MEASURING THE TRUE VALUE OF ADVERTISING IN PRINT AGAINST ONLINE - AN EYE TRACKING EXPERIMENT

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Introduction

We often see that print titles have online extensions. Sometimes these are the print pages that are simply digitized and shown online, sometimes it is in the form of a special website with a digital make up, but with the same ads as in the print title. We also see that advertisers are using similar advertising content in print and on a choice of websites (in print a small ad, online a banner).

What is the impact of the medium on the value of the advertisement? Does it make a difference whether the same ad is read on print in a typical print environment or on a screen as part of a website? We have tried to answer these questions with the help of modern Eye tracking technology.

Because we wanted to concentrate on the influence of the medium environment on the ad we have chosen two experiments with live and existing advertising content within a single form of existing print and online editorial content. Out of the existing Dutch print titles we have chosen two free sheets,(Metro and Spits) because of their tabloid format (“screen size”) and because we could identify a series of print advertisements in these titles that were in the shape of a quarter page and were similar or even identical to the existing online banners.

The ads were all of the same kind of financial services, or other non intrusive business information. When we compare roughly the cost per thousand of these ads in the free sheet Metro and on the web and if we correct the A.I.R.of the print title for the average page exposure of that title, we come to a cost of €4 per thousand. That is similar to what we pay for a banner of the same size on a series of websites for the same number of contacts according to the rate card of an “Adlink” service.

In summary, we tested the same format, same advertorial, and same market value, but print versus online.

Background

Intomart GfK has tested many advertisements in print media, web pages and outdoor with the Tobii 2150 Eye tracker. The main purpose of these tests is to improve the lay-out of the ads. Eye tracking may reveal whether parts of ads are conspicuous enough to catch attention or whether there are too many distractions. In combination with a recall questionnaire, eye tracking is a powerful technique to tackle questions that concern brand communication.

The question we asked ourselves is: “Can we use eye tracking to determine whether consumers react differently when confronted with (the same) advertisements in different media?” In our case study we restrict ourselves to web pages and free tabloids.

Eye tracking

The human eye is very sensitive for colour and small details in the centre of the visual field. From only a piece of the visual field as big as two thumbs at a meter distance we perceive a clear sharp image. To explore the visual environment we make about two to four eye movements per second. Fixations are periods between so called saccades during which parts of the visual field are fetched and processed.

Locations of fixation points in advertisements are informative for what the consumer may have perceived and preferred to look at. However, fixation of a brand logo does not guarantee brand recall. On the other hand if a brand logo is not fixated, it is not perceived and cannot be remembered. The question whether consumers react differently when confronted with ads in web pages or tabloids will now be formulated as: “Do consumers have different scan patterns when confronted with ads in web pages and tabloids?”. In other words we will register eye movements and consider number and duration of eye fixations as a measure of visual attention.

Two experiments

We carried out two experiments in 2008. In experiment A, eye scan patterns, recall and recognition from print and website ads were compared. Comparison of scan patterns in a digitized tabloid newspaper presented on a screen and a website were used to shed light on the way both types of media contribute to the performance of ads. In order to be able to generalize results obtained during screen reading in experiment A, we added a control condition. In experiment B we compared recall and recognition of the same ads in a paper and a digitized version of the tabloid.

Experiment A

Although newspapers and websites are different media types, their ads are quite similar, i.e. products in the ads and the lay-out have many commonalities. Therefore we may assume that involvement with the advertised products will not play an important role if we compare the two media. There are two conditions that affect the processing of information in the media: modality of and control over the media. Modality has to do with the mode of presentation that has an impact on the different senses e.g. the eyes. This factor is of significance in experiment B.

By control we mean control over the speed and the order of transfer of information. Control can be practiced by the senders so called external pacing, or by the receivers internal pacing. Websites, newspapers and magazines have internal pacing, television and radio external pacing.

Given these rather equal conditions we can make a fair comparison between scan patterns in websites and tabloids.

