

Modeling Newspaper Information Workflow for Cross Media Publishing

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Abstract

During the past two decades computer technology has revolutionized newspaper production work. As technology for the distribution of journalistic information in various forms has become more easily available, and with the Internet and the World Wide Web's introduction into companies and households, the tendency has been for the larger media organizations and companies to have several publication channels at their disposal. This study addresses the issue of implementing cross media publishing in newspaper organizations. More precisely this paper models the information workflow that must be supported by a newspaper in order to produce the news in multiple formats.

Keywords: - cross media publishing, alternative publishing channels, information workflow

1. Introduction

The importance of the print media industry has grown rapidly over the last decade, fueled by great profit potential caused by the introduction of Information and Communication Technologies (ICT). Digital technologies have been a part of the daily newspaper world for many decades. Newspapers began setting type using computers in the early 1960s. By the early 1980s, most newspapers were using digital systems to set type in galleys, which were cut and pasted into pages, and then imaged. During the past two decades computer technology has revolutionized newspaper production work. Journalists and reporters of today use computers and computerized editorial systems to write texts, process images and report on news events [Sabelström, (2000)]. Today the world's leading-edge newspapers are moving to 100 percent digital page assembly and distribution, streamlining workflow processes while ensuring higher quality [Veglis, (2005)].

For a long time, newspaper organizations were occupied only with the distribution of print newspapers. As technology for the distribution of journalistic information in

various forms has become more easily available, and with the Internet and the World Wide Web's introduction into companies and households, the tendency has been for the larger media organizations and companies to have several publication channels at their disposal [Sabelström, (2000)]. The Internet has proven to be neither a threat nor the opportunity some researchers claimed. In the last eleven years the web sites of many newspapers are enhancing their services and are used to expand their readership in print and digital form. Many believe that in time media, companies will have completely altered forms and strategies. Reporters will be covering events with several possible publishing channels in mind. [Bartlett, (1994)]. And for some companies this time has come.

Cross media is defined as any content (news, music, text, and images) published in multiple media (for example print, web and TV). The content is posted once and it is available on other media. Multiple media has been another term widely used to specify the area of inter-platform or inter-device possibilities. Multiple media means that the same content is delivered to end-users in more than one medium. A medium can be defined as means of mass communications (for example newspapers, radio or television) or more closely a system where transmission media is using more than one type of transmission path (e.g., optical fiber, radio, and copper wire) to deliver information. Alternative term for multiple media is multi-channel publishing. The same content is published on various channels, i.e. media. The term multiple media is broader than cross media expanding from the devices to content [Antikainen, et al, (2004)].

All the above changes mean that newspapers have to alter their information workflow in order to best exploit cross media publishing. This paper addresses the issue of implementing cross media publishing in newspaper organizations. More precisely this paper models the information workflow that must be supported by a newspaper in order to produce the news in multiple formats. The rest of the paper is organized as follows: Section 2 includes a review of cross media publishing. The following section briefly discusses the situation in Greek newspapers. The model of the information workflow is proposed and discussed in section 4. Concluding remarks can be found in the last section.

2. Cross media review

The term cross media was around already in the early days of electronic publishing. In the printing world cross-media was already known as database publishing [ACTeN, (2004)]. The first publishing segment to automate cross-media was directory and reference publishing. When material was already in a normalized database, creating new extract and transformation routines for CD-ROM and eventually Web production was not radically different than what publishers had been doing for the past two decades of database print publishing. In the late 1980s, new

cross-media publishing systems emerged that were focused on “content-driven” publications: manuals, books, treatises and other publications whose length is usually determined by the content, rather than trimmed to fit a predefined space [Walter, (1999)].

The print and publishing have taken to cross media already for a long time. The drive was efficiency, but in newspaper and magazine publishing, cross media are used for marketing and market penetration as well. Cross media in book printing and publishing started out as media that were complementary to each other such as a book and a CD-ROM. In magazine and newspaper publishing, cross media are used more extensively in order to bridge the time between publications by Internet services and in order to create a community. In the most rudimentary form, the newspapers and the magazines had an electronic counterpart. It did not really add to the content of the magazine or the newspaper, but reproduced the content of the magazine or the newspaper. [ACTeN, (2004)].

