (Yates & Orlikowski, 1992; Yates *et al.*, 1997).

One approach for understanding the circumstances associated with the emergence of a genre is to address its linkages and dependencies with related genres. Addressing such linkages, Orlikowski and Yates (1994) propose the concept of **genre interdependence** in order to capture the sequential dependencies that may exist between genres when they are enacted in the communicative act.

3.2 DIGITAL GENRES

The combination of computing devices and the Internet has broadened the genre research agenda beyond organizational communication to include digital genres. The Digital Document Track of the annual Hawaii International Conference on System Sciences (HICSS web site, 2004) has become a well established forum for presenting results (e.g. Erickson, 1997, 1999; Crowston & Williams, 1997, 1999; Shepherd & Watters, 1998, 1999; Toms & Campbell, 1999; Bergquist & Ljungberg, 1999; Schmid-Isler, 2000; Rehm, 2002).

Looking at **genre characteristics**, several sets of such characteristics have been suggested in the literature. A genre can, for example, be characterized by having similarities in substance and form (Yates & Orlikowski, 1992), where substance refers to themes and topics and form refers to observable features such as a) structural features, b) communication medium and c) language or symbol system. Others have characterized genre by its **purpose** and **form** (e.g. Swales, 1990; Orlikowski & Yates, 1994). Although often implicit in the use of genre (e.g. Yates & Orlikowski, 1992) any genre reflects a communicative purpose, a rationale or reason for enacting the communication. Shepherd and Watters (1998) argue that while non-digital genres can be characterized by the tuple <content, form>, digital genres are characterized by the triple <**content**, form, **functionality**> as the medium has functional capabilities. Functionality refers to capabilities available through the new media (Shepherd & Watters, 1998). In addition to content and form, purpose and function have become most relevant to modern genre analysis according to Breure (2001). According to Shepherd and Watters (1999), functionality cannot be discussed without reference to the goal or purpose of the genre. The purpose must be viewed from the perspective of the author of the site and thus, the functionality incorporated into the site is driven by this purpose. The different combinations of genre characteristics use in literature are summarized in Table 4.

GENRE CHARACTERISTICS	AUTHORS
Form and content	Berkenkotter and Huckin (1995)
Form and purpose	Swales (1990); Orlikowski & Yates (1994); Crowston & Williams (1997); Yates <i>et al.</i> (1997)
Content, form and functionality	Shepherd & Watters (1998, 1999); Ryan <i>et al.</i> (2002); Crowston & Kwasnik (2004)
Purpose, form and functionality	Toms & Campbell (1999); Schmid-Isler (2000)

Table 4. Combination of genre characteristics

Watters and Shepherd (1997b) were among the first to study digital genres. They mean that digital genres provide recognized contexts for both form and content which enable users to shape models or understandings of the genres. The digital genre gives users of different systems a framework of familiarity. Yates and Sumner (1997) describe how technology first has a disruptive force on genre, but that in use, the documents are changed in response to social needs and technological opportunity, towards a generic form.

During the last years several aspects of digital genres have been studied, for example, the home page as a genre is discussed by Roberts (1998) and by Dillon and Gushrowski (2000), where the latter suggest the personal home page as the first unique digital genre, since homepages have no obvious paper equivalent but share many common elements and

features. Ryan *et al.* (2002) studied the home page genre dimensionality, and suggest four dimensions of homepages, representing variations in content, form, functionality and full-color background. The issues of multidimensionality have also been addressed by Crowston and Kwasnik (2004), who suggest a framework for creating a faceted classification for genres. They state that “we see genre as a multidimensional phenomenon, which takes into account not only the attributes of the document itself, but also of its role in human endeavor” (p. 1).

The role of genre in interface design was discussed by Watters and Shepherd (1997a), who examined e-mail, online newspapers and online dictionaries. They found that an interface reminding of the print counterpart, i.e. using metaphors from the memo, the newspaper and the paper dictionary, was preferred by their respondents. The idea of genre as an interface metaphor was elaborated by Toms and Campbell (1999) who suggest that a document provides various cues that enable users to quickly grasp its form, purpose and functionality. Schmid-Isler (2000) proposes style patterns for genre as a visual recognition. She exemplifies with the front page of a newspaper with the brand, the number of columns, headings, photographs and the table of content as a visual pattern. This is in line with the broadsheet metaphor proposed by Watters and Shepherd (1997 b), which is described in section 2.3.

Shepherd and Watters (1999) also suggest that designers should be aware of the functionality attribute of cybergenres and design for consistency within the genre. Further, Agre (1998) argues that it is imperative for designers of new media to have a good understanding of who are using the media and how they are using it, and it is essential to be aware of the users' expectations of a genre (Crowston & Williams, 2000). When establishing a new site with a purpose similar to existing sites, the genre characteristics may be copied and refined to reflect resemblance to an existing genre, i.e. designers may want to draw on already accepted genres that correspond to their design purpose (Crowston & Williams, 1997).

Brown and Duguid (1996), argue that a designer “will have to develop a sense of the continual evolution of genres [...] and what is at the heart of a design help to drive that evolution” (p. 144). There are three reasons for why genre is an important concept in design. Firstly, genres engage socially shared knowledge in any form of communication. The more shared expectations, the less that has to be done explicitly about how the information should be read. Secondly, understanding genres is significantly important to deal with the demands of the information age, since information is always formed considering one genre or another. And, thirdly, new technologies require new genres to fulfill their potential. These genres can be the subject of conscious design or emerge naturally. Further, they state that: “Design of genres, in our view, is the way to approach design today” (Brown & Duguid, 1996, p. 144).

Digital genres have also been studied by Crowston and Williams (1999), who examined how genres of communication might evolve along with the linking capacities of the web. Roussinov *et al.* (2001) have used the notion of genre when studying navigation on the web, while Rehm (2002) discusses a web genre hierarchy for academic web pages with embedded genre types and modules. The use of organizational document genres at work was studied by Bergquist and Ljungberg (1999), who looked at the use of internal email. They found that many messages were part of informal conversations rather than being instances of genres, and mean that genre is a fruitful concept for analyzing how communication enacts

organization. Herring *et al.* (2004) have used genre for studying weblogs, while Schmid-Isler and Oehninger (2004) propose the Media Richness Model as an enhanced approach to genre theory.

Since no general definition for genre exists, Erickson (1999, p. 2) has suggested the following definition of digital genre as a reasonable synthesis:

“A genre is a patterning of communication created by a combination of the individual (cognitive), social, and technical forces implicit in a recurring communicative situation. A genre structures communication by creating shared expectations about the form and content of the interaction, thus easing the burden of production and interpretation.”

3.3. DIGITAL GENRE EVOLUTION

Yates and Orlikowski (1992) argue for the need of both synchronic and diachronic studies of genres. Synchronic in the sense that they are ‘vertical’ time slices and diachronic in the sense of longitudinal studies. The former applies well when the intention is to identify a prototypical instance of a genre. A large sample of instances from the same period will ground the identification of shared genre characteristics within a genre. The latter approach will support the understanding of genre dynamics, how communicative genres change over time. Both Swales (1990) and Yates and Orlikowski (1992) have studied the evolution of a particular genre over time. Swales studied the English language research article as a genre from 300 years ago to its present form while Yates and Orlikowski (1992) studied the development of the memo genre from the mid-19th century to the present. The introduction of new medium, such as the web, has dramatically increased the speed of genre evolution.

The evolution of Internet genres, are discussed by Bauman (1999), who means that the new writing environments allow texts to evolve with their purpose and audience changing over time and also allow new forms of collaboration, leading to change. Breure (2001) suggests the evolution of digital genres as a global theme that has emerged from the recent literature, and describes it as “the tendency of new genres to mimic old ones, in combination with the flexibility of electronic media, which includes change, focused attention on the relation of digital genres to paper based counterparts and on their further evolution”.

Even though the online newspaper genre has existed only for a decade, the genre has changed much making it meaningful to study its evolution. The evolution of online newspapers has been studied by e.g. Shepherd and Watters (1998, 1999) and Greer and Mensing (2003).

Shepherd and Watters (1998) coined the term “cybergenre” and have proposed a taxonomy of cybergenre evolution. They have divided the cybergenre into two classes of subgenres; extant and novel. Extant genres are based on existing genres in other media that have been transferred into the digital media. Novel genres are fully dependent on the digital media. In Figure 1, the dotted line illustrates that the new functionality afforded by the new medium drives the evolution, and the leaf nodes (replicated, variant etc.) in the taxonomy can be regarded as stages of evolution of the genre.

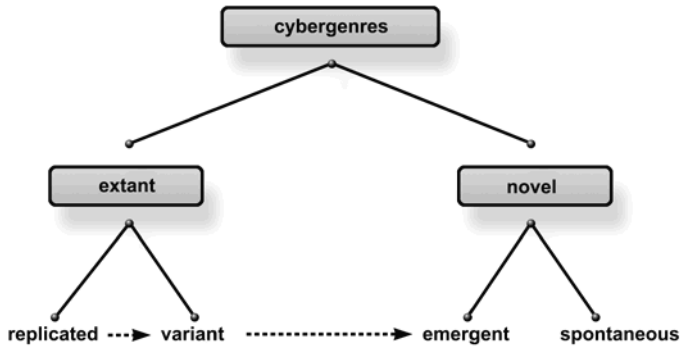


Figure 1. Evolution of cyber genres (Shepherd & Watters, 1998, p. 98)

Replicated subgenres can be described as following the content and form of the counterpart genre in other media with little new functionality added by the new medium. In variant subgenres the content and form are somewhat different, with substantial new functionality added. An emergent subgenre has evolved from the variant subgenre to the extent that it is only marginally recognizable as the original genre. Significant difference in content and form, and most importantly, a level of functionality that makes it fully dependent on the new media has been added. Spontaneous subgenres are novel cybergenres that do not have any counterpart in other media.

The news cybergenre has evolved from merely replicating their print counterpart, changing into interactive variants of the print edition to become a novel cybergenre with personalized news generated by personal agents (Shepherd & Watters, 1998).

Greer and Mensing (2003) have conducted a longitudinal content analysis of online newspapers and studied the news, special features, advertising and entertainment content at 81 online newspapers once a year from 1997 to 2003 by coding elements on the sites. Their findings show that: a) online newspapers have expanded content and features, b) that the use of multimedia has increased, but c) that no real growth has been seen in interactivity. They argue that “clearly, online newspapers are becoming stand-alone news products rather than supplements or advertising vehicles for their print counterpart” (p. 14). In their conclusion they state that “online newspapers are not only evolving, but are thriving – at least in terms of variety of content and features” (p. 17). They suggest further research about standardization in presentation across sites.

3.4 THEORETICAL FRAMEWORK FOR UNDERSTANDING ONLINE NEWSPAPER GENRE EVOLUTION

In this research, the online newspaper genre evolution is studied, the publishers and audience are the actors and the communicative act (**communicative cycle**) is to **produce** (publish) and to **use** (read) the online newspaper consisting of **genre characteristics** (see Figure 2).

I adopt the definition of genre by Erickson (1999), with the addition of the genre being characterized by its socially recognized purpose from the definition by Orlikowski and Yates (1994). This view takes into account all four genre characteristics, i.e. **content**, **form**, **functionality** and **purpose** that I recognize as fundamental for a digital genre. In my research I define these characteristics as follows:

- Content refers to the substance (cf. Yates & Orlikowski, 1992) available at the online newspaper, e.g. articles, news streams, video items etc.
- Form refers to observable features (cf. Yates & Orlikowski, 1992), i.e. the presentation format of the content, e.g. as a textbox, a button or an icon.
- Functionality refers to capabilities available through the new media (Shepherd & Watters, 1998), e.g. searching, interactivity etc.
- Purpose is viewed from the perspective of the publisher (cf. Shepherd & Watters, 1999), e.g. a) the communicative purpose to provide the audience with accurate and timely news updates or b) the design purpose to give overview and enable navigation.

In the case of online newspapers, the communicative (recursive) cycle consists of changes made in the genre characteristics (e.g. in content, form or functionality) by the publisher, i.e. all changes to the online newspaper are mediated through the publisher. **Organizational factors** at the publishers', e.g. in **social**, **economic** or **technological** contexts, could be triggers to change. Changes in organizational status, economic support or publishing system are examples of such triggers. For example, a new publishing system may enable easier layout variations, while increased economic support may lead to employees having the time to create new services etc. As noted by Agre (1998), it is essential to know who are using the media (i.e. user **demographics**) and how they are using it. Changes in the genre characteristics are **recognized** by the audience and may trigger changes in use. The audience may also **response** to the changes directly by e-mailing or phoning the publisher. The publisher may act on these response triggers from the audience, leading to new changes in the genre characteristics etc. This communicative cycle also applies to the newspaper genre, although the medium makes the cycle rotate much faster.

GENRE EVOLUTION

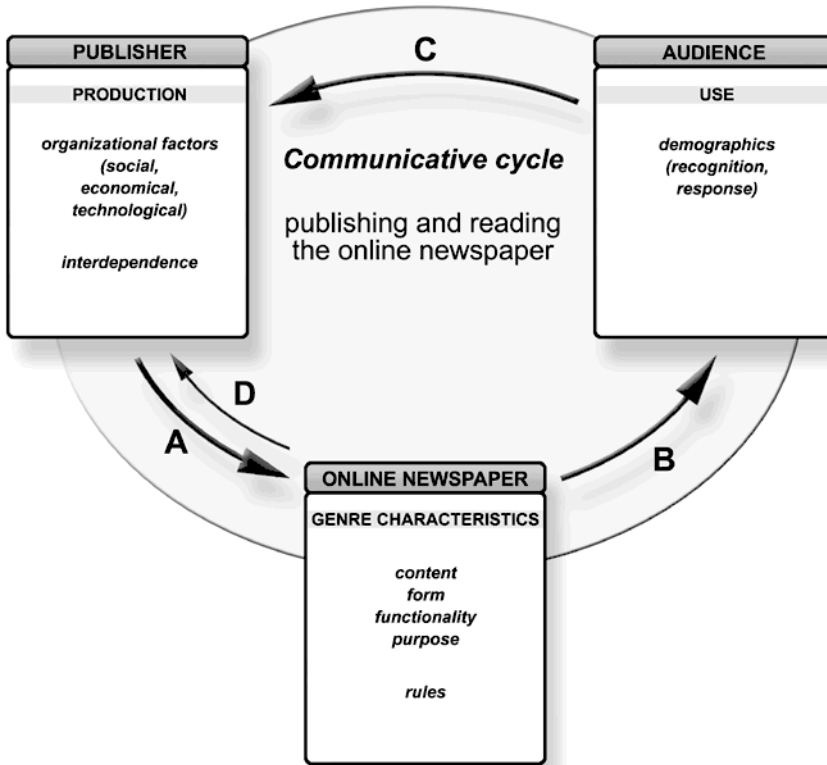


Figure 2. Theoretical framework for understanding online newspaper genre evolution

The communicative cycle is presented by the arrows in Figure 2:

- A) changes are made by the publishers to the genre characteristics;
- B) changes are recognized by the audience;
- C) the audience response to changes either direct or in use; and
- D) the genre itself is also influencing change, e.g. by designers being inspired by new trends at other online newspapers.

One could argue that the B and C arrows also could point in the opposite direction in that a) the users could respond directly to the online newspapers via e-mail or forms and b) the publishers could give feedback to the audience response directly to the audience via e-mail or phone. But, all changes to the online newspapers are made by the publishers, irrespectively of the cause.

The **genre rules** of newspapers, for instance, are enacted by both publishers and audience in the daily production and consumption of news. Considering the long history of newspapers, it is not surprising that there exists a set of genre rules that enable people to distinguish a newspaper from, for example, a magazine.

Studying the **genre interdependence** between the print newspaper and the online newspaper is relevant since the online newspaper genre has evolved from the newspaper genre by the introduction of the web medium.

The evolution of the online newspaper genre has been influenced by external changes in the social (e.g. widespread use of the Internet, computers in every home), economic (e.g. taxes, advertisers) and technological (e.g. growth of Internet, new technologies for the web) context. Regarding the first sub-question, the scope of this research is limited to studying internal factors, i.e. in the social, economic and technological contexts in newspaper organizations.

4. RESEARCH APPROACH

This section outlines the multimethod research design including data collection and analysis.

4.1 A MULTIMETHOD RESEARCH DESIGN

The research can be classified as qualitative IS research (Orlikowski & Baroudi, 1991; Walsham, 1995) in that it is orientated towards people's assumptions, knowledge, and experience of online newspapers. More specifically, the research is an example of a multimethod (Mingers & Gill, 1997; Mingers, 2001) approach. The key advantages of the multimethod approach are:

Firstly, “the use of multiple research methods is especially important in exploratory and explanatory studies. When knowledge is crude and limited [...], multiple methods permit a wider and more complete understanding of the phenomenon studied” (Pinsonneault & Kraemer, 1993, p. 88). Exploratory studies are appropriate “in new fields of study where little work has been done, [...] and little is known about the nature of the phenomenon” (Patton, 2002). I have had an exploratory approach when studying the evolution of the phenomenon, i.e. the online newspaper genre, and the actors involved in this evolution. Though several studies addressing different aspects of online newspapers exist, very few concern the evolution of the genre.

Secondly, Gasson (2004) means that while investigating research problems in areas where there is little extant theory, we need to consider research methods and approaches that permit the investigation of novel problems in an emerging context, and suggests multiple research methods as an approach. The study of online newspapers, an area still in its infancy in that it lacks well-established theories, is suitable for this type of approach.

Thirdly, “different research methods focus on different aspects of reality and therefore a richer understanding of a research topic will be gained by combining several methods together in a single piece of research” (Mingers, 2001, p. 241). The aim of this research is to achieve as rich a picture as possible of the evolution of the online newspaper genre regarding publishers, audience and design.

Other arguments in favor of a multimethod approach are e.g. “a research study is not usually a single, discrete event but a process that typically proceeds through a number of phases” (Mingers, 2001, p. 243) and that “the use of multiple data collection and analysis methods reflects different research-purposes and views of a research situation” (Gasson, 2004).

Since different methods provide partial perspectives on reality, multiple research methods also increase the validity of the data and findings (Pinsonneault & Kraemer, 1993). The term validity is mostly used in quantitative research but is also applicable to qualitative research. Patton (2002), states that validity and reliability are two factors which any qualitative researcher should be concerned about while designing a study, analyzing results and judging the quality of the study. To ensure reliability in qualitative research, an examination of trustworthiness is crucial. I have had a continuous dialog with online newspaper publishers through participation in seminars and workshops where I reported

results and received feedback, which indicates the trustworthiness of the research. The rigor of my research, i.e. the soundness regarding the theoretical and conceptual development of the research, is strengthened by a sound theoretical framework and the multimethod approach, as well as the scale and duration of the research.

I started this research with some understanding about the possibilities and problems involved in producing an online newspaper, since I used to work as a project leader at the Internet division of the local newspaper Hallandsposten. However, at the time I started my PhD studies, I started to work as a lecturer at Halmstad University. I believe that being both a practitioner and a researcher has been an asset during my PhD studies. I have found theoretical explanations to experienced problems and have also been able to interpret and understand the collected data from both directions.

In Figure 3, the individual papers of this thesis are mapped on the theoretical framework, to elucidate how the different objects of study were included in the research design.

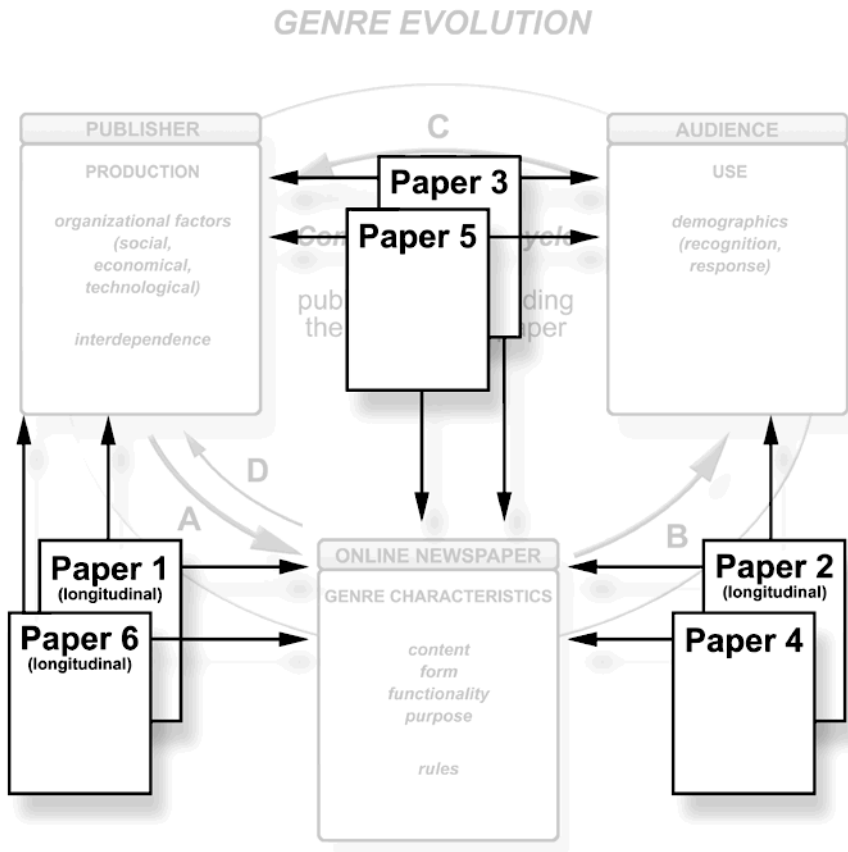


Figure 3. The focus on each paper

To clarify this further, the connections between the objects of study, the sub-questions, the different data collection studies, and the individual papers are shown in Table 5.

OBJECT OF STUDY	PUBLISHERS	AUDIENCE	ONLINE NEWSPAPERS
Communicative cycle	Production	Use	Genre characteristics
Sub-questions	What organizational factors (social, economical or technological) have influenced the evolution?	How has online newspapers been recognized by the audience and what is their response?	How has the form (layout) changed over time?
Studies (see Figure 4)	Longitudinal study (1+5) Interview study (3)	Interview study (3) Online questionnaires (2+4)	Web site analysis (3+6) Longitudinal study (1+5)
Paper 1	Social, economical and technological factors	---	Content, form and functionality
Paper 2	---	Recognition and response	Content and purpose
Paper 3	Economical factors	Response	Content, functionality and purpose
Paper 4	---	---	Content, form and functionality
Paper 5	Technological factors	Recognition and response	Content, form, functionality and purpose Rules
Paper 6	Social, economical and technological factors Interdependence	---	Content, form, functionality and purpose

Table 5. The connections

4.2 DATA COLLECTION AND ANALYSIS

Several methods for data collection have been used in six different studies in order to be able to describe the evolution of the online newspaper genre. These studies are illustrated in Figure 4. All empirical material in this thesis is my own (collected with help of students and colleagues) except the study of Lars Bo Eriksen in 1996.

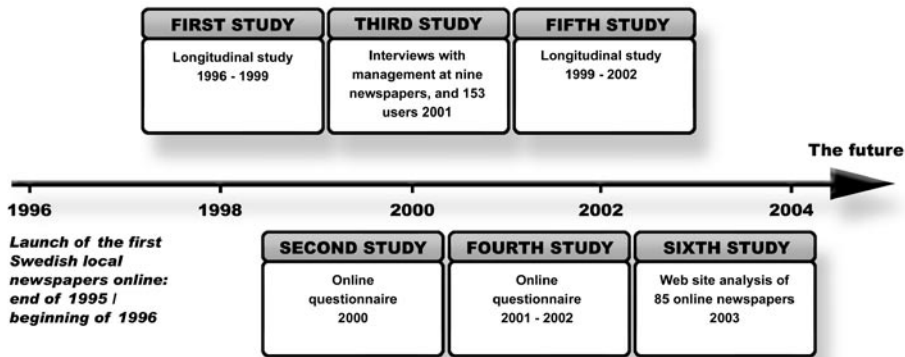


Figure 4. Data collection studies in a timeframe

First and fifth study – longitudinal study

Taken together, the first and the fifth studies completed a longitudinal study based on repetitive visits to the same three newspapers in 1996, 1999 and 2002. The newspapers were situated in three different countries in Scandinavia: Jyllands-Posten (www.jp.dk) in Denmark, Göteborgs-Posten (www.gp.se) in Sweden and Dagbladet (www.dagbladet.no) in Norway. The newspapers were all early starters with their online editions. A total of 15 in-depth interviews with management and designers were carried out during this period.

The semi-structured interview guide used at all sites facilitated consistency of data collected between sites and interviewees. While allowing individual perspectives and experiences to emerge, the interview guide provided a systematic way of delimiting issues discussed in the interview (Patton, 2002). It covered a variety of topics including content, form, purpose, organization and technology. The interviews were all transcribed. In addition, the interviews were supplemented with web site analyses of the front pages of the online newspapers from 1996, 1999 and 2002 in order to be able to analyze how the form and layout had changed over time, using the genre concepts content, form and functionality. In order to analyze the data collected, patterns were identified in the transcribed material. I used a coding system (Miles & Huberman, 1994), based on different colors, to analyze the data. I started out with the basic themes from the interview guides, assigned each a specific color, to mark sections in the transcribed material. When all data was categorized according to a corresponding theme, I transferred the data into separate documents, named after the theme. I then searched for patterns, i.e. similarities or differences (e.g. changes during the years) in the data, which I coded directly in the digital document, marking in different colors. I thereafter organized key phrases into a table with the different years and newspapers in columns and the themes in rows in order to get an overview of the changes. Then, each of these themes was examined in light of the genre literature in order to construct a comprehensive understanding of the online newspaper genre evolution in Scandinavia.

Second and fourth study – online questionnaires

The data collection method used in the second and fourth study was a survey using online questionnaires. In March 2000, online questionnaires were presented at four Swedish online newspapers (Hallandsposten, Göteborgs-Posten, Östgöta Correspondenten and Eskilstuna Kuriren) and again at two online newspapers (Östgöta Correspondenten and Norrköpings Tidningar) in November 2001 and January 2002 respectively. The questionnaires were shown to the potential visitors of each homepage as a pop-up window or a banner leading to the questionnaire for a period of a week. I received 3696 answers in the second study and 3661 in the fourth study giving a total of 7357 answers. The first questionnaire contained 18 items of which the last item was an open question, and the second questionnaire contained 19 items.

For both surveys a one-page design was used, which is faster for the respondent than a multi-page design and there was no use of advanced graphics, which give less partial non-response from modem users (Manfreda *et al.*, 2002). In both surveys, there were some multiple-choice questions. The two studies partly form a longitudinal study of audience demographics and reading habits, and partly form two complementary studies, the first focusing on current issues for the online newspaper, and the second on future issues. In the second study age categorization was refined in order to get a more detailed view of the

audiences' age structure and other aspects concerning the demographics were also added, e.g. education and occupation.

In addition to these two complementary studies I have also collected data of the audience demographics, together with a student group, during 2004. An online questionnaire was presented for one week at two online newspapers (Östgöta Correspondenten and Norrköpings Tidningar), resulting in all together 2748 respondents. These questionnaires were conducted in the DigiNews project, of which I am the project leader, with the aim to design the future newspaper on e-paper technology. The categories used for the demographics partly correspond to the categories of the fourth study and will be added in the discussion of the evolution of the online newspaper genre in section 5.2.3.

A computer software statistic program, SPSS, was used for analyzing and comparing the results. However, it should be emphasized that the objective of these studies was merely to retrieve descriptive and comparable data about the composition of the audience of the online newspapers, and their preferences.

Third study – interview study

During the period of January to March 2001 interviews were conducted with both designers and managerial personnel at nine Swedish local newspapers with online editions (Table 6).

NEWSPAPER	ONLINE NEWSPAPER
Eskilstuna Kuriren	www.ekuriren.se
Hallandsposten	www.hallandsposten.se
Nerikes Allehanda	www.nerikes.se
Norrköpings Tidningar	www.nt.se
Sundsvalls Tidning	www.stonline.se
Upsala Nya Tidning	www.unt.se
Vestmanlands Läns Tidning	www.vlt.se
Västerbottens Kuriren	www.vk.se
Östgöta Correspondenten	www.corren.se

Table 6. Newspapers in third study

At the same time usability tests and interviews were conducted with 153 members of their audience. The interviews, conducted with management, designers and editors-in chief were all based on an interview guide approach. The interview guide was used to ensure that we got the information we needed in the interviews, but it did not determine the sequence or structure of the interview. Our aim was to allow new topics of interest to emerge as the interviews progressed. A wide range of questions were discussed covering design aspects, user interaction, current status related to the future expectations and so on. The managers, designers and editors-in chiefs of the newspapers were chosen because they were the most suitable to answer these kinds of questions. These interviews lasted between 60-90 minutes and were tape recorded. All interviews were later transcribed.

To get a good sample of respondents from the audience, the newspapers helped by presenting a questionnaire (as a pop-up window) automatically when an individual visited their online newspapers and also published two advertisements in their print editions. The questionnaire was shown between 3-7 days and 60-240 answers from users were received

from each newspaper. The selection was made from four different criteria: gender, age, Internet usage and education (and the final sample matches the demographics from study 2). There were 3-4 respondents at each newspaper who did not show up for their appointment giving a total of 153 respondents (81% response rate). The usability tests with the users took about 10-15 minutes and in a third of the tests the screen was filmed. A thinking aloud technique (Shneiderman, 1998) was used together with specific assignments for the users to conduct. The tests were followed by the interviews, also in front of the computer. These were carried out with a structured interview guide in order to get answers to the same questions from all respondents. 53 interview questions grouped into 5 different themes were used. A structured interview guide permits easy comparison of responses between respondents (Patton, 2002), reduces interviewer bias, and increases consistency between multiple interviewers. These interviews took about 45-50 minutes. The tests and interviews were tape recorded and later fully transcribed. Immediately after completing the interviews at one newspaper, we wrote a summary of our impressions and send it to the newspaper as instant feedback. These texts were valuable input in the analysis as well.

In order to analyze the collected data from the interviews with the management, patterns were identified in the transcribed material. I used a similar technique as described in the first study. These patterns include issues raised repeatedly during the interviews or opinions that kept re-appearing and can be described as commonly found views (Easterby-Smith *et al.*, 1991). For example, opinions about profitability aspects kept re-appearing. This analysis was made in an iterative process, i.e. when a new pattern was found I started over again to ensure that all material was analyzed accordingly. Regarding the structured interviews with the audience, the transcribed material of the 53 questions was stored, question for question, in a database. I then analyzed each question separately, searching for similarities and differences in the material, marking in different colors. Some of these questions were analyzed in collaboration with a research colleague (co-author of paper 2 and 5). In that case, we both analyzed the material on our own before making a joint effort in order to make the analysis more trustworthy. We discussed our different analyses and made joint decisions where we differed.

Sixth study – web site analysis

A sample of Swedish online newspapers was used as empirical input for the web site analysis in the sixth study. The Swedish Newspaper Publishers' Association has published a publication in which all 110 Swedish daily newspapers with online editions are listed [4]. Initially, the entire sample was considered but was later reduced excluding online newspapers that have a joint web site with another newspaper and newspapers which only display a 'business card' on the Internet. The final sample includes 85 Swedish online daily newspapers (see Appendix 1 in Paper 4, p. 111). The web site analysis was conducted to identify genre characteristics by using the genre elements content, form, functionality and positioning. To decompose the layout of the front pages each content element was positioned according to a section and column grid. Each content element was then related to form and functionality. In an iterative process all genre characteristics for content, form and functionality were identified. This resulted in a list of genre characteristics specific for online newspapers. This list was revised during the process and revisions were made to ensure that all characteristics were handled consistently. In the web site analysis all content was identified newspaper by newspaper and was registered in a database with their given position, forms and possible functionality.

5. RESEARCH CONTRIBUTIONS

In this section, the six individual papers are summarized followed by a description of the evolution of the online newspaper genre. The papers have been reformatted and I have corrected a few spelling errors in some of the papers.

5.1 THE INDIVIDUAL PAPERS

Genre evolution and awareness – paper 1

This paper, a longitudinal study of three newspapers, describes the evolution of the online newspaper genre in Scandinavia between 1996 and 1999. The main objective of the paper is to identify genre characteristics and to describe the evolution in terms of these characteristics. Four core presentation elements and five conceptual elements in news site design are identified and the genre concept awareness is introduced. It is concluded that online newspapers by 1999 possess characteristics that make them distinctive from print media and online newspapers from 1996.

The audience demographics, recognition and response – paper 2

This paper describes the audience of the online newspapers in Sweden. Based on two repetitive survey studies, using online questionnaires with over 7,300 respondents, this paper describes the users' demographics and reading habits in a longitudinal view. The results show a substantial increase in readers that simultaneously are subscribers of the print edition. The paper also describes the users' recognition and response to current online editions and expectations of future issues. It is concluded that there is a need for better navigational aid at the news sites, that newspapers could gain from making the advertisements more attractive for the users and that multimedia could be used more frequently as there is an interest among the users.

The economic perspective – paper 3

This paper examines how newspapers can generate revenues from their online edition and which services will be most attractive to users. Based on a large interview study with publishers and audience, a new business model is proposed. All newspapers agreed that they have to start making money in order to keep up their online news services, but as long as there is news for free on the Internet they have to find other sources of income. Since almost all members of the audience in this study found the newspapers trustworthy it should be possible for the newspapers to create new services based on user trust. The proposed business model for online newspapers includes content-based revenue generation through personalization, archiving and versioning, approaches to advertising that involve more highly targeted market intermediation, and non-news activities covering advertisers and information brokerage.

