Implementation of Information Types in Printed and Electronic Newspapers

Kristina Sabelström[*]

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Abstract: For several years, newspaper companies have published electronic editions in parallel with, or in addition to, the printed edition. The electronic editions have slowly ripened, becoming rather well adapted to the publishing channel – in this case, the World Wide Web.

In this paper we analyze and compare the content of the printed and the World Wide Web editions of a few selected newspapers. The content elements are categorized using the concept of information types. Through this operation the degree of accordance between the content published and the publishing channel can be determined.

In addition, the most frequently visited pages on the newspapers' web sites are examined, in order to validate our theories on information types.

1. Background

For several years, newspaper companies have published electronic editions in parallel with, or in addition to their printed editions. The electronic editions have slowly ripened, becoming better adapted to the publishing channel.

In the author's previous work and research, the content in and production of printed and electronic newspapers (mostly on the World Wide Web (WWW)) have been analyzed. In this work, the concept of information types was introduced as a tool for predicting the future for

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[*] The Royal Institute of Technology, Stockholm, Sweden

different kinds of information products (Sabelström, 1998). With the help of these tools, the content of both printed and electronic products can be analyzed and classified.

In order to determine the accuracy and the relevance of the concept of information types, a smaller study of three European newspapers was carried out. The purpose was to see what degree of accordance between the published content and the publishing channel there is.

2. Methodology

The work has been carried out as an empirical study of three different newspapers. The newspaper's printed editions and WWW editions have been studied and compared. Interviews with people of the editorial staffs have been carried out in order to get a more detailed picture of the workflow and the content in the different editions.

The same questions were put to all people interviewed, in order to get a comparable result of the study. The questions were sorted under three main headings: *Content, Advertisements* and *User profiles and the future.* The study was carried out during the fall and winter of 1998/1999.

3. Information needs and information types

Human beings have, among other basic needs, the need to inform and to be informed. According to Abraham Maslow's Need-Satisfaction Model of Motivation (Jarvis, 1998), the needs of a human being can be gathered in five different levels: Physiological Needs (very fundamental life or death needs, such as food and water); Safety Needs; Belongingness and Love Needs; Esteem Needs; and Self-actualization Needs. Depending on information type, the need for information can be classified as all but a physiological need. Needs can be provoked by internal or external stimuli, and they can also vary in intensity. (NIGRA, 1998)

The *information needs* are satisfied through various information products (Tekes, 1998), built up of *information types.* A certain element in a product, such as text (Sabelström et al, 1997) can be built up of different information types. The information types are abstract descriptions of the characteristics of the information elements.

In this report, the most interesting characteristics of the information types are considered to be their degree of topicality and their push or pull orientation.

Push oriented information is of a kind that people may want to know about but do not know exists. This is, for example, the case for general news and most forms of advertising. Push oriented information is appropriate for publishing on fixed schedules or whenever there is new information available.

Pull oriented information, on the other hand, is of a kind that people know exist and where to find. The information is delivered upon an explicit request from the user.

The most important information types recognized in printed newspapers are (Sabelström, 1998; Borg et al, 1998):
• *News information* – includes reports on topical events and is extremely push oriented
• *Entertainment information* – entertainment with or without news value such as comic strips and columns. That is to say, it can be both topical and durable. It is often pull oriented.
• *Announcement information* – can be found, for example, in obituary notices and television listings. It is topical and push oriented.
• *Reference information* – is, for instance, background material and reference literature. The information is durable and pull oriented.
• *Promotion and sales information* – includes display and classified advertisements as well as radio and television commercials in order to promote companies, products or opinions. This information type is push oriented, but does not have to be topical in all cases.
• *Communicative information* – corresponds to the promotion and sales information on a one-to-one market. It is, for example, a part of classified advertisements, where buyers and sellers need to inform each other on obtainable objects. The information type has a topical character and it is very pull oriented.

4. Different types of production organizations

There are basically two ways of organizing the editorial staff for parallel publishing in print and on the WWW. Either the editorial staff of the WWW edition is the same as for the printed edition, or there is one separate editorial staff for each edition.

In the first case, the reporters and the journalists in the editorial department of the newspaper company produce content for both editions. In accordance to this, the photographers may bring video cameras in addition to their ordinary photo equipment when performing assignments.