During the previous decade an increasing number of newspaper companies began publishing electronic editions in addition to the printed editions of their newspapers. Newspapers were turning to the WWW for several reasons. One possibility is the use of it to gather information material and do research with the purpose of writing articles, another kind of use is the provision of a WWW service, in other words some sort of digital newspaper [Eriksen, (1997)].

These developments in technology and the production of content in media have contributed to a change in the consumption of newspaper content. According to the World Association of Newspapers, on-line newspaper readership has risen 350% during the first five years of the 21st century and the number of newspaper websites has doubled since 1999 [WAN, (2005)]. Information technology, such as the Internet, has given media companies new possibilities, making newspapers more of a service than a product where the organizations resemble “information engines” rather than printing organizations [Appelgren, (2005)].

Many believed that the increase in the use of the internet over the last few years will make the online newspapers major players as news sources. As the daily use of the Internet has approached the daily use of newspapers, it has been widely assumed that the internet was challenging the newspaper as a news medium. But that did not happen. On the contrary many internet users never use internet to learn the news [Stempel III et al, (2003)].

Initially the newspaper companies chose to publish on the web, content created for the paper edition, without re-editing [Kenney et al, (2000)]. Many newspapers are still in this stage. However, soon they realized that not all of the content was suitable for the web. This was not the best way for utilizing the electronic publishing channels, primarily the web. Studies indicated that for example long texts from the printed editions simply did not suit the new publishing channels [Sabelström, (2001)].

The online edition of a newspaper is only one of many publishing channels that provide information and entertainment. Today's digital technology makes it possible to provide newspapers through a number of different channels. A list of the publishing channels exploited from newspapers in nowadays is included in table 1.

Table 1 Publishing channels

Print	CD/DVD-ROM
WWW	Webcasting
PDA	TabletPC
E-mail	SMS
PDF	WAP
RSS	Wi-Fi

3. The situation in Greek newspapers.

The first Greek online newspaper appeared in 1995. Today many greek newspapers have an online edition. However, very few of them have evolved into true online newspapers [Veglis, (2002)]. Most greek newspapers moved into cyberspace under fear and with little knowledge about the function and potential of the new medium. The basic reason to launch an online edition was an attempt to reverse declining circulation by building a new base of readers/users, and more specifically of young and computer-savvy readers, given the fact that start up costs are relatively small. A second reason has to do with developing a new source of revenue by basically offering the same product. Similar to the former, is editors' attempt to protect their advertising base, and particularly the classified ads. And last but not least, due to prestige reasons. Following the global trend of going online, presence on the Internet improves the newspaper's image [Spyridou et al, (2003)].

A recent survey by World Association of Newspaper [WAN, (2005)], reports that number on on-line newspaper in Greece seems to remain constant. Also WAN indicated that the number of newspapers is declining and the circulation remains approximately constant. We have studied the features and the search facilities of Greek news on-line resources [Veglis, (2002)]. This study concluded that Greek on-line newspaper are still at an early stage and require a lot of development. The findings indicated that Greek on-line newspapers have not integrated multimedia features in their editions. Another paper [Spyridou et al, (2003)] investigated the interactivity of Greek on-line newspapers. The results of this study suggested that on-line newspapers present a low degree of interactivity. The study argued that the development of web publishing is hindered due to particular political, economic and cultural traits of the country as well as due to the dominant journalistic culture of the

country. Another recent study examined cross media publishing by Greek newspapers. The findings indicate that there is a moderate use of alternative publishing channels. The effort is mainly focused on creating online edition that are usually exact copies of the printed edition. A small number of newspapers also use e-mail, PDF and WAP in order to reach their readers [Avraam et al, (2006)].

4. Information Workflow.

The implementation of alternative publishing channels in a newspaper organization has an impact on the work and information flows within the editorial department. The workflows in a traditional editorial department for printed newspapers have been set for decades. The workflow includes reporters and news editors that evaluate the news information, texts that are written, images that are shot by photographers and graphics that are drawn. The complete pages are composed and sent for printing, bundling and distribution. The whole process is depicted in figure 1.