Genre characteristics – paper 4

This paper proposes a framework for identifying genre characteristics building on the genre concepts content, form and functionality. The genre concept "positioning" is introduced together with a column and section grid for operationalizing positioning. A web site analysis on the front pages of 85 Swedish online newspapers forms a base for this study and also provides a description of the genre as a snapshot in time. The cybergenre model (Shepherd & Watters, 1998) together with the so called broadsheet metaphor is used to describe the Swedish online newspaper genre, but aiming at a more comprehensive understanding of the genre the model is modified by adding the leaf node 'progressed'.

Genre rules and awareness – paper 5

This paper proposes design recommendations for online newspapers. These recommendations are based on features that mediate a specific purpose and use between publisher and audience, which are described as genre rules in terms of purpose, form, and positioning. They are also based on genre change regarding design, and the heritage from print regarding form and shared content elements. Genre characteristics have been identified and genre change has been studied through a web site analysis, while the genre rules have been derived by analyzing publishers design purpose and audience recognition and response in a large interview study. The paper also elaborates on the notion of genre awareness as a useful input in the design process of digital documents.

Genre change and interdependence – paper 6

This paper examines the evolution of the online newspaper genre in Scandinavia. Using a longitudinal study of three newspapers, the paper explores the genre changes associated with the adoption of web technologies for publishing news. The study illustrates how online newspapers have established a number of communicative practices significant for recognizing them as a distinct digital genre, and it outlines a set of institutional factors shaping its ongoing change. In addition, the study demonstrates the emergence of sequential interdependencies between online and print news not predicted in the existing literature on digital genre evolution.

The research presented in this thesis is also presented in other publications, and was conducted in parallel with other studies with similar research focus. These publications, consisting of one book chapter and 11 peer-reviewed conference publications are presented in Table 7.

YEAR	PAPERS
1999	Eriksen, L.B & Ihlström, C. (1999), In the Path of the Pioneers - Longitudinal Study of Web News Genre. In <i>Proceedings of the 22nd Information Systems Research Seminar in Scandinavia</i> (pp. 289-304). Finland.
2000	Eriksen, L. B., Ihlström, C. & Palmer, J. (2000), News. In K. Braa, C. Sørensen & B. Dahlbom (Eds.), <i>Planet Internet</i> (pp. 87-112). Studentlitteratur, Lund.
2001	Ihlström, C. & Svensson, G. (2001), Online Newspapers - A Preliminary Study of Users' Demographics, Experiences and Habits. In <i>Proceedings of the 24th Information Systems Research Seminar in Scandinavia</i> (pp. 519-532). Norway.
2002	Ihlström, C. & Lundberg, J. (2002), Local Swedish Newspapers Approaching e-business? In <i>Proceedings of ICC 6th International Conference on Electronic Publishing, ELPUB2002</i> (pp. 81-91). Karlovy Vary, Czech Republic. Arvidsson, F., Ihlström, C. & Lundberg, J. (2002), Visions of Future News – Consensus or Conflict? In <i>Proceedings of the 25th Information Systems Research Seminar in Scandinavia</i> , Denmark. CD-ROM. Ihlström, C., Lundberg, J., Vimarlund, V. & Rehnström, C. (2002), Online Newspapers in Search for Profitable Services. In <i>Proceedings of eBusiness and eWork 2002</i> (pp. 1455-1462). Prague, Czech Republic. Ihlström, C. (2002), Local Swedish Online Newspapers in Trouble? - New Services and New Roles. In <i>Proceedings of International Conference on Electronic Commerce 2002</i> , Hong Kong. CD-ROM.
2003	Ihlström, C. & Lundberg, J. (2003), The Online News Genre Through the User Perspective. In <i>Proceedings of 36th Hawaii International Conference on Systems Science</i> . Hawaii. CD-ROM issued by IEEE Press. Ihlström, C. & Åkesson, M. (2003), Genre Evolution - a Framework for Online Newspapers. In <i>Proceedings of the 26th Information Systems Research Seminar in Scandinavia</i> . Finland. CD-ROM. Ihlström, C., Lundberg, J. & Perdrix Sapiña, F. (2003), Audience of Local Online Newspapers in Sweden, Slovakia and Spain - comparative study. In <i>Proceedings of HCI International</i> (Vol. 3, pp. 749-753). Crete.
2004	Ihlström, C., Åkesson, M. & Nordqvist, S. (2004). From Print to Web to e-paper - the challenge of designing the e-newspaper. In <i>Proceedings of ICC 8th International Conference on Electronic Publishing, ELPUB 2004</i> (pp. 249-260). Brasilia, Brazil. Åkesson, M., Ihlström, C. & Svensson, J. (2004). Genre Structured Design Patterns - the case of online newspapers. In <i>Proceedings of the 27th Information Systems Research Seminar in Scandinavia</i> . Sweden. CD-ROM.

Table 7. List of publications related to the research of this thesis

5.2 THE EVOLUTION OF THE ONLINE NEWSPAPER GENRE

Yates and Orlikowski (1992) have requested both synchronic and diachronic studies of genres. This thesis aims at describing and analyzing the evolution of the online newspaper genre, and includes several diachronic studies. As a part of describing the evolution of the genre I have also conducted a synchronic study with the purpose of providing a large sample of instances from the same period to ground the identification of shared genre characteristics within the genre (study 6).

Collectively and individually the papers in this thesis, together with the literature review in section 2, contributes to an understanding of the online newspaper genre evolution. In this section I summarize and synthesize the findings from the individual papers regarding this evolution and describe it according to the sub-questions and in line with the theoretical framework (Figure 2) in order to address the overall research question. The communicative cycle starts with the publishers producing/publishing the online newspaper. I will therefore start by describing the evolution from the publishers' side, followed by a description of the changes in form (layout) of the online newspapers and thereafter describing the audience demographics, recognition and response. I conclude this section by discussing the integrated view of the online newspaper genre evolution. The three domains in the integrated view, i.e. the publisher with their organizational and business aspects, the online newspaper with its design, and the audience with their use, have mutually influenced each other and the emergence of the genre.

5.2.1 PUBLISHERS

The sub-question regarding the publishers is: *What organizational factors (social, economical or technological) have influenced the evolution?* From the results of the first, third and fifth study, the following factors influencing the genre evolution could be discerned, as summarized in Table 8.

SOCIAL CONTEXT	ECONOMICAL CONTEXT	TECHNOLOGICAL CONTEXT
Dedicated employees	Trademarks	Functionality
Internal organization	Business models	Publishing systems
In-house attitude	Profitability demands	
View on organization	Strategies	

Table 8. Factors at the publishers' side influencing the evolution

Regarding the *social context*, the dedicated employees, the internal organization, the in-house attitude and the view on the organization all have been part in influencing the evolution of the online newspaper genre. In the initial stage, dedicated employees (mostly technology interested journalists) were driving the evolution in that they designed the layout (without prior training) and initiated new services. Most of the updates had to be done manually, which also fell on their part. They also fought for making the online newspaper recognized within the newspaper organization. The internal organizations have changed from being project organizations to being editorial offices, and have gained support from the newspaper management. In the beginning the online newspapers were used for experimenting with technology and for promoting the print edition, but today they are used as a channel for publishing updated news between editions and are seen as an important part of the newspaper organizations. The number of employees grew considerably from 1996 until the peak of the dotcom era in 1999/2000, after which the number stagnated or slightly declined. The in-house attitude has also changed considerably. In the beginning the attitude was skepticism, in that other journalists did not agree with "giving the news away for free" whereas today it is natural to write specifically for the web. In the beginning it was also hard to publish a scoop on the web before it had been published in the print edition, while the attitude today is to be first irrespectively of medium. The newspaper organizations have changed from being merely newspapers to considering themselves as media organizations, with some media organizations owning radio stations and video

companies. This new view on the organization has led to new opportunities involving more sound, video and parallel publishing.

In the *economical context*, the trademarks, choice of business models, profitability demands and strategies has played a role in the evolution of the online newspaper genre. The trademark is seen as the most important asset of the newspapers, as discussed by Beamish (1998), and in the beginning it was important that the online newspapers did not in any way reduce its value. Later on, the possibilities of having a strong trademark were explored, e.g. in initiating intermediary services online. All newspapers have explored different business models to generate online revenue. In the beginning many newspapers were creating or hosting web pages for clients, i.e. transaction models, an approach that later was abandoned by most of the newspapers. They were also trying to sell banners but as most of the newspapers in this study are local newspapers and the banner market mostly favored the national newspapers, it was hard initially. But the nine newspapers in my third study, all belonging to the Citygate association, jointly produced new services and made common efforts to get a grip on the banner market. The banner sales were not very profitable at the larger newspapers (first and fifth study) in the beginning either, but have increased over the years. The business models have changed towards more banner sales, transaction fees for SMS-services, different form services, and user registrations. The newspapers provide limited access to their archives for free, but are all considering open up their text and photo archives for a subscription or pay-per-view fee, which is in line with the findings of Greer and Mensing (2003). Some have also adapted a portal model, i.e. establishing a local e-commerce portal around their solid newspaper trademark, but most still have great concerns about the possible badwill that would be created if a partner does not fulfill their responsibilities. The demands for profit generation have increased considerably during the years. In the aftermath of the dotcom era, when most newspapers also experienced reduced advertising revenues from their print editions, they have become more focused with their online newspapers, and they also constantly look for new ways to generate profit. The strategies for the online editions have also changed during the years, from replicating the print edition into being a complement to the print edition, and lately to become a part of the main product with material exclusively produced for the web.

The *technological context* includes the functionality afforded by the new medium and the development of the internal publishing systems. Indeed, the functionality has played a significant part of the evolution of the online newspaper genre since the new medium enabled publishing in the first place. It has also enabled new services as the technology has been developed. However, the newspapers have experienced problems with their internal publishing systems. Initially, all updates had to be made manually, and since then many of the newspapers have developed internal solutions to facilitate the updates and possibilities to add new sections and services. Along with the online newspapers gaining importance in the media organizations the process of facilitating parallel publishing has been given more attention and today most of the publishing process is automated.

In paper 6, the emerging *interdependence* between the online newspaper and the print newspaper are discussed. In 1996, most material in the online newspapers was replicated from the print edition, with no web material present in the print edition and a sparse use of cross references (mainly from print to web). Three years later, in 1999, new material was written for the web and results from online polls were presented in the print edition. There was also frequent use of cross references, but still mainly from print to web. In 2002,

material was written for the online newspaper continuously and web material, such as from specialized sections, polls, and questionnaires were also presented in the print edition. There was constant use of cross references, from print to web, but also from web to print. The newspaper management stated that it was no longer possible to close down the online newspapers, as they are needed to provide news updates, cross-references, and additional services. This evolution has led to the print and online newspaper genres being interwoven in such a way that they cannot easily be dissolved. This is something not predicted in the digital genre literature, where the digital genres are expected to evolve further away from its origin in print (Shepherd & Watters, 1998).

5.2.2 ONLINE NEWSPAPERS

The sub-question regarding the online newspaper is: *How has the form (layout) changed over time?* Results concerning this aspect can be found in the first, third, fifth and sixth study and are presented in the following in relation to the genre characteristics content, form, functionality and purpose.

The *content* of the online newspapers merely consisted of replicated news articles and feature material from the print newspaper in the first years. Due to space limitations material not fitting in the print newspaper was published on the web, and news articles of special interest were linked together and presented in special sections together with background material. The articles were stored in archives which was open for search within a limited period of time. In addition, new services were developed, due to the functionality possibilities provided by the new medium. During the years the amount of content in the online newspapers has increased dramatically, with focus on fast news updates and various services, resulting in genre specific elements such as the news stream, i.e. the ordering of articles on a temporal basis with a time stamp, and archives (paper 1). Lately, most news articles are written especially for the web and the amount of photographs have increased substantially. In paper 4, I describe the content, form and functionality on the front pages of 85 Swedish online newspapers. For comparability (Table 3) I present the figures from the amount of archives, search engines, multimedia and interactivity present at the front pages in my Swedish sample (Table 9).

NO. OF SITES	ARCHIVES / SEARCH ENGINES	MULTIMEDIA	INTERACTIVITY
85	44.7% archives/search engines	71.7% photos 7% audio 4.7% video 5.8% web-TV	14.1% chat 42.3% polls or surveys

Table 9. Online newspaper features

The *form* of the first online newspapers resembled web pages rather than newspapers. The broadsheet metaphor was then introduced, mainly on the front pages, resulting in a few columns, and sections reminding of the ones in the print newspaper. The benefits of using the broadsheet metaphor are discussed by e.g. McAdams (1996, 1997) and Watters and Shepherd (1997a,b). Over the years the front pages have become longer and longer, with a vast amount of scrolling needed, which should not be a problem when reading online newspapers according to the results of van Oostendorp and van Nimwegen (1998). The front pages present appetizers and links to most of the content of the sites and the number

of columns has increased. The navigation elements have come to be presented mainly to the left in a table of contents or in the top position as a bar, but are also presented in banners that are mixed with commercial banners to the right. The amount of advertisements has increased, resulting in most online newspapers adding a fifth column to the right for banners. Recently, banners have also been given a prominent position in the middle of the front pages. The news streams have been given more central positions and have grown longer over the years. They are sometimes divided into sections and thereby also function as a navigation item. In Table 10, a snapshot of the online newspaper genre from 2003 (paper 4) is presented. Replicated, variant and progressed refer to the modified cybergenre model presented in paper 4. The sections refer to a column and section grid, where section A and B are visible on the screen in resolution 1280x1024 pixels, whereas one has to scroll to be able to see section C and D. All columns are visible in this resolution.




	REPLICATED	VARIANT	PROGRESSED
Online newspapers	13	49	23
Use of the broadsheet metaphor	Using limited part of the screen space in width and length, 2-3 columns, 50% only use A-B sections, only 4 without left navigation, 6 without photographs	Presenting a lot of content on front page, using 3-4 columns, over 80% use A-D sections, only 3 without left navigation, 13 without photographs	Presenting a lot of content with interactivity using 3-5 columns, almost 90% have long pages using A-D sections, only 3 without left navigation, 5 without photographs
Typical sample			

Table 10. Snapshot of the Swedish online newspaper genre in 2003

The *functionality* of the online newspapers is most evident in the different services provided. Along with improved functionality of the web, the services have become more sophisticated. The evolution has gone from, for example, discussions with contributions via e-mail, to real time conversations in chat rooms. New services include web radio, web TV and online shopping. Many of the newer services are intermediary services, with the online newspaper serving as a link between different parties. Examples of functionality found on the front pages in the sixth study are: interaction, personalization, searching, showing video, playing sound, downloading, e-mailing, broadcasting and login functionality.

The *purpose* of the online newspapers is seen from the publishers' view, which can be divided into their communicative purpose and their design purpose. The publishers' communicative purpose has shifted from being very diverse at the different newspapers into becoming more consistent. In the beginning the purpose was e.g. reaching readers not having access to the print edition, marketing the print edition or publishing larger amount

of material, not fitted in the print editions. There has been a shift towards a common purpose, in 2002, to provide a channel for continuous updates, value-added services to readers and revenue generating services.

The design purpose involved e.g. providing an overview of the entire site (since scrolling the front page could be compared to browsing the print newspaper), enabling navigation support, making particular newspaper sections or services evident, and indicating the value of news. The publishers have succeeded differently with this over the years and between the studied online newspapers. In Table 11 content, form and functionality, i.e. results from study 1 and 5 (1996, 1999, 2002), study 3 (2001) and study 6 (2003), are added as they have appeared during the years, and if not noted upon the features from previous years also appear in more recent years.

	1996	1999	2001	2002	2003
Content (see also functionality)	- All news articles replicated from print edition - No specific genre content	- Mainly news articles and some feature material from print edition but news articles were written especially for the web on occasion - Genre specific content, e.g. news streams and archives - More photographs	- Banners used for navigation within site - News stream divided into section, also functioning as a navigation item - News streams in top/central position - Increased use of time stamps	- More news material written especially for the web - More banners and ads than in previous years - Much more photographs and icons - New genre specific content, e.g. picture wheels for news events	- Increased use of banners for navigation - Mid-page banners added - Genre specific content, e.g. the most-read stream - Much longer news streams
Form	- Home page like layouts - Very little scrolling needed on front pages	- Broadsheet metaphor for layout - Content categorized according to newspaper sections - 3-4 columns - Longer front pages, scrolling needed	- Navigation mainly to the left or in top	- 4-5 columns (separate column for ads) - Even longer front pages, a vast amount of scrolling needed	- Continued growth in the length of pages
Functionality	- Web-tailored article bases, discussions, and reviews	- Chats, polls, search facilities, archives, debate sections, and multimedia services	- Travel guides, job seeking services, weather services, lunch guides, stock market services, and Web radio	- Mail services, galleries, interactivity via Q & A, newsquiz, news agents, news letters, photo galleries, PDF-newspapers, mobile services, online shopping, personalization, net video clips, and WAP- and PDA versions	- Search/ archive functions always in top position - Digital forms, map services, portals (books and CDs), intermediary services (houses, apartments), gambling services, web TV, and interactive web community services

Table 11. Changes in content, form and functionality

Today, online newspapers are characterized by a number of recurring *genre rules* (associating elements of form and purpose) which taken together distinguish them from other digital genres. These rules have evolved over time. In paper 5, design implications for online newspaper front pages built on genre rules are proposed, derived from analyzing publishers design purpose and audience recognition and use. These genre rules are based on identified

features that mediate a specific purpose and use between publisher and audience, described in terms of purpose, form, and positioning. Examples of such rules are:

Purpose/use: provide and get news updates

Form: timestamps, headings, optionally divided in a table of contents

Positioning: top of the page

Purpose/use: indicate/recognize the value of news

Form: headline size, images, and amount of text

Positioning: top position for highest valued news

5.2.3 AUDIENCE

The sub-question concerning the audience is: *How have online newspapers been recognized by the audience and what is their response?* The results concerning this question are derived from the second, third and fourth study. First, the changes in audience demographics are presented. Thereafter audience recognition and response are presented, which I have divided into five areas, i.e. a) reasons, b) habits, c) perceptions, d) preferences, and e) willingness to pay.

Demographics

The demographics of the Swedish audience in 2000 and 2001/2002 had the same gender structure as the population in the U.S. samples of Weir (1999) and Conway (2001), i.e. more men than women reading the online newspaper. The age structure was a bit younger than in the U.S., with about 55 percent under the age of 35, but the educational level were about the same, with about 45 percent having university degrees. The changes from 2000 to 2004 concerned more female readers, and a shift towards more subscribers of the print edition reading the online edition (an increase from 27.1% to 54.3% of the online readers). A summary of the changes in the audience demographics is presented in Table 12.

	2000 (N = 3696)	2001/2002 (N = 3661)	2004 (N = 2748)
Gender	67.3% men and 32.7% women	61.6% men and 38.4% women	56.8 % men and 43.2 % women
Age	7.3% up to 20 years 63.5% 21-40 years 25.4% 41-60 years 3.9% 60+ age	1.1% up to 15 years 22.6% 16-25 years 31% 26-35 years 19% 36-45 years 15.5% 46-55 years 9% 56-65 years 1.9% were in the 66+ age	0.9% up to 15 years 22% 16-25 years 33.1% 26-35 years 19.2% 36-45 years 14.6% 46-55 years 8.8% 56-65 years 1.5% were in the 66+ age
Education	---	10.4% compulsory school 44.5% comprehensive school 45.1% university education	---
Occupation	---	60.5% full time workers 18.9% students 6.5% part time workers 4.3% unemployed 2.2% on sick leave 1.3% on maternal leave 2.6% "other" alternative	58.9% full time workers 21.9% students 6.1% part time workers 4.6% unemployed 2.1% on sick leave 3.8% senior citizens 2.6% "other" alternative
Subscribers	72.9% non-subscribers and 27.1% subscribers	47% non-subscribers and 53% subscribers	45.7% non-subscribers 54.3% subscribers

Table 12. Changes in demographics

Reasons

The number one reason for reading the online newspapers were to be updated (studies 2, 3 and 4) and this has increased over the years. Some regarded the online newspaper as a replacement for the print edition whereas others saw it as a complement. Other reasons for reading the online newspaper were information search and a few respondents were interested in advertisements and discussions. These reasons partly correspond to the findings of Conway (2002, 2004).

Habits

The Swedish audience reads the online newspaper throughout the day, with peaks in the early morning and in the evening. Compared to the U.S. sample of Coats (2002) there is a bit more activity during working hours. The change of reading frequency among the Swedish audience from 2000 to 2001/2002 regards a shift towards more people reading the online newspaper more often. Twice as many people read the online newspaper more than once daily in 2001/2002 compared to in 2000. About 35 percent read the online newspaper at least daily in 2001/2002 compared to 23 percent in the U.S. sample of Conway (2001). In 2004, this figure has grown considerably, 55 percent check the news at least daily in the Swedish sample, compared to 63 percent in the sample of Coats (2004). Access from home and work are equally divided in the Swedish sample, which corresponds to the sample of Coats (2002).

Most users returned to the first page to start from "the beginning" to browse the newspaper contents or to search for something else and almost all of the respondents used the back button of the browser for this purpose. This was found during the usability tests and interviews in the third study and was also confirmed by the respondent at Dagbladet in the fifth study who had used log files to study the audience movements through their site.

Perceptions

Half of the respondents perceived the online newspapers as “newspapers” while the other half did not. The ones that did not perceive it as a newspaper mainly mentioned the lack of physical characteristics, such as the smell, the ink smudging the fingertips, or the crisp fiber rumpling as pages are turned, as reasons. One third of the respondents found the online newspaper easier to read than the print newspaper, while one third had the opposite opinion and one third did not perceive any difference. The structure of the newspaper was perceived as mirroring the print newspaper’s structure by almost half of the respondents in the third study. The layout of the online newspaper was perceived different from the print edition by many respondents, e.g. the absence of pictures and the same amount of text contributed to the general feeling that all articles had the same value, even though there were different opinions of news valuation.

Preferences

After news updates, local news and sports were the preferred material in the online newspapers (studies 2 and 4). Thereafter, the audience preferred domestic news, foreign news, culture and economy in falling order. This order remained the same between the second and fourth study. The change in preferred reading concerns more interests in updated news and foreign news, with a slightly less interest in local news, sports and economy over the years. Many users were positive to the use of sound and moving images over a broadband connection, while many respondents expressed a clear lack of interest in the advertisements in the fourth study.

Willingness to pay

Almost all respondents in the third study had the same trust for the online newspaper as for the print newspaper. The audience was most willing to pay for: searchable archives (47%), deepened news services (31%), coverage service for the advertisements in the newspaper (25%), different intermediary services (22%) and personalized news services (22%) in the complementary questionnaire to paper 3. Only 10.4 percent were willing to pay for more and faster local news which corresponds to the 13.8 percent of the respondents in the fourth study, answering the same question.

5.2.4 THE INTEGRATED VIEW

An integrated view advances our understanding of the different factors influencing the evolution of the online newspapers. The descriptions above have highlighted the challenges of the evolution. Learning about the social, economical and technological factors as well as the communicative purpose of the publishers, together with the audience recognition and response and the genre characteristics provides usable knowledge for further development of the genre. The online newspaper genre evolution is characterized by many different factors changing over time, which are summarized and presented according to the theoretical framework in Figure 5, representing the integrated view.

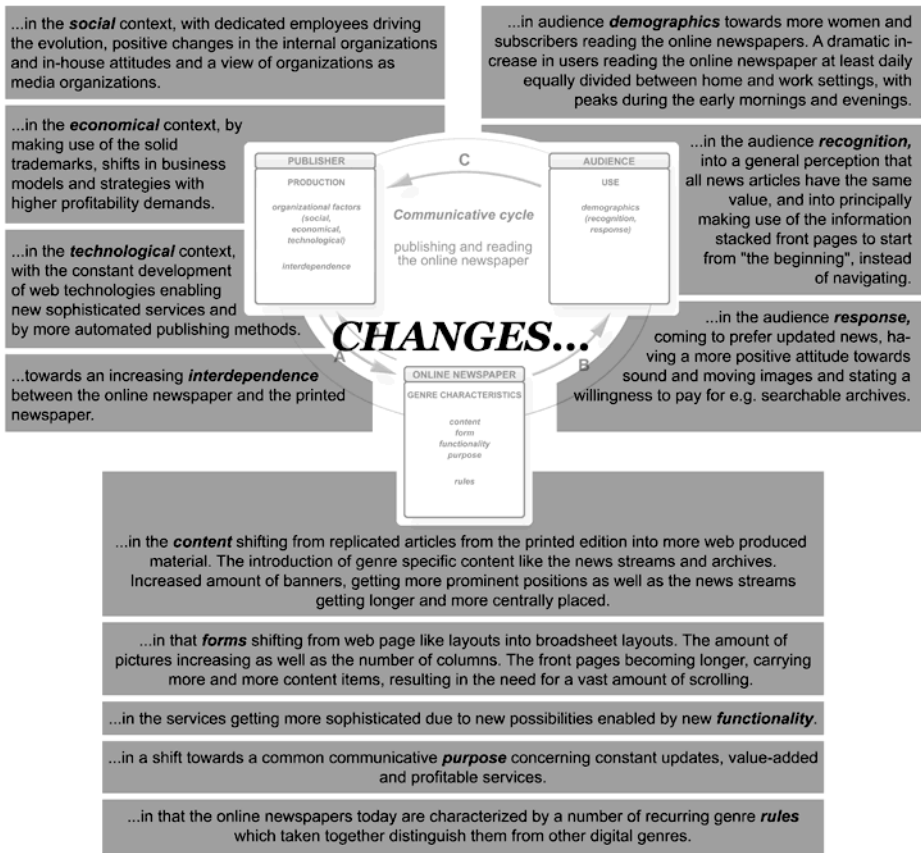


Figure 5. The integrated view

In view of the results above, it can be concluded that functionality is only one factor amongst several others that have influenced the evolution of the online newspaper genre. The technology has certainly enabled the growth of the online newspapers, but social factors such as passionately dedicated employees and internal attitude have also influenced the evolution. Without the financial support from the media organizations the online newspapers would not have survived, and they still do not generate enough revenue to cover the costs involved in publishing the online newspaper. The dotcom frenzy years helped speed up the evolution in that the media organizations invested a lot into their online newspapers in terms of number of employees and freedom to experiment. In recent years, the online newspapers have become a valuable part of the media organizations, essential for reaching the audience with updated news, but with higher demands for profitability, leading to more focused ventures online.

While print newspapers have a long history and have been fine-tuned in form and function over the last centuries resulting in the broadsheet and tabloid formats recognized by readers all over the world, the rapid evolution of online newspapers has led to a diversity in form and function. Today, there is a demand from both academics and practitioners for more knowledge about how to design for consistency within the genre. One way of addressing

this demand is to find ways to increase genre awareness. Genre awareness is a notion of how users and designers reduce the complexity of the web (paper 1). Rather than learning and recognizing each and every site, users categorize sites as belonging to distinctive genres. For designers, genre awareness is a tool to target audiences, and as Crowston and Williams (1997) pointed out, designers may want to draw on already accepted genres that correspond to their design purpose.

To obtain genre awareness, there is a need for recognizing and understanding genre characteristics, and the similarity and diversity of the genre. There are three reasons (paper 5) for why genre awareness is useful:

- a) existing design guidelines are too general to be applicable when designing for a specific genre,
- b) identifying and classifying genre specific elements and characteristics facilitate for designers to create a familiar frame of reference of the genre in use, and
- c) it is important for designers to have an understanding of the audience in order to meet their expectations of the digital genre in the design.

However, there is also a need to communicate this genre awareness among designers within the genre. In paper 1, four presentation elements and five conceptual elements of online newspapers are proposed as a first step towards communicating design and increasing genre awareness. The news stream and archives are examples of new conceptual elements, specific to the online newspaper genre. In order to facilitate design communication further, the genre concept “positioning” and a column and section grid are introduced (paper 4 and 5) to be able to describe the layout of the online newspapers. Identifying genre characteristics, deriving genre rules and studying audience recognition and response also help in increasing genre awareness. Both Agre (1998) and Crowston and Williams (2000) have argued for the importance of knowing who the users are and what their expectations of the genre are. Therefore, eight design recommendations for online newspaper front page design, based on the identified features that mediate a specific purpose and use between publisher and audience, are proposed in paper 5. An example of these recommendations is: *Use the length of the front page to give an overview of the whole site*. This recommendation builds on e.g. the finding that most users returned to the first page to start from “the beginning”.

By learning about the use and preferences of the audience, e.g. by questionnaires, polls or interviews, the publishers may want to make changes to facilitate new use. Considering the results above, the designers may want to focus more on women and subscribers that are part of the fastest growing audience. It is interesting to note that in the beginning the newspaper management was anxious about losing subscribers due to publishing online, i.e. the so-called “cannibalization effect”. The online newspaper has instead helped in increasing the amount of subscribers, due to people finding the online newspaper interesting. With more subscribers than non-subscribers reading the online newspaper, it is essential to focus on material not present in the print edition and to use cross references even more. The newspapers could also consider dayparting for banner sales, i.e. charging more for banners presented during the peaks hours.

6. CONCLUSIONS

In view of the lack of longitudinal studies of the online newspaper evolution, the research contributions of this thesis are:

1. a theoretical framework for understanding the online newspaper evolution
2. modifications to digital genre theory applicable to online newspaper genre research and practice
3. implications for online newspaper design and publishing

First, a theoretical framework for understanding the online newspaper genre evolution is proposed. I have studied this genre evolution by conducting both synchronic and diachronic empirical studies, as well as by presenting an extensive review of previous research. The results partly confirm the findings reported in previous research. However, the thesis also demonstrates the importance of an integrative view on the online newspaper genre evolution. Such a view should integrate design (layout) aspects with publisher and audience ones. In applying an integrative view, the thesis presents a comprehensive perspective on the evolution of online newspapers. The theoretical framework was validated throughout the process. The integrated view has elucidated that technological aspects like increased functionality only partly explain the evolution. Several other factors have also influenced the evolution. Over time, online newspapers have evolved into a specific digital genre, with genre characteristics such as content and forms distinguishing them from other digital genres. However, the online newspaper genre suffers from diversity in layout and function.

Second, as a result of my analysis, I propose some modifications to digital genre theory, applicable to online newspaper genre research and practice. These modifications include:

- a) the concept of genre awareness (paper 1, 4, 5), which was introduced in paper 1. I have argued for the importance of designers obtaining genre awareness, i.e. to gain knowledge about genre characteristics, genre rules and the audience expectations of the genre, when designing for consistency within a genre.
- b) the concept of genre interdependence (paper 6). I have described increasing genre interdependence between the online newspaper and the print newspaper not predicted in the literature. The two genres are now interwoven in a way that is not easily resolved. With the online audience demographics changing into more subscribers of the print newspaper than non-subscribers, this interdependence could, for good reasons, be developed even further.
- c) a framework for identifying genre characteristics (paper 4). This framework also provides a means for determining the stages of evolution for the online newspaper genre, and the cybergenre model by Shepherd and Watters (1998) has been elaborated by adding a leaf node. The concept “positioning” is introduced (paper 4, 5) in order to be able to communicate layout aspects, and a column and section grid is proposed to operationalize positioning.

Third, in addition to the theoretical contributions, this research also has implications for online newspaper design and publishing. The thesis presents:

- a) a business model for online newspapers (paper 3), based on user trust for their solid trademarks; the central role of archives, personalized, and deep news content; and their intermediary role.
- b) a longitudinal mapping of the opinions, habits and preferences of the audience (paper 2, 3, 5). By constant feedback to publishers, I have provided them with knowledge, especially from the third study, about their audiences, leading to particular design changes in the online newspaper layouts. The insights about general trends (e.g., more female and subscribing readers) and reading habits (e.g., readers constantly returning to the front page), are useful to other online newspapers too.
- c) a mapping of the Swedish online newspaper genre (paper 4). The Swedish population of 85 online newspapers have been studied and categorized according to stages of evolution. Studying the most advanced online newspapers highlights current design solutions, and increases genre awareness when communicated among designers.
- d) design implications (paper 5). These implications contribute to designing for consistency within the genre and are applicable to online newspapers in general.

This research mainly concerns online newspapers in Sweden, but the practical implications could be useful for online newspapers in other countries as well. Only one specific digital genre is studied, but the theoretical implications concerning digital genre theory could also be applicable to other digital genres.

The knowledge gained by this research also serves as a basis for further research on newspapers in digital media. For instance, the e-paper technology is developed rapidly and might eventually replace the printed newspaper. This transition promises to drastically decrease production and distribution costs but it also involves serious challenges regarding, e.g., layout and business model aspects. A useful direction for future research can therefore involve the integration of the genre concept from the IS field with the design pattern concept from the Human Computer Interaction (HCI) field to facilitate communication among designers. It would also be interesting to study newspapers moving into yet another medium and to compare it with the online newspaper genre evolution.

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EVOLUTION OF THE WEB NEWS GENRE

THE SLOW MOVE BEYOND THE PRINT METAPHOR

Lars Bo Eriksen

*Intermedia
Aalborg University
Denmark
lbe@intermedia.auc.dk*

Carina Ihlström

*Informatics
Halmstad University, Gothenburg University
Sweden
carina.ihlstrom@ide.hh.se*

ABSTRACT

Based on repetitive visits to three Scandinavian newspaper organizations, this paper presents trajectories of evolution for three Scandinavian news sites from 1996 to 1999. Genre awareness is an explanation of how users and designers create and maintain web site awareness beyond the individual site. In the paper genre is elaborated in terms of content, form and rationale. From the data it is concluded that web news by 1999 possess characteristics that makes it distinctive from print media and web news sites from 1996. The immediacy of the web affords the provision of news in a continuous pattern similar to "live" reporting. Primary content of web news is hard news that affords users to visit news sites throughout the day in order to stay informed. In comparison to print media, the web genre has introduced composites to support the users in overview, navigation and browsing of the content of a news site.