In the second case, however, journalists and reporters are specialized in producing content for the WWW or the printed edition. In most cases some of the content published in one edition is used in the other edition as well. The most common way is to re-use editorial content produced for the printed edition in the WWW edition.

In 1996/1997, Svenska Dagbladet and Dagens Nyheter, the two main dailies in the Stockholm area, built up separate editorial staffs for their printed and WWW editions. Dagens Nyheter named the WWW edition DNet, in order to demonstrate that it was an independent product, albeit closely connected to the printed Dagens Nyheter (Sabelström et al, 1997). Later on the then owner of Dagens Nyheter, Tidnings AB Marieberg (today Bonnier AB), decided to form a separate "media company", that should, among other things, produce DNet. The editorial staff of the WWW edition would not be connected to the editorial departments of the printed edition at all.

Svenska Dagbladet did not go as far, but the editorial staff of the WWW edition was separated from the staff of the printed edition, although not put in to a freestanding company. The WWW editorial staff re-used some content from the printed edition, but produced most of the content on their own.

In 1999, DNet no longer exists, the "media company" has closed down and the traditional Dagens Nyheter logotype is used in both the WWW edition <dn.se> and the printed edition. Svenska Dagbladet strives to integrate the WWW editorial staff with the editorial staff for the printed edition. Journalists, reporters and photographers traditionally producing content for the printed edition have started to produce for the WWW edition, too.

One example of integrated media production is Chicago Tribune in Chicago, Illinois, USA. They have managed to integrate the editorial staffs of Chicago Tribune (printed edition), the WWW editions of The Internet Tribune and Digital City Chicago, 16 TV-stations and five radio stations in a common newsroom. Chicago Tribune Company owns all the different media and publishing channels. (Luthander, 1998)

The discussion so far has focused on the editorial production, but the same basic organizational options are valid also for advertisement production.

5. Case studies at three newspapers

The studied newspapers, two Swedish and one German, vary in size and target groups. They have different approaches to publishing on the WWW and have organized their editorial staffs in different ways. They

also differ in their attitude towards the WWW in what they publish and regarding what role they think that they have as newspaper companies established on the WWW.

The first newspaper studied is Svenska Dagbladet. It is the second largest daily newspaper in the Stockholm area with a circulation of approximately 200,000 copies per day, seven days a week (Tidningsutgivarna, 1999). The newspaper is targeted to the whole country of Sweden, but is mainly distributed in the capital.

Svenska Dagbladet first published its WWW edition <www.svd.se> around midsummer 1995 (Svenska Dagbladet, 1999; Sabelström, 1997). It was then produced and developed in co-operation with the Division for Graphic Arts Technology (now the Division for Media Technology and Graphic Arts) at The Royal Institute of Technology in Stockholm, Sweden. Eventually, the editorial staff of the WWW edition was built up within the newspaper company itself. (Jonsson, 1999)

The second newspaper is Hallandsposten, a regional daily newspaper with a circulation around 32,000 copies a day, six days a week (Tidningsutgivarna, 1999). The newspaper is concentrating its content to the region around the southern Swedish town of Halmstad, and claims to be the only source of regional news information in the area (Emanuelsson, 1998). The WWW edition, Hallandsposten-Online <www.hallandsposten.se>, was first published in September of 1995 (Sabelström, 1997).

The third newspaper studied is the German Rheinische Post and their WWW edition called RP-Online <rp-online.de>. Rheinische Post is the major newspaper in the area around Düsseldorf in the northwestern part of Germany and has a circulation of some 400,000 copies a day, six days a week (Rheinische Post, 1999). Rheinische Post has chosen to separate the WWW edition from the printed edition.

5.1 Editorial content

In the beginning of newspaper publishing on the WWW, newspaper companies tended to put almost all of the content from the printed edition onto the WWW, with almost no re-editing or re-writing. For example, Aftonbladet <www.aftonbladet.se>, the largest evening newspaper in Sweden, did that in 1996 (Sabelström, 1997). The WWW edition was seen as a secondary edition to the printed edition, and very little content were produced first-hand for the electronic edition. (Taylor, 1998)

Today, in 1999, however, the newspapers seem to have realized that long articles based only on text are not very well suited for publishing on the

WWW. As an example, Svenska Dagbladet publishes only between ten and fifteen per cent of the content in the printed edition on the WWW (Holmgren, 1998). The articles published are mostly rather short and attempt to reflect certain important events and editorial contents unique to Svenska Dagbladet. RP-Online in its turn publishes around eighty per cent newly produced contents for the WWW edition (Hönscheid, 1999).