The news and information sources for the printed and the alternative editions are often the same, but since the collaboration between the different editorial departments is usually inadequate, the information is processed independently for nearly every publishing channel. The above work scheme results in heavy workload and moderate outcome. There are examples from newspaper companies showing photographers and reporters from different channels within the same company covering the same story or event as if they were competitors [Northrup, (2001)]. Studies indicate that some Swedish newspaper organizations have separated editorial departments, thus resulting in complicated editorial workflows. As the departments work very much in parallel, the research, creative and composition work is duplicated or even triplicated [Sabelström et al, (1999)].

The organizational trend among newspaper and media companies worldwide is to integrate the editorial departments for different output channels. For example, the Media General in Florida, USA, has built a News Center to house its print (Tampa Tribune), broadcast (w.a television station) and online (Tampa Bay Online) news operations under one roof [Northrup, (2001)].

The underlying idea behind these kinds of integration endeavors most often is to have a common news desk for all publishing channels, where incoming news information is evaluated regarding, for example, news value and suitable channel for publishing. Until recently, the aim of the newspaper or media company management often was to require that most reporters work with all possible output channels in mind at all times. In order that no limit as to the number of possible output channels is set in advance, the single multimedia news reporter should be able to collect content in form of, for example, images, video clips, written and recorded interviews – all at the same time [Sabelström et al, (1999)].