1. INTRODUCTION

With the web the news industry has transcended to the digital age. At the end of the millennium more than 2000 sites on the web carries content elements similar to print and broadcast news media (Editor & Publisher, 1999). Not only are the organizations present on the web, so is the audience. Although anecdotal the evidence available shows that news reading is ranked among the most common uses of Internet. In this new market newspaper organizations and their users are shaping a new genre. From a longitudinal study of three news organizations and their services, this paper presents a view of the establishment and evolution of web news genre from 1996 to 1999.

In this paper the concept of genre is applied to describe news dissemination on the web. Genre awareness is an explanation of how users and designers reduce the complexity of the World Wide Web. Rather than learning and recognizing each and every site users visit, they categorize and recognize sites as belonging to distinctive genres. A genre is an abstraction over a class of recurrent communicative events. For web site designers, genre awareness is a tool to target audiences. When establishing a new site that serves a purpose similar to existing sites, the genre characteristics are copied and refined to reflect resemblance to an existing genre. One such new genre that has emerged in less than five years is the news sites of the web. Genre theory has mainly been elaborated within the field of discourse analysis of textual units (e.g. Berkenkotter & Huckin, 1995; Paltridge, 1997; Swales, 1990), but was introduced to IS research by Yates and Orlikowski around 1990 (Orlikowski & Yates, 1994; Yates & Orlikowski, 1992), and has since then seen use in other IS contexts including web site analysis (e.g. Roberts, 1998; Watters & Shepherd, 1997b) and digital documents (Yates & Sumner, 1997).

2. BACKGROUND

A genre is an abstraction over a class of recurrent communicative events. In their social life people establish a genre repertoire, knowledge of a set of different recurring communicative situations that serves specific purposes (Berkenkotter & Huckin, 1995; Orlikowski & Yates, 1994). When subjected to communication, specific genre features are recognized a priori to and in the process of communication, thereby reducing the cognitive need for information and interpretation. Having experienced and understood the scientific paper genre, we know that a one-page pamphlet on pink paper is not a scientific paper. This conclusion is drawn a priori to reading the actual content of the pamphlet, because the recognizable features of the pamphlet do not match our prototypical instance of the genre.

One particular genre is the news genre. In print and broadcast media, news is a central element in people's everyday interaction and use of media. Newspapers and TV news broadcasts can be perceived as sub genres of the news genre (Bell, 1991). The clear difference between newspapers and TV broadcast news illustrates how much the choice of medium shapes a genre. Although providing information on the same events, TV news broadcast and newspapers are not very alike. Multimedia, interactivity, immediacy and other media characteristics of web media suggest that web news will be different from broadcast and print news. The news industry is adapting itself to digital news provision by using the web for news dissemination. What new ways of news dissemination that will emerge from the

shift to digital media is an area for investigation (c.f. Brill, 1997; Eriksen & Sørgaard, 1996; Lapham, 1995; Martin, 1998; McMillan, 1998; Morin, 1998; Neuberger *et al.*, 1998) and concern (Oppenheimer, 1996), this concern is as much about how digital media will influence existing media (Katz, 1996; Oppenheimer, 1996).

Genre theory has not consolidated itself as one universal agreed upon theory. Rather there are competing definitions based on differences in research area, media and case evidence. The questions of whether or not to develop closed and open taxonomies, whether communication is genre or not, how to make genre explicit and whether genre is more than an analytical tool is a matter of debate beyond this paper (for discussions of genre definition refer to Berkenkotter & Huckin, 1995; Miller, 1984; Paltridge, 1997; Swales, 1990). Despite the competing definitions, the concept of genre has proven its value as an analytical tool in IS research on topics spanning from organizational communication to web enabled communication (Roberts, 1998; Shepherd & Watters, 1998; Yates & Orlikowski, 1992; Yates & Sumner, 1997; Watters & Shepherd, 1997a; Watters & Shepherd, 1997b). Further the concept of genre has been advocated as a potential tool for structuring design of new IT appliances (Brown & Duguid, 1996).

However the uncertainty as to what a genre is, there seems to be some agreed upon features of genre among the different uses of the concept. Genre by definition is situated. Since a genre represents a recurring communicative event, this recurring event occurs in specific situations, locations and among the members of the owning community (e.g. Berkenkotter & Huckin, 1995). Although often made implicit in the use of genre (e.g. Yates & Orlikowski, 1992), any genre reflects a communicative purpose, a rationale or reason for enacting the communication. Due to the communicative purpose of a genre, certain themes or topics limit communication within a genre, what is referred to as the content of a genre (e.g. Yates & Orlikowski, 1992). Finally there is the aspect of form, that at different levels deals with the structuring of the communication. Yates and Orlikowski suggest at least the three form features of structure, jargon and media. Finally genres are dynamic over time, based on Giddens' structuration theory it can be argued that the enactment of communication within genres shapes the actions of humans, and vice versa the actions of humans shape the shared understanding of genres (c.f. Berkenkotter & Huckin, 1995). Over time genres are altered both deliberately and by instance in response to conditions in the situation and community using the genre (Berkenkotter & Huckin, 1995).

In this paper we will focus our attention to the design space of purpose, content and form for the analysis of news sites on the web. The goal of the paper is to contribute with knowledge on the two interrelated questions:

- *What genre features can be identified as typical for web news sites?*
- *In terms of these features, how have web news sites evolved from 1996 to 1999?*

Section 3 presents the research method and section 4 presents three news sites evolution over a period of three years. In section 5 two sets of design elements are identified and elaborated. Section 6 discusses the evolution of web news genre. Section 7 concludes the research.

3. RESEARCH METHOD

The research presented in this paper is based on previous research by one of the authors (Eriksen & Sørsgaard, 1996; Eriksen, 1997). The research is based on repetitive visits to the same three news organizations with a time span of exactly three years. In nature the research is qualitatively based on interviews, unobtrusive measurements and observation.

The organizations chosen for the study were purposefully selected: All were early starters with Internet. The studies were carried out in three different countries: Denmark, Sweden and Norway. Within each organization a chain sampling strategy was used to identify people with knowledge and skills of interest for the study. The unit of analysis was individuals. Some of these were interviewed (tape recorded and transcribed) while others were overtly observed in their everyday work. Parts of the interviews could not be taped, since we also talked about the topics when the interviewees showed us around in the newspaper.

The interviews carried out were all based on an interview guide approach (Patton, 1990). The interview guide was used to ensure that we got the information we needed in the interviews, but it did not determine the sequence or structure of the interview. Our aim was to allow new topics of interest to emerge as the interviews went on. A wide range of questions were discussed covering design aspects, user interaction, current status related to the future expectations and so on. The results reported, i.e. the case descriptions and the similarities and differences between the papers, have been derived in a bottom up approach.

We also studied the Web services of the three papers. As a research method this can most appropriately be described as unobtrusive measures (Patton, 1990), although in principle our access to the Web services could be logged and hence was not purely unobtrusive.

The second study of the news organizations and their services was done in a pattern similar to the first visit. The choice of interviewee was predetermined by the first visit. Whenever possible, the same people were interviewed. A priori to each interview, the case description from 1996 was used to structure the second interview. Case protocols for the 1999 study was created as extensions to the 1996 protocols.

The object of our study is limited to the organizations and their services. For the sake of limiting the scope of the research, it was decided that the genre should be studied from the perspective of the communicating organizations. This limits the understanding of the genre to the view of the individuals in the organizations. Future investigation of the genre should include the audience of the sites to fully capture the audience's perception of the news genre on the web.

4. CASES

This section presents the three cases and their evolution from 1996 to 1999. Within the analytical units of service and rationale the case descriptions aims to elaborate the development of the organizations and their services over the three-year period.

4.1 DAGBLADET (WWW.DAGBLADET.NO)

Dagbladet is published in Oslo, the Norwegian capital and is the third largest paper in Norway with an average circulation of 206,000. It is a tabloid paper, with very few subscribers but with many copies sold over counters in kiosks, cafés and shops. The Internet service was launched on 8th of March 1995 making it the first such service in Norway motivated by the paper's slogan "Alltid foran" (always "in front"). It is in intense competition with two other newspapers, Verdens Gang - VG, which is the largest paper in Norway with a circulation of 364,000, and Aftenposten (a morning paper with a circulation of 288,000).

4.1.1 SERVICE

Dagbladet's service on the World Wide Web in 1996 had an opening page pretty much like the newspaper itself. It appeared well designed, with layout and colors similar to the newspaper. "Dagbladet :på nettet" contained a selection of the day's articles, generally with the same textual content, but sometimes with shorter headings. Previous articles in some categories (editorials, theatre and film reviews, etc.) were available. There was a considerable amount of non-news material, and there were even facilities whereby readers could enter into discussion groups, give feedback to the editors, place ads in the electronic paper (the service was free), etc. All the interactive services required the user to register with a username and password chosen at the user's discretion. To register, users also answered a few questions regarding sex, age, profession and educational background. "Dagbladet : på nettet" also contained some commercial advertisements. These did not cover the costs of the service, however. "Dagbladet :på nettet" being the oldest of the services studied was also the most diversified service.

The users were prompted with a variety of different choices when entering the Dagbladet web service. With regard to layout and content in 1996 the service was aimed at the casual male user aged around 30. The profile has changed in 1999 towards young, urban users. *"Young in the sense of up to 40, and urban as a state of mind rather than a physical placement. A modern person who wants both chronicles and Pamela Anderson"*. The interface, which had been redesigned several times, was complex and difficult to overview already in 1996, making it a challenge for the user. It was not possible to get an overview of the service and its content from the pages. The service had turned into an entertainment mall, where the user through interaction could spend time with or without any specific purpose.

Competition has toughened during the years and "Dagbladet :på nettet" is trying to find its own niche. At present there are two major ongoing projects, literature and music, with the emphasis on depth. In the literature section, for example, it is possible to review a book then buy it. These projects are connected to the culture section and have as much traffic as the news section. It is now considered essential to publish updated news for the users and to provide contexts where the news is put in perspective.

A bureau was involved in the design in 1996 and the concept is still pretty much the same, with a lot of in-house technological development. The aim has been to be the *"readers' best friend"* and *"to give the users what they want in the shortest possible time and as simple as possible"*. Another slogan is *"read more, click less"*. A lot of thought has been put into the structure of the web site. It has been crucial not to maximize traffic but to maximize usability. There are 3 ways of getting to the information needed. The first is the classical sections with news, culture and sport produced by journalists. The second is by the "Opdatert" section, which provides the latest news in chronological order. The third is by thematic use.

In 1996 were seven people involved in the service, in 1999 this number has increased to twenty-six.

The screenshot shows the layout of the Dagbladet website in May 1999. At the top left is the logo "Dagbladet" with the tagline "på nettet". To the right is a photo of Jan Kjørstad with the text "Jan Kjørstad på nettet" and "Les svarene!". Below the logo are navigation links: "nyheter", "på din side", "kultur", "sport", "torg", and "oppdatert".

The main content area is divided into several sections:

- Left sidebar:** Contains advertisements for "job shop" (www.jobshop.no), "Haugen Bok", "bilguiden", "Vinn cruise!", and "NYHETER DAGBOK FRA BEOGRAD". Below these are links for "krim", "politikk", "utenriks", "dagboka", "oppdatert", "e-postavis", and "palmavisa".
- Top middle:** "Riksrettssaken startet i dag:" followed by a large headline "Kan bli avsatt" with a photo of Boris Yeltsin. The text reads: "Boris Jeltsins dager som russisk president kan være talte. I dag tidlig startet riksrettssaken mot ham. Prosessen kan føre til at Jeltsin blir avsatt." Links: "hele saken", "nyheter".
- Top right:** "SISTE 5 13.5 9.44" followed by a list of links: "250 soldater forlater Kosovo", "09.20 :nyheter", "Bank streik i vertne", "09.18 :nyheter", "Kan bli avsatt", "09.17 :nyheter", "Riksrettssaken mot Jeltsin åpnet", "08.32 :nyheter", "Kan bli nevnt av", "soveromslus", "07.57 :pds", "hele nyhetsdøgnet".
- Middle:** A banner with a photo of a protest sign that says "ISKREM DOBBLE PRIS!" and the text "Er det bare iskremselgere som slipper billig unna i sommer?".
- Bottom middle:** "Vil dopteste skoleelever" with a photo of a woman. Text: "SV vil dopteste ungdomsskoleelever. Elevene skal avlegge urinprøver for å kontrollere om de er narkotika-misbrukere. Elever Dagbladet på nettet har snakket med synes det er en god idé." Link: "hele saken", "nyheter".
- Bottom left:** "Vil forsikre penis" with a photo of a man. Text: "En norsk pornoskuespiller ønsker å forsikre sine edleste deler. Mannen begrunner det med at arbeidsredskapet er under konstant press." Link: "hele saken", "nyheter".
- Bottom right:** "Sjokkert Farrow" with a photo of Mia Farrow. Text: "Mia Farrow er sjokkert over at Woody Allen (63) har fått barn med adoptivdatteren Soon Yi-Previn (28)." Link: "hele saken", "kultur".
- Bottom center:** "- Rosenborg hadde flaks" with a photo of a man. Text: "Drillo mener 0-5-seieren til Rosenborg i går var kombinert med flaks. - Rosenborg er dyktigst i Norge i overtall, men når de scorer fem ganger på ni sjanser har de også flaks, sier Drillo." Link: "hele saken", "sport".
- Bottom right (below Farrow):** "Gravid og vakker" with a photo of a woman. Text: "Supermodell Cindy".
- Bottom left (below NYHETER):** "SPORT" section with "VM-guiden på nettet" and links for "fotball", "tippeligaen", "engelsk liga", "mitt dremmelag", "håndball", "ski".
- Bottom left (below SPORT):** "KULTUR" section with "film".

Figure 1. Dagbladet, May 1999. (Notice the presentation according to time in the upper right corner.)

4.1.2 RATIONALES

In 1996, the purpose of the Internet edition of Dagbladet had become to advertise for the printed newspaper. Charging money from the users was not considered an option; too many other newspapers were on the market offering free services similar to that of Dagbladet. The printed paper, of which most issues are read during the lunch break, have few regular subscribers and is read mainly for its entertainment value. The aim was to reflect this in the service.

The aim for 1999 is to become one of the five largest net cities in Norway. In order to accomplish this they are developing both the editorial and commercial sections, purpose being to both broaden and deepen the product. The classic "Net-avis", in competition with other online papers, is trying to broaden while at the same time deepen its product by focusing on literature and music. They want their users to think of them as being updated and experimental.

These days the printed paper often refers to the Internet edition for further reading. A lot of material does not fit into the printed paper but can be presented on-line. "Dagbladet ;på nettet" has a unwritten goal to be on every "start site" gateway in Norway, such as Scandinavia On-line, Tele 2 and so on. Sometimes collaboration is achieved and sometimes a lot of money is spent in order to accomplish this. Earning money by means other than advertising has not been a topic of discussion, since others give the news away for free, so will Dagbladet.

There is a wish to transform Dagbladet from a news house to a media house. With regard to the future personalization (getting your own configured, on-line newspaper), community and portal thinking are very much on the agenda.

DAGBLADET	1996	1999
Age of service when studied	1 year	4 years
Estimated accesses a day	5.000 people/day	28.000 people/day
Main digital product	Electronic copies of a few articles from printed newspaper and games, discussions & reviews	Electronic copy of articles, updated news, profound literature and music sections, reviews, games & discussions
Rationale for design	Advertise the printed edition	Becoming one of the five largest net cities in Norway

Table 1. Characteristics of the Dagbladet service

4.2 GÖTEBORGS-POSTEN (WWW.GP.SE)

Göteborgs-Posten (GP) is a regional newspaper covering the city of Gothenburg and its local region. GP has a circulation of 270,000 copies a day and the journalistic strength of the paper lies in its extensive coverage of local events and sports. The paper is what journalists refer to as a regional market maker, an information source extensively covering the region.

In August 1995, Gothenburg played host to the World Athletics Championships. In order to provide information for participants and the public, an intensive use of WWW as a channel of information on the games and the city was established. One of the organizations involved in this was Göteborgs-Posten. Using the WWW to distribute news as well as information seemed obvious, and by the 14th of August GP Direkt was in existence.

4.2.1 SERVICE

The "GP Direkt" service offered selected articles from the printed newspaper in 1996. These were kept on the web server for a week and then discarded. As well as the mirror of the printed paper a variety of information was also available. Lists of film and CD reviews could be accessed, which were regularly updated and formed an ever-growing archive of reviews. As part of an experiment aimed at schools, a series of "fact databases" were available. These "databases" cover events such as the war in ex-Yugoslavia etc. The material in the databases consisted mainly of articles from "GP Direkt", but in order to make a consistent source of information, additional documents and text have been added. "GP Direkt" is free of charge.

Since 1996 the product has diversified with additional services such as travel, employment and property ads, and a number of sections for young people with chat, graffiti and so on. There is an ongoing update of news with in-house journalists reporting on sporadic news, especially for the web. The Internet paper is saved and is available to the users for one month. The web site does have some inconsistencies but these are due to redesigning and lack of time for maintenance of the "old" services. A special list has been compiled of things to be done now, things to be done soon and things that can be done sometime in the future. The latest redesign involved the removal of java-scripts and frames with the front page being kept "cleaner" in order to speed up the access. The idea of the structure is a "smorgasbord", where one can reach everywhere from the front page within two clicks.

In 1996 five people were involved with the service and in 1999 there are still five people, the only thing that has changed is that two of them has gone from part-time to full-time.

4.2.2 RATIONALES

At Göteborgs-Posten the Chief Editor in 1996 was very careful about expressing his thoughts on what the Internet edition would evolve into. The main argument for being on the Internet in this organization was to experiment with the technology and learn by using it. With regard to the product, the aim was to use the Internet for products that were either not fit for the printed edition or too expensive to produce by using traditional paper. It was for this reason that the "fact bases" had been developed.



Figure 2. Göteborgs-Posten, March 1996

The screenshot shows the Göteborgs-Posten website from May 14, 1999. The layout is structured to resemble a printed newspaper. At the top, there is a header with the logo 'STC' and the website address 'www.stcab.se'. Below this is the main title 'Göteborgs-Posten' and the website address 'www.gp.se'. The page is divided into several sections:

- Top Left:** A news snippet about New Zealand's millennium celebration.
- Top Center:** A navigation bar with links for 'Annonsera | Service | Bostad | Resor | Arbetsplatsen | Köp & Sälj | Nyheter'.
- Top Right:** A date and time indicator: 'Uppdaterad: 14.52' and 'Fredagen den 14 maj 1999'.
- Left Column:** A vertical menu with categories like 'Göteborg', 'Det händer i dag', 'Inrikes', 'Utrikes', 'Sport', 'Serier', 'Resultat', 'Ekonomi', 'Politik', 'Kultur', 'Ledare', and 'Debatt'. Below this are sections for 'Fondstar', 'Lokaltidningar', and 'Guider'.
- Center Column:** A main article titled 'Uppgifter om civila offer i Natobombning' with a sub-headline 'Serbiska källor uppger att minst 50 dödade'. It includes a photo of a person in a boat and a caption 'Bild: SOFIA ABEL'. Below the photo is another article snippet: 'GÖTEBORG: Experiment på rättor stoppas'.
- Right Column:** A 'Service' section with links for 'LÄSVÄRDET', 'PRENUMERATIONER', 'SÖK ANNONSER', 'ANNONSSERA', and 'MED MERA'. Below this are sections for 'GP GOLFFEN - STARTTIDER', 'GP Bostad', and 'Arbetsplatsen'.
- Bottom Left:** A 'Sök' section with options for 'Attityd', 'Graffiti', and 'Chat'. Below it is a 'Navigera' section with search options like 'Sök nyheter', 'Multisök', 'Vägvisaren', 'Textlänkar', and 'Hjälp'.
- Bottom Center:** An 'Information' section with links to 'Arkiv', 'Mediearkivet', 'GP Bilder', 'Nyhetsarkivet', 'Om GP', and 'Kontakta GP'. It also lists 'EU-valet 1999', 'GP:s specialsidor om kriget i Jugoslavien', 'Allt om fonder: GP Fondstar', 'GP:s miljöspecial 1999', and 'Världens gäng'.
- Bottom Right:** A 'SÖK JOBB:' section with links for 'I västsverige', 'I hela riket', and 'I hela världen'.

Figure 3. Göteborgs-Posten, May 1999 (Notice the News section which is structured according to the parts of the printed newspaper)

In 1999 the purpose of the service still is to experiment with technology, as well as to be ahead of evolution and find a way for the printed paper to become a fast media. The aim today is to publish news faster than the printed paper. A printed "vision" exists which promote www.gp.se as the first choice on the Internet for the citizens of Gothenburg, in the sense that www.gp.se is in the forefront of news in the local area and the leading forum for debate. It is also the most dominant marketplace on the Internet in west Sweden.

It is not feasible to charge the users as long as there are other on-line sites that provide news for free. But there is an ongoing discussion about how to make money out of the services. The future involves redesign of the "old" service.

GP	1996	1999
Age of service when studied	7 months	3 years 7 months
Estimated accesses a day	3.000 people/day	27.000 people/day
Main digital product	Electronic copies of selected articles from printed newspaper and web-tailored article bases	Updated news, electronic copies of selected articles and web-tailored article bases, several marketing services
Rationale for design	Experiment with the technology	Be ahead of evolution, find a way for the printed paper to become a fast media and experiment with the technology

Table 2. Characteristics of the Göteborgs-Posten service

4.3 JYLLANDS-POSTEN (WWW.JP.DK)

Jyllands-Posten (JP) has a current circulation of 178.000 copies and is thereby the largest newspaper in print in Denmark. In comparison with other Danish newspapers Jyllands-Posten has the largest journalistic staff in Denmark plus 120 correspondents around the world. The focus on journalistic competence has meant less attention being paid to technical aspects of newspaper production. Despite its name referring to a specific part of the country, the paper is distributed and read nationwide.

Jyllands-Posten appeared on the Internet in the summer of 1995. Initially the motivation for going on the net was the establishment of a “computer club”, a service that provided Internet access and software to subscribers of the printed newspaper. This evolved into a service during the autumn of ’95 providing news in brief. In November 1995 it was decided that Jyllands-Posten should have a substantial service on the Internet and on the 15th of January 1996 “Internetavisen Jyllands-Posten” was launched.

4.3.1 SERVICE

In 1996 “Internetavisen Jyllands-Posten” consisted mainly of replicated articles from the printed newspaper. There was little use of pictures in connection with the articles. A search facility had enabled registered users to search all material published in the Internet edition since it was established. As well as these facilities, the “JP Computer Club” offered downloadable software. Registered users had full access to all articles, and non-registered users had access to a few news articles without any depth. The fee for using the service was 1,800 DKK a year, a price similar to the subscription rate of the printed newspaper.

In November 1998 a major redesign was carried out and the Internet paper, “Internetavisen” was given its own profile and separated from the “mirror” of the printed paper, a section now called “Morgenavisen”. The aim of Internetavisen is to bridge the gap between morning paper to morning paper, i.e. publish updated news from 8 a.m. to midnight. Morgenavisen is launched on the Internet at 1 a.m. every day and is seen as a peripheral product compared to Internetavisen. There is an expressed wish to have the articles in an online archive and while doing that the opinion is that one could just as well publish the paper, Morgenavisen, because the work has already been done. Other facilities are “IT & Computer”, a section with news relating to that particular area with links to “JP Computer Club” and articles

regarding computer games, and “Job”, a section with work related advertisements and articles. The archive enables registered users to search for articles from up to three months back. A special subscription is needed for further search.

In 1996 the layout and design of the service reflected the desire to duplicate the printed newspaper. The Internet edition was separated into sections and within each section a number of articles were available through an overview bar that was designed with the aim of allowing flexible navigation through the service. In connection with the redesign in 1998, when the most important issue was to separate Internetavisen from Morgenavisen, efforts were made to make the site more logically structured than before. But there are no fundamental differences concerning navigation. The printed paper has always served as a metaphor, and the aim has been to keep the design pure and fast.

Figure 4. Jyllands-Posten, May 1999 (Notice the organization according to time to the right)

In 1996 three persons were involved in the service on part-time basis, in 1999 the service involves ten full-time places.

4.3.2 RATIONALES

Two distinct rationales existed in 1996 at Jyllands-Posten for having an Internet service. The first and initiating rationale was that of experimenting with the technology. There was a feeling of a need to be up-to-date with the new technology. A combination of future

fear and fascination of the technology led to the establishment of the WWW service, as expressed here:

“There is no doubt whatsoever that it is important for a newspaper to be on the Internet. Because it will have an impact, in one way or the other... without anyone knowing exactly how it will make a difference, therefore you have to be [on the Internet]”
P.N., Jyllands-Posten (1996)

Jyllands-Posten had a clearly stated short-term goal of earning money on the service already in 1996. Although experience shows that this can lead to a dramatic drop in the number of consumers, two arguments were stated in favor of earning money on the service. Jyllands-Posten specializes in news concerning Denmark; no other Web service in the world offers the same coverage of events and sports in Denmark. Furthermore, by being written in Danish it is aimed at people who prefer this language, thereby making it specialized with regard language. The assertion was, if not economically sound from the beginning, the service will ever be.

Three years later the rationale is different. Publishing updated news is today the overall purpose of the service. The competition of Danish newspapers on the Internet has increased since 1996 with none of them charging anything for their services. By making more content available for non-registered users when redesigning in 1998, the traffic has doubled. The idea behind this new approach is that all news is free of charge and the background information is reserved to the newspaper’s subscribers (registered users). There still exists a desire to earn money out of the service, and the competence of the journalistic staff is the outstanding argument for why it has to be so.

With regard to the future, more interactivity with the users is wanted but it has to be on a journalistic platform. They are not tempted to provide chat-rooms and such like just for entertainment.

JP	1996	1999
Age of service when studied	3 months	3 years and 2 months
Estimated accesses a day	4.000 people/day	27.000 people/day
Main digital product	Electronic copies of articles from printed newspaper	Updated news from 8 a.m. to midnight as well as an electronic copy of the newspaper
Rationale for design	Distribution to people not having access to printed edition	To publish updated news

Table 3. Characteristics of the Jyllands-Posten service

5. DESIGN ELEMENTS IN WEB NEWS

The study of the sites reveals an emerging design language that we believe is particular to news sites. In the dissemination of the core content of news sites, relatively few presentation elements are used to convey overview and detail to users. We have identified four core presentation units in news site design. In terms of a conceptual model of news sites we have identified five different conceptual elements of the news sites studied. These conceptual and presentation elements are presented in this section and proposed as a part of the vocabulary of news site designers.

Four presentation elements have been identified across the cases. An *article* is a presentation element that carries the content of a single story. In terms of content and form the article is comparable to articles from printed newspapers. Secondly we can identify two types of *composites*, presentation units that aggregates the content of many articles into a single element. We propose the distinction between “hard” and “soft” composites as a mean to describe how much space is allocated for presentation of each article within the composite. In practice this distinction occurs on a continuum, the “harder” a composite, the less space spent on the individual article, but at the same time, the more articles represented within a composite. The fourth presentation element is the *structure* element responsible for presenting navigational opportunities between organizational elements of a news site.

ELEMENT	FUNCTION
Hard Composite	To present many articles within limited space.
Soft Composite	To present a few articles within limited space
Article	To present a single article
Structure	To present site navigation

Table 4. The four presentation elements of the news sites

Five conceptual elements of organization have also been identified. These conceptual elements can be perceived as particular “views” on the entire pool of articles of a news site. The conceptual elements carry both resemblance and differences from print media.

Headlines is the presentation of stories that are valued as most interesting, these are presented as the opening (or home-) page of web news sites. There is a clear resemblance to the front page of a printed newspaper. Headlines is “hard news”, recently occurred events which value is of current interest to a large audience. Headlines are typically presented in the form of a soft composite. As for printed newspapers, the article that is valued as most important occupies the most space and is placed strategically within the composite to attract the interest of the reader.

As a novelty to news dissemination the web has allowed for presentation of what we denote as a *news stream*, the ordering of articles on a temporal basis. The main criterion for arranging articles is the time stamp of the article. Neither broadcast nor print media applies this form of organization to the extent of web news media. In the case of the sites studied a hard composite is used for the presentation of articles. This may stem from the fact that the time of publication is the key attribute used to organize articles.

Two types of thematic news sections have been identified. *Thematic hard news* are sections that only contain articles related to specific themes or topics. Similar to printed newspapers specific themes like sport, politics and finance are attributed their own “section”. The sections serve as filters on the entire pool of articles, allowing users only to see news that falls within the category. *Thematic soft news* are sections that contains articles which content is not considered hard news, e.g. the content and relevance of an article is not particular time sensitive. For a discussion of the difficulty in defining clear lines between soft and hard news see Bell (1991). In comparison to print media, it appears that soft news and hard news is less intertwined.

Finally the concept of an *archive* has become a part of a news site. This construct allows users to search or browse historical content. An interesting observation on the archives of

Jyllands-Posten is that users only can access individual articles, not the context in which they were originally presented. Only the articles are stored over time; not the composites or sections in which articles were originally presented. The elements of organization can be depicted as in Table 4.

ELEMENT	FUNCTION
Headlines	To present stories of highest general interest.
News Stream	To present recent stories ordered by publishing time.
Hard News sections	To presents recent stories related to specific theme.
Soft News sections	To present stories related to specific theme.
Archive	To allow access to historical articles.

Table 5. The five conceptual elements of the news sites

Of the five elements of the web sites two are non-existent in traditional print media. The archive and the news stream have emerged as new defining characteristics of web news media. The headlines and hard news topical sections show strong resemblance to the front page and sections of printed newspapers. However the persistence of web media have lead to the emergence of soft news sections, that carries the content of the archive, but present it in a form similar to hard news sections.

Figure 4 illustrates, from left to right, the use of structure, soft composite and hard composite elements into a page presentation. The page depicted in Figure 4 is the opening page of Jyllands-Postens web site. At the conceptual level the page integrates the headlines (center) and the news stream (right) presentation. Dagbladet (Figure 1) uses a similar mix of headlines and news stream as their opening page. With structure situated on the left, news stream located in the upper right corner, and the remaining part of the page dedicated to soft composite headlines.

The presentation and conceptual elements of organization have emerged from the cases as a vocabulary to describe the basic design elements that defines the web news genre. They are not argued as a complete set of form elements, but as an empirically founded observation on immediate observable characteristics of the web news genre. In the next section these design elements will be applied in a discussion of the evolution of the web news genre.

6. WEB NEWS GENRE EVOLUTION

Originally conceived as an “electronic newspaper”, the web news sites studied have evolved further away from this metaphor. The longitudinal data on rationales and designs, and the conceptual and presentation elements allows us to describe this evolution.

Web news sites are evolving towards a “live” scheme of news reporting. The conceptual structure and presentation elements remain relatively fixed, while news stories in the form of articles “float” through the site. Whereas print news media operates with a discrete cycle of 24 hours, web news sites are operating on a continuous basis. News is reported as it occurs, the key constraint being the speed and efficiency required putting a story online. This observation on the use of the web as a “fluid” media (c.f. Levy, 1994), also explains

why hard news is the key content of web news sites. Deep reflection and stories not related to current events are not part of the news stream. Although a potential scenario, this was not favored as a future scenario in 1996. The argument put forward then was, that print media was the primary source of output and that web should not cannibalize on print media by publishing news prior to the printed newspaper. Increased competition and a more relaxed attitude towards web media means that this concern is less by 1999.

Over time article headers are presented to users in changing contexts. Article headers float through the conceptual structure over time. An article on a revolutionary chip design may be present in the news stream for 6 hours, while at the same time spending 12 hours in the headlines, and 36 hours in a hard news section. From there it may migrate to the IT soft section as background information for half a year, where after it is replaced by a new story on a revolutionary chip design. All of this time simultaneously being accessible through the archive.

Articles bodies in the web media are fluid over time. As new information becomes available to journalist, they re-edit articles to reflect the gained knowledge. From the perspective of targeting audiences, stories are adapted as they move from the hard news sections to the soft news sections. As a story move from being a novelty to a historical fact, the article is re-edited to reflect the anticipated use of the story in a soft news section.

7. CONCLUSION

The web news sites studied has evolved along two trajectories: A hard news trajectory and soft news trajectory. The conceptual elements of *news stream*, *headlines* and *theme sections* are current design elements used to create overviews on hard news. At the same time web news sites offers *archives* and *theme sections on soft news*. That is persistent content which use value is only vaguely related to current events. In print media these types of content has been intertwined due to the limitations of print media. On the web, the distinction between hard and soft news is more apparent.

Headlines and theme sections are very similar to the front page and theme sections of print news media. The ordering of content according to time in a news stream has emerged as a consequence of web media. The increased use of news streams supports the proposition that web media is primarily used for dissemination of hard news, the goal being to report on events as fast as possible.

The soft news trajectory is dependent on an archive metaphor and persistent theme sections. Both provide users with access to information not necessarily related to current events. The theme sections allow users to browse and navigate information at an overview level, whereas the archive requires user to formulate queries of interest.