Hallandsposten and RP-Online, both regional newspapers, publish parts or all of the local news, local sports results, etc. on the WWW. RP-Online adapts the content taken from the printed edition to the WWW, partly because the format of the printed edition does not fit the WWW, partly because the people reading RP-Online are not the same as those reading Rheinische Post.

RP-Online and Svenska Dagbladet produce content exclusively for the WWW edition, both in the form of continuously updated news and as specials on a more long term basis, whereas Hallandsposten does not produce any exclusive editorial content at all for the WWW edition. The first two publishers have reporters and editors working with on-line news only and, in addition, Svenska Dagbladet has reporters writing for both the WWW edition and the printed edition. At RP-Online, the editorial staff works in two shifts Monday to Friday and in one shift during weekends.

According to Dr. Willi Hönscheid (Hönscheid, 1999), Vice President of RP-Online Verlagsgesellschaft mbH, it has been noticed that the number of page views (that is, the number of times a reader views a particular page on the web site) increases when RP-Online reports on-line, whereas the number drops when publishing "yesterdays news" from, for example, the printed edition.

In addition to the WWW edition, RP-Online has another related service for their readers. This is an e-mail based news service called InBox. This service offers a simple personalization of news, as it is possible for the subscriber to choose roughly between different news categories. The news is pushed to a predefined e-mail address with constant intervals. Some news is delivered several times a day and some news once a week or once a month.

Some of the content originally produced for and published in the WWW edition of Svenska Dagbladet is also published in the printed edition. Examples of this are articles from the associated student site <www.student.svd.se> and from the on-line news, which are re-edited and re-written in order to suit the printed edition better and to give it deeper and broader content.

An interesting thing to note is that none of the WWW editions of any of the three newspapers varies in size the same way the printed edition does. At Svenska Dagbladet the WWW edition consist of some 6000 documents, most of which have a static content, and that number is more or less constant every day. The same is also valid for both Hallandsposten and RP-Online.

5.2 Advertisements

Newspaper companies have a solid organization for selling and producing advertisements for the printed edition. A question is if this organization is as well equipped for selling and promoting the newspaper on the WWW. One problem that occurs is that the staff selling traditional display and classified advertisements for the printed edition is more used to receive advertisements, whereas they have to promote and sell more consciously for the WWW.

Both Svenska Dagbladet and Hallandsposten have chosen a strategy to let an advertising broker sell advertisements (banners) for the WWW edition. They feel that the selling organizations within the newspaper companies neither have the skill, nor the resources to sell banners. According to Lennart Holmgren (Holmgren, 1998) second editor-in-chief at Svenska Dagbladet, it is not possible, or at least very hard, to first sell full page advertisements for the printed edition, and then try to bring in some extra money by selling banners for the WWW. He believes that in order to be able to sell advertisements for the WWW together with display advertisements for the printed edition, the newspaper companies have to offer their customers package solutions.

RP-Online have decided to take another path and has an advertising department exclusively working for the WWW edition. This organization does not only sell banners and other advertisements for the WWW edition, but it also develops new advertising tools and products. The existing selling organization for the printed newspaper is working with high speed and does not have the time nor the skills to give answers to the customers' questions about the WWW. The people marketing banners for the WWW have to be able to advise the customers in WWW advertising. Through experience RP-Online and Rheinische Post have realized that split advertising departments is good for the revenue. (Hönscheid, 1998)

Classified advertisements

Classified advertisements are very well suited for electronic publishing, as they can be easily sorted in databases. Newspaper companies started to publish classified advertisements on the WWW rather early – even

before banners were seriously introduced and standardized on the WWW. (Sabelström, 1997).

Surprisingly enough, none of the three newspapers in this study sell classified advertisements for the WWW exclusively or even as a part of the ordinary advertisement sales. The cause could, of course, be that they do not wish the WWW edition to compete with the printed edition, or that there simply are not enough selling resources available.