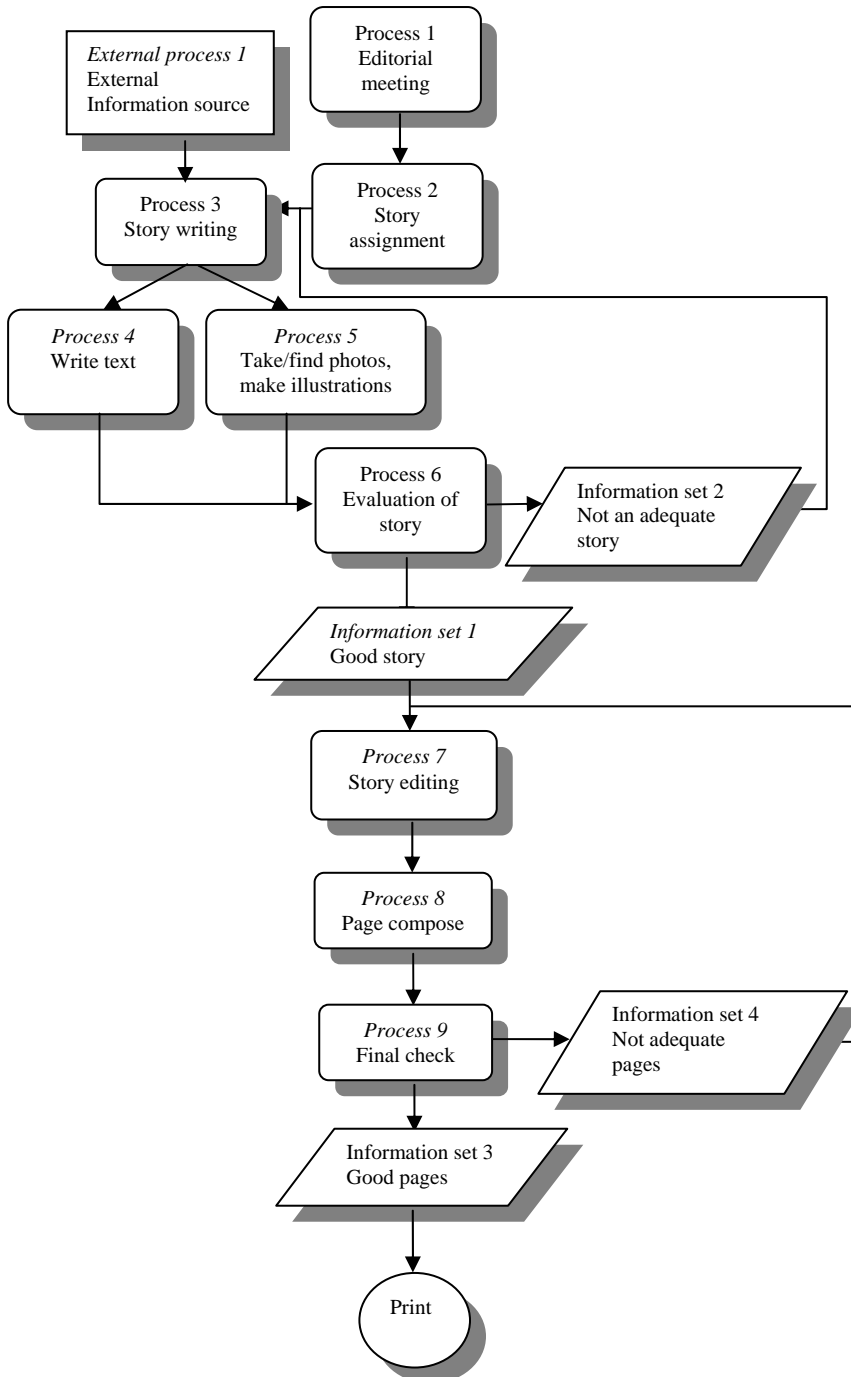


Figure 1. Document workflow in a newspaper.

The news information is collected and evaluated collectively by one or more news editor(s) at an input desk. Assignments are given to reporters, photographers, illustrators and other people on the editorial staff. The content is edited and composed for different output channels, then published and distributed. The information workflow in a newspaper organization that employs alternative publishing channels has been proposed by Sabelström [Sabelström et al, (1999)].

In this study we extend this model in order to include more publishing channels and we note the interaction that may take place between the different information streams (text, voice, video etc.). The rhythm of the publishing channels differs. In figure 2 we plot the publishing channels versus time. The first channels that relay the news to the readers are news headlines via SMS, e-mail, RSS, and WWW. Next come short story descriptions via voice or video webcasting. The full story is available first in webpages (WWW for PCs and TabletPCs, WAP) and PDF files send via e-mails. Finally we got the printed version of the story that can be accompanied by a CD/DVD supplement that can include videos from video webcasting or other interactive features of the WWW version of the story. Except the printed versions all other editions of the news can be updated several times during the day.

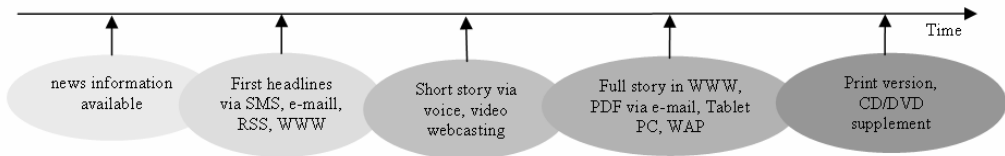


Figure 2. Publishing channels versus time.

The full version of the information workflow is included in figure 3. We must note that in WWW, TabletPC, PDF and printed editions, we have included an evaluation of story and final check processes. These processes are not included in the other more immediate publication channels. There is of course some kind of evaluation and final check, but because in these channels the time element is very crucial these processes are more informal. We must also note the feed from the video webcasting towards the WWW and CD/DVD editions that enhance the channels with multimedia features.

5. Conclusion

We have defined and discussed the alternative publishing channels that can be included in cross media publishing. Further more we have proposed a detail model for information workflow that can support cross media publishing.