From 1996 to 1999 the main evolution of the three sites studied has been along the hard news trajectory. Initial fears were that web media would cannibalize on print media, and that print media should be first outlet of most stories. Increased competition on the web, including news broadcast stations, has lead to a redefinition of the relationship between print and web media. By 1999 the web media is to a much larger extent used as a primary outlet. From being replicas of the printed newspapers, the news sites are currently establishing a presence, design language and content of their own. The news stream of hard news and

the archive of soft news being two design element that have emerged as specific to the web news genre. The data gathered for this research suggest that the current perceived role of news sites on the web is as hard news sources, stressing facts in favor of reflection. Stressing immediacy in favor of history.

Web news media is an example of a fluid media. Many of the characteristic properties of print media have been lost in the transition to digital media. The content of an article may change over time. The location of an article (header) in the composites changes over time. The concept of an edition or issue has been lost. In essence news sites appear to be moving towards an integration of the “live” scheme of reporting with persistent media.

The fluid properties of web news media introduce new uncertainties that the sites studied have not taken into consideration. Without a clear understanding of the frequencies and intervals of site updating, users may miss out on stories that have their interest. If the frequency of hard news section updating is higher than the frequency of user visits, a story may miss the attention of that user. Too extreme use of the media as a “live” media may create undesirable side effects for users still perceiving a service as an “electronic newspaper”.

This research paper has focused its attention to the static defining properties of web news genre in terms of presentation and conceptual elements. Future research should investigate how the dynamics of fluid news media can be matched against the behavior of users, their needs and interests.

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THE AUDIENCE OF SWEDISH LOCAL ONLINE NEWSPAPERS

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A LONGITUDINAL STUDY

Carina Ihlström

*School of Information Science,
Computer and Electrical Engineering,
Halmstad University, Sweden
carina.ihlstrom@ide.hh.se*

Jonas Lundberg

*Department of Computer
and Information Science,
Linköping University, Sweden
jonlu@ida.liu.se*

ABSTRACT

We have conducted a longitudinal study using online questionnaires at four Swedish local online newspapers in two different studies. The objective of this paper is to describe the users' demographics and reading habits as well as the users' expectations of current and future issues regarding the online edition. We also discuss online questionnaires having tried three different approaches to receive as many answers as possible. We have found that the subscribing readers of online editions have increased from one forth to more than a half of the audience, and concluded that the subscribers and non-subscribers have different reading habits. The findings also show that almost two thirds of the respondents are men and more than 80% prefer the paper edition of the newspaper. The results indicate an interest for a multimedia paper edition for the future.

1. INTRODUCTION

The formation of an online audience was an immediate effect of publishing news on the World Wide Web. In Sweden, this audience has been growing ever since the start in 1995. This growth has led to a stiff competition among online publications (Aikat, 1998). For the newspapers, this audience indicates a potential source of new readers and a way to keep the old ones. When newspapers launch online editions they might recapture young readers, who are not currently reading the printed edition of the paper (Katz, 1996), and yet get them attracted to online services. Gildner (1994) describes the consumers' ability to personalize the online edition and the timeliness of online news as additional desirable elements of online newspapers. Interactivity is another characteristic of online news assumed to be of value to its audience (Mings, 1997).

Time must be reorganized if one wants to take part of the morning newspaper or television series broadcast at certain times. Compared to print media and TV news, online users do not need to follow a particular ordered sequence for information.

Cyber Dialogue reported that although 49 percent of online U.S. adults visited a local newspaper site on a monthly basis, only 7 percent did so on a daily basis (Runett, 2000). Bellman *et al.* (1999) reported that out of their survey with 10,180 respondents, 19,1% used the Internet at home to read news. Readers of online editions of local papers tend to be readers of that paper, but online editions of national papers reach people who don't read the print edition (Chyi & Lasorsa, 1999).

In the findings of Chyi and Lasorsa (1999) no relationship between gender and preferences for online newspapers versus the print edition were found, nor any relationship between the respondents' education and preferences. But they found an age difference indicating that older people prefer the print edition (Chyi & Lasorsa, 1999).

Boczkowski (2002) argues that "as the web has become more mainstream, the 'typical' user has switched from information seeking early adopters to entertainment-oriented late-comers" (p. 276).

The objective of this paper is to describe an audience perspective on Swedish local online newspapers. The results form a longitudinal study regarding audience demographics. We also discuss the problems and benefits by using an online questionnaire having tried different approaches to receive as many answers as possible. In consequence, three research questions for this paper have been formulated as follows:

1. *Who are the users of the online newspapers?*
2. *What are their reading habits?*
3. *What are their opinions of the current and future issues regarding online newspapers?*

2. METHOD

The first part of the study was conducted in the spring of 2000 and the second part in December/January 2001/2002 (see Table 1). The number of answers was 3,696 in the first

part and 3.661 in the second part. The two studies partly form a longitudinal study of audience demographics and reading habits, and partly form two complementary studies, the first focusing on current issues for the online paper, and the second on future issues.

STUDY	NEWSPAPER	URL	CIRCULATION OF COPIES PER DAY	UNIQUE VISITORS PER DAY
1	Eskilstuna Kuriren	www.ekuriren.se	33.000	4000
1	Hallandsposten	www.hallandsposten.se	32.500	2500
1+2	Östgöta Correspondenten	www.corren.se	67.300	5000
2	Norrköpings Tidningar	www.nt.se	49.500	5.000

Table 1. The newspapers of the two studies

Using online questionnaires at the news sites made it possible to reach our target audience, which would otherwise be difficult using regular questionnaires. Moreover, Buchanan and Smith (1999) have argued that web samples can be as representative or more representative than traditionally collected samples because of the heterogeneity of the online population. Although, admittedly there are inherent problems in controlling whom responds to online questionnaires. Control for cases with multiple submissions from the same IP number was handled in the data analysis.

For both surveys a one-page design was used, which is faster for the respondent than a multi-page design, although the item non-response is higher. There was no use of advanced graphics, which gives less partial non-response from modem users (Manfreda *et al.*, 2002). Only respondents who pushed the submit button were included in these surveys. In both surveys, there were some multiple-choice questions. All reported differences between categories within different variables are significant at the 0.05 level (Chi-Square Test). Since only minor differences between the newspapers were found, we have analyzed them as one group.

Four local Swedish newspapers participated in the *first study*; Eskilstuna-Kuriren, Göteborgs-Posten, Hallandsposten and Östgöta Correspondenten (see Table 1). The online questionnaire was shown to the potential visitors at each homepage for a period of a week in March 2000. The questionnaire contained 18 items. The last item was an open question. In total 3.836 answers were collected from the participating newspapers during the mentioned time period after the item non-respondents were removed. There is a skewness in the distribution of the answers collected from the four newspapers in the study, due to different procedures with the online questionnaires. Göteborgs-Posten's questionnaire had to be selected by the respondent, which resulted in a very low response rate (see section 2.4). As a consequence of that we have chosen not to include the answers from Göteborgs-Posten in the results, which gives us a total of 3.696 answers collected. The total number of possible respondents was not available in this study.

The *second study* was a part of the Electronic Newspaper Initiative (ELIN-IST-2000-30188) in which Östgöta Correspondenten is a partner. The other newspaper that expressed an interest for participating in this study was Norrköpings Tidningar (see Table 1). At both newspapers, the survey was presented for approximately one week (see section 2.4). The questionnaire contained 19 questions, no open question included. Having corrected for item non-respondents for the demographic questions (1-5), a total of 3.661 answers

were collected. The number of respondents will be given for each question except for the multiple-choice questions. The first full day the questionnaire was shown at Östgöta Correspondenten, 18% of the audience answered the questionnaire, at Norrköpings Tidningar 6% answered. In total there was an answering frequency of 4,5% of all potential respondents.

Three approaches were used in our two studies, a) a banner ad at the middle of the page, b) presenting the questionnaire in full as a pop-up window, and finally, c) presenting an invitation to the questionnaire as a smaller pop-up window.

- a) While only using a banner at the middle of the page to invite users to participate in the study, the results were minimal. At Göteborgs-Posten, which is a newspaper with approximately 265.000 online visitors a day, we only received 154 respondents during 15 days of display. The first full day we received 37 answers and after that the average answering frequency was around 8 answers a day.
- b) Using a full size pop-up window, as we have tried at the other four newspapers, resulted in a peak of answers during the first days followed by a decreasing number of answers, especially during the weekends. Our results indicate that one week is enough for displaying a full size pop-up window, after that the number of respondents are sporadic.
- c) The last option tried was the use of a smaller pop-up window as an invitation to the questionnaire. It was used at Östgöta Correspondenten in study two. It replaced the full size questionnaire after one and a half-day and was shown for one week. This resulted in the answering frequency dropping to about 20%. But in all this approach gave us more answers than we received at Norrköpings Tidningar, where the questionnaire was shown in full size during one week. We can also compare the 1.971 answers received from Östgöta Correspondenten in study one, using a full size pop-up window, with the 2.311 answers received in study two, using this new technique.

3. RESULTS

We have categorized the results in four different sections, starting with the partly longitudinal study on user demographics and reading habits. Then we present the results of the study on current issues, mainly from the first study, and finally the future issues from the second study.

3.1 USER DEMOGRAPHICS

In the 2000 study (N=3.696), 67,3% were men and 32,7% were women. 7,3% of the respondents were in the up to 20 age group, 63,5% between 21-40 years old, 25,4% were between 41-60 years and 3,9% were in the 60+ age category. 72,9% were non-subscribers of the newspaper visited online and 27,1% were subscribers of the newspaper. Nearly 75% of the respondents were from the area where the newspapers are located while 11% were located abroad.

In the 2001-2002 study (N=3.661), the gender proportion between men (61,6%) and women (38,4%) remains. A more detailed age categorization was used, resulting in 1,1% of the readers in the up to 15 age category, 22,6% were between 16-25 years, 31% were 26-35, 19% were 36-45, 15,5% were 46-55, 9% were 56-65 and 1,9% were in the 66+ age category. In this study the amount of subscribing readers has increased to almost 53%. 10,4% of the respondents had compulsory school as their most advanced education, 44,5% had comprehensive school and 45,1% had a university education. The occupation among the respondents were as follows; 60,5% full time workers, 18,9% students, 6,5% part time workers, 4,3% unemployed, 2,2% on sick leave, 1,3% on maternal leave and 2,6% choose the "other" alternative.

3.2 READING HABITS

Concerning reading habits, we have compared the two questionnaire results, regarding how often news is read and what content is read. The reasons for reading the online edition were looked into in both studies, in the first study to gain a general image of the purpose, whereas the in the second study we focused on content. In study one a question regarding the order of reading was included. Study two instead focused on the place and time of reading, comparing the printed and online editions.

How often? More than twice as many read the online edition more than once daily in study two, and the tendency is to read the online edition more often (Table 2). No age or gender differences were found.

READING FREQUENCY	STUDY ONE	STUDY TWO (N=3.661)
more than once a day	5,4%	11,6%
once a day	20,7%	23,5%
several times a week	25,6%	17,3%
once or twice a week	35,2%	32,3%
other	13%	15,3%

Table 2. Reading frequencies of the online edition

What? The information of the online newspaper that the respondents read in study one was; news (69,4%), local news (59,4%), sports (42,4%), domestic news (33%) and economy (15,4%), culture (18,6%) and foreign news (19,5%). Unfortunately the "advertisement" alternative was not included in the questionnaire due to a programming error. In study two (N=3.574), the same pattern was found, and in addition the categories updated news and advertisements were included. The respondents read updated news (71,3%), local news (49,6%), sports (34%), domestic news (23,5%), economy (11%), culture (11,9%), foreign news (15%) and advertisements (19,6%). There were no age differences found, but more men (51% in study one, 45% in study two) than women (24% in study one, 17% in study two) read the sports section.

Why? The reasons why the respondents read the online newspaper in study one were; to stay informed/updated (58,5%), information search (25,5%), lack paper edition (23,9%), complement to printed edition (18,9%), to save money (8,3%) and to read advertisements (8%), while 18,3% chose the "other" alternative in this question. The respondents in study one only read what they were interested to read (66,6%) or what they were searching for

(19,2%) in the online edition, while less than 2% read the whole “newspaper” online. In study two (N=3.574) the reasons for reading were to read updated news (57,1%), read local news (46,4%), advertisements (11,7%), the whole “newspaper” (6,2%), to discuss (2,5%), while 24,7% chose the “other” alternative. No age or gender differences were found.

Order? Almost two thirds (63,5%) of the respondents in study one did not read the online newspaper in any specific order, while 36,5% did. No age or gender differences were found.

Where? In study two, we found that the printed edition is primarily read at home, whereas the online edition is read at home and at work to the same extent (Table 3). No age or gender differences were found, but the senior citizens that were not working read the editions at home instead.

PLACE	PRINTED EDITION (N=3.646)	ONLINE EDITION (N=3.597)
at home	52,3%	40%
at work	17,7%	42,9%
during travel	3,3%	3%

Table 3. Place where the printed and online edition is read

When? In study two we can see that the printed edition is primarily read in the early morning, whereas the online edition is read during the day, with peaks in the early morning and in the evening (Table 4). No age or gender differences were found.

TIME	PRINTED EDITION (N=3.597)	ONLINE EDITION (N=3.536)
early morning	51,1%	25,5%
morning	9%	19,3%
lunchtime	6%	12,3%
afternoon	5,7%	12,6%
evening	10,8%	25,9%

Table 4. Time when the printed and online edition is read

3.3 CURRENT ISSUES

Study one focused on current issues for the online papers, mainly on the ease of reading the paper, comparing the online and printed editions. In study two we added a complementary question regarding their opinion on the current form of online advertisements. One third (32,9%) of the respondents in study one agreed that the paper edition of the newspaper is easier to read than the online version, while one third (31,2%) did not agree, and the rest (36%) did not perceive any difference. One third (37,4%) of the respondents agreed that the online newspaper was more rapid to read than the paper edition, while one third (35,9%) did not agree and the rest (26,7%) did not perceive any difference. However, half of the respondents (51,5%) agreed that the search of a specific part of the newspaper was easier in the online version, while the rest were neutral or did not agree. 60,5% of the respondents agreed that it was easy to find previous pages visited in the online newspaper. Few respondents (12,2%) did not find previous pages again easily. However, 62,7% perceived that they unwillingly return to already visited pages in the online newspaper. 17,4% of the respondents stated that they did not know their position in the news site, while more than half (58,1%) of the respondents stated that they did know their position.

Of the respondents, 15,6% used to print articles from the online newspaper to read, and the respondents between 41-60 years old tend to print parts of the online newspaper more frequently than the once between 21-40 years old. As much as 82,1% of the respondents in study one preferred the paper edition of the newspaper to the online edition and there is a tendency that the older age groups prefer the printed newspaper more than the younger age groups. *“The feeling of having a newspaper in ones hand and read it anywhere, laying in the bed, sitting by the breakfast table and so on can not be substituted by an Internet newspaper”* (from an open question in the questionnaire). No age or gender differences were found. From study two we got the respondents preferences regarding advertisements (N=3.595), 21,8% were positive to advertisements, 43,3% were neutral and 33,2% were negative.

3.4 FUTURE ISSUES

Study two focused on future issues for the online papers, regarding medium, form, content, and payment. Concerning alternative media for receiving news (N=2.339), 38,2% preferred to use their TV, whereas few people wanted news in their handheld computer (13,3%) or mobile phone (12,5%). The age groups up to 25 years preferred the mobile phone to a greater extent and the respondents with the lowest education preferred the TV more than the other groups. The preferred alternative forms for news was video news (23%) and radio news (22%), whereas only 14,2% of the respondents wanted SMS news. The age groups up to 25 years preferred SMS more than the other age groups and the respondents with lower education also preferred SMS more.

Regarding moving images and sound over broadband connections (N=3.573), as much as 56% thought it was OK, and 27,1% considered it very positive, making it more interesting, whereas 14,5% considered it disturbing. The younger age groups were most positive. As regards content, a majority (55,6%) would not like a fully personalized paper, whereas a substantial minority (20,3) were interested (N=3.610). Moreover, 16,6% of the respondents would like a special subscription to a topic of interest, 15,2% wanted “society/club news” whereas only 11,5% wanted to discuss their special interest in the paper, and a minority (5,4%) would like to write articles on their subject (N=1.772). As many respondents as 86,2% would not pay even a small sum of money for more and faster local news (N=3.566). No age or gender differences were found.

4. DISCUSSION

The audience still consists of more male readers, which means that the paper could gain more readers by making it more attractive for female readers. There is a substantial audience in the ages 16-25, which indicates that the online edition is a good channel for reaching young readers which is in line with the argument of Katz (1996). Our results show that the readers are mainly interested in the latest news, and in local news, which contradicts the findings of Boczkowski (2002), who claim that the audience has switched into entertainment-oriented late-comers. However, it supports Gildner’s (1994) statement on the importance of timeliness for online news. Moreover, reading frequency does not affect what kind of news is read. There is a tendency to visit the news site more often, which probably corresponds to the constant updates during the day, that has increased substantially since the first study.

We find it alarming that almost 20% do not know their position in the news sites and that more than 60% stated that they unwillingly returned to visited pages in the web site. We believe that there is much to do in the design of navigation support at the online newspapers. Most respondents preferred the printed edition of the newspaper, which is an unsurprisingly result. Regarding gender, education and age, our results are in line with previous research (Chyi & Lasorsa, 1999).

The results show that a majority would like sound and moving images on the news sites, which indicates that this might change in the future. Almost no readers would like to pay for more and faster local news and only a minority would like a fully personalized paper that modulates Gildner's (1994) statement that a personalized online edition is a desirable element. Furthermore, more respondents are negative than positive to advertisements, but most are neutral and not particularly interested in it. We believe that there is much to gain from making the advertisements more attracting for the consumers.

From study one the subscribers have changed from one forth of the audience to more than half in study two, which is in line with the Chyi and Lasorsa (1999) findings. Two user profiles have emerged from our two questionnaires, the subscriber to the printed edition and the non-subscribing reader, having different reading habits and demographics.

The subscribing reader (N=1529) is male (66,9%) or female (33,1%), primarily full time workers (82,2%) or student (17,8%). The age curve shows that 46,8% of the readers are up to 35 years resulting in a flat curve, with little variation in the 26 to 55 age groups. The subscribing reader read the printed edition in the morning, and later during the day the online edition, primarily to get news updates (76,5%), and secondarily to read sports (women 15,4% and men 44%) and local news (37%). During the day they primarily read from work, while at night they primarily read from their home. There is a tendency to read primarily early in the day from work, and then again at home at night.

The non-subscribing reader (N=1.378) is male (65,3%) or female (34,7%), primarily a full time worker (69,4%) or a student (30,6%). The age curve shows that 70,1% of the readers are up to 35 years old, resulting in a peak in the groups 16-35. Almost 60% of the non-subscribing readers sometimes read the printed edition. The non-subscribing reader read the online edition in the morning, primarily from work but also from their home. During the day they primarily read from work, reading primarily early in the day, decreasingly as the day goes by, and than again at home at night. They read the online paper mainly to read local news (65,2%) and to get news updates (66%). They also read sports, (women 22,8% and men 48,2%) and domestic news (28%).

From this, we see that the online edition mainly compete with the attention of the audience in the early morning. Furthermore, the non subscribing audience use the paper as their source for local news to a greater extent than the subscribing audience. Thus the audience is at the sites primarily to get the unique content, which cannot be found elsewhere. For both groups the online paper is used at night, to a much greater extent than the printed edition. Thus, in this way the online newspaper has become a competitor to the traditional evening press.

5. CONCLUSION

We recommend the combined questionnaire approach, having a full size questionnaire for one or two days, followed by a smaller pop-up window advertising the questionnaire. We believe that one week is enough to receive a sufficient sample.

The users of the online newspapers are mostly highly educated male full time workers. The online paper catches the young audience, but most of the readers still prefer the printed edition. The subscribers have increased substantially between the two studies. *Their reading habits* are different, the non-subscribers read local news to a larger extent, and their demographics are different, as the subscribers has a flat age curve, whereas the non-subscribers has a peak in the young reader group. In general, the audience tends to read the online newspaper more often, mostly updated or local news to stay updated. The online edition is mainly read from work or at home in the early morning or in the evening. *Regarding current and future issues*, we firstly conclude that there is a need for better navigation aid at the news sites. Secondly, the newspapers could gain from making the advertisements more attractive for the users. Thirdly, multimedia could be the used in the future as there is an interest among the users.

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REVENUES FOR ONLINE NEWSPAPERS

OWNER AND USER PERCEPTION

Carina Ihlström

School of Information Science,
Computer and Electrical Engineering,
Halmstad University, Sweden
carina.ihlstrom@ide.hh.se

Jonathan Palmer

Information Systems
The College of William & Mary
Williamsburg, Virginia
jonathan.palmer@business.wm.edu

ABSTRACT

The newspaper industry faces hard questions about business models and economic success for their online newspaper ventures. Managers, editors-in-chief and designers at nine local newspapers in Sweden were interviewed. In addition, semi-structured interviews with 153 users/readers of the news services of these nine newspapers were also conducted. The analysis reveals differences in digital news product content and revenue generation. The paper suggests a new business model for digital news products that includes content-based revenue generation through personalization, archiving and versioning, approaches to advertising that involve more highly targeted market intermediation, and non-news activities covering advertisers and information brokerage. Results suggest that management and users agree on the importance of archives, personalized and deep news content, and a role for the newspaper as intermediary. However, users are not willing to pay for increased multimedia or an e-commerce site sponsored by the news site.

INTRODUCTION

Online newspapers have extended the traditional print medium through their use of the Internet. The news industry has always been information intensive, providing editorial, advertising, and general information content. The genre of the traditional print and broadcast media has been extended by the advent of the Internet, offering the opportunity for deeper content, multimedia, and interactivity not possible in the print medium (Eriksen *et al.*, 2000).

The initial design of online news sites was heavily inspired by the design of the printed newspaper. Metaphorically, news sites were conceived as “electronic newspapers” or “digital newspapers” but today they can be seen as a genre of their own with special design and content elements (Eriksen & Ihlström, 2000). These elements include a move from “print to multimedia” as the news is not only presented as text but as audio and video as well. News is only a part of many other services at the news sites. There is interaction among the users/readers who debate and chat at the sites. Games, crosswords, and even support online shopping are increasingly common on newspaper web sites (Palmer & Eriksen, 2000).

According to Cyber Dialogue, 7% of online U.S. adults visited a local newspaper site on a daily basis, and 49% on a monthly basis (Runett, 2000). Bellman, Lohse and Johnson (1999) reported that out of their survey of 10,180 respondents, 19,1% used the Internet at home to read news. According to a recent study of NAA (NAA, 2002) newspaper websites are the top choice for local news and information for the Internet users in the US. Almost 62% out of the respondents stated that they looked for local news at online newspapers, rather than other media sites or national brands such as Yahoo. In spite of having a large audience, the newspaper industry is still in search of profitable business models and economic success for their online newspaper ventures. In Sweden, most newspaper companies have suffered from substantially reduced advertising revenues during the last year (VLT, 2002), an advertising tax is also imposed on the Swedish daily newspapers, while advertisements in radio and TV are exempt from tax (Tidningsutgivarna, 2002).

The conceptual foundations of the digital news product take the best of paper, broadcast, and digital documents, providing significant coverage of a local area, strong descriptions and articles covering national and international news with specific viewpoints, and the ability to support local, national and international merchants through advertising (Eriksen, 1997). The immediacy of information provision, and the availability of multimedia enable the digital news product to be responsive to readers in a way that the time constraints of publishing a paper version do not. The digital news product also provides the ability to search for archival data and the ability to navigate the content in a customized way for each potential user. Archiving and indexing provides access to earlier editions and historical sources. One of the newspaper’s most valuable assets is its trademark and reputation. The readers trust the newspaper to have an honest approach to both news and related offerings.

The fundamental research question relates to the ability of the online news sites to develop and implement compelling business models:

1. *How can newspapers generate revenues for their online services?*
2. *What services will be most attractive to users?*

The objective of this paper is to describe the business models of the news sites today and future plans. To examine these questions we undertook an in depth look at nine newspapers in Sweden, identifying potential revenue generating activities from newspaper managers and owners and asking potential users which of these activities they would most likely utilize and for which they would be willing to pay. The article is presented in four sections. The initial section outlines news industry economics and identifies potential revenue generating activities. The second section describes the methodology used in reviewing the digital news products. The next section presents and discusses the findings. The final section suggests conclusions and implications.

THE ECONOMICS OF ONLINE NEWSPAPERS

Initially some newspapers charged subscription fees for access to their online editions, but very few succeeded with this approach (e.g. Wall Street Journal). Today most news sites offer the news for free, hoping to increase audience to attract the interest of the advertisers to gain advertising revenues (Chyi, 2002). "In an online world flooded with free information, users will treat information charges as damage, and route around them" (Schwartz, 1996). McMillan (1998) suggests that if free content can be found somewhere, users are not likely to pay for content even for news they consider valuable: "advertising is one method of making content free". The Internet is more likely to drive readers to purchase print versions rather than to replace them (Shephard *et al.*, 1998). Recent research also shows that the readers of local online newspapers in Sweden who also subscribe to the printed edition has increased from one fourth to over half of the audience (Ihlström & Lundberg, 2002).

There have been numerous attempts in the literature to identify business models including revenue options and payment schemes for online newspapers. Picard (2000) defines four business models of online content services that has failed or being abandoned; videotext, paid Internet, free web and Internet/web ad push. He also defines portals & personal portals and digital portals as current and emerging business models. Madsen (1996) suggests that online newspapers have three options for making money; charge-per use, paid subscription and advertising. He argues that out of these three the only one that could work is advertising. In contrast Borell & Associates (2001) argues that the subscription model has re-entered the agenda and Steinbock (2000) discusses a successful online subscription model used by The Wall Street Journal. Palmer and Eriksen (1999a and b) describe several payment schemes for advertising. One approach had the advertiser pay a fixed amount for having the advertisement in the news product during a fixed period; this resembles the traditional payment scheme for placing ads in a printed newspaper. Alternatively an advertising organization paid a fixed amount for each time a page containing their ad was exposed to a reader. Another form used has the advertiser pays for a fixed number of exposures. Outing (2002) suggests eight business models for online news, e.g.; different versions of free content with or without advertisement and user registration, paid subscriptions with or without advertising, free content to in-market Internet users, paid subscription for out of market and regional content providers cooperate in charging scheme, everyone charges. Shapiro and Varian (1999) discusses registration at large newspapers like the New York Times. The New York Times requires their users to register but does not charge them for content. They use the information about demographics and reading habits to set ad rates. Initially they toyed with charging international users but in 1998 they decided that

“leveraging registration data for targeted advertising by global companies – while growing the overall base – was a more profitable course of action” (Sinnreich, 1999).

Display advertising is the single largest source of revenue but few newspapers are covering costs for their web sites. Advertising is generally divided between retail advertising and classified advertising and is responsible for up to 60% of the revenue stream at most papers (Shaw, 1997) and almost exclusively retail advertising in broadcast news outlets with national and more localized advertisers. Classified advertising has traditionally been localized, with newspapers having a virtual monopoly within a geographic region. Newspapers have focused on developing classified advertisements as a source of revenue for their Internet sites (Criner & Wilson, 1997).

Smythe (1977) argues that creating audiences are more important than creating content since audiences attracts advertisers, which are the major source of funding. Advertising may be a meaningful revenue source for the large newspapers but not for small ones. Until local advertisers show a desire for online advertisement, the business will be dominated by national and regional companies, only interested in advertising at the largest sites (Mensing, 1998). Chyi and Sylvie (1998) have argued that the online newspaper market is structured in four submarkets; 1) the local information market, 2) the long-distance information market, 3) the local advertising market and 4) the long-distance advertising market. They have recommended a product differentiation and niche-oriented strategy for the newspapers.

Sources of revenue other than advertising are also discussed in literature. Mensing (1998) discusses the local alliance strategy as one possible way for online newspapers to increase their revenue from their web services. Providing as many services as possible within the site will build a large audience and working together with other media partners will reduce the costs of developing such new services. Another way for newspapers to finance their news sites is to provide Internet access or web design services (Outing, 2000; Meyer, 1995). Mensing (1998) also discusses the transaction potential, as newspapers guide traffic to or host sites or services from which consumers make purchases.

Kalakota and Whinston (1996) discuss personalization and packaging of the news. They suggest that customization could be used in innovative ways, news and advertisements could be tailored and packaged for the individual user. They propose a customized newspaper with different news from different sources. Saloner and Spence (2002) also discuss personalization and customization together with product information, convenience and complementary services as ways for creating values to customers. Other content related revenue generators include value-added services such as sidebars, extensive background pieces, photographs, graphics, sound, video, archival links and interactivity (Erlindson, 1995). Jankowski and van Selm (2000) suggest media archives and frequent updating of news stories.

In general, newspapers have an element of trust and reputation with reader/users (Boczkowski, 1999, 2002). Turban *et al.* (2002) discuss the importance of reputation in e-commerce and gives examples of CNN and New York Times as trusted intermediaries. This suggests information brokering as a possible revenue source as news site intermediaries could enable transactions or simply provide information that facilitates interaction.

The prior research on revenue generating activities suggests advertising, content, and non-news, value adding services as major areas for focus. The following section describes a project that tests these ideas among newspaper owners and users.

METHOD

To capture data on potential revenue generating activities, we collected data from both newspaper management and users. Interviews were conducted with management and editors-in-chief at nine local newspapers with online news services in Sweden as well as with 153 users/readers of these online services during a period of three months in the beginning of 2001. We also used a future workshop technique with both managers and users. The interviews carried out with management and editors-in chief were all based on an interview guide approach (Patton, 1990). The interview guide was used to ensure that the information needed was obtained in the interviews, but it did not determine the sequence or structure of the interview. The purpose was to allow new topics of interest to emerge. A wide range of themes was discussed covering the current status and the future expectations of the online news product. The managers and editors-in chief of the newspapers were chosen because they were the most suitable to answer these kinds of questions. These interviews lasted between 60-90 minutes. The focus on local papers provided a control for size and location as well as allowed us to examine a heretofore understudied segment of the newspaper industry.

The interviews with the users were carried out with a semi-structured interview guide in order to get answers to the same questions from all respondents. 53 interview questions grouped into 5 different themes were asked. These interviews took 45-50 minutes.

The aim was to interview at least 20 users at each newspaper. The newspapers agreed to present a questionnaire as a pop-up window when users visited the news site and ran two advertisements in the printed paper. The pop-up window ran between 3-7 days and 60-240 answers from users were received from each newspaper.

Respondents were selected based on four criteria: gender, age, Internet usage and education. The respondents were contacted by phone and booked for an hour each. These phone calls were made approximately one week before the actual interview. There was a decline of 3-4 respondents at each newspaper who did not show up for their appointment, resulting in 153 completed interviews (81% response rate).

A tape recorder was used at all test and interviews. All interviews were later transcribed. In order to analyze the collected data patterns were identified in the transcribed material (Easterby-Smith *et al.*, 1991). The patterns include issues raised repeatedly during the interviews or opinions that kept re-appearing and can be described as commonly found views. These patterns were then consolidated into categories.

Three future workshops were held to discuss visions and potential new services. One of the workshops was performed with management from the newspapers and two with end-users. The technique of cooperative scenariobuilding (Arvidsson, Ihlström & Lundberg, 2002) is assimilated in the context of a future workshop (Jungk & Müllert, 1996; Bødker, Grønback & Kyng, 1993). However, while a future workshop normally has three main phases: critique, fantasy and implementation, in this method only the critique and fantasy phase (vision and cooperative scenariobuilding) were used and a trigger phase was added to capture likelihood of management and user action.

A follow up study by email was conducted in March 2002 to the users in order to collect complementary information regarding user willingness to pay for news or services provided

by the newspaper, with a response rate of 49%. The respondents at the newspapers also received an e-mail in March 2002 to answer follow up questions regarding their current situation and future plans and all of them responded. The results from these interviews, workshops and surveys are presented in the following section.

RESULTS

In this section the nine newspapers are introduced, their daily average circulation, unique visitors per day and their number of staff at their Internet division (see Table 1). All papers belong to Citygate, a newspaper association in which joint web solutions are being developed.

NEWSPAPER	AVERAGE CIRCULATION	UNIQUE VISITORS	STAFF
Eskilstuna-Kuriren www.ekuriren.se	33.000	3500	6
Hallandsposten www.hallandsposten.se	32.500	2400	4-5
Nerikes Allehanda www.nerikes.se	69.000	8000	5
Norrköpings Tidning www.nt.se	49.900	4000	3-4
Sundsvalls Tidning www.stonline.se	38.600	1100	2-3
Uppsala Nya Tidning www.unt.se	62.100	9000	6-7
Vestmanlands Läns Tidning www.vlt.se	47.600	7000	4-5
Västerbottens-Kuriren www.vk.se	45.000	10000	6
Östgöta Correspondenten www.corren.se	67.300	5000	8

Table 1. Online newspaper descriptions

NEWSPAPER MANAGEMENT

The existing print media mainly finances the news sites with some income from advertisement. "The advertisement market is sluggish, the only thing that works is a combination of print and banners", one respondent stated. Most managers think that the solution for increased advertisement revenue is a combination of print, web and radio aimed at both local and national advertisers. They intend to train their sales personnel to sell this idea in a strategic way and also to educate their advertisers.

A few of the news sites are providing a web design service that contributes some income. Others offer a special form service and one is charging for SMS-logos and phone signals. None of them are profiting from their news sites today. Increasing audience is considered important by most of the newspapers. One respondent stated that “increasing traffic is a condition if at all possible to gain any money” and another said, “in the present situation our aim is to increase traffic and to strengthen the trademark on the web”.