Hallandsposten does not publish any classified advertisements at all, but has a couple of other database services in a service called "Smartjobb", where the user can apply for and find jobs, and "Motormarknad", where people can find used cars and other motor vehicles. CityGate AB, a joint company created by ten Swedish local newspaper companies, has developed these services. (Emanuelsson, 1998; Larsson, 1998)

Both RP-Online and Svenska Dagbladet re-use classified advertisements from the printed edition. Svenska Dagbladet takes the classified advertisements from the Thursday edition of the printed newspaper and RP-Online from the Saturday edition of Rheinische Post. None of them charge the advertisers any extra money for this service. This results in an updating of the classified advertisements only once a week and no additional revenue.

<center>Display advertisements – Banners</center>

For quite some years newspaper companies have waited for the WWW advertising market to rapidly develop and become profitable. Most newspapers earn some money from banner advertising, but hardly enough to pay the salaries for the people employed in the WWW editorial staff. However, all three newspapers in this study claim to bring in more on banner advertising today than during earlier years.

Svenska Dagbladet have increased their profits by fifty per cent every year since 1996. Still, the revenue is only a couple of million Swedish crowns compared to revenue for advertising in the printed edition of one billion Swedish crowns. (Holmgren, 1998) Hallandsposten still does not gain much economically from banner advertising, but more in 1998 than the year before (Emanuelsson, 1998) and RP-Online hopes to have a break-even in the year 2000 (Hönscheid, 1999).

One of the reasons it is hard to convince advertisers to use the WWW for marketing and promotion is the newspaper companies' difficulty in presenting the number of viewers of a certain banner. Another question is the basis for payment.

Svenska Dagbladet uses Ad Banner Center <www.adbannercenter.se> – an advertising broker for the WWW – to sell, create and place banners in the WWW edition. Ad Banner Center charges the advertisers for 40,000 exposures and they also collect usage statistics on the banners. A third party company, NetCheck <www.netcheck.se>, is used to audit the statistics of the page views etc.

RP-Online, however, have chosen to have a separate advertising department for the WWW edition. They also use a couple of German advertising brokers to sell, crate and place banners on their site. As banners have proven to be less profitable than expected, RP-Online develops new ways of advertising in the WWW edition. To escape the problem of the viewer going away to another site when clicking on a banner, they have created so called *micro-sites*. A micro-site has almost the same dimensions as a banner, and it is placed at the top of the web page. The main difference compared to a normal banner is that the micro-site is most often connected to a smaller database hosted by RP-Online. The micro-site appears like a frame on the top of the web page. The viewer will thus not be led away from the host site (in this case RP-Online) when clicking on the micro-site. RP-Online develops this kind of service in co-operation with the advertising companies. The belief is that the major profit of RP-Online will come from e-commerce, micro-sites and other on-line services in the future.

The printed editions of the three newspapers vary in size depending on the number of advertisements. This is not the case in the WWW editions. The number of pages is constant, and if there are more banners than there is space, some of the advertisers simply are rejected or given shorter exposure time.

Even though the advertising market on the WWW seems slow and uncertain, all three newspapers believe that editorial content better adapted to the WWW will attract more viewers, and thereby more advertisers with increased revenue as a consequence. By publishing exclusive and unique editorial content, viewers are attracted to the WWW edition. The users are learning to use the WWW and understand its possibilities better every day. The important thing is to keep the same pace as the users. When they are ready, multimedia elements like sound and video will help attract them to the WWW edition (Holmgren, 1998).

5.3 User profiles

As all commercial companies, newspapers companies strive to increase their revenue. If the WWW edition shall have a chance to survive in the long term, the newspaper companies have to find new ways to attract readers and advertisers to their WWW editions.

According to a Finnish report (Siivonen et al, 1997) advertisers are willing to pay more for targeted advertisements and advertisements directed at a special demographic group of users. None of the newspaper companies in the study use the information in, for example, the log files from the WWW edition in combination with the information in the subscription database for the printed edition for a marketing purpose. One reason is that the log files are not reliable enough and do not tell particularly much about the user. One way to get around this problem would be to carry out market research on the WWW edition. This is of course time consuming and expensive, and for a relatively small newspaper as Hallandsposten in an area with rather low Internet penetration, it has not even been of interest to carry out such a study, according to Sverker Emanuelsson, editor-in-chief of Hallandsposten.