Design

45 respondents, 23 men (average age 44.6, std 14.3) and 22 women (average age 41.0, std 10.5) participated in this study. All respondents had ‘normal’ sight and were not informed about the precise objective of the research. In about half an hour respondents leafed through 2 websites and 2 newspaper pages on the eye tracker, followed by spontaneous recall and recognition and completed a digitized questionnaire to measure their involvement with the advertised products. Respondents were given the instruction to leaf through the pages as they were used to and only to read and look at what they considered interesting. They were not told that a recall and recognition test would follow. Respondents could decide for themselves when to turn to the next page. It was not possible to click on hyperlinks or to scroll downwards.

The stimuli were divided in 2 groups (1 and 2), each consisting of the same 4 websites and 4 newspaper pages. All pages contained 2 advertisements. There were 2 sets (A and B) of pairs of ads. The pair of ads in Set A had the same size and product category as the pair from Set B. In total we had 2x4x2 = 16 different ads. The reason for using pairs of ads was to keep the competition from the other ad for each ad equal. This way we were able to measure the influence of the editorial environment. The websites of Group 1 contained ads from Set A and the newspapers ads from Set B. For Group 2 the websites had ads from Set B and the newspapers from Set A. Respondents were randomly allocated to one of the 2 groups and were shown 2 websites and 2 newspaper pages. Therefore, every respondent was shown 2x2x2 = 8 ads. Also the order of the stimuli was randomized.

Eye movements

Respondents had to leaf through the pages , sitting before a Tobii 2150 eye tracker. Self-written matlab software was used for the analysis of eye movement data. First the eyes of the respondent were calibrated. Leafing through was done with the right arrow key. When ready, respondents were taken to another room and seated before a computer, where they were asked to write down as much as possible brand names of ads they had seen on the pages. Thereafter all 16 ads were presented one by one and for each of the respondents and they had to indicate whether it was seen on the pages. Furthermore involvement with the advertised products was measured, based on the Consumer Involvement Profile of Laurent and Kapferer (1985). Finally respondents were asked how often they used the computer and the Internet and read the free tabloid newspapers Metro and Sp!ts.

Data analysis

The data were analyzed with an independent t-test, with the media as grouping variable and the number of fixated ads, the frequency of computer and internet experience, the recall scores, recognition scores, fixation times for the full page and the ads as test variables.

Experiment B

In this study we got data from 60 participants, 28 men (average age 41.8, std = 12.8) and 32 women(average age 41.6, std = 11.9). Participants were divided in 2 groups. Both groups got the instruction to leaf through a newspaper as they would usually do, and only to read or look at what they thought was interesting. Like in Experiment A they were not informed about what would follow afterwards. The difference between the groups was that Group 1 could read the newspaper on the eye tracker, while Group 2 had to leaf through a paper version of the newspaper. There were 8 versions of a 12 page newspaper. To strengthen the idea that one was reading a newspaper the first and last two pages were the same for all 8 versions. The order of the other 8 pages was randomized in order to compensate for primacy and recency effects. The 8 versions were distributed among the participants so that each version was read about as often on screen as on paper. For Group 2 (paper version) reading time was measured in order to be able to compare total reading time with that of Group 1.

Like in Experiment A, spontaneous recall of brand names of ads seen was registered. For recognition, all 8 ads in the newspaper and another 8 ads that were not in the newspaper were shown one by one and randomized.
Respondents had to indicate whether they had come across an ad in the newspaper or not. Also involvement with the advertised products, frequency of use of the computer and reading Metro were measured.

Finally the Freiburg Visual Acuity test was administered in order to establish the sharpness of the eyes. The test was executed with the respondent at 3 meter distance to the screen with Landolt-C and the laptop on the respondents’ laps. Respondents had to indicate where the ‘opening’ of the C was located. The 8 possibilities corresponded with the arrows /numbers, except 5, on the number pad.