Most of the newspapers consider themselves media organizations. Seven of them already own their own radio stations and two have video production companies in their organization as well. They all envision a future of multimedia, using print, audio and video over different media terminals in a broadband context. Some comments are “it is a total media” and “it will be about presenting editorial and commercial information in different ways for the readers own choice”. All of the newspapers provide updated news during the day and one of the respondents stated that “the key to success is ‘around the clock’”.

One of the respondents said “in some way we would like to treat our subscribers in a special way, for instance to let them have access to our archive”. Almost all discussed searchable archives as the service that they would most likely pursue and are most likely to profit from. Intermediary services were proposed at the future workshops by more than half of the newspaper management.

All agreed that the newspaper trademark is extremely important. “The trademark is very important and the trademark stands for trustworthiness”. They are of the opinion that their readers trust them and as a consequence of that they believe that they could function as intermediary for different services. One of the respondents stated that “the web is a way to strengthen our trademark partly for those who are abroad and partly for those who do not read the printed edition, like young people. It is branding in the long run” and another said “the newspapers trustworthiness rub off on the advertisers”.

Most of them have discussed the possibility of establishing a local e-commerce portal around the solid newspaper trademark. But they have great concerns about the possible negative impacts that could arise if a partner does not fulfill their responsibilities. “Sooner or later there will be incidents that could damage the newspapers trustworthiness”, one respondent argued. One of them does have an e-commerce part of their news site today and one is planning for it, the others have taken a “wait-and-see” policy, wanting to evaluate the success or failures of the first movers. “You have to take it slowly, wait and see what the others are doing. We do not want to damage the high trustworthiness that we have been building during the last 150 years.”

A joint solution, SpaceCoin, for minor payments have been purchased through their newspaper association. A subscription fee has also been discussed. Membership (i.e. registered users being given access to certain services) has also been mentioned. “One pays only when one has found something one wants. The archive is a typical service for added value that is perfect for this”.

In the future, the online newspapers have identified a variety of potential revenue generating activities. These activities are summarized and explained in Table 2.

REVENUE APPROACHES	EXAMPLES
<i>Immediate options</i>	
Advertisements	<ul style="list-style-type: none"> a) combination of advertisements in the printed edition with banners on the news site (and radio commercials) b) personalized advertisements on demand in e-mails, i.e. the reader gives a profile of his or her special interests and receive special offers from the local area
More and faster local news	local news is the specialty of the local newspaper, the reader should be able to subscribe to more and faster local news from their own neighborhood
Searchable archives	searchable text and images of the newspaper archives
Personalized news services	subscription to special kinds of news and more news than the ordinary reader gets on the news site broadcast to PDA or via email
Deepened news services	unlimited space on the web allows more in depth articles and coverage of special events
More SMS-services	sport results or news coverage
Parallel publishing	using the same material in print, radio and online
Increasing traffic	make the news sites attractive and usable to encourage both subscribers of the printed edition to read the online edition and gain new audience, e.g. young people not reading the printed edition
<i>Longer-term options</i>	
Personalized services	<ul style="list-style-type: none"> a) coverage service for the advertisements in the newspaper, i.e. the reader provides the newspaper with the information that he or she wants to buy a Volvo V70 and every time a car like that shows up in the advertisements the reader gets an SMS or e-mail with the specific details b) combination of recipes for the family along with coupons from the local store
Intermediary services	<ul style="list-style-type: none"> a) exclusive apartment brokering - the newspaper acts as intermediary between apartment brokers and readers b) local weather service - information about the current situation of the snow clearance in specific areas and warnings of slippery roads, this service could be a joint service with the local government
Advertisements	advertisements in different shapes combined with intermediary services
Integration with other parts of the media organization	<ul style="list-style-type: none"> a) using the resources of audio, video and print in a mix to present a story b) audio and video coverage of special or local events
Coverage services	coverage service, compilation of background information and immediate reporting to a special event
Commercial site	<ul style="list-style-type: none"> a) providing e-commerce opportunities for local traders at the news site b) selling pictures or articles from the archive
Special services for subscribers	searchable archives, access to more in depth articles

Table 2. Revenue approaches

Most of these revenue approaches are already found on the Internet. One new approach for the newspapers is the more active role of intermediary between buyer and seller. The new element for these newspapers is to wrap them in a local setting.

USERS OF THE NEWS SITES

More than 91% of the respondents have the same trust for the online news site as for the printed paper. "I trust the newspaper and I trust the online edition as well". Most considered this group of papers trustworthy, with only 4% questioning the printed paper's trustworthiness. Almost 96% do not think that technical problems online have any influence on trust for the printed edition. Almost 24% of the users think that they would feel more secure shopping on the news site than on other sites, feeling that the newspaper trademark would guarantee safe shopping. "It would make a difference if one could shop on the news site. It could guarantee my safety". But only 20% are of the opinion that the newspaper should function as a host for a local e-commerce portal and only 19% thinks that there is a need for a local e-commerce portal at all. "I do not think that the newspaper should engage themselves in sales, they should deal with news. I think that the credibility of the newspaper could be damaged".

Almost 65% of the users do not want to give out personal information online and 53% think that it makes a difference to which company/organization they would consider giving personal information. One of the respondents said "you simply do not give out information to someone you do not trust. The newspaper I trust". More than 37% of the users were positive to sound and moving images on the web. The opinions of this varied, "it would be more fun to visit the news site if there is audio and video as well", and "it is a newspaper, even if it is online. If I want sound I will listen to the radio".

Over 26% of the users visit the news site once a day or more, 71% mainly read the updated news and 59% read the local news. "I use the site to stay updated. I read the paper in the morning and log on a couple of times a day to see if something has happened".

To compare the management and user view, we prepared Table 3 which provides a comparison of the revenue generating activities mentioned by owners and user opinions of these possible services. The second column shows the percentage of the newspapers in the study considering the revenue generating services. The third column presents the percentage of users willing to pay for the service and the final column identifies the importance of the newspaper reputation (from a user's perspective) on their willingness to pay.

REVENUE APPROACHES	NEWS-PAPERS	USERS		IMPORTANCE OF REPUTATION	
<i>Immediate options</i>					
personalized advertisements on demand	22,2%	Willing to pay	2,9%	Very important	31,6%
		Interested	36,8%	Important	21,1%
		Not interested	60,3%	Neural	18,4%
				Not important	29,0%
more and faster local news	33,3%	Willing to pay	10,4%	Very important	36,1%
		Interested	64,2%	Important	36,1%
		Not interested	25,4%	Neural	16,4%
				Not important	11,5%
searchable archives	88,9%	Willing to pay	47,1%	Very important	50,0%
		Interested	50,0%	Important	36,7%
		Not interested	2,9%	Neural	6,7%
				Not important	6,6%
deepened news services	33,3%	Willing to pay	31,3%	Very important	51,6%
		Interested	50,7%	Important	32,3%
		Not interested	17,9%	Neural	9,7%
				Not important	6,4%
personalized news services	44,4%	Willing to pay	22,1%	Very important	41,2%
		Interested	58,8%	Important	30,9%
		Not interested	19,1%	Neural	17,6%
				Not important	10,3%
SMS-services for sport results or news coverage	33,3%	Willing to pay	2,9%	Very important	36,8%
		Interested	30,9%	Important	18,4%
		Not interested	66,2%	Neural	18,4%
				Not important	26,3%
<i>Longer-term options</i>					
coverage service for the advertisements in the newspaper	22,2%	Willing to pay	25,0%	Very important	29,6%
		Interested	39,7%	Important	27,8%
		Not interested	35,3%	Neural	22,2%
				Not important	20,4%
intermediary services	55,5%	Willing to pay	22,1%	Very important	37,8%
		Interested	26,5%	Important	17,8%
		Not interested	51,5%	Neural	17,8%
				Not important	26,7%
audio and video coverage of special or local events	55,5%	Willing to pay	7,4%	Very important	39,0%
		Interested	42,6%	Important	26,8%
		Not interested	50,0%	Neural	14,6%
				Not important	19,5%
coverage service of a special event	44,4%	Willing to pay	25,0%	Very important	50,9%
		Interested	45,6%	Important	24,6%
		Not interested	29,4%	Neural	10,5%
				Not important	14%
commercial site	22,2%	Willing to pay	7,4%	Very important	37,2%
		Interested	38,2%	Important	27,9%
		Not interested	54,4%	Neural	16,3%
				Not important	18,7%

Table 3. Revenue approaches – a comparison of management and user perspectives

The revenue approaches with the highest willingness to pay are content related: searchable archives, deepened news service, and personalization. Non news services with user willingness to pay over 20% included intermediation functions and additional information on advertisers and special events. Management and user perspectives appear to differ on the provision of multimedia and a commercial site, with management identification of these revenue streams far higher than user willingness to pay. Users also identified preferred methods of payment with invoice (27%) leading subscription (15%), advanced payment (15%), and mobile phone (12%).

DISCUSSION

The discussion with online newspaper management suggests a true challenge due to diminished advertising in the printed edition as well as lack of profit from online services. Most of the nine newspaper companies are in the process of becoming media houses, expanding their organizations to include radio and video editions. These moves are similar to those taken by newspapers and media organizations in the U.S. and in other parts of Europe. Management identification of potential new revenue generating activities seemed to be reflected in user perceptions of willingness to pay in content areas such as searchable archives, enhanced news feeds, and personalization. Of less interest among both management and users was merely local news, personalization of advertisements and SMS. Future offerings showed some similarity between management and users on providing intermediary services and coverage of special events and background on advertisers. Based on our results, management interest was high in multimedia for creating online services, although user willingness to pay for enhanced multimedia was low. Management also expressed a stronger interest in establishing a commercial site than did users.

Both management and users envisioned an e-commerce initiative by newspapers as similar to a retail portal. Users saw this possible service as less attractive than newspaper management. The user response may reflect the positioning of the newspaper as primarily a news provider and only secondarily as a retail market participant mainly through classified and retail advertising. While some U.S. newspapers sites (e.g. Washingtonpost.com) have been able to generate substantial advertising, the emergence of fully operational e-commerce activities has been limited.

The response to a potential e-commerce site was fascinating, as 7 of the 9 newspapers expressed concerns about possible badwill while nearly one fourth of the users stated that they would feel more secure shopping at the news site. This indicates that some sort of e-commerce could be used at the news site. Users were also concerned about privacy, with over 50% stating that it makes a difference to which company they would consider giving personal information. The high trust users had in these newspapers, suggests newspapers could play a trusted intermediary role.

Most respondents in this study found the newspapers trustworthy. This may make it possible for the newspapers to create new services based on user trust. This has been reflected in the fairly widespread implementation of newspaper archives as well as personalized news alert services via email (e.g. New York Times, Los Angeles Times, Wall Street Journal) as separate revenue generating activities.

Overall, these findings support earlier work of Palmer and Eriksen (1999a, 1999b, 2000) that advertising continues to be a key source of revenue, but is in a new role of generating potential markets beyond existing geographic boundaries and increasingly able to serve as an intermediary between buyer and seller. Regarding the advertising market most of the newspapers were optimistic about a combination of print and web. Multimedia could be used on the web to attract more interest, but has not emerged as a new revenue source.

All newspapers in this study belong to an association in which joint web solutions are being developed. This is an advantage because they are in the position of being able to create intermediary and coverage services that they would not have been able to provide as small local newspapers. Some of the newspapers are also considering different intermediary services by building on the trust of their readers. The platform for these services could be a joint venture and might be one solution.

CONCLUSION AND FUTURE RESEARCH

Our analysis reveals differences in digital news product content and revenue generation. A successful business model for digital news products includes content-based revenue generation through personalization, archiving and versioning, approaches to advertising that involve more highly targeted market intermediation, and non-news activities covering advertisers and information brokerage. Results suggest that management and users agree on the importance of archives, personalized and deep news content, and a role for the newspaper as intermediary. However, users are not willing to pay for increased multimedia or an e-commerce site sponsored by the news site.

All newspapers agreed that they have to start gaining money in order to keep up their online news services. But as long as there is news for free on the Internet they have to find other sources of income. Since almost all respondents in this study found the newspapers trustworthy it should be possible for the newspapers to create new services based on user trust.

Future research should study adoption rates and profitability of these revenue generating activities. Additional insights into user willingness to pay and possibilities for additional revenues could be gained from a more longitudinal study of the implementation, adoption and use of these activities.

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GENRE CHARACTERISTICS

A FRONT PAGE ANALYSIS OF 85 SWEDISH ONLINE NEWSPAPERS

Carina Ihlström

Viktoria Institute, and
School of Information Science, Computer
and Electrical Engineering,
Halmstad University, Sweden
carina.ihlstrom@ide.hh.se

Maria Åkesson

School of Information Science, Computer
and Electrical Engineering,
Halmstad University, Sweden
maria.akesson@ide.hh.se

ABSTRACT

The online newspapers entered the Internet in the mid-nineties and since then it has become more and more common to read news online. There is a long tradition of designing newspapers in print but today there is a demand from both academics and practitioners for more knowledge about how to design user friendly news sites. The challenge is to design the online newspaper, in this rapidly changing media, to be the same familiar, user friendly and universally accepted product as the printed newspaper. We have designed a study in three parts to address this challenge. The overall research question is: How can design for a media in rapid development be communicated within a genre? The purpose of the first part of the study, presented in this paper, is to build a framework for identifying genre characteristics and to describe the Swedish online newspaper genre of today. We have conducted a front page analysis on the total population of 85 Swedish online newspapers. We suggest a quadruple of the genre concepts <content, form, functionality, positioning> and a grid to handle positioning when building the framework. To describe the Swedish online newspaper genre we have used the taxonomy for the evolution of cybergenres together with the so called broadsheet metaphor. Aiming at a more comprehensive understanding of the online newspaper genre we modified the model by adding the leaf node 'progressed'.

1. INTRODUCTION

Newspapers have a long tradition and centuries of experience behind today's paper formats. Pages, headlines, columns and fonts have been tuned in form and function. They are all part of a user friendly and universally accepted product (Gurtler, 1984). Newspapers have an internationally recognizable layout, i.e. the broadsheet or tabloid format, familiar to readers all over the world. The first online newspapers appeared only a few years ago in 1995, and since then both academics (Nielsen, 2000; Boczkowski, 2002) and practitioners (Gunnarsson, 2002) have continued to ask for more knowledge about how to design user friendly news sites.

Since Sweden had the fourth largest newspaper consumption in the world in 2001, only Norway, Japan and Finland had larger consumption (WAN - World Press Trends, 2002), and most Swedish daily newspapers have an online version today (Gunnarsson, 2002), it is relevant to study Swedish online newspapers.

Newspaper as a genre differs from e.g. magazines and journals and looking at newspapers as a genre also allow us to compare various newspapers. Digital newspapers consist of multimedia content, interactivity, immediacy and other media characteristics, which altogether constitutes a specific digital genre. This digital genre, in turn, differs from other digital genres on the web such as e-commerce sites, personal homepages etc. The integration of the web medium and the traditional newspaper genre defines a genre for online newspapers. With online newspapers we refer to local and national daily press with online editions, not branch specific or other newspapers. Categorizing different web sites as genres could help designers to copy and refine the design to reflect resemblance within the genre (Crowston & Williams, 2000).

The users recognize a genre through a series of visual cues in the layout, e.g. columns and typeface (Toms & Campbell, 1999). Schmid-Isler (2000) argues that various style patterns have evolved through centuries of practice with fonts, coloring and layout of pictures etc. Designers have to be aware of the user expectations of this practice when designing a genre (Crowston & Williams, 2000).

Genre pattern can be identified by searching for recognizable types of form and content (Yates *et al.*, 1999). Dillon and Gushrowski (2000) identified a set of features and components of personal home pages, reporting each elements frequency of occurrence across the sample, resulting in genre characteristics for the personal home page genre. These characteristics were then compared with the user preferences and expectations of the genre.

The design of online newspapers is still in its infancy (Nielsen, 2000). Knowledge and advice about web design is often expressed in for example guidelines and style guides. However, there are problems for designers in a specific genre to use these sources as the principles are too universal. *The challenge is to design the online newspaper, in this rapidly changing media, to be the same familiar, user friendly and universally accepted product as the printed newspaper.*

One approach to address this challenge is to find a way to define genre characteristics for design and a way to communicate design within the genre.

The results presented in this paper are from the first part of three in a larger study and the outcome is a) a framework for identifying genre characteristics and b) descriptions of the Swedish online newspaper genre of today.

In the next section the theoretical background is presented, followed by the method in section three. The study is presented in section four, implications and limitations are discussed in section five and the paper is concluded in section six.

2. THEORETICAL BACKGROUND

The term genre comes from Latin (*genus*) and dates back to classical philosophy. Genre is widely used for classification in fields such as arts, literature and media.

The concept of genre was introduced to the IS field as a way of identifying types of organizational communication by Yates and Orlikowski (1992). Genres are produced, reproduced and changed over time. There are rules that genres are enacted through, associated to appropriate elements of genre characteristics (Yates & Orlikowski, 1992). Not all but enough distinctive rules must be followed for a particular member of a genre to be recognizable, i.e. it has the character of 'taken for granted facts'. As noted by Toms and Campell (1999), a reader typically recognize a newspaper even before reading the content, through the appearance of columns and headlines that match our understanding of the genre.

There are different views of what characterizes a genre. A genre could be characterized by having similarities in substance and form (Yates & Orlikowski, 1992), or it may be characterized by its purpose and form (Crowston & Williams, 2000; Yates & Orlikowski, 1992; Yates *et al.*, 1997). Swales (1990) include 'the rationale behind a genre establishes constraints on allowable contributions in terms of their content, positioning and form' (pp. 52) in his working definition of genre.

In digital environments, genres have often been categorized by the triple <content, form, functionality> (Schmid-Isler, 2000; Shepherd & Watters, 1998). *Content* refers to themes and topics (Shepherd & Watters, 1998), whereas *form* refers to observable physical and linguistic features (Yates & Orlikowski, 1992). *Functionality* refers to capabilities available through the new media (Shepherd & Watters, 1998; Shepherd & Watters, 1999).

When changes to established genres become widely shared among members of a community, genre variants or even new genres may emerge. Such changes may be triggered by the introduction of a new communication medium (Yates & Orlikowski, 1992; Yates *et al.*, 1997). According to Erickson (1997) change of media may even speed up the evolution of a genre. One new genre that has emerged through the introduction of a new media is the online newspaper genre.

Online newspapers have evolved from merely replicating their printed counterpart, changing into variants of the printed edition to become a novel cybergenre according to the taxonomy for the evolution of cybergenres (Shepherd & Watters, 1998). We refer to this taxonomy as the cybergenre model (see Figure 1).

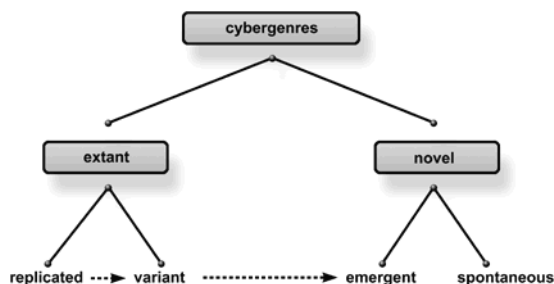


Figure 1. Cyberggenre model (Shepherd & Watters, 1998)

Extant genres are based on existing genres in other media that have been transferred into the digital media, whereas novel genres are fully dependent on the digital media. *Replicated* subgenres can be described as following the content and form of the counterpart genre in other media and with little new functionality enabled by the new media added. In *variant* subgenres the content and form are somewhat different, with substantial new functionality added. *Emergent* subgenres have evolved from the variant subgenre to the extent that it is only marginally recognizable as the original genre. Significant difference in content and form, and a level of functionality that makes it fully dependent on the new media has been added. Spontaneous subgenres are novel cyberggenres that do not have any counterpart in other media. In Figure 1, the dotted line illustrates that the new functionality afforded by the new medium drives the evolution, and the leaf nodes (replicated, variant etc.) in the cyberggenre model can be regarded as stages of genre evolution.

3. METHOD

We have designed a study in three parts to address the challenge of designing online newspapers. The overall research question is: *How can design for a media in rapid development be communicated within a genre?*

In part one of the study we have chosen an exploratory, qualitative approach, which we refer to as front page analysis, in the process of building a framework for identifying genre characteristics and for describing the Swedish online newspaper genre of today.

Part two of the study concerns the way to communicate design within the genre and the expected outcome is design patterns built and tested in collaboration with both designers and users. Part three is a longitudinal study concerning how the online newspaper genre evolves over time regarding design.

We have analyzed the front pages of the online newspapers since the visual pattern (trademark, columns, headings etc) for a traditional newspaper is strongly related to the front page, which is transferable to the digital media (Schmid-Isler, 2000). The front page of online newspapers is very important for getting an overview since browsing the front page can be compared to flipping through the printed newspaper and many users return to the front page to 'start over' instead of navigating (Ihlström & Lundberg, 2003). Thereby, there is a need for an online newspaper to be recognizable as a member of the genre through the design of the front page.

For empirical data we initially choose to analyze the front pages of the total population of 110 Swedish daily newspapers with online editions presented by The Swedish Newspaper Publishers' Association (Gunnarsson, 2002). This sample was later reduced excluding a) online newspapers that have a joint web site with another newspaper (here only counted as one) and b) newspapers which only display a 'business card' on the Internet. The final sample includes 85 Swedish online daily newspapers (see Appendix 1) and was used in the process of building, testing and applying the framework. To be able to get a snapshot in time from the sample to be used in the forthcoming longitudinal study, all 85 front pages were printed out on the same day and the printouts were then used in the analysis.

The purpose of the study presented in this paper is to:

- a) build a framework for identifying genre characteristics for the online newspaper genre, and
- b) describe the Swedish online newspaper genre of today as a base for the forthcoming longitudinal study.

The framework in its whole emerged from the study is described in the next section.

4. THE STUDY

In building the framework for identifying genre characteristics we draw on genre theory using the genre concepts content, form and functionality for digital genres. As the genre characteristics are intended for communicating design, we added positioning to these digital genre concepts, resulting in a quadruple of genre concepts <content, form, functionality, positioning>. This quadruple was used in the front page analysis.

To handle these concepts in the front page analysis we asked the following questions: *What content is presented on the front page?*; *In which form(s) is the content presented?*; *What functionality does the content require?*; and *Where is the content positioned on the front page?* We regard the relation between the concepts as follows: The front page consists of *content* elements - each content element is presented in one or several *forms*, is sometimes requiring *functionality* and is *positioned* on the front page.

To be able to relate positioning to the front pages we divided them according to a column and section grid (see Figure 2). Section A and B are visible on the screen in resolution 1280x1024 pixels, whereas one has to scroll to be able to see section C and D. All columns are visible in this resolution. For further clarification, the grid is applied on an online newspaper in Figure 3.

		Columns				
		1	2	3	4	5
Sections	A	Header of front page				
	B	Bt >> Top half of B-section on screen in resolution 1280 x 1024 pixels				

	Bb >> Bottom half of B-section on screen in resolution 1280 x 1024 pixels					
C	Rest of front page					
D	Footer of front page					

Figure 2. The column and section grid

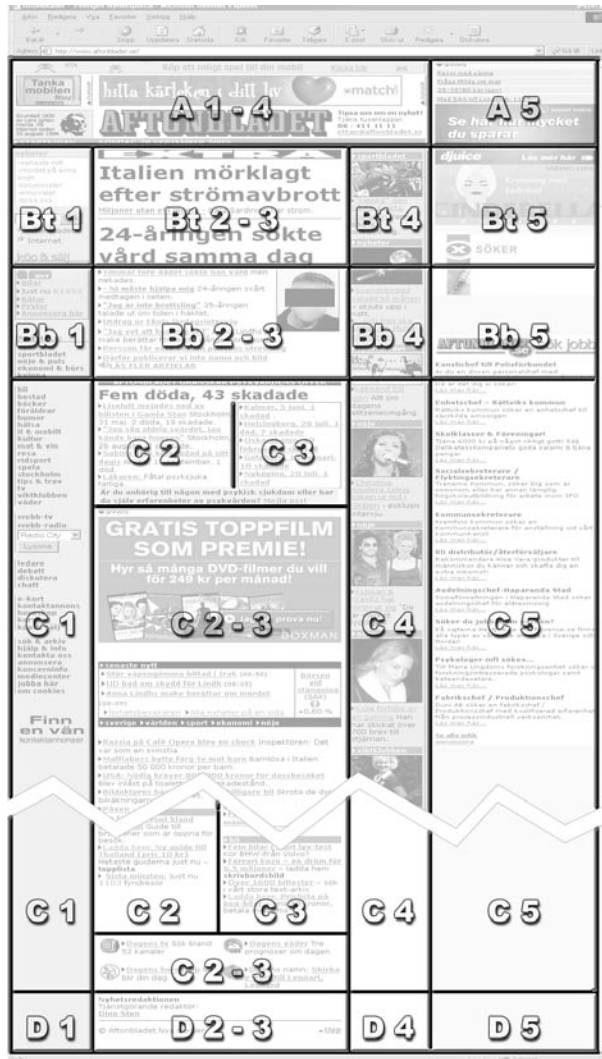


Figure 3. The column and section grid applied on www.aftonbladet.se

To decompose the layout of the front pages we positioned each content element according to the section and column grid. Each content element was then related to form and functionality. In an iterative process we identified all genre characteristics for content, form and functionality. This resulted in a list of genre characteristics specific for online newspapers. This list was revised during the process and when revision was needed we went back to ensure that all characteristics were handled consistently. In the front page analysis all content was identified newspaper by newspaper and was registered in a database with their given position, forms and possible functionality.

Building the framework for identifying the genre characteristics and applying it on the sample gave us a vast amount of data as a base for describing the Swedish online newspaper genre of today. To be able to a) use the description in future comparisons and b) to get a

manageable selection amongst the online newspapers that have exploited the media the most for the second part of our study, we chose to use the cybergenre model (Shepherd & Watters, 1998). The list of genre characteristics was therefore divided into two groups, inheritance and new, indicating degree of evolution (see Table 1). Inheritance refers to the genre characteristics that exist in the printed edition of the newspaper and new refers to those that are possible through the new media. In the front page analysis only functionality enabled by the new media was handled and therefore there exists no inherited functionality in table 1.

CONTENT		FORM		FUNCTIONALITY	
<i>Inheritance</i>	<i>New</i>	<i>Inheritance</i>	<i>New</i>	<i>Inheritance</i>	<i>New</i>
Navigation	Search item	TOC	Bar		Interaction
Nameplate	Video item	Menu	Tab		Real time interaction
Advertisement	Sound item	Logotype	Drop-down menu		Personalization
Classified	Web TV	Photograph	Link		Searching
News article	Web radio	Image	Icon		Showing video
Feature material	News stream	Section head	Text box		Playing sound
Hard composite	News archive	Body text	Radio button		Downloading
Soft composite	Added service	Caption	Banner		e-mailing
Entertainment	Poll	Headline	Timestamp		Broadcasting
Traditional service	Forum for chat	Date	Button		Login functionality
Issue	Membership		e-mail link		
Contact	Debate		Link list		
Letter to editor					

Table 1. Genre characteristics of online newspapers

Some of the characteristics in Table 1 need further explanation. By traditional services we refer to elements that could be found in the printed edition as well, such as TV schedule, weather, exchange news etc. Examples of added services are job-, real estate- and travel services that include interactivity possible through the new media.

A hard composite is used to present links to many articles within limited space whereas a soft composite present ingresses of a few articles followed by links within a limited space. A news stream present links to recent articles ordered by publishing time (Eriksen & Ihlström, 2000).

To exemplify the relations between content, form and functionality we give the following examples; The content *search item* can be presented in different forms such as a *textbox*, a *button* or an *icon* and requires the functionality *searching* enabled by the media; The content *video item* can be presented in different forms such as an *icon*, an *image* or a *link* and requires the functionality *showing video* enabled by the media.

When applying the cybergenre model (Figure 1) on the empirical data we have identified newspapers with both content and functionality progressed in evolution to the stage of

the emergent leaf node. Thus, the lack of significantly different forms indicates that none of the online newspapers in the sample could be categorized as fully emergent. To enable more comprehensive descriptions of the online newspaper genre evolution, as a base for the third part of the study, there is a need for adding a leaf node to the cybergenre model. This is also needed to get a manageable sample for the second part of the study. We have added a leaf node called “progressed” in our modification of the cybergenre model for online newspapers (see Figure 4).

The genre characteristics from Table 1 have been categorized according to the leaf nodes replicated, variant or progressed. The characteristics from the “inheritance” column in Table 1 were categorized as replicated since they exist in the printed edition. The characteristics of the “new” column were categorized as variant or progressed according to the level of functionality discussed by Shepherd and Watters (1998). The functionality proposed to the replicated cybergenre was exemplified by going to a section or turning page. We consider such functionality as part of the browser, and have therefore not handled it in the model.

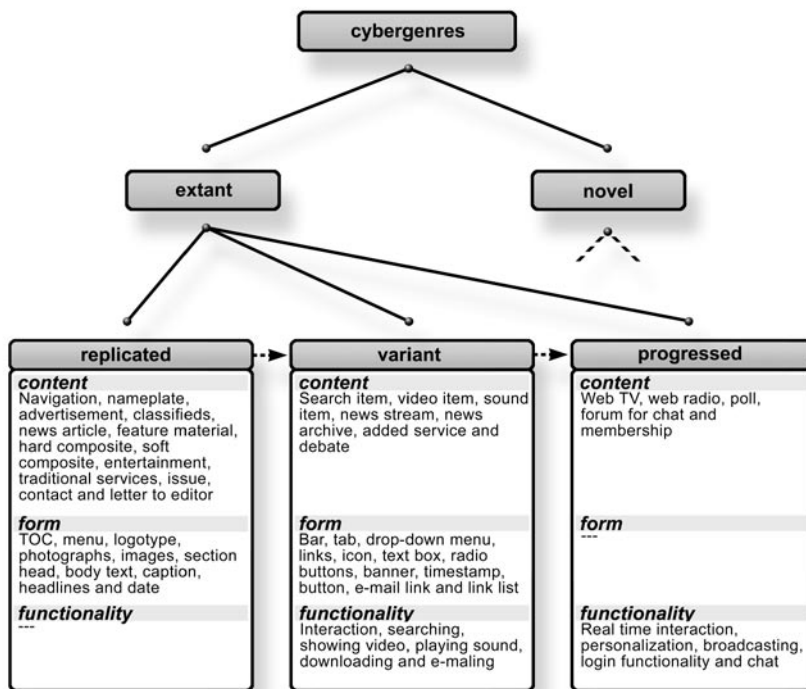


Figure 4. The cybergenre model for online newspapers

To categorize the online newspapers in the empirical sample into the different leaf nodes, we constructed rules that were used when applying the model on the sample.

- A replicated online newspaper consists of replicated content elements and form,
- a variant online newspaper must have additional variant content elements, form and functionality and
- a progressed online newspaper must also have additional progressed content elements and functionality.

Applying the model for the online newspaper genre on the empirical data resulted in a manageable sample of 23 online newspapers for the second part of the study, i.e. those that have exploited the media the most. To further describe the genre as a base for the forthcoming longitudinal study, we used the visual pattern (Schmid-Isler, 2000) and the definition of broadsheet metaphor (Shepherd *et al.*, 2001). Schmid-Isler (2000) divides the visual pattern of a traditional newspaper front page into: a) the name of the newspaper – the brand, b) the number of columns, c) headings, d) photographs and e) table of contents (often to the left). The broadsheet metaphor is described as “a newspaper layout of text and photographs... integrated into a coherent presentation” (Shepherd *et al.*, 2001, p.151). When referring to the broadsheet metaphor we include both the descriptions of Schmid-Isler (2000) and Shepherd *et al.* (2001).

All aspects of the broadsheet metaphor were recognized in 60% of the online newspapers, whereas as much as 83% of the online newspapers followed the broadsheet metaphor in all aspects, except presenting photos on the front page.

There is a difference among the online newspapers regarding the amount and width of columns, e.g. the more evolved the more columns (see Table 2). Most online newspapers have an additional column to the right for advertisements, 43 have it as their fourth column and 8 as their fifth. Approximately 23% of the newspapers only use the height of the screen in resolution 1280x1024 pixels resolution, showing section A, B and D, since most newspapers have a D section. Independent of the categorization, all online newspapers have a logotype typically positioned at the top center and most have the issue and date in connection to the logotype.

The Swedish online newspaper of today is described in a summary presented in Table 2, categorized as replicated, variant and progressed. Each category is described in short using the broadsheet metaphor and an example of the typical online newspaper front page is shown.




	REPLICATED	VARIANT	PROGRESSED
Online newspapers	13	49	23
Use of the broadsheet metaphor	Using limited part of the screen space in width and length, 2-3 columns, 50% only use A-B sections, only 4 without left navigation, 6 without photographs	Presenting a lot of content on front page, using 3-4 columns, over 80% use A-D sections, only 3 without left navigation, 13 without photographs	Presenting a lot of content with interactivity using 3-5 columns, almost 90% have long pages using A-D sections, only 3 without left navigation, 5 without photographs
Typical sample			

Table 2. Snapshot of the Swedish online newspaper genre 2003

5. IMPLICATIONS AND LIMITATIONS

We have met the design challenge presented in the introduction through the first step of the suggested approach by finding a way to define genre characteristics. This was done by *building a framework* and applying it on the Swedish population of online newspapers. This process is here summarized in short;

1. identifying the genre characteristics content, form and functionality grouped as inheritance or new (Table 1),
2. conducting a front page analysis using the column and section grid (Figure 2) for positioning the content elements and relating them to form and functionality,
3. developing/modifying a model for the online newspaper genre evolution (Figure 4) by grouping the genre characteristics as replicated, variant or progressed,
4. categorizing the online newspapers as either replicated, variant or progressed according to the model.