Svenska Dagbladet would like to have a media database with information both on the subscribers to the printed edition and from a registration form for the WWW edition. The problem is to get the users to register on the WWW. People tend to have a built-in resistance toward registration. (Holmgren, 1998)

6. Implementation of information types

The question we will address in this section is whether the editorial and advertising content is in accordance with the different publishing channels. That is to say, if the information types the content is built up of are in correspondence with the characteristics of the publishing channels, WWW, e-mail and print (paper).

The different publishing channels can be described using the same descriptive terms used for the information types – degree of topicality and push and pull orientation. Here the terms do not, however, describe the characteristics of the delivered content, but the characteristics of the publishing channels (primarily technical) that make them more or less suited for delivering services or products of topical/durable and push/pull nature.

The WWW is mostly pull orientated, although there are some push oriented services such as, PointCast <www.pointcast.com> and Marimba <www.marimba.com> (Jonsson, 1997). However, these services have not been as successful as expected. This means that a user of services on the WWW normally has to seek consciously for information. As the publishing channel admits on-line updating of information it is to the highest degree topical.

E-mail, on the other hand, is both push oriented and topical. After turning on the mail application, the viewer does not have to be active in order to receive updated information from, for example, a news provider.

In Scandinavia and Germany, it is common to subscribe to a morning newspaper. This means that newspapers printed on paper are push oriented, however not as topical as the electronic on-line publishing channels. The news printed in a newspaper is already yesterday's news when the reader receives them in the mailbox.

The three studied newspapers differ in their attitude toward the WWW and in what editorial content they publish on the WWW. RP-Online and Svenska Dagbladet have chosen to publish very little editorial content from the printed edition and to create new content originally for the WWW edition. Hallandsposten, on the other hand, does not want to publish the latest news on the WWW in case some competing regional radio or television station should "steal" the news. This is not the only reason why Hallandsposten only publishes local content from the printed edition on the WWW after the subscribers have received the printed edition in the morning. Hallandsposten is a rather small local newspaper with restricted funds and cannot afford specialized reporters and journalist to write for the WWW edition.

Svenska Dagbladet and RP-Online have utilized the topicality aspect of the WWW and publish newly created editorial content continuously during weekdays. Of course the publishing channel and the news information are not yet optimized for each other, as the specific information type, news information, really requires a push oriented publishing channel. However, RP-Online's e-mail service InBox fits the characteristics of news information.

Svenska Dagbladet publishes editorial contents consisting of, among other things, entertainment information. One example is a recipe special in the printed edition, which is published as a searchable database in the WWW edition. This kind of information might not be topical, but very pull orientated and well suited for the WWW.

Specials can consist of news information, entertainment information and reference information in a combination. This makes them suited for publication in both print and on the WWW. RP-Online produces specials for the WWW edition exclusively, and can thereby adapt the content to the publishing channel. As specials in the printed edition often are presented as long articles, they have to be re-edited or re-written to suit the WWW edition.

All three newspapers have enhanced their services in the WWW edition with applications not possible to provide in the printed edition. Svenska Dagbladet has, for example, a searchable television guide, TV-Guiden <www.tv.svd.se>, RP-Online has a "travel agency" called RP-Online Reise <rp-online.de/reise/aktuell.shtml> and Hallandsposten has a searchable archive of companies within the Halmstad area <www.hallandsposten.se/foretag/foretag.asp>.

These services consist of pull oriented news information, entertainment information, announcement information and communicative information. The combination makes the services pull oriented, topical and searchable; all of them parameters well suited to the WWW. (Hedman, 1998)

As mentioned earlier, advertising on the WWW has not been as great a success as the market predicted. In 1999, the newspaper companies still do not make enough money on banner advertising to run the WWW editions economically by themselves. One reason that the success has not come of is probably the push characteristics of promotion and sales information that makes it less suitable for the WWW. The reader does not normally actively look for advertisements, but reads them when they are forced upon him or her. The printed paper is a push-publishing channel, and display advertising is a profitable business.

Classified advertisements, on the other hand, are pull oriented. RP-Online and Svenska Dagbladet publish classified advertisements from the printed edition once a week. The classified advertisements are important to the newspaper companies as they draw readers to the newspaper and the advertisers are interested in as large an audience as possible.