The majority of the Greek newspapers today, employ some kind of information retrieval system, which effectively supports the editorial process. This system is also able to provide the appropriate information technology infrastructure for cross media

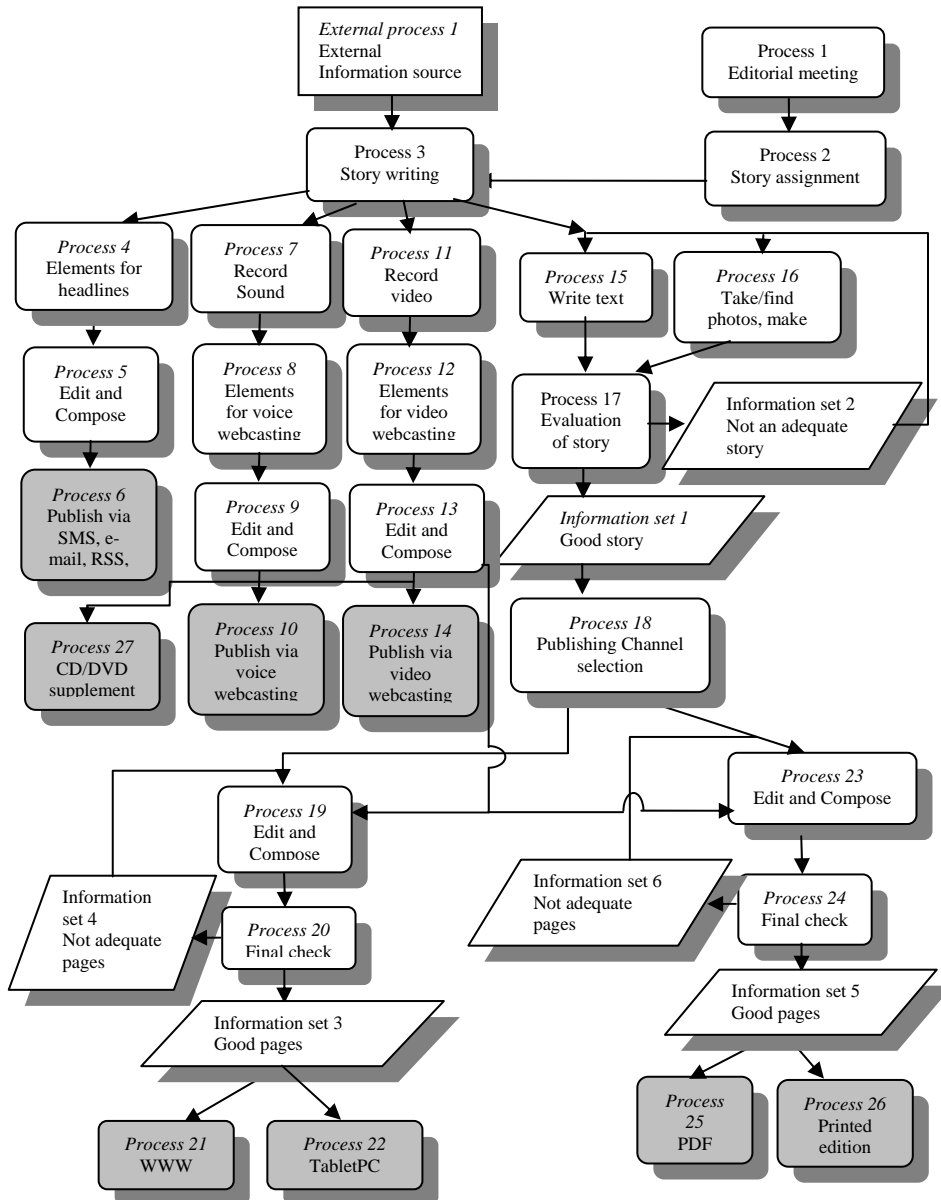


Figure 3. Information workflow model for cross media publishing.

publishing. In such a system all information are being stored in digital format. The central repository structure includes all the different kinds of information (text, image, audio, video). All parts of the newspaper organization are interconnected via the

company's intranet. The system incorporates all the information in such a way that each user can easily access the information from the central repository [Veglis et al, (2004a); Veglis et al, (2004b)].

Of course much has to be done in order for a typical Greek newspaper to transform into a multiplatform news provider. The process of restructuring the editorial organisation is time-consuming and may face resistance from the different professionals within the newspaper organisation. These problems may be solved with education and training, which is essential in order to make the new organisation follow the suggested production workflow. With the right premedia technical solutions, the work with the different editions in parallel would be facilitated and the transition from the old production organization to the new one could be made more smoothly [Sabelström et al, (1999)].

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