This approach is one way of addressing the challenge drawing on genre theory, there are of course others not discussed in this paper. In the process of building the framework we encountered some difficulties. The iterative process of identifying the list of genre characteristics was time consuming. In some cases decisions were made that later were changed and this led to starting all over again. The characteristics for functionality led to the most changes. We only handle the functionality clearly visible on the front page, there is probably more functionality not identified in this study. This process resulted in a final list of characteristics that were easily identifiable on the front pages.

To apply the framework on another sample of online newspapers, for example from another country, would strengthen the framework by revealing eventual shortcomings leading to improvements to the framework. In the same way the framework could be applied on other digital genres indicating its relevance for digital genres in general.

The aim to *describe the Swedish online newspaper genre* of today as a base for the forthcoming longitudinal study resulted in a vast amount of data stored in a database and the categorization in Table 2. As Sweden has the forth largest newspaper consumption in the world and most newspapers have an online edition, using the total population of Swedish online newspapers constitutes a trustworthy sample.

Based on the empirical results we suggest some initial layout implications to illustrate how this data can be used for further development. We are using our initial idea of the relation between the concepts for this purpose (each *content* element is presented in one or several *forms*, is sometimes requiring *functionality*, and is *positioned* on the front page). The suggestions are based on the most frequently identified design solutions in the sample.

The content *navigation* is mainly presented as a table of content or a menu and is positioned to the left (in A-B1) or in a bar positioned at the top (in A1-3).

The content *advertisement* is presented in a banner and is positioned at the top (in A1-4), to the right (in Bt3-4) or in the middle (in Bb2-3).

The content *news article* is presented as a body text with headlines, links, timestamp and photographs and is positioned mainly in the middle (in Bt2-3 or Bb2-3).

The content *hard composite* is presented with section heads or headlines, with link lists or links and is positioned in the middle (in Bt2-3 or Bb2-3).

The content *soft composite* is presented as body text with headlines, links and photographs and is mainly positioned in the middle (in Bt2, Bb2 or C2).

The content *news stream* is presented as a headline together with a time stamp and often divided with section heads and is positioned in the middle (in Bt2-3 or Bb2-3).

The content *news archive* is often presented as a link, textbox or button and has the functionality of searching and are mainly presented to the left (in A1, Bt1 or Bb1).

The content *added service* is mostly presented in a banner or with a link, with functionality like searching, interaction or real time interaction and is positioned to the right (in Bt3-4 or Bb3-4) or to the left (in Bb1).

These layout implications can be used as initial input in finding a way to communicate design within the genre, since they are built on genre specific characteristics instead of general web guidelines and style guides.

6. CONCLUSIONS AND FURTHER RESEARCH

Cybergenres can be characterized by the triple <content, form, functionality> (Shepherd & Watters, 1998; Shepherd & Watters, 1999). When using genre theory for design purposes this is not enough. When designing online newspapers, the characteristics that are taken for granted are related to the broadsheet metaphor which requires handling layout. We suggest a quadruple of genre concepts to be used when applying genre theory for design purposes. This quadruple consists of the concepts <content, form, functionality, positioning>. To handle positioning in layout we have constructed a column and section grid, which also can be used for other cybergenres.

Our findings are in line with the discussion of Shepherd and Watters (1998) that the online newspaper genre appears to be evolving back to something closer to its original genre in print regarding layout, i.e. the broadsheet metaphor. Since online newspapers are adopting the broadsheet metaphor for their layout and have a counterpart in another media (i.e. the printed newspaper), they can not become novel, emergent subgenres according to the cybergenre model, as they are still recognizable as the original genre (by not having significantly different forms).

To be able to get a richer picture of the Swedish online newspaper genre of today we added the progressed leaf node to the model. This leaf node is specific for the online newspaper genre but it is possible that other digital genres could benefit from this modification of the model.

Identifying the genre characteristics has built good grounds for the continuance of the study. The initial layout implications are intended to be used as input to the second part of the study. This part will address the second step of the approach to the design challenge, which is to find a way to communicate design within the genre. The results have also provided us with a snapshot of the Swedish online newspaper genre for future use in the third, longitudinal study. Our future longitudinal study will give the possibility of understanding more about genre change and how users and designers of online newspapers interact over time.

In conclusion, we have gained a productive way of understanding design for the online newspaper genre, of recognizing the similarities that constitutes the genre in its diversity. Our genre approach to design, takes the concept of positioning into account leading to the quadruple of <content, form, functionality, positioning>. This quadruple together with the use of the evolutionary model by Shepherd and Watters has made our understanding more comprehensive. The addition of the leaf node progressed deepened this understanding further. Although we can not generalize from this study of one genre (in one country) we can draw on this research together with previous research of digital genres to be of significance for future studies.

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APPENDIX 1. THE ONLINE NEWSPAPERS

NR	NEWSPAPER	WWW	NR	NEWSPAPER	WWW	NR	NEWSPAPER	WWW
1	8 SIDOR	8sidor.se	30	Hallands Nyheter	hn.se	59	Skaraborgsbygden	skaraborgsbygden.se
2	Aftonbladet	aftonbladet.se	31	Hallandsposten	hallandsposten.se	60	Smålandsposten	smp.se
3	Arbetarbladet	arbetarbladet.se	32	Helsingborgs Dagblad	hd.se	61	Sundsvalls Tidning	st.nu
4	Arboga Tidning	arboгатidning.com	33	Hudiksvalls Tidning	ht.se	62	Svenska Dagbladet	svd.se
5	Avesta Tidning	avestatidning.com	34	Hälsinge-Kuriren	halsingekuriren.se	63	Sydsvenska Dagbladet	sydsvenskan.se
6	Barometern	barometern.se	35	Katrineholms-Kuriren	kkuriren.se	64	Sydöstran	sydostran.se
7	Bergslagsposten	bergslagsposten.se	36	Kristianstads-bladet	kristianstadsbladet.se	65	Södermanlands Nyheter	sn.se
8	Blekinge Läns Tidning	blt.se	37	Kungälv-Posten	kungalvs-posten.com	66	Tempus	tempus.se
9	Bohusläningen	bohuslaningen.se	38	Laholms Tidning	laholms-tidning.se	67	Tidningen Ängermanland	tidningen.to
10	Borlänge Tidning	borlangetidning.com	39	Lidingö Tidning	lt.nu	68	Trelleborgs Allehanda	trelleborgsallehanda.se
11	Borås Tidning	bt.se	40	Ljusdals-Posten	ljp.se	69	Trollhättans Tidning	lt.2stad.se
12	Bärgslagsbladet	bargslagsbladet.com	41	Läns-Posten	lans-posten.nu	70	Ulricchamns Tidning	ut.se
13	Dagbladet Nya Samhället	dagbladet.nu	42	Länstidningen Södertälje	lt.se	71	Upplands Nyheter	tidningshuset.com/un
14	Dagens Industri	di.se	43	Länstidningen Östersund	ltz.se	72	Upsala Nya Tidning	unt.se
15	Dagens Nyheter	dn.se	44	Mora Tidning	moratidning.com	73	Vestmanlands Läns Tidning	vlt.se
16	Dalabygden	tidningshuset.com/db	45	Motala Tidning	motalatidning.se	74	Vimmerby Tidning	vimmerbytidning.com
17	Dala-Demokraten	dalademokraten.com	46	Nerikes Allehanda	nerikes.se	75	Värmlands Folkblad	vfb.se
18	Eskilstuna-Kuriren	ekuriren.se	47	Norra skåne	nsk.se	76	Västerbottens Folkblad	nyavf.se
19	Expressen	expressen.se	48	Norra Västerbotten	norran.se	77	Västerbottens-Kuriren	vk.se
20	Fagersta-Posten	fagerstaposten.com	49	Norrbottnens-Kuriren	kuriren.nu	78	Västerviks-Tidningen	vt.se
21	Falu-Kuriren	falukuriren.se	50	Norrköpings Tidningar	nt.se	79	Västmanlands Nyheter	vastmanlandsnyheter.nu
22	Folkbladet	folkbladet.se	51	Norrländska Socialdemokraten	nsd.se	80	Ystads Allehanda	ystadsallehanda.se
23	Folket	folket.se	52	Norrtejlje Tidning	norrtejljetidning.se	81	Ölandsbladet	olandsbladet.se
24	Gefle Dagblad	gd.se	53	Nya Dagen	dagen.com	82	Örebro-Kuriren	orebro-kuriren.se
25	Gotlands Allehanda	ga.helagotland.com	54	Nya Ludvika Tidning	nyalt.se	83	Örnsköldsviks Allehanda	allehanda.se
26	Gotlands Tidningar	gr.helagotland.com	55	Nyheterna	ostrasmaland.se	84	Östersunds-Posten	op.se
27	GT	gt.se	56	Nynäshamns-Posten	nhp.se	85	Östgöta Correspondenten	corren.se
28	Gästriklands Tidning	tidningshuset.com/gt	57	Piteå-Tidningen	pitea-tidningen.se			
29	Göteborgs-Posten	gp.se	58	Sala Allehanda	salaallehanda.com			

A GENRE PERSPECTIVE ON ONLINE NEWSPAPER FRONT PAGE DESIGN

Carina Ihlström

School of Information Science,
Computer and Electrical Engineering,
Halmstad University, Sweden
carina.ihlstrom@ide.hh.se

Jonas Lundberg

Department of Computer
and Information Science,
Linköping University, Sweden
jonlu@ida.liu.se

ABSTRACT

Taking a genre perspective on design, this article proposes eight design recommendations for online newspapers. These recommendations are based on features that mediate a specific purpose and use between publisher and audience, which we describe as genre rules in terms of purpose, form, and positioning. They are also based on genre change regarding design, and the heritage from print regarding form and shared content elements. We have a) studied genre change through a web page analysis of nine Swedish online newspapers in 2001 and 2003, using the genre concepts content, form, functionality and positioning, and b) derived genre rules through publishers and audience understanding of the genre. We have interviewed managers, designers and editors-in-chief at the nine newspapers as well as 153 members of their audience. We show that in the design process for digital documents, it is useful to have genre awareness, i.e. to be aware of the genre characteristics, the producer's design purpose and the audience recognition and response.

1. INTRODUCTION

Newspapers as a phenomenon have a long history. Following the first daily publication in Germany, daily newspapers were established in most Western countries throughout the 1700s and 1800s (Smith, 1979). Given the long history of daily news, the wide recognition of today's formats and layouts is no surprise. As an example, the broadsheet format is recognized by audiences all over the world.

Recently, publishers have started to publish online versions of their newspapers. Despite early attempts of electronic dissemination of text and graphics (e.g. Teletext), the first fully web based newspaper, The Palo Alto Weekly, appeared as late as in 1994 (Carlson, 2003). Since then, the number of online newspapers has exploded. In the US, for instance, there were already as many as 1.296 online editions in 2002 (WAN - World Press Trends, 2002). In the process of designing online newspapers, publishers seek to identify good ways to use web technology for establishing their online editions. Today, there is a demand from both academics and practitioners for more knowledge about how to design the online newspapers to become as recognizable and familiar as the printed ones (Boczkowski, 2002; Gunnarsson, 2002).

To address the perceived need of knowledge about design, this article uses genre theory (Yates & Orlikowski, 1992; Shepherd & Watters, 1998) for developing empirically based design recommendations for online newspapers. Newspapers and TV news broadcasts can be perceived as sub genres of the news genre (Bell, 1991) and the integration of the web medium and the traditional newspaper genre defines a genre for online newspapers.

Genres are produced, reproduced and changed over time (Yates & Orlikowski, 1992). A genre can be characterized by its content, form, functionality (Shepherd & Watters, 1998) and positioning (Ihlström & Åkesson, 2004), and a specific genre consists of a set of genre rules that are recognized and enacted by human actors in their use of the genre (Yates & Orlikowski, 1992). The genre rules of online newspapers, for instance, are enacted by both publishers and audience in the daily production and consumption of news. Genre awareness is a notion of how users and designers reduce the complexity of the web (Eriksen & Ihlström, 2000). When establishing a new site with a purpose similar to existing sites, the genre characteristics may be copied and refined to reflect resemblance to an existing genre, i.e. designers may want to draw on already accepted genres that correspond to their design purpose (Crowston & Williams, 1997). It is also essential to be aware of the users' expectations of the genre (Crowston & Williams, 1997).

Earlier research on design or use of online newspapers has so far mostly relied on experimental design and surveys (Boczkowski, 2002). Research on design of online newspapers concerns e.g. location of information (van Oostendorp & van Nimwegen, 1998; Vaughan, 1999), content features (Thompson & Wassmuth, 2001; Greer & Mensing, 2003) and interactive functions (Thompson & Wassmuth, 2001; Kenny *et al.*, 2000; Greer & Mensing, 2003). Several studies of the use of online newspapers have also been conducted (e.g. Mings, 1997; Chyi & Lasorsa, 1999; Ihlström & Lundberg, 2002; Aikat, 1998; Tewksbury & Althaus, 1998).

In order to obtain a comprehensive understanding of online newspaper design we have conducted a qualitative study. We have conducted web page analysis in 2001 and 2003, using the genre concepts content, form, functionality and positioning to identify genre

characteristics and to study design changes of the genre. We have also derived genre rules by analysing publishers design purpose, and audience recognition and use, through qualitative interviews and usability tests.

The theoretical framework is presented in the following section. The methods used in this study are described in section 3 followed by a presentation of the empirical results in section 4. In section 5, we discuss the findings and present the design recommendations. Section 6 concludes the paper.

2. THEORETICAL FRAMEWORK

Aristotle's original concept of genre was adopted as a tool to help with the analysis of popular texts (Lacey, 2000). According to the online version of Encyclopedia Britannica (2002), genre is defined as "a distinctive type or category of literary composition, such as the epic, tragedy, comedy, novel and short story". Genre theory has been used within the field of discourse analysis of textual units (Swales, 1990; Berkenkotter & Huckin, 1995; Paltridge, 1997) but was introduced to the Information Systems (IS) field in 1992 by Yates and Orlikowski (1992). The concept of genre has proven its value as an analytical tool in IS research on topics spanning from organizational communication to web enabled communication (Yates & Orlikowski, 1992; Yates & Sumner, 1996; Watters & Shepherd, 1997a; Watters & Shepherd, 1997b; Roberts, 1998; Shepherd & Watters, 1998). Furthermore, the concept of genre has been advocated as a potential tool for structuring design of new IT appliances (Brown & Duguid, 1996).

GENRE CONCEPTS

There are different views of what characterizes a genre. A genre could be characterized by having similarities in substance (i.e. the semantic meaning) and form (Miller, 1984; Yates & Orlikowski, 1992), or it may be characterized by its purpose and form (Swales, 1990; Orlikowski & Yates, 1994; Crowston & Williams, 1997; Yates *et al.*, 1997). Swales (1990) argues that the communicative rationale of a genre will constrain content, positioning and form. In addition to content and form, purpose and function have become most relevant to modern genre analysis (Breure, 2001).

Digital genres are often characterized by its content, form and functionality as the medium have functional capabilities (Shepherd & Watters, 1998; Schmid-Isler, 2000). Content refers to themes and topics (Shepherd & Watters, 1998), whereas form refers to observable physical and linguistic features (Yates & Orlikowski, 1992). Functionality refers to capabilities available through the new media (Shepherd & Watters, 1998; Shepherd & Watters, 1999). According to Shepherd and Watters (1998), functionality cannot be discussed without reference to the goal or purpose of the genre. The purpose must be viewed from the perspective of the author of the site and thus, the functionality incorporated into the site is driven by this purpose.

It is the content that gives a genre its uniqueness and this is important when discussing genres like online newspapers (Badre, 2002). When looking at a web page from a genre perspective, all page elements can be seen as content items. Each content element is presented in one or several forms, is sometimes requiring functionality and is positioned

on the web page (Ihlström & Åkesson, 2004). Genre specific content elements for the online newspaper genre have been identified by Eriksen and Ihlström (2000), e.g. the news stream, the archives and the headlines. The news stream presents recent stories ordered by publishing time. The main criterion for arranging articles is the time stamp of the article. Neither broadcast nor print media applies this form of organization. The archive has also become a part of the online newspapers. This construct allows users to search or browse historical content. Headlines are the presentation of stories that are valued as most interesting, these are presented at the front page of the online newspapers.

GENRE RULES

A specific genre consists of a set of genre rules that are recognized and enacted by human actors in their use of the genre (Yates & Orlikowski, 1992). Yates and Orlikowski describe genre rules as social rules that "...associate appropriate elements of form and substance with certain recurrent situations" (Yates & Orlikowski, 1992, p. 302). Genre rules "may operate tacitly, through socialized or habitual use of the communicative form and substance, or they may be codified by an individual or body into specific standards designed to regulate the form and substance of communication...genre rules may also be standardized by being embedded in a medium..." (Yates & Orlikowski, 1992, p. 303). The genre rules of online newspapers are enacted by both publishers and audience in the daily production and consumption of news.

GENRE CHANGE

Genres are produced, reproduced and changed over time (Yates & Orlikowski, 1992). They are altered both deliberately and in response to conditions in the situation and community using the genre (Berkenkotter & Huckin, 1995). When changes to established genres become widely shared among members of a community, genre variants or even new genres may emerge. Such changes may be triggered by the introduction of a new communication medium (Yates & Orlikowski, 1992; Yates *et al.*, 1997). Yates and Sumner (1996) describe how technology first has a disruptive force on genre, but that in use, the documents changed in response to social needs and technological opportunity, towards a generic form. According to Erickson (1997), change of media may even speed up the evolution of a genre. One example of a genre enabled by new media is the online newspaper genre.

GENRE AWARENESS

Genre awareness is a notion of how users and designers reduce the complexity of the web (Eriksen & Ihlström, 2000). Rather than learning and recognizing each and every site, users categorize sites as belonging to distinctive genres. For designers, genre awareness is a tool to target audiences. When establishing a new site with a purpose similar to existing sites, the genre characteristics may be copied and refined to reflect resemblance to an existing genre, i.e. designers may want to draw on already accepted genres that correspond to their design purpose (Crowston & Williams, 1997). It is imperative for designers of new media to have a good understanding of who are using the media and how they are using it (Agre, 1998). It is also essential to be aware of the users' expectations of the genre (Crowston & Williams, 1997).

The idea of genre as an interface metaphor was discussed by Toms and Campbell (1999), who means that a document provides various cues that enable users to quickly grasp its form, purpose and functionality. They argue that a user can recognize, even before reading the content, e.g. a newspaper through the appearance of headlines and columns. Watters, *et al.* (1998) discussed the newspaper metaphor for electronic use, which was preferred by the users according to their results. This so called broadsheet metaphor is also described as “a newspaper layout of text and photographs...integrated into a coherent presentation” by Shepherd *et al.* (2001, p.151).

To gain good quality in design different approaches could be taken, e.g. the use of guidelines. Guidelines could be used as checklists against a design (Smith & Mosier, 1984; Nielsen & Molich, 1990; Shneiderman, 1997; Nielsen, 1992). Genre theory helps to look at the design problems from a different perspective than prevailing usability engineering strategies (Breure, 2001).

3. RESEARCH APPROACH

In order to obtain a comprehensive understanding of online newspaper design, we have conducted a qualitative study. We have conducted interviews with management, designers and editors-in chief at nine Swedish newspapers with online editions and interviewed and usability tested 153 of their users, in order to derive genre rules based on publishers design purpose and audience recognition and use. We have also analysed the front pages of the nine online newspapers in 2001 and again in 2003 to identify genre characteristics and to study design changes of the genre. The analysis of 2001 was also used to interpret the statements of the respondents, whereas the 2003 analysis showed what features had gained dominance two years later.

There are three reasons for why it is relevant to study the publishers, the online newspapers and their audience in Sweden, to gain more knowledge of the design and use of online newspapers. Firstly, Sweden had the fourth largest newspaper consumption per capita in the world in 2002, only Norway, Japan and Finland had larger consumption (WAN - World Press Trends 2002). Secondly, most Swedish daily newspapers have online editions today (Gunnarsson, 2002). Thirdly, reading newspapers online was the fourth activity (after e-mail, surfing and banking) in time spent on the net in Sweden during 2002 (World Internet Institute, 2002).

We define online newspapers, as the online editions of daily newspapers, not branch specific or other newspapers. To get a good representation of Swedish newspapers we contacted Citygate, which is an association of newspapers located from Halmstad in the south of Sweden to Umeå in the north. Nine of their ten newspaper members agreed to participate, giving us access to their audience as well, resulting in a sample that is representative for Sweden. The URL:s, the daily average circulation of the printed newspaper, unique visitors online per day and the number of staff at their Internet divisions from 2001 are presented in Table 1. In the remainder of the paper we refer to the newspapers by their numbers in Table 1.

NR	ONLINE NEWSPAPER	AVERAGE CIRC.	UNIQUE VISITORS	STAFF
1	www.ekuriren.se	33.000	3500	6
2	www.hallandsposten.se	32.500	2400	4-5
3	www.nerikes.se	69.000	8000	5
4	www.nt.se	49.900	4000	3-4
5	www.stonline.se	38.600	1100	2-3
6	www.unt.se	62.100	9000	6-7
7	www.vlt.se	47.600	7000	4-5
8	www.vk.se	45.000	10000	6
9	www.corren.se	67.300	5000	8

Table 1. The online newspapers in the study

3.1 WEB PAGE ANALYSIS

We have conducted a web page analysis in 2001 and again in 2003 in order to identify genre characteristics and to study design changes of the online newspaper genre. To study design change, we have used a repertoire of page elements consisting of elements from general web design, i.e. navigation and search elements and genre specific elements, i.e. the news stream, the headlines and the archives. Advertisements, finally, were included in this analysis, since they cover a lot of space in the printed edition, and to a great extent is what currently brings revenue to the online edition (Ihlström *et al.*, 2002; Borrell & Associates Inc., 2003).

All page elements in the repertoire can be seen as content elements, which are presented in one of several forms and sometimes require functionality and are positioned on the web page. All page elements were analysed according to this view. The focus of our web page analysis was on the front pages since it is the most complex page, containing all page elements. We used a column and section grid to position the elements on the front page (see Figure 1), and we have applied this grid on paper 3 to further clarify this system (see Figure 2).

The results from the first web page analysis and the audience response was reported back to the newspapers at the end of 2001. The forms and position of all page elements of the front pages from 2001 and 2003 are presented in Appendix A.

Columns \ Sections	1	2	3	4	5
A	Header of front page				
B	Bt >> Top half of B-section on screen in resolution 1280 x 1024 pixels				
	Bb >> Bottom half of B-section on screen in resolution 1280 x 1024 pixels				
C	Rest of front page				
D	Footer of front page				

Figure 1. The column and section grid (Ihlström & Åkesson, 2004)



Figure 2. The column and section grid applied on paper 3

3.2 INTERVIEWS WITH THE PUBLISHERS

To obtain knowledge about the publishers' design purpose, the first author of this paper conducted semi-structured interviews with management, designers and editors-in-chief at the nine newspapers. The interviews were all based on an interview guide approach (Patton, 1990). The interview guide was used to ensure that the information needed was obtained in the interviews, but it did not determine the sequence or structure of the interview (see <http://www.hh.se/staff/caih/jwe.html>). The purpose was to allow new topics of interest to emerge as the interviews went on. Questions regarding design and the page elements were asked together with a wide range of themes covering prerequisites, current status and the future expectations and so on. These respondents of the newspapers were chosen because they were the most suitable to answer these kinds of questions. These interviews lasted between 60-90 minutes. The interviews were recorded and then transcribed. In order to analyse the collected data, patterns were identified in the transcribed material (Easterby-Smith *et al.*, 1991). The patterns include issues raised repeatedly during the interviews or opinions that kept re-appearing and can be described as commonly found views. We both analysed the material of our own before making a joint effort in order to make the analysis more trustworthy. We discussed our different analyses and made joint decisions where we differed.

3.3 INTERVIEWS AND USABILITY TESTS WITH THE AUDIENCE

The plan was to interview 21 users at each newspaper in order to obtain knowledge about the audience recognition and use of the online newspapers. To get a good sample of respondents, we asked the newspapers to automatically present a questionnaire (as a pop-

up window) when an individual visited the news site, as well as to have two advertisements in the printed edition of the paper. The pop-up window was shown from 3-7 days and we had 60-240 answers from users at each newspaper. The selection was made out of four different criteria; 1) gender, 2) age, 3) education and 4) Internet usage. There was a decline of 3-4 respondents that did not show up for the interview at each newspaper, giving us a total of 153 respondents.

The final sample consisted of 78 women and 75 men. There were 12 respondents who were born in the 1920's, 20 in the 1930's, 25 in the 1940's, 27 in the 1950's, 28 in the 1960's, 31 in the 1970's and 10 in the 1980's. 21 had compulsory school as their most advanced education, 53 had comprehensive school and 79 had a university education. 4 respondents had never used the Internet, 11 used it on a monthly basis, 25 some times a week and 113 on a daily basis.

Each interview session, performed by the first author of this paper together with two colleagues, started with a standard usability test using the think-aloud technique (Shneiderman, 1998) for about 10-15 minutes in order to analyse their interaction (use) with the online newspaper. The interviews were carried out using a structured interview guide (Patton, 1990) in order to get answers to the same questions from all respondents. Parts of the interview guide were constructed to match the repertoire of page elements (see <http://www.hh.se/staff/caih/jwe.html>). The interviews took place in front of the computer in order for the user to show us how they performed tasks in the news site and for the users to relate to when answering our questions. We asked 53 interview questions grouped into 5 different themes; (1) Navigation and structure, (2) Reading preferences, (3) Format, (4) Trademark and trustworthiness and (5) Others. In this paper, we mainly report from the first three themes. Each interview lasted about 45-50 minutes. The interviews were recorded, transcribed and stored in a database. The analysis was done in a similar way as with the interviews from the publishers described above.

4. EMPIRICAL RESULTS

In section 4.1 we first present the analysis of each content element from the repertoire (navigation, news stream, headlines, search/archive and advertisements), followed by the publishers and audience view on each element. We thereafter present some general reflections from both the publishers and the audience in section 4.2 and 4.3. The parentheses after the quotations indicates the numbers of the online newspapers presented in Table 1. Where position is mentioned, we refer to the column and section grid (see Figure 3) and the results in Appendix A.

4.1 CONTENT ELEMENTS

For each content element, we present a) its form and position (see Appendix A) and functionality, b) the design change since 2001, c) the publishers design purpose and d) the audience recognition and use.

The content elements of two front pages from 2001 are illustrated below, where paper 2 (Figure 3) has tried to retain the newspaper form (i.e. the broadsheet metaphor) for the

headlines and newspaper part labels from the printed edition, whereas the web layout of paper 6 (Figure 4) most markedly differs from the printed newspaper genre.



Figure 3. Front page of paper 2, February 22nd 2001



Figure 4. Front page of paper 6, March 14th 2001

4.1.1 NAVIGATION

We have identified five main different navigation element forms on the nine web sites; menus, bars, tabs, banners, and dropdown lists. Menus are composed of a column of headings, a variant was the small menu that merely consists of a few headings. Bars are composed of a row of headings, sometimes shown as tabs. One variant was the small bar, merely consisting of a few items. The vertical tabs, used at paper 4 in 2001, where the text was written vertically, was a technically advanced and unusual solution. The content of the tabs was shown when moving the pointer over them. When showing the content under the tabs, the news stream was hidden. Another unusual solution was a bar attached to a frame, i.e. it stayed in position when the user scrolled the screen. In this case, it was placed at the bottom of the page at paper 6. Another navigational aid was the banner, which used a form resembling that of an advertisement. Finally, there were dropdown lists, which when clicked dropped down a list of items over the contents of the page. Common elements in 2001 were the menu presented as a table of contents (TOC), preferably in the B1 position, and the tabs or bar, presented in the top A position. The TOC also provided overview of site contents, by its content headings. Banners in different positions were also frequently used (see Table A in Appendix A). The functionality of navigation elements was related to the built-in functionality of the browser, i.e. going to another page or section.

Design change

In 2001, there were two unusual navigational solutions; the on-mouse-over expanding vertical tabs at paper 4, and the bottom navigation frame at paper 6. These unusual solutions from 2001 were not present on the sites in 2003. The use of banners as navigation elements had increased. The most common solution was still the left navigation menu at B1 and the navigation bar or tabs at A1-4.

Publisher design purpose

The publishers had discussions regarding the organization of the navigation elements. These discussions partly resulted from the online edition having contents that were not present in their printed editions as illustrated: “... *but here we have additional contents such as services, which are neither bird nor fish. There are several different perspectives that should share too few dimensions.*” (7). Another issue of discussion was to separate the editorial from the commercial material, since many papers in addition to news and web services had commercial material of the same kind as in their printed editions. This was achieved in different ways, for instance by using color markup, and additional menus. Some publishers wanted to avoid an overloaded navigation, and they achieved this by dividing their navigation into categories.

Most of the newspapers were following the categories from the printed newspaper to some extent when designing their navigation. The depth of the sites was also discussed. To find things quickly, a maximum of three levels was used by e.g. paper 5 and one respondent stated that: “*There is never more than two clicks to anything else.*” A respondent at paper 8 stated that news had to be categorized according to actuality. No-one provided a site map but some of the newspapers offered alternative navigation via drop-down menus or a table of content organized in alphabetic order showing all contents of the site. This was a time consuming effort, as illustrated by the respondent at paper 3: “*We were trying to make it easier for our readers to get an overview of all contents. Sometimes one wonders whether it is useful at all.*”

Audience recognition and use

Most users returned to the first page to start from “the beginning” to browse the newspaper contents or to search for something else. “*Either I click my way back, or I go to the start page and restart from there*” a respondent from paper 9 stated.

More than half of the respondents thought that they got an overview of the contents of the online paper. In general, respondents found that they got overview from navigation elements and news elements such as headlines and captions. Some comments from the respondents were: “*Yes, it is this list of different groups of contents, and that you can get further from these different stories*” (1), and “*I think I get a good overview on what is at the site, because of the tabs which are in an eye-catching position*” (2).

However, the form of the pages and the position of the elements at some news sites made them less effective. On paper 6, which had the navigation bar placed at the bottom of the page, only one third of the respondents felt that they got an overview. As a respondent stated: “*I never discovered this navigation at the bottom of the page. Never. I arrived in Uppsala in september-98 and each time I have had to think about on how I did the last time*” On paper 4, many of the respondents stated that they did not get a proper overview. The navigation element at paper 4 was vertical tabs, which did not show content before moving the pointer over them. Some respondents on paper 4 did not recognize the vertical navigation tabs at all and were surprised when they encountered them by accident. At the papers 2, 7 and 8 most people felt that the paper gave a satisfying overview.

A respondent of paper 2 and several others, stated that it might take some experience with the paper to get the overview: “*I think that if one uses the web site often, one surely gets a good overview. If one learn what is under the tabs*” (2). It was not always the case that having read

the printed edition helped when trying to get an overview of the online edition as another respondent from paper two stated: *"It is like when it comes to reading the newspaper, one has read the printed edition during most of ones life, and this is a new way of reading"* and *"... I recognize the paper, but I am not so used to the web"* (9) whereas another respondent of paper 9 thought that the resemblance between the printed and online edition was helpful: *"... I think so because you recognize it from the printed edition"*.

Many respondents found it more difficult to find items when navigating in the online edition, than in the printed edition, as one respondent from paper 9 expressed *"It is more difficult. Since I recognise the newspaper but I am not so used to the web"*. As a respondent from paper 2 said, it could be due to different ways of thinking *"... because here one must consider under what tab something could be. In a printed paper one searches pages. It is easier to find on the web because here I can go directly to the specific question."* Many respondents also found it rather easy to find things on the online edition, and some found it even easier.

During navigation of the site, only one third of the respondents could tell their position on the web site but as many as about one fourth of the respondents found it important to know their position. Most respondents that knew their position in the web sites were from papers 2, 3, 6, 7 and 8 and most that did not know were from paper 4. The most common elements used for this purpose were the URL in the address field of the browser or headings. One of the respondents stated, *"I look at the captions to see where I am"* (3). Also, dedicated landmarks in the navigation, for instance, a red dot in the B1 menu at paper 9, or marks in the tabs in the A1-4 position of paper 2 were used, e.g. *"I look at the tabs, one can see on the marking what thing one has done last"* (2).

Over 50% of the respondents considered it easy to find previously visited pages and very few found it difficult as illustrated by a respondent from paper 3: *"It is easy to go back, I just use the back button"*. Almost all of the respondents used the back button of the browser for this purpose. Very few of the respondents could see which way they have taken through the structure of the web site when moving from one page to another. Most of them looked in the URL trying to get this information. Also captions and different colours etc were used. Many respondents on paper 2 recognized the path taken by using a breadcrumb navigation element present at each page. The use of colour was also mentioned. Some comments from the respondents of paper 2 were *"The colour marks show me what path I have taken"* and *"I look at the breadcrumb navigation aid"*. Moreover, some respondents were looking in the browser history menu.