7. Conclusions

The World Wide Web as a platform for on-line publishing is still immature. The newspaper companies are beginning to find a form for publishing information and to best utilize the publishing channel. Svenska Dagbladet and RP-Online are newspaper companies that clearly show a willingness to test new solutions in publishing.

It is still difficult to get profit from publishing content on the Internet (WWW and e-mail). The newspaper companies still have difficulties showing the advertisers what target groups they have and how many viewers actually are using the different parts of the WWW edition. This, in combination with the contradiction in characteristics of promotion and sales information (push oriented) and the WWW (pull oriented), and the limited number of users of on-line services on the WWW, makes banner advertising in the form we see today unprofitable.

It would be beneficial for the WWW edition if the advantages of classified advertising on the WWW were more promoted. This might lead to more visitors to the edition, with increasing advertisement revenue as a result. The risk is of course that the printed edition looses readers, and thereby advertisers, instead.

All three newspapers in the study would prefer to use the existing editorial organization and employees to create editorial contents for the WWW edition in parallel with the printed edition. However, the editorial staff of the printed edition seems to have a resistance toward writing for the WWW edition. Even though they create content for on-line publishing upon request, this type of assignment is still not a natural part of their work. (Hedman, 1998)

The advertising department is, according to all three newspaper companies, harder to integrate for the different editions than the editorial department. Selling of advertisements is very much dependent on the bearer of the advertisements (Holmgren, 1998), and the different editions have their own "advertisement design". The demands on the staff within the advertising department increase dramatically when they have to sell for different editions.

In order to get around these problems, the management of the newspaper companies has to work to promote integration. The editorial staff has to be given the proper tools and further education in journalistic work for different media (Northrup, 1998), and the advertising staff has to be given further training in advertising in the different editions. It is also essential to change the way advertisements are sold. As the competition for advertisements increases, the newspapers advertising staff might become forced to start selling advertisements more actively for the different editions than they do for the printed edition today (Hönscheid, 1999).

There seems to be a trend at, or at least willingness of, the newspaper companies to create and publish content exclusively produced for the different editions. As already has been mentioned the newspaper companies started their WWW edition eras by publishing content intended for the printed edition on the WWW. All three newspapers in the study admit that the different publishing channels require different kinds of presentation and different kinds of the content. However, Hallandsposten still presents "yesterdays news" in its WWW edition and it does not fully utilize the WWW edition for classified advertisements or for pull oriented database services. The same holds true for RP-Online and Svenska Dagbladet. The reason is not primarily a lack of knowledge about the characteristics and opportunities of the on-line publishing channels, but more a question of financial and human resources.

Content consisting of news information is continuously updated and presented as short stories on the WWW. However, the pull orientation of the WWW still does not make it fully suitable for publishing of push oriented information, such as news information. Pull oriented information, such as classified advertisements and other searchable services, are published in the WWW edition. During the last few years, the newspaper companies have developed more services and published more content that are pull oriented and easy to store in databases. However, these services and the utilization of the WWW edition for advertising purposes can be further developed.

The newspaper companies have found ways to get around the pull orientation problem of the WWW. Two examples of this are RP-Online's e-mail based news service InBox and Svenska Dagbladet's television guide TV-Guiden. By filling in a form on the RP-Online web site and thereby subscribing to the service InBox, the content, consisting of news information, is pushed to the reader via e-mail. In TV-Guiden, the personalized television listings, consisting of announcement information, news information and communicative information, are pushed to the user after creating personal program profiles stored in a database.

Even though some information types and thereby certain editorial and advertising content in an objective sense may be best suited for publishing in another publishing channel than the traditional printed newspaper, the readers might not be as objective in their choice. The emotional needs (NIGRA, 1998) and tradition should not be underestimated. These could very well prove to be factors inhibiting a switch of information medium by the general public. (Tekes, 1998)

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    1998   Second editor-in-chief, Hb Svenska Dagbladets AB & Co, Stockholm, Sweden

Hönscheid, Dr. W.
    1999   Vice President, RP-Online Verlagsgesellschaft mbH, Düsseldorf, Germany

Larsson, C.
    1998   Co-ordinator and responsible for sales at the IT department, Hallandsposten AB, Halmstad, Sweden