4.1.2 NEWS STREAM

All of the newspapers had a special news stream element for the most recent news. It had the form of a list of article headings, each marked with a timestamp. All papers updated their news stream during the day. Some variations to the form of the news stream were found. Firstly, the position on the front page varied but not much. Most papers placed their news stream in one column in the Bt position in 2001 (see Table B in Appendix A), but the papers differed regarding what column it was placed in. The exception was paper 9, with a news stream in the C2 position. They also differed in length, from containing a few news items to stretching down into the C area. Secondly, some e.g. papers 5, 6 and 9 had divided their news stream according to different categories, e.g. domestic, international, sports, economics etc. Thirdly, there were also streams containing headlines, but without

time stamps, these also existed with headlines dedicating them to particular categories, such as sports. We denote these just as streams, since they were not as time sensitive as the news streams regarding the absolute latest news.

The functionality of the news stream is based on continuous updates during the day, where some of the news is automatically presented by the Swedish Telegram Bureau. Moreover, when the news stream was categorised into a table of contents, it sometimes got additional functionality. If there was a corresponding newspaper part containing all the articles of the category, then the news stream also was a navigational element. That was the case when the user could use any element in the news stream, or the contents heading, to navigate to different parts of the site.

Design change

The three papers with a division into categories in 2001 had changed to a non-categorized news stream in 2003. Only paper 7 instead changed to a divided news stream. In all papers, the news stream, with timestamps, was in a top position in 2003. There were also non-time stamped streams in the 2003 sample. In paper 7, there was a stream divided into several categories. In addition, in seven of the papers, there were streams for just one category in different positions, not just the top position, on the front page. A particular category found in 2003, but not in 2001, was “the most-read stream”, which did not categorize items according to content, but according to how many times they have been read. Moreover, in 2003, there were several cases where a news stream or stream was presented together with a headlines element presenting articles in the same category.

Publisher design purpose

All newspapers updated their news stream continuously during working hours using news from the Swedish telegram bureau (TT). In 2001, some of the newspapers had started to update their news stream 24/7 and most of them had started to feed the news stream with in-house produced local news, which was provided by all newspapers in 2003. In paper 5 there had been a discussion whether or not to provide time stamps, and a respondent said. *"We are going towards not time stamping, since it's really unimportant information. 03.00 really tell you nothing. It's mostly for our own use. We have removed it from the in-pages."* A few of the papers had chosen to divide the news stream into different categories and this had also been discussed by others, e.g. at paper 8: *"We are discussing whether we should divide it into local, domestic, foreign, but for now we keep it like this. We think it is advantageous to have it all together. We do news valuation and insert it in order."*

Audience recognition and use

Most respondents (approximately 80 %) recognized the news stream. They used the label ‘latest news’, used by some papers, and the timestamp for this, as illustrated by a respondent at paper 2: *"It is the latest that has been published, there are no timestamps on the ordinary articles"* (2) They also recognized new articles due to form, when they were positioned in a top position; at the top of the page, at the top of a news stream or at the top of the headlines, e.g. *"It has something to do with the latest being on the top of the page. The most important things are on the top"* (9) and *"The latest news is very brief, the most important and very compressed"* (6).

When timestamps were used, some readers used those to differentiate new articles from older articles. Paper 3 presented an “L” below the timestamp in their news stream to indicate

that it was local news from the newspaper. The readers of paper 8, which had a sizeable time stamped news stream in the B3 position, all found it easy to recognise the latest news, e.g. *"I know what items are the latest news. There are timestamps on the headlines."* and *"I can see it in the field on the right. It catches the eye."* However, not all respondents could see what items were the latest, as one respondent of paper 4, with a small time stamped news stream at position Bb2-3, stated *"It's not that easy to see. Of course, one knows that the main news always is placed on the front page"*.

4.1.3 HEADLINES

The main form of the headlines element was one or more puff elements, which consisted of a headline and a lead paragraph and sometimes had an image. It could also have other contents such as a linked discussion. Sometimes the headlines were categorized, containing headlines from a particular section. On paper 9, there were also time stamped headlines making them a hybrid element taking the characteristic of the news stream of showing the time of publishing. In 2001, all of the newspapers published headlines in the top B position and several papers also in the C position.

Some papers positioned news articles due to importance (e.g. paper 2, 4 and 8), whereas other papers used the size of headlines, amount of text or pictures to indicate importance (e.g. paper 3 and (6)). Paper 9 added content during the day to the headlines section in temporal order, rather than ordering by importance. Sometimes, the category headings also functioned as navigation items.

The functionality connected to the headlines was also related to the browser functions, such as going to a new page with the full article text. When the article was categorised, if there was a corresponding newspaper part containing all the articles of the category, the headline also functioned as a link to that part.

Design change

Most papers in 2003 had a time stamped headlines section, although some papers as before had more than one headlines section. Only paper 9 went against the trend, removing the time stamps altogether from the section. Moreover, in 2003, paper 4 presented headlines together with a stream presenting articles in the same category.

Publisher design purpose

All newspapers were in 2001 to some degree positioning the news that was considered as the highest valued at the moment in a top position. Many of them were using pictures as well, and sometimes the news article for the top position was even selected due to there being a good picture to go with it, as illustrated in the comment from the respondent from paper 1: *"Firstly, one tries to find a good image that fits the page. And we'd rather have a broad image, since that looks best. Therefore sometimes the top headline won't be the same as in the printed edition. To make the page look nicer."*

In the morning, the top story from the printed edition was usually placed in the top position but most of the papers were changing their top story during the day. *"... preferably about three times a day. When something happens, you change. An accident or something else."* was a comment from a respondent to paper 3. Sometimes time was considered to be more important than news value for the top position news as illustrated by a respondent to paper 8: *"Sometimes an important news item is placed in the bottom position, since we freshness is also*

considered when we prioritize. A smaller news item that is less important but more fresh can end up in the top anyway." Paper 9 had technical problems which made it hard to administrate the site. They were waiting for a new publishing system that they have been working with for four years. They found it problematic that all articles on the front page had the same heading size regardless the news value. *"We can not prioritize at the moment, the latest one is placed at the top"*.

Audience recognition and use

Many respondents mentioned the size of headlines and the amount of text as the main tool for the newspapers to indicate the importance of the article together with the position on the page. The general opinion was that the layout was different online than in the printed edition, as illustrated by this comment from one respondent at paper 2: *"On the net, I feel that there are few big news items, and many small"*.

The absence of pictures contributed to the general feeling that all articles had the same value. When a picture was present, the article was considered to be more important. Some respondents considered that the article placed on top of the page was the most important one, even if it had a timestamp. Thus, the news valuation was not seen as evident, as illustrated by the following citations: *"All news here has the same size, regardless if there is a kitten in a tree or a severe accident has occurred"* (7) and *"One has to decide for oneself, what's is important"* (1).

However, there were different opinions regarding whether this was good or bad, e.g. *"One doesn't have to get irritated when unimportant stuff cover half the first page as they sometimes do in the printed edition"* (2), and *"They select at the paper what they think one is interested in and publish it prominently. It can happen that the little article says more than the big one"* (5), but most users missed the news valuation from the printed newspaper.

4.1.4 SEARCH/ARCHIVES

The search/ archives were presented on the first page by a link to a search page (1, 2, 4, 9), as a search function consisting of at least a text entry field (8), or both (3, 5, 6). Only paper 7 lacked a search/ archive function completely. The links were presented as items in a menu, bar or tab, in the A or B positions. The search function had different positions in the papers (see Table D in Appendix A). The amount of time that the news articles were available for search by the users varied from one to three months. The functionality of the search fields made it possible to conduct a search leading to a new page showing the results, mostly 20 at the time. The difference in functionality between the search function and the archive was that the search function only searched the current site, whereas the archive searched previous editions, sometimes including the current site, sometimes not.

Design change

All papers had at least a link to the search/archives in 2003. Some papers (2, 4, 7, 9) had added search fields to their front page, whereas papers 5 and 8 removed their search fields, which result in a total of six papers with search fields on the front pages in 2003. The search/ archive functions in 2003 were always in the top position, either A or B, whereas in 2001 there were search functions also in the C position.

Publisher design purpose

In 2001, seven of the newspapers had archives with different limits for searching, e.g. available data from one week (1), four weeks (6), and three months (9), while one (paper 3) has an archive with material from several years. They were concerned that their users did not find and used their archive. Some of the papers allowed searching directly after publishing, e.g. paper 5: *"Here it is possible to search immediately. If it is in the database, then it is searchable. If it is published, then it is searchable. They can even search for more than they are allowed to view. ... Then they get an error message."* while others didn't allow it until the day after. In some papers, there were different search functions for the news archive, and for the current online pages. All but two papers (6, 8) had in-house made search engines. There was a discussion going on at the newspapers whether or not to let users have access to the newspaper archives of text and pictures. They all thought that these archives could generate revenues if they were accessible online. They are waiting until it will be possible to charge the users as illustrated by the respondent at paper 8: *"We do have a text and picture archive at the editorial office. We do not put it online. It is a goldmine for us newspapers. Perhaps on the day when it becomes possible to charge for small transactions."*

Audience recognition and use

More than half of the respondents stated that it was easy to find what they search for on the web sites. Some users expressed that they liked to use the search function, e.g. one respondent from paper 2 said that *"I use the search function as much as possible"*. One respondent from paper 4 said that *"It is much more difficult to find things on the web. I think that they have complicated things with advanced technology."* Most respondents who found it difficult were from papers 3 and 6 and most that found it easy were from papers 2, 7 and 8. Almost one fifth found it easier to search on the web where twice as many found it easier in the printed edition since many users navigated when searching. *"If one has read the paper for years, then one finds, it's not like that on the net"* (6).

4.1.5 ADVERTISEMENTS

There were two variations of advertisements; banners, and links in menus. A banner normally was an illustration, which could have both text and images. They could also be animated and have sound, although in our sample, there were no sound banners. We differentiated one particular kind of advertisements in the menus, which had the form of text links leading to the classifieds. The functionality of an advertisement was to sometimes provide a link to a site, often outside the online newspaper as decided by the owner of the advertisement.

Design change

In 2001, there was often at least one top banner in the A position, and usually to the right, in column 4, 5, 6 or a combination (see Table E in Appendix A). The classifieds were only presented as links in a menu. At most papers, there was still a top banner and banners to the right in 2003. In addition, at two papers (3, 4), mid-page banners were added. With the exception of paper 9, there were generally more banners at the sites in 2003 than in 2001. Moreover, advertisement supplements appeared at paper 1 in 2003 as links.

Publisher design purpose

Since all nine newspapers were belonging to the same association, Citygate, they had developed a concept for advertisements together. They had special personnel who were

selling banners on a national basis, while it was the newspapers own responsibility to sell local banners. The banners were positioned in the same top and right position at all online newspapers. Most papers stated that they made some revenue from advertisements but they agreed that was hard work, e.g. as a respondent on paper 3 said: *"It is difficult to sell banners. We haven't succeeded so well with that."* The national banners were made by Citygate while most of the local banners were made in-house at the newspapers.

They were mostly restrictive regarding sound, but animations were common. However, as a respondent at paper 5 said: *"I believe we are quite happy for the advertisements we get."* In paper 7 they had an incident with a banner including sound: *"You should have heard the racket when our advertisement editor sold a sound banner. First and foremost it was a very long sound clip for on- load. As soon as we loaded the page, the computer started screaming 'Here is cheap Nisse's!!' And it was impossible to shut the sound off too. There was a damn racket."*

Audience recognition and use

Most respondents thought that they could clearly differentiate between advertisement and editorial material, e.g. *"It is very clear what are advertisements, but at the same time one is a bit cowardly about clicking on these things"* (8). Some respondents noticed that there were fewer advertisements in the online paper.

However, many respondents expressed a clear lack of interest in the advertisements as illustrated in the following quotations; *"One doesn't notice the advertisements, they are there but one doesn't look at them"* (9) and *"One has almost learned not to notice the advertisements"* (2). One respondent in paper 9 had discovered that some ad-like banners were not advertisements: *"I have been clicking on these here at the edge, and they have turned out to be something else than ads"*. Another respondent expressed the view that the form was a distinguishing factor to recognise advertisements: *"On the ads, there are clickable images, and it is not like that in the editorial part. There it is text."*

4.2 GENERAL REFLECTIONS FROM THE PUBLISHERS

All but one of the papers had made the design in-house, and two of them had tested their sites with users. Some of the papers were also providing web design services for companies in the region. This was sometimes considered problematic since they had to prioritize the customers before the in-house development of their online newspaper. A respondent from paper 4 said: *"We have been working under heavy time pressure. When we work as a web bureau and editorial office we have double responsibilities. It is an internal question that shouldn't affect our readers, but which regrettably affect them anyway."* The publishers also look at other sources when designing their web sites. For example, some of the newspapers mentioned that they scanned other news sites both in Sweden and abroad for inspiration for design.

Most of the newspapers considered themselves as media instead of newspaper organizations. Seven of them owned their own radio stations and two has video production companies in their organization as well. They all envisage a future of multimedia, using print, audio and video over different media terminals in a broadband context. Some comments were: *"It is a total media"* (4) and *"It will be about presenting editorial and commercial information in different ways for the readers own choice"* (7). The rapid media was also discussed at paper 3: *"It is a new culture that provides the rapidity. Now we can be faster than the local radio, and shortly we have moving images as well."*

The functionality provided by new technology presented several issues. Firstly, designing for new versions of browsers was discussed, with most respondents wanting to keep the sites accessible to audience members with older browsers. However, they also wanted to have sound and moving images, which demands newer technology. Secondly, the respondents of paper 9 discussed the problems with the front page not being rapid enough. They were experimenting with different browsers with different modems and broadband connections. *"The problem is that at the same time one wants the broadband to be quick as lightning one also wants very good design. It is not possible to have the both things at the same time."* Thirdly, several of the newspapers had encountered technical problems and were about to change publishing systems which allowed more flexibility and functionality.

4.3 GENERAL REFLECTIONS FROM THE AUDIENCE

Half of the respondents perceived the sites as newspapers while the other half did not. The result was evenly spread among the newspapers. To a large extent, the differences were experienced as emerging from the physical characteristics of the printed newspaper, e.g. *"I would not like to take the computer into bed with me"* (2), *"It does not smell newspaper"* (2) and *"The paper is too big, it is even difficult to read at the breakfast table. If I had had the computer at the table, I am sure I would have read it there"* (8).

The structure of the newspaper was perceived as mirroring the printed newspaper's structure by almost half of the respondents. One third did not think so whereas the rest did not answer the question or expressed no opinion. Most respondents of paper 2 and 5 agreed that the structure was similar although most of the respondents of paper 3 and 4 were of the opposite opinion.

The respondents had one or more reasons for reading the online edition. One third of the respondents stated that the reason for reading the online newspaper was to be updated, one fifth used it as a replacement for the printed edition whereas one sixth saw it as a complement. Other reasons for reading the online edition were searching (10%) and leisure (10%), as illustrated in the following quotations: *"I am not interested in a subscription of the printed edition. It's of convenience I read the online edition. It's less expensive and there are news updates"* (4) and *"When I read the online edition, it because it is convenient. It's too cumbersome to go several hundred meters to fetch the paper"* (5).

5. DISCUSSION

Addressing the perceived need for knowledge about the design of online newspapers, we propose eight design recommendations for online newspapers. Using common web guidelines for this purpose would not have been enough. For example, guidelines would have little to say about genre specific elements, e.g. news stream and timestamps, or the problems with news valuation. We have therefore instead taken a genre perspective on design by using genre theory to: a) identify genre characteristics and study design change through web page analysis, using the genre elements content, form, functionality and positioning, and b) derive genre rules by analyzing publishers design purpose, and audience recognition and use, through qualitative interviews and usability tests.

The eight design recommendations are thus based on identified features that mediate a specific purpose and use between publisher and audience, which we describe as genre rules in terms of purpose, form, and positioning. They are also based on the genre change regarding design, i.e. which solutions that have gained importance or which solutions that have been rejected and the heritage from print regarding form and shared content elements.

(1) *Use the length of the front page to give an overview of the whole site.* Several things in the study indicate the importance of the front page of the news sites, e.g. most respondents returned to the front page to 'start over', when looking for something else, instead of using the navigation elements of the site. The publishers have also made the front pages longer containing much more content than before, e.g. navigation banners, most-read stream, more headlines. Furthermore, the time stamped news streams and headlines on the front pages provide an overview of the latest news, which corresponds to the most important reason for reading the online newspaper, which was to stay updated.

The use and importance of the front pages suggests that an overview of the entire site should be provided, since scrolling the front page could be compared to browsing the printed newspaper. To provide an overview, a prerequisite is to understand the page structure. Many respondents were relying on their understanding of printed papers for this purpose and the publishers also considered the use of categories from print. This also corresponds to using the "broadsheet metaphor" for layout. Since the pages need to be long to give an overview of the entire site, the most important functionality is to scroll the page. We did not discover any difficulties regarding the use of that function.

(2) *Use the broadsheet metaphor for layout.* From the audience view, the online newspapers to some extent resembled the printed papers by the categorization and divisions from the printed paper, which helped them in recognizing the genre. This is in line with the results of Watters, *et al.* (1998), which showed that the newspaper metaphor was preferred by the users. One third of the respondents in our study did not perceive the sites as mirroring the printed papers structure. The general opinion was that the layout was different online than in the printed edition.

The producers expressed uncertainty about how to present new services and separating them from editorial material, which is not supported by the metaphor. Most of the audience, however, seemed to have no problems differentiating editorial material from other kinds of materials on the sites. We suggest basing the layout on the broadsheet metaphor in order to give a familiar frame of reference.

(3) *Provide navigation support in different ways.* Both the audience and publishers experienced difficulties with the navigation. The increased focus on the front pages has made it necessary to provide navigation support in many different ways besides the ordinary navigation support through menus and bars. It was evident that dedicated navigation items were used in combination with other elements, such as the news stream, headlines, captions and headings to navigate the site.

Content elements can be designed to support navigation, for instance by dividing the news stream into a table of contents. Presenting news from all categories of the site on the front page can also serve as navigation support to different sections. Providing navigation in the suggested ways also corresponds to using the length of the front page for overview and using the broadsheet metaphor for layout.

(4) *Consider the use of navigation banners in combination with banner ads.* The publishers have made an effort to differentiate the editorial and advertisement material and there seems to be no problem for the respondents to differentiate between them. From the audience's point of view, the advertisements were relatively uninteresting, and as some respondents mentioned, they even avoid them. The banner form has also been adopted for within-site navigation to advertise important site contents. The positioning of regular advertisements has traditionally been around the page, with a focus on the top and right edges. In 2003, the use of within-site banner-like navigation puffs has increased. These navigation items are often placed together with the ads, but also at other page positions.

We believe that the use of navigational elements such as banners, mixed with the advertisements, might be questionable, if the users avoid clicking on, or even looking at the advertisements. If users do not look at the banners, this is clearly a poor solution from a navigational point of view. However, given that it causes users to look for navigational items amongst the banners, it is a good solution from a business point of view. The increased use of navigation puffs partly solves the problems of too long menus but there is a need to study if the users have began to use these puffs or is still looking at them as advertisements and therefore avoids them.

(5) *Place the news stream at a top position* and (6) *Use timestamps to indicate latest news.* As noted in the first point, to stay updated was the major reason for visiting the online newspapers. Latest news was recognizable by the audience from timestamps, labels and top position. In 2003, the latest news has clearly been given even more focus, with news streams at top positions at all papers.

Emphasizing both the publisher and audience view, that news updates are both important reasons for providing an online edition, and for reading it, there should be a news stream on the site. The news stream should be placed in top, as it is at all papers in 2003. To emphasize that updates are made, timestamps should be used for the news stream since many audience members relied on the existence of timestamps to identify recent news. In 2001, there was a discussion at the newspapers about timestamps also for other news items, and in 2003, some of the papers in this study have started to timestamp headlines as well, which is also discussed in the following point.

(7) *Provide news valuation through positioning and markers.* The valuation of news on the front pages was not as clear as of the printed front pages in 2001 according to the audience. All newspapers to some degree position the highest valued news in a top position, but sometimes immediacy was considered before news value for the top position, i.e. the use of timestamped headlines in temporal order. The use of layout to mark the importance of news differed between the papers in the study, ranging from almost no markers, to the use of headline size, images, and amount of text. However, sometimes publishers used images to decorate the page, rather than to indicate news value. There were different opinions regarding news valuation among the audience, e.g. when disagreeing with the news valuation of the printed paper, they liked the lack of markers online, but most users missed the news valuation from the printed newspaper.

The broadsheet metaphor includes the use of newspaper-like columns, headlines, etc. but also indicates news value by the use of position and markers, which are essential for the audience recognizing the genre. During 2003, it has become more common to timestamp the headlines, indicating the immediacy rather than making a news valuation for the

readers. We recommend providing news valuation through position and markers since it are demanded from the audience and since it supports the broadsheet metaphor.

(8) *Provide one joint search facility for both the archive and today's news.* Many users navigated the online edition without using the search function when looking for something special, but many users also tried to use the search engines with varying results. Even though more than half of the users found it easy to find what they searching for, some found it problematic. From the interviews, with the publishers we found possible explanations why the use of search engines could be found problematic,

- a) the search facilities were mainly designed for searching the news archives and at some news sites the articles did not end up in the archives until the day after they have been published
- b) there sometimes exist different search functions for the news archive and for the current online pages.

Searching the sites through the dedicated search facility was something requested and used by the respondents. Emphasizing the importance of that function, it should be placed in a top position or in a menu. We recommend to combine the archive and current edition in one search facility since much confusion arouse from the newspapers that were not placing their current edition in their archive.

In Table 2, the design recommendations are summarized and the content elements concerned and the underlying genre rules are presented.

DESIGN RECOMMENDATIONS	CONTENT ELEMENTS	GENRE RULES
1. Use the length of the front page to give an overview of the whole site.	Navigation, news stream, headlines, advertisements, search/archives	<i>Purpose/use:</i> give/get overview of the entire site (since scrolling the front page could be compared to browsing the printed newspaper) <i>Form:</i> broadsheet metaphor (see point 2) <i>Positioning:</i> most important content elements in top position
2. Use the broadsheet metaphor for layout.	Navigation, news stream, headlines, advertisements, search/archives	<i>Purpose/use:</i> give/get a frame of reference, making understanding easier through recognition <i>Form:</i> newspaper like headlines and puffs (broadsheet metaphor) <i>Positioning:</i> division into columns, headlines in top position
3. Provide navigation support in different ways.	Navigation, news stream, headlines	<i>Purpose/use:</i> enable navigation support <i>Form:</i> headlines, headings and captions <i>Positioning:</i> depending on the content element
4. Consider the use of navigation banners in combination with banner ads.	Navigation, advertisements	<i>Purpose/use:</i> make/perceive particular newspaper sections or services evident <i>Form:</i> banner <i>Positioning:</i> in combination with banner ads, mainly to the right
5. Place the news stream at a top position.	News stream	<i>Purpose/use:</i> provide and get news updates <i>Form:</i> timestamps, headings, optionally divided in a table of contents
6. Use timestamps to indicate latest news.	News stream	<i>Positioning:</i> top of the page
7. Provide news valuation through positioning and markers.	Headlines	<i>Purpose/use:</i> indicate/recognize the value of news <i>Form:</i> headline size, images, and amount of text <i>Positioning:</i> top position for highest valued news
8. Provide one joint search facility for both the archive and today's news.	Search/ archive	<i>Purpose:</i> enable search in archives and today's news <i>Form:</i> search field <i>Positioning:</i> top position or in menu

Table 2. Design recommendations versus content elements and genre rules

6. CONCLUSIONS AND FUTURE WORK

By taking a genre perspective on design we have derived a set of design recommendations for online newspapers. This genre perspective on design revealed the users' expectations of the genre as found essential by (Crowston & Williams, 1997; Agre, 1998) and also facilitates for designers to copying and refining genre characteristics. The results can also be regarded as a step in the process of designing the online newspapers to become as recognizable and familiar as the printed counterparts as requested by (Boczkowski, 2002; Gunnarsson, 2002).

The interviews and usability tests revealed which features of the sites that were used and intended for certain purposes, such as the headlines and navigation elements to get or give overview. From the publishers, it was also revealed why some features were problematic, such as the search function sometimes not having access to the news of the current day. The genre rules thus are derived from utterances and actions revealing how publishers and audience rely on the same features of the pages to fulfill a shared purpose, e.g. to give and get a familiar frame of reference. The web site analysis revealed how the features were used in the different newspaper designs in 2001. This was also used to interpret the statements of the respondents, which was perhaps most beneficial when the sites differed regarding some features. For instance, the audience respondents could easily differentiate news value at the sites using newspaper like headings and puffs, whereas at other sites they found that the pages seemed to contain many items of similar value. The 2003 analysis showed what features had then gained dominance two years later, e.g. positioning has become even more important due to news valuation, news streams, headlines, advertisements etc. The longer the front pages become, the more important the position gets.

Genre awareness, i.e. to be aware of the genre characteristics, the producer's design purpose and the audience recognition and response, are useful in the design process of digital documents. There are three reasons for why this is useful:

- a) existing design guidelines are too general to be applicable when designing for a specific genre
- b) identifying and classifying genre specific elements and characteristics facilitates for designers to create a familiar frame of reference of the genre in use
- c) it is important for designers to have an understanding of the audience to meet their expectations of the digital genre in the design

Since genres are produced, reproduced and changed over time it is essential to identify genre characteristics to study genre change and to derive genre rules in order to increase genre awareness among designers.

Further research could elaborate the proposed design recommendations further by creating genre specific design patterns in collaboration with designers and audience at the newspapers. A follow up study with publishers and audience would also further elucidate the evolution of the genre. Moreover, with the genre perspective as the base, other design methods could be developed.

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APPENDIX A: THE PAGE ELEMENTS

PAPER	FORM		POSITION	
	<i>2001</i>	<i>2003</i>	<i>2001</i>	<i>2003</i>
Nr 1	Menu_toc Dropdown	Menu_toc Small menu	Bt-Bb 1 A 4	Bt-Bb 1 Bt 3
Nr 2	Small menu Menu Tabs Banner	Bar Menu-toc Tabs Banner	A 4 Bt-Bb 1 A 1-4 C 4	C 3 Bt-Bb 1 A 1-4 Bt-C 4
Nr 3	Banner Small bar Bar Menu_toc Dropdown Banner Small menu	Banner Bar Menu_toc Dropdown	A 4, Bb 3, Bt-C 4 Bt 4 A 1-4, D 1-4 Bt-Bb 1 C 2-3 Bb 1 Bb 3	A 4, Bt-Bb 4, Bt-C 2, C 3 A 1-3, D1-4 Bt-Bb 1 Bt 4
Nr 4	Bar Vertical tabs Menu	Bar Banner Menu	A 2-3 Bt-Bb 1 C 3	A 1-4 C 1 Bb 4
Nr 5	Menu_toc Banner	Menu_toc Banner	Bt-Bb 1 C 1	Bt-C 1 C1, Bb-C4
Nr 6	Menu Bar (frame) Banner	Tabs Dropdown Menu Banner Banner	Bt-C 4 D 1-2 Bt 1, Bt 4	A 1-4 A 4 A4, Bt 4, Bb 3, C4 C3, C4 C3, Bt-Bb 4
Nr 7	Menu_toc Menu Banner	Tabs Banner	Bt-Bb 1 Bb 2-3, C 2 A 1, Bt 3, C 2	A 1-4 Bt-C 4, C 1-2
Nr 8	Menu_toc Banner	Menu-toc Banner Bar	Bt-Bb 1 C 2, C 3	Bt-Bb 1 Bt-C 4, C 3 A 1-4
Nr 9	Bar Menu_toc Banner Banner	Menu_toc Banner Banner	A 1-4 Bt-Bb 1 Bt-Bb 3, BB-C 1 C 2	Bt-Bb 1, Bt-Bb 4 Bb-C 1 Bb 1

Table A. Navigation element

PAPER	FORM		POSITION	
	2001	2003	2001	2003
Nr 1	Divided into toc Categorized stream	Normal Categorized stream Categorized stream	Bt 3 Bb 3	Bt 3 Bb 3 C 2, Bb-C 3
Nr 2	Normal Stream	Normal Normal	Bt-C 4 Bb 2-3	Bt 4 Bb 3
Nr 3	Normal	Normal Most-read stream	Bt-Bb 2	Bt 2 C 2
Nr 4	Divided into toc Normal Categorized stream Categorized stream	Normal Most-read stream Categorized stream Stream + headline Divided into toc	Bt 1 Bt 2-3 B-C 1, B-C 2 Bb-C 3	Bt2, Bt 3 Bb 1 C 1 Bb-C 2-3 C 1
Nr 5	Divided into toc	Normal Dated stream	Bt-Bb 4	Bt-Bb 4 Bb 2-3
Nr 6	Divided into toc	Normal Most-read stream Stream	Bt-C 1	Bt 3 Bb-C 2 C1, C 1-2
Nr 7	Normal Categorized stream Stream	Divided into toc Categorized stream	Bt 2 Bt 3 Bb-C 2	Bb-C 3 Bb-C 1-2
Nr 8	Normal	Normal	Bt-C 3	Bt-C 3
Nr 9	Divided into toc	Normal	C 2	Bt-Bb 2

Table B. News steam element

PAPER	FORM		POSITION	
	2001	2003	2001	2003
Nr 1	Normal	Timestamped Normal	Bt-Bb 2	Bt 2 Bt-C 2
Nr 2	Normal	Timestamped Timestamped_ categorized	Bt 2-3, C2-3	Bt 2-3, Bt-C 2 Bt 3
Nr 3	Normal Normal	Normal	Bt 2-3 Bb-C 2-3	Bt 2-3, Bt 3
Nr 4	Normal	Timestamped Normal +stream	Bt-Bb 2-3	Bt 2-3 Bb-C 2-3
Nr 5	Normal	Timestamped Categorized	Bt-Bb 2-3, C 2-3	Bt-Bb 2 C 2-3
Nr 6	Normal	Normal	Bt-C 2-3	Bt-Bb 1-2, C 1-2
Nr 7	Normal	Timestamped Normal Normal	Bb-C 2	Bt 1-2 Bt 3, C 3 Bb 1-2
Nr 8	Normal	Normal	B-C 2, C 3	B-C 2
Nr 9	Timestamped	Normal	B-C 2	B-C 3

Table C. Headline element

PAPER	FORM		POSITION	
	<i>2001</i>	<i>2003</i>	<i>2001</i>	<i>2003</i>
Nr 1	Archive (in menu)	Archive (in menu)	A 4	Bb 1
Nr 2	Archive (in menu)	Archive field, Archive (in menu)	A 2	Bb 1 A 2
Nr 3	Archive field Search field	Search field Search /archive (in menu)	Bt 1 Bt 1	Bt 4 Bt 4
Nr 4	Search/archive (in menu)	Search/ archive field	A 2	Bt 1
Nr 5	Archive (in menu) Search field	Search/ archive (in menu)	Bb 1 Bb 1	Bb 1
Nr 6	Search/ archive field Search (in menu) Archive (in menu)	Search/archive field Search (in menu)	A 4 Bb 3 Bb 3	Bt 4 Bt 4
Nr 7	No search	Search/ archive field	-	A 2
Nr 8	Search/archive field	Archive (in menu)	C 1	Bt 1
Nr 9	Archive (in menu)	Search/ archive field	A 1	Bt 4

Table D. Search/archives element

ONLINE NEWSPAPERS IN SCANDINAVIA

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A LONGITUDINAL STUDY OF GENRE CHANGE AND INTERDEPENDENCY

Carina Ihlström

Halmstad University

P.O. Box 823

S-301 81 Halmstad

Sweden

carina.ihlstrom@ide.hh.se

Ola Henfridsson

Halmstad University

P.O. Box 823

S-301 81 Halmstad

Sweden

ola.henfridsson@ide.hh.se

Viktoria Institute

Hörselgången 4

S-417 56 Göteborg

Sweden

ola.henfridsson@viktoria.se

ABSTRACT

This paper examines the evolution of the online newspaper genre in Scandinavia. Using a longitudinal study of three newspapers, the paper explores the genre changes associated with the adoption of web technologies for publishing news. The study illustrates how online newspapers have established a number of communicative practices significant for recognizing them as a distinct digital genre, and it outlines a set of institutional factors shaping its ongoing change. In addition, the study demonstrates the emergence of sequential interdependencies between online and printed news not predicted in the existing literature on digital genre evolution.

1 INTRODUCTION

Over the last few years, increasing attention has been paid to the notion of genre as an analytical device for understanding how communication is shaped by new information technologies. Early studies were devoted to genres of organizational communication (Yates and Orlikowski, 1992) and how information technologies such as e-mail (Orlikowski and Yates, 1994) and groupware (Yates *et al.*, 1997) transform existing communicative actions performed in day-to-day communication within and between organizations. This stream of genre theory research has resulted in a considerable number of publications (see e.g., Yates *et al.*, 1999; Yoshioka *et al.*, 2001) documenting the mutual relationship between communicative practices and the introduction of communication technologies in office settings.

The combination of computing devices and the Internet has broadened the genre research agenda beyond organizational communication. To this end, new conceptions of genres have evolved. In this paper, we adopt the notion of digital genres as reproduced communicative practices relying on different forms of web technologies (cf., Crowston and Williams, 2000). Examples of such communicative practices include brochure web sites (Shepherd and Watters, 1999), home pages (Dillon and Gushrowski, 2000), and online newspapers (Boczkowski, 2002). Reviewing the literature, online newspapers is one of the digital genres that have attracted most research attention (e.g., Boczkowski, 2002; Martin, 1998; Greer and Mensing, 2003). In this regard, specific attention has been paid to differences between the online newspaper and its printed counterpart in terms of use patterns (Mings, 1997; Chyi and Lasorsa, 1999) and business models (Ihlström and Palmer, 2002).

Despite this body of research, however, the evolution of the online newspaper genre has received relatively little attention ever since Shepherd and Watters (1998) presented their prospective outlook on its possible stages. Addressing this omission in the literature, this paper examines the Scandinavian online newspaper genre evolution since its inception. This examination is grounded in a longitudinal study of three online newspapers between 1996 and 2002. As illustrated by Yates and Orlikowski (1992), longitudinal studies of genre evolution can be important for distinguishing between medium and genre as well as for identifying their mutual shaping. Empirical research is therefore needed to explore the diversity of social, economic, and technological factors that trigger genre change and interdependence over time.

As demonstrated in this paper, the online newspaper genre has developed into a distinct digital genre. However, it will also be noted how interdependencies between the printed and digital newspaper genres have emerged. This observation partly contradicts earlier findings on digital genre evolution where it is predicted that the gap between the two genres is growing over time.

The remainder of the paper is structured as follows. First, we review the literature on genre and digital genre change. This is followed by a methodology section that describes our longitudinal study, the data sources and analysis, and details covering our application of the longitudinal research method. Then, we present our findings generated from the recurrent visits to the three Scandinavian newspapers. In discussing the findings, we highlight both the nature of the genre change observed in the cases and the emerging genre interdependency between printed and online newspapers.

2 BACKGROUND

2.1 GENRE THEORY

Structuration theory (Giddens, 1979, 1984) has played a significant role in the application of genre theory in information systems. Following structuration theory, genres are viewed as social institutions produced, re-produced, and changed in the communicative action of human actors. A specific genre consists of a set of genre rules that are recognized and enacted by human actors in their use of the genre. As Yates and Orlikowski (1992, p. 302) describe, genre rules can be portrayed as social rules that "...associate appropriate elements of form and substance with certain recurrent situations". The genre rules of newspapers, for instance, are enacted by both news producers and consumers in the daily production and consumption of news. Considering the long history of newspapers, it is not surprising that there exists a set of institutionalized genre rules that enable people to distinguish a newspaper from, for example, a magazine.

Looking at genre elements, several sets of such elements have been suggested in the literature (e.g., Orlikowski and Yates, 1994; Yates and Orlikowski, 1992; Shepherd and Watters, 1998). In this paper, we adopt the set [form, purpose] outlined by Orlikowski and Yates (1994) for exploring the emergence of the online newspaper genre in Scandinavia. Yates and Orlikowski (1992, p. 301) refer to form as the "observable physical and linguistic features" of a specific genre. A printed newspaper is recognized by its physical features such as newsprint, printing ink, and supplements as well as its linguistic features such as the editorial, headlines, and journalistic writing style. Genres can also be distinguished with the regard to their communicative purpose. A printed newspaper is typically recognized by its socially constructed, recognized, and reinforced purpose of updating people with recent events and issues found relevant for their everyday life.

2.2 DIGITAL GENRE EVOLUTION

As early as in 1998, Shepherd and Watters (1998) outlined a taxonomy of digital genre evolution. The taxonomy can be regarded as a stage model in which it is implied that digital genres develop more stand-alone properties over time. They distinguish two main classes of digital genres (extant and novel), each divided into two sub-genres. Extant cybergenres are based on "...genres as they appeared in their source media" (Shepherd and Watters, 1998, p. 98). In other words, extant cybergenres rely on the genre characteristics that define the traditional genre existing in other media such as paper or video. Extant cybergenres appear as two different types of sub-genres. First, replicated genres are very similar to already existing genres. Early online newspapers, for instance, corresponded very much to the printed editions in terms of content and can therefore be considered as a replicated cybergenre. Second, variant genres are "based on existing genres but have evolved by exploiting the capabilities afforded by the new medium" (Shepherd and Watters, 1998, p. 99). The content and form are slightly different but substantially new functionality is added. Novel cybergenres are "those genres that have developed in this new medium and have no real counterpart in another medium" (Shepherd and Watters, 1998, p.98). Novel cybergenres appear as two different types of sub-genres. First, emergent genres have evolved from the variant subgenre to the extent that it is only marginally recognizable as the original genre. Significant difference in content and form, and most importantly, a level

of functionality that makes it fully dependent on the new media has been added. Second, spontaneous subgenres are novel cybergenres that do not have any counterpart in other media.

2.3 GENRE INTERDEPENDENCY

A key assumption in the prospective account of Shepherd and Watters (1998) is that the evolution process is driven by new technical capabilities. Given this technological imperative position (Markus and Robey, 1988), it can be expected that ongoing development of new functionality will eventually develop a specific digital genre into variants that are significantly different than the originating genres.

Learning from Orlikowski and Yates (1994), however, genres do not emerge in a social vacuum. Genre change (and thus also genre emergence) can be described as "...a new conjunction of form and purpose becomes recognized by its community as different from the old" (Orlikowski and Yates, 1994, p. 545). The occurrence and variance in such recognition is thus also the main indicators for media organizations to implement changes in their online newspapers strategies. While the introduction of new communication media is one triggering factor (Yates *et al.*, 1997), there exist a range of other factors that influence the shaping of social institutions such as genres. In this regard, Yates and Orlikowski (1992) suggest social, economic, and technological factors as a set of contextual factors relevant for studying the modification of established genres.

One approach for understanding the circumstances associated with the emergence of a digital genre is to address its linkages and dependencies with related genres. Addressing such linkages, Orlikowski and Yates (1994) propose the notion of genre interdependence as to capture the sequential dependencies that may exist between genres when they are enacted in communicative action. We adopt this notion for investigating the potential sequential dependencies that exist between the online and printed newspaper genres. Given the long-established genre elements and rules of the printed newspaper genre, it is plausible to assume that the evolution of the online newspaper genre to a large extent overlaps with its printed counterpart.

The longitudinal study outlined in this paper explores the evolution of the online newspaper genre, as this evolution could be observed in three Scandinavian media organizations. The study will show how the online papers were dependent on the printed papers in terms of content production. However, the study will also show how the printed paper over time became dependent on the online newspaper, not only in terms of brand recognition but also in terms of content production. As outlined in the following sections, these observations suggest the emergence of sequential interdependencies between online and printed news not predicted in the existing literature on digital genre evolution.

3 RESEARCH STRATEGY AND METHODOLOGY

3.1 RESEARCH DESIGN

The study presented in this paper can be classified as qualitative IS research (Orlikowski and Baroudi, 1991; Walsham, 1995) in that it is orientated towards people's assumptions,

knowledge, and experience of online newspapers. The focus is on the interpretations enacted by newspaper representatives at various occasions in time (1996, 1999, and 2002). The longitudinal study has been conducted as a sub-project in a larger research project including user surveys (Ihlström and Lundberg, 2002), interview studies (Ihlström and Palmer, 2002; Ihlström and Lundberg, 2003) and web site analysis (Ihlström and Åkesson, 2004).

As outlined in Table 1, the research included recurring visits at the same three Scandinavian newspapers: Jyllands-Posten (JP), Göteborgs-Posten (GP) and Dagbladet (DB). There were two things that guided the selection of research sites. First, all three newspapers were early adopters of web technology. This fact enabled us to acquire a good overview of the assumptions and views enacted by those people involved in the early stages of the online genre evolution in Scandinavia. Second, we compensated for the potential differences in incentives between different types of newspapers by investigating a national newspaper, a regional newspaper, and a tabloid.

	JYLLANDS-POSTEN (JP)			GÖTEBORGS-POSTEN (GP)			DAGBLADET (DB)		
Web address	www.jp.dk			www.gp.se			www.dagbladet.no		
Launch online	January 1996			August 1995			March 1995		
Type of newspaper	National newspaper			Regional newspaper			Tabloid		
	1996	1999	2002	1996	1999	2002	1996	1999	2002
Circulation	171.500	178.000	177.000	270.000	263.500	253.000	209.000	206.000	200.000
*Estimated accesses per day	4.000	27.000	24.300	3.000	27.000	35.700	5.000	28.000	28.500
Update frequency	Once a day	Manual updates 6 a.m.-12 p.m.	Throughout the twenty-four hours	Once a day	Manual updates during working hours	Throughout the twenty-four hours	Once a day	Manual updates 6 a.m.-10 p.m.	Throughout the twenty-four hours
Number of employees	3 part time	10 full time	7 full time, 2 students	3 part time, 2 full time	5 full time	19 full time	4 part time, 3 full time	9 part time, 15 full time and some consultants	25 full time

*Estimated accesses per day are not fully comparable due to different measurement techniques.

Table 1. Research Sites

3.2 DATA COLLECTION AND ANALYSIS

The longitudinal study included several data sources: an interview study, observations, a web page analysis, and e-mail correspondence.

First, the interview study included a total of 15 respondents interviewed at three different occasions – 1996, 1999, and 2002. The semi-structured interviews were each about 90 minutes in length covering topics such as organization, profitability, purpose, strategy, technology, and web content. All respondents had key functions with regard to the online edition of respective newspaper, e.g. editor-in-chiefs, managers, or designers (see Table 2). All interviews were tape-recorded and transcribed.

	1996	1999	2002
Jyllands-Posten	JP#1 – Project Manager of jp.dk	Jp#2 - Project Manager of jp.dk Jp#3 – Development manager	Jp#4 – Editor-in-Chief, Electronic Media Division Jp#5 – Web Master
Göteborgs-Posten	GP#1 - IT-Manager	GP#2 – Journalist; key enthusiast and web designer GP#3 - Journalist	GP#4 – Editor-in-Chief, GP online GP#5 – Interaction Design Manager
Dagbladet	DB#1 – Online manager DB#2 – Online editor	DB#3 – Internet Division Manager DB#4 – Development Manager	DB#5 – Editor-in-Chief, Online Newspaper

Table 2. Respondents

Second, observations of the online newspaper production were made at all research sites. Even though field notes were taken, the observations primarily gave us a feeling for the daily work. Third, a web site analysis of all three front pages was made each year (1996, 1999, and 2002) in order to document the genre changes as they appeared on the web. In the process of writing this paper, finally, follow-up questions over e-mail were directed to all newspapers (JP#4, DB#5, and today's development manager at GP) to complement the data collected and to verify the analysis emerging from the data.

The data generated by the interview study, e-mail conversations, and observations were coded by focusing on the evolution of online newspapers. In this regard, we used a data-driven approach to identifying important concepts in the data material, rather than imposing theoretical concepts from the outside (cf. Walsham 1995). In our data material, we identified a number of concepts suggested by our careful analysis of more than 120 pages of documented and transcribed material associated with primarily the interview study. These concepts were then categorized with the intention to construct more comprehensive themes making sense of the collected data. Then, we examined each of these themes in light of the literature study in order to construct a comprehensive understanding of the genre evolution and interdependency associated with Scandinavian online newspapers.

4 1996

4.1 INSTITUTIONAL CONTEXT

The first online newspapers appeared on the Internet in the mid-nineties. The studied newspapers were all early adopters (see Table 1). Because only a small part of the Scandinavian populations had Internet access in 1996, the online editions served a rather small audience. In Sweden, for example, only 13% of the population had Internet access at home or work (The Swedish Ministry of Industry, Employment and Communication, 2002). In view of this fact, the online newspapers' daily access rates of 3000 to 5000 were quite good.

As often is the case of new innovations, the online newspapers were initiatives outside the everyday practice of these organizations. GP's online newspaper can be traced to an Internet-mediated information provisioning system established for the World Athletics Championships 1995 (hosted by the city of Göteborg). As another example, DB's launch

was triggered by an Internet access provider's (Scandinavia Online) enrollment of content providers for developing their offer to Internet subscribers. The viability of the online initiatives beyond these single events was almost entirely depending on dedicated and volunteering persons in each organization. Consequently, the online paper production was organized as projects outside the line organizations. Indeed, the web initiatives were seen with considerable skepticism among journalists outside these projects. While the online newspaper group at GP, for instance, envisioned profound opportunities for the entire organization, the main-part of the journalists viewed the initiative as an interesting experiment at best.

Early on, however, the initiatives were recognized by management. In 1996, the Internet division at JP became an editorial division with the same status as the printed counterpart. Coinciding with this decision, JP management formulated a short-term profit strategy targeted at non-subscribers of the printed edition. Registered (and paying) users were provided access to all web material, while non-registered ones only got access to a selected number of articles with little depth. At this point in time, JP generated some revenue but the user portion actually paying for the entire package was insignificant. The strategy was justified by JP's online project manager in the following way:

"It is without doubt important for a newspaper to be a part of the Internet in some way. The medium will mean something in the future. At the same time the investments must be justified" (JP#1)

In comparison with JP, GP and DB adopted slightly different approaches to their online initiatives. They had no short-term profit expectations but viewed the online version as a way to assess the future prospects of web technology. GP's IT manager commented on this experimental strategy in the following way:

"We are not making any money at all, we are actually losing money. The philosophy is that we have to be a part of this, because if we are not, it will cost us time and money to find out how it works, to investigate the market, to simply see what happens. We are learning by doing. We see it as a future investment."
(GP#1)

4.2 GENRE CHANGES



Figure 1. Front pages in 1996 (JP, GP, and DB) (we have not been able to get a full copy of jp.dk)

The three newspapers had different approaches to the online content. While all of them replicated articles from the printed newspaper, GP also published regularly updated film lists and CD reviews, forming a growing archive of reviews. These extra features were motivated by an intention to benefit from the unique characteristics of the web:

“Our strategy takes its starting point in the printed newspaper but focuses more and more on additional features. We want to make use of the web’s distinctive qualities” (GP#1)

DB also provided considerable amounts of non-news material: discussion groups, reader feedback, private ads, and so on. Furthermore, DB used the web to extend their own content with links to external sources. As one respondent commented:

“We want to complement the newspaper with links to both external sources and articles. We want to use the strengths of the web and rather link other material than produce more content ourselves. It is less resource demanding.” (DB#1)

All three newspapers evidently sought a clear brand resemblance between the online and printed editions. Taking this intention far, JP tried to mimic the printed newspaper with a layout consisting of sections corresponding to those of the printed edition. Within each section, a number of related articles were available through an overview bar designed for flexible user navigation. As explained by the project manager, the online newspaper should simply be viewed as another media for delivering the same content and reading experience:

“The medium is incredibly suitable for collecting, organizing, and presenting information. The need to feel familiar, if yet in other forms, will nevertheless still exist.” (JP#1)

In contrast with the other two newspapers’ strategies, GP intentionally attempted to break with the printed newspaper genre. While seeking the brand resemblance, one of the GP

respondents underscored the importance of having readers recognizing the online paper as a new and different media:

"It is an experiment. We had two things to do. First, we had to bring the distinctive mark of the newspaper, i.e. the logotype, and some of the typography. Second, we had to make sure that this is not a copy of the printed edition since we have to show that it is a new media." (GP#1)

In sum, the communicative purposes of the online editions were inconsistent between the newspapers. At DB, for example, the online edition initially was perceived as a potential threat to the printed edition and it was decided that the online newspaper should offer a very limited set of the stories and content in the printed newspaper. Their purpose was to use the online edition as a way to market the printed one. In line with this strategy, only parts of the stories were provided in the online articles. The articles were supposed to attract users to read the full story found in the printed edition. When it comes to form, it was evident that all three newspapers attempted to create brand resemblance between the online and printed newspapers. Besides brand resemblance, however, the investigated newspapers pursued different form strategies. While JP and DB attempted to downplay the media differences, GP's approach was to distinguish the two media regarding layout. While the strategy of JP and DB was to retain the familiar layout from their printed editions with columns, headlines and news valuation (i.e. the most important story presented at the top with more space than other stories), the layout of GP did not resemble the printed counterpart at all.

5 1999

5.1 INSTITUTIONAL CONTEXT

Coinciding with the peak of the dot.com frenzy in 1999, all three newspapers were optimistic about their online future. The web access rates were almost six times higher than in 1996 (GP and JP: 28000/day, DB: 27000/day) and the Internet access of the Scandinavian populations had grown considerably (in Sweden about 43% had access in their home (Swedish Ministry of Industry, Employment and Communication 2002). The optimism was reflected in the online strategies pursued.

In 1999, the newspapers had recognized how web technology could complement the printed edition. Reflecting this recognition, JP had changed their earlier short-term profit strategy. The online newspaper was now seen as a means of providing updated news as well as global news access. This strategy reformulation was also echoed in the business model in that almost all news became free of charge. Only the contexts, background information, and archive were restricted to registered users. This business model redesign doubled JP's web traffic and the online service rapidly became the most visited web site of all newspapers in Denmark. JP sought a mixture of direct revenue and printed edition synergies:

"We have the same problems as others in thinking about profit sources. If we subtract our expenses from our incomes, we don't make much money. It probably costs money. [...] On the other hand, we create beneficial synergy effects for the printed edition. Basically I don't think that we burden the media house, but we cannot stand alone, we must be used as a supplement to the printed edition, both

when it comes to content and economy. What we need now is to identify ways to generate new incomes.” (JP#3)

Concurring with the other two organizations, it was vital to DB to publish updated news over the working day. In response to the multitude of free service Norwegian online newspapers, however, DB formulated an expansive strategy viewing online news as the basis for establishing one of the five largest web sites in Norway. Reflecting the dot.com frenzy, an illustrative comment was:

“When it comes to the Internet it will be innovators or entrepreneurs that will dominate in the future. We are all waiting for ‘the third wave’ when Internet will be a lucrative business.” (DB#2)

At this stage, the organizations had developed more permanent organizations for producing the online newspapers. In January 1999, the project group at GP, for example, became an editorial division equal to other divisions of the organization. This was regarded as an important step by those responsible for the online newspaper:

“We have tried to increase the awareness among the others at the newspaper for a long time. Common questions have been: How is it possible to give the newspaper away for free when we are losing subscribers? Are you going to take over now?” (GP#2)

Since their inception, the online newspapers had been in the shadow of the printed medium. In 1999, the first changes in this attitude were visible. JP, for instance, decided that it was important to be first (compared to other newspapers) with scoops irrespective of media. Given the risk that competitors would get their hands on the story, JP’s new publishing strategy included immediate web publication in cases where the scoop was likely to become exclusive. The two media were seen as complementary, even though the printed paper still was regarded as the most important media:

“We put a lot of background information on the web to which we refer to in the printed edition. We concentrate on being first. One needs a clear order of priority on stable and fast updates.” (JP#3)

Despite the slowly changing attitude, however, the online divisions had struggled considerably to convince respective newspaper management about the advantages of publishing news on the web before they were printed in the newspaper. A specific incident was a turning-point at GP. Being a regional paper, GP is obliged to report its scoops to the Swedish news agency (TT) within 30 minutes of them being printed. This fact was exploited by Aftonbladet, a competing newspaper, in that they picked up (from TT) and published a GP scoop online before GP’s printed edition was delivered in the morning. GP was quoted for breaking the story, but people first read it on Aftonbladet’s web site.

5.2 GENRE CHANGES



Figure 2. Front pages in 1999 (JP, GP, and DB)

In view of the new institutional setting, the three newspapers re-designed their online papers in some distinct ways.

First, all newspapers attempted to bridge the one-day gap between two printed issues by continuously publishing updated news online. As part of this strategy, journalists from other divisions sometimes wrote specially for the web and there were frequent online pointers in the printed paper. All three newspapers also used website polls that sometimes were used as inputs in articles published in the printed edition.

Second, all newspapers developed services beyond the traditional newspaper genre. As part of the media house strategies, they included extended content on, for example, traveling and housing as well as non-traditional newspaper services such as online shopping (DB only), chats, and multimedia services. In this regard, DB, for instance, devoted much energy to develop comprehensive and interactive sections on literature and music. These sections were then promoted in the printed newspaper by pointing at the possibilities of extended reading on the web. Furthermore, this reading often included links to online book stores. In view of the increased functionality including news updates, online shops, chat, polls, search facilities, archive, debate sections, and multimedia services; the newspapers viewed the new design task challenging:

“When one works with the design of the printed newspaper, you have the experience since 200 years of how it should be designed. One knows the signals, one has a language for form and fonts and one has a language for placing. When it comes to the web nothing is working. One has to create a new language of form.” (GP#2)

Third, another re-design concerned the adoption of the newspaper metaphor. All three front pages were now divided into three or four columns, and they had sections corresponding to

those found in the printed newspaper. Located to the left of the page, the navigation menus were structured in accordance with the sections found in the printed edition. Moreover, the front pages had become much longer at all three online newspapers. Both JP and DB used news streams (article headlines with a timestamp) in order to provide continuous news updates over time.

In sum, all three online newspapers consisted of much more material than in 1996. Articles were written exclusively for the web and the printed edition had frequent references to the online newspaper. Going in the media house direction, the newspapers had started to view their online editions as complements to the printed newspaper. This view was reflected in that they published news updates throughout the day for bridging the gap between printed editions. Moreover, the first use of web material in the printed edition was introduced, i.e. the results from polls.

The online editions now had a layout much more like their printed counterparts. GP's initial strategy to distinguish the two media regarding layout (form) has shifted towards adopting the newspaper metaphor like JP and DB. The content was better organized, often according to the sections found in the printed editions. As a consequence of the added content, the front pages had become much longer requiring scrolling to get an overview. The first signs of the online newspaper genre becoming a distinct digital genre were shown in new genre specific content, e.g. news streams and archives, not possible in the printed counterpart and not found at other web sites.

6 2002

6.1 INSTITUTIONAL CONTEXT

By 2002, the Internet access rate in Scandinavia had grown considerably. In Sweden about 70% of the population had Internet access in their homes (The Swedish Institute for Transport and Communications Analysis 2003). In view of this growth, the small changes in estimated daily access rates among the investigated newspapers were a bit surprising (see Table 1). Given that reading news online was the fourth most popular Internet activity in terms of time spent (World Internet Institute 2002), however, the online editions were nevertheless more positively regarded by the organizations.

In the aftermath of the dot.com downturn, the three newspapers had a more sober and realistic view of their online editions. Due to a souring advertisement market, the newspapers assessed all their activities from a pay-off perspective. In the case of the online endeavors, GP's earlier experimental approach, for instance, had changed into a distinct profit ambition with less space for trial-and-error:

“Three years ago, we thought it would be much faster and much easier to make revenues from the web; we wanted to build something very big, very fast. Well, it didn't happen that fast and now we are trying to cut down the things that didn't work or what we cannot afford right now.” (GP#4)

Despite tighter profitability demands, however, terminating the online presence was not considered as an option. In fact, there were at least three issues that indicated that the online newspaper genre was more established than ever. First, all three newspapers described

themselves as so-called media houses, now pursuing a type of multi-channel strategy. This broadened view was echoed in the following comment by GP's online editor-in-chief:

"The newspaper exists in more channels today and is not only a paper product. The newspaper is the main product, but it is delivered on the web and soon also in telephones and handheld computers, we hope." (GP#4)

Second, the twenty-four hours reader contact was considered even more essential than before. At JP, for example, the increasing amount of printed edition subscribers was attributed to the online edition. This changed attitude was manifested in how the newspaper organizations were organized. For instance, all GP journalists were supposed to contribute to the online edition, even though a few persons still were dedicated to web publishing in case of important events requiring fast publishing. At events such as trials, journalists worked in pair for writing different versions. In such cases, the web reporter might use a coffee break for publishing a web story while the other reporter stays on writing up a version for the printed edition. The online editor-in-chief at JP provides another angle to this cross-media publishing:

"The printed edition is referring to the net. For example, if an article is not finished before deadline, we come to an agreement with the reporter to write a short version to the online newspaper together with a reference to the printed edition. I think we are the newspaper in Denmark that makes use of this possibility the most. This is caused by the way we are organized where we physically are placed with the other editorial offices and not placed in a corner." (JP#4)

Third, the attitude towards the Internet divisions had changed considerably in that their contribution was more recognized than it used to be. At JP, the Internet division now had become an acknowledged editorial office. Part of the earlier problem resided in the incentive and recognition system, only assessing journalists on the basis of what was published in the printed edition. With the editorial office acknowledgement, the assessments were grounded in what was published across different media. Reflecting the same attitude change, the online edition at GP now was seen as something value-adding with great potential. While the printed edition still was considered the most important, the online newspaper was recognized as an important element of the main product:

"The support has changed very much, it has improved a lot. Earlier, the web staff felt a bit set aside, but it is not like that anymore. The editorial board and the management are very clear that the web is important and that it is needed." (GP#4)

6.2 GENRE CHANGES



Figure 3. Front pages in 2002 (JP, GP, and DB)

By 2002, the functionality level of the online newspapers had increased considerably. Examples of such functionality were e-mail services, galleries, guides, interactivity via Q & A, multimedia services, newsquiz, news agents, news letters, photo galleries, pdf-newspapers, mobile services, online shopping, PDA versions, personalization, polls, net radio, video clips and WAP versions.

The design was still built on the newspaper metaphor, even though the front pages had become even longer (JP \approx 3 printed letters, GP \approx 2, and DB \approx 5). In this regard, DB had learned from log file inspection that the majority of users use the front page when they switch between sections. As a response to this observation, they concluded that the front page should be very long as to fit as many headlines as possible. Another genre change noted in our study was that more content was uniquely developed for the web. JP, for example, had invented a “picture wheel” used for presenting a series of pictures from, for example, ongoing sport events. This is an example of a communicative purpose without any printed counterpart.

Moreover, it had become more common to use web produced content in the printed newspaper. Examples of such content were different types of specialized sections, polls, and questionnaires. At GP’s housing section, for instance, carpenters, painters, gardeners, and interior designers were responding to questions from online readers. Building on selected parts of this material, the printed edition occasionally reproduced this material complemented with related dealer ads. In explaining what was perceived as a fruitful interplay across genres, one respondent commented:

“We are able to wait events out and refer to the web for ‘see the match result’ or ‘see what happens’. In such cases, it is very useful for a newspaper to have a web site. Otherwise, one feels hopelessly behind when it comes to fast stuff. The web allows us to take care of that by ourselves and we don’t have to depend on the television. The web is better than both TV and radio due to us broadcasting continuously. It is more flexible, the radio has its broadcasting schedules.” (GP#4)

All three newspapers used the printed edition for pointing at interesting content on the web. At GP, they even introduced a permanent web pointing element at the front page of the printed edition. This introduction seemed to increase the web traffic:

“The printed paper is a good channel for marketing the web [...] We receive a lot more web hits when we in the printed edition refer to specific things on the web, than just putting it on the web without telling.” (GP#4)

In sum, the functionality afforded by the new media had been much more explored. Even though the experiment days were over, a lot of interactivity, personalization and multimedia were available in the online editions. Cross-references were constantly used from print to web and vice versa. More web produced content was used in the printed editions as well. The layout was still relying on the newspaper metaphor but more content was included, leading to very studded pages with a lot of text links, ingresses, pictures, and icons. The front pages had become even longer and an additional column for ads and services have been added reflecting the demand for profitability. At this stage, the communicative purposes of the online newspaper genre were to provide continuous updates and added value.

7 DISCUSSION

In view of the relatively little attention paid to the evolution of the online newspaper genre, this paper presents a longitudinal study of three online newspapers in Scandinavia. Through recurrent visits to the newspapers, we gathered data useful for tracing genre change and interdependency over time.

Addressing the institutional context of the online newspaper genre evolution, Table 3 summarizes a number of social, economic, and technological factors shaping the online newspaper genre at the level of everyday newspaper work and production. In this regard, it is interesting to note how the functionality factor played a less important role than it has been suggested to do (cf. Shepherd and Watters, 1998). As our longitudinal study illustrates, functionality is just one among many factors shaping the emergence of the new genre. Looking back at 1999, the dot.com era seems to have inspired our investigated newspapers to adopt a lot of new functionality, influencing the genre evolution at that particular time. However, once the strong optimism associated with Internet technology moderated, other factors played a more prominent role in shaping the genre to what it is today.

INSTITUTIONAL CONTEXT				
		1996	1999	2002
SOCIAL CONTEXT				
Internal organization	Editorial division (JP) or project groups (GP & DB)	Editorial divisions, some journalists writing for the web	Editorial divisions, most journalists writing for the both media	
View on organization	Newspapers	Towards media houses	Media houses	
In-house attitude	Skepticism, always publish in newspaper first	More positive, scoops published on the web first	Management support, always publish on the web first	
Dedicated employees	Influencing layout, working for integration with printed edition	Developing new services suitable for the web, improving layout, working for integration	Trying to find revenue making new services, working for integration	
ECONOMIC CONTEXT				
Strategy	Replicate content of printed edition, publish content more suitable for web	Complement to the printed edition by providing news updates over twenty-four hours	Part of the main product	
Profitability	Only JP had profitability demands	Optimistic view of the future (dot.com frenzy), many employees, experimental approaches	Sober and realistic view (dot.com shakeout), more profitability demands	
TECHNOLOGICAL CONTEXT				
Functionality	Web-tailored article bases, discussions, and reviews	Chat, polls, search facilities, archive, debate sections, and multimedia services	Mail services, galleries, guides, interactivity via Q & A, multimedia services, newsquiz, news agents, news letters, photo galleries, PDF-newspapers, mobile services, online shopping, polls, radio, personalization, net video clips, WAP- and PDA versions	
Internet penetration (examples from Sweden)	13% (home or workplace)	43% (home)	70% (home)	

Table 3. Institutional context

Looking at the genre change over time (see Table 4), our findings suggest that online newspapers now can be considered as a digital genre on its own (rather than a new media). Indeed, online newspapers have established a number of communicative practices significant for recognizing them as a specific group of digital genre. Typically, today's online newspapers are characterized by a number of recurring genre rules (associating elements of form and purpose) which taken together distinguish them from other genres. As can be expected from newly developed genres, the form and purpose elements were rather inconsistent between the investigated newspapers in 1996. Over time, however, the inconsistencies in genre elements have decreased as the genre has been institutionalized.

GENRE CHANGE			
FORM	1996	1999	2002
	Inconsistency	Towards consistency	Almost consistency
	<ul style="list-style-type: none"> - JP and DB: columns, headlines and news valuation similar to printed edition, GP no resemblance to printed counterpart - Very little scrolling needed on front pages - Sparse use of cross references (mainly from print to web) - No specific genre content and form - All news articles replicated from printed edition - No web material in printed edition 	<ul style="list-style-type: none"> - GP still mostly headlines without ingresses and no news valuation unlike JP and DB - All adopted the newspaper metaphor for layout, content categorized according to newspaper sections, more photographs added, 3-4 columns - Much longer front pages, scrolling needed - Frequent use of cross references - mainly from print to web - Genre specific form added, e.g. news stream - Mainly news articles and some feature material from printed edition, but new material was written for the web - Results from online polls in printed edition 	<ul style="list-style-type: none"> - All navigation to the left - All had a news stream in a central position - More banners and ads than in previous years - Still built on the newspaper metaphor, much more photographs and icons, 4-5 columns (separate column for ads) - Even longer front pages, a vast amount of scrolling needed - Constant/ permanent use of cross references - from print to web, but also from web to print - New genre specific form, e.g. picture wheels for news events - Mainly news articles written especially for the web and some feature material from printed edition - Web material, such as specialized sections, polls, and questionnaires in printed edition
PURPOSE	Inconsistency	Towards consistency	Consistency
	<ul style="list-style-type: none"> - JP: reaching readers not having access to the printed edition - DB: marketing the printed edition - GP: publish larger amount of material, not fitted in the printed editions, e.g. fact databases. 	<ul style="list-style-type: none"> - Common primary purpose to provide updates, bridging the gap between editions but also other different purposes: - JP: provide background material to printed articles and related articles - DB: provide a net city - GP: provide services to users 	<p>Common purposes:</p> <ul style="list-style-type: none"> - provide a channel for continuous updates - provide value-added services to readers - provide revenue generating services

Table 4. Genre changes

Considering the deeply institutionalized genre rules distinguishing the printed newspaper, the strong emphasis on the printed newspaper among our investigated organizations is easily understood. This emphasis was reflected in organizational arrangements, employee incentives, as well as the values of the organizations. In 1996, we observed how the online newspapers were relying on dedicated people committed to use web technology for publishing news. At that time, the online newspapers were organized as projects

rather than as established parts of the organizations. Over time, however, this emphasis has decreased along with new strategy formulations describing the organizations as media houses rather than newspapers. Recognizing how the online presence can, for example, overcome the time gap between two printed issues, newspapers increasingly view the two genres as complementary.

While the online newspaper now can be regarded as an institutionalized genre, its association with the printed news genre is still important. Our study demonstrates how the printed and online newspaper genres are interwoven in such a way that they cannot easily be dissolved. As pointed out by some of the respondents, a modern newspaper cannot cope in today's media landscape without an online presence making it possible to provide news updates, cross-references, and additional services. Even though our investigation indicates negative pay-offs associated with seven years of online investments, the financially constrained newspapers in our study have no plans to withdraw their online presence.

8 CONCLUSION

In this paper, a longitudinal study of the evolution of online papers in Scandinavia is presented. On the basis of this study, we have suggested a number of institutional factors involved in shaping online news into a distinct genre. We have outlined the emergence of new communicative practices in response to the mutual shaping of the news genre and the new media. We have also demonstrated the emergence of sequential dependencies between online and printed news, suggesting a type of genre interdependency not predicted in the existing literature on digital genre evolution.

Indeed, our findings reveal some of the complexity facing today's newspaper organizations. Following the adoption of new media, the nature of their business is transforming. The ongoing diffusion of personal computers and handheld computers, as well as the advent of new technologies such as e-paper, trigger genre changes that are reflected in the way news is produced and consumed. In this regard, more research is needed into the mutual shaping of medium and genre.

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