Results Experiment A

Eye tracking

Medium effects

We found four different effects between newspapers and websites. The first one (see Figure 1.) has to do with fixation time (viewing time) on pages as a whole. Pages in newspapers were longer looked at than web pages (t(44)=2.203, p<.05).

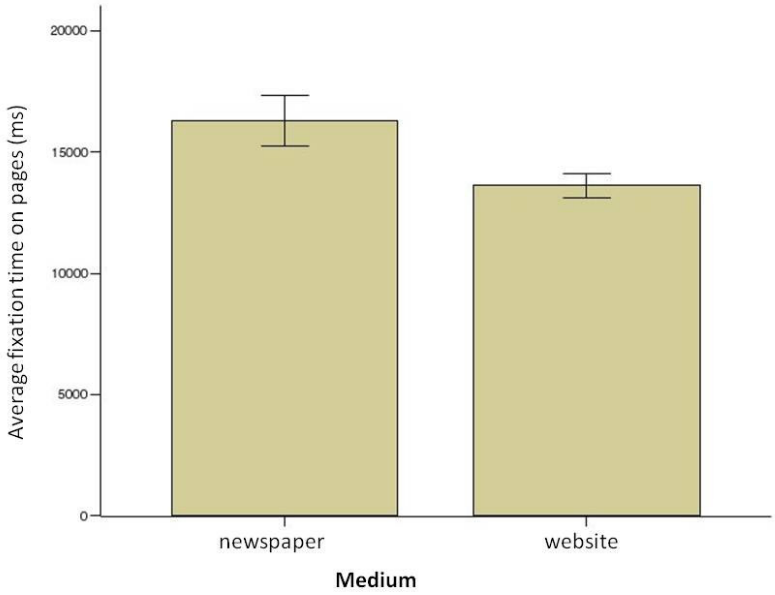


Figure 1. Effect of medium on fixation time (pages)

Another effect can be seen in Figure 2. Ads placed on websites were more often fixated on than those in newspaper pages (t(44) = 2.117, p<.05).

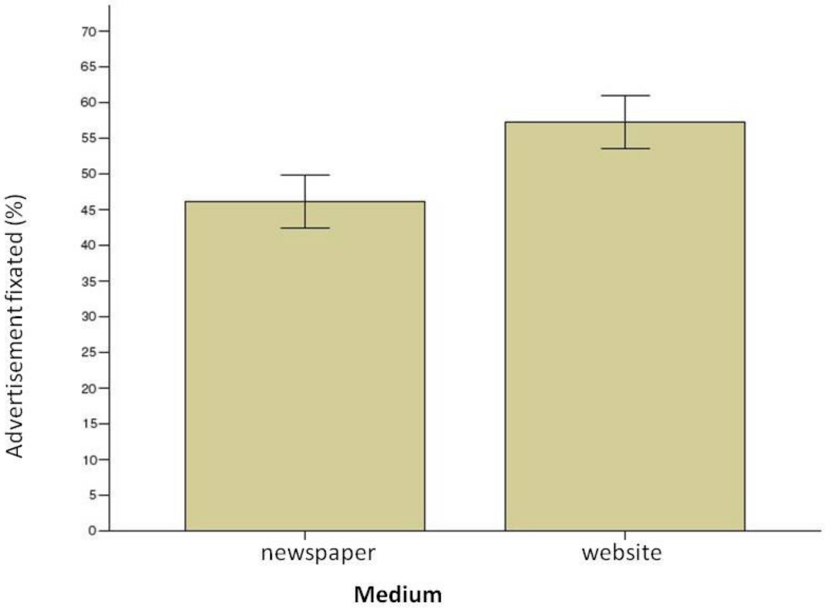


Figure 2. Effect of medium on percentage fixated ads

When an advertisement was looked at, fixation time (viewing time) was longer for websites than for newspapers (t(44)=4.115, p=0.000) (see Figure 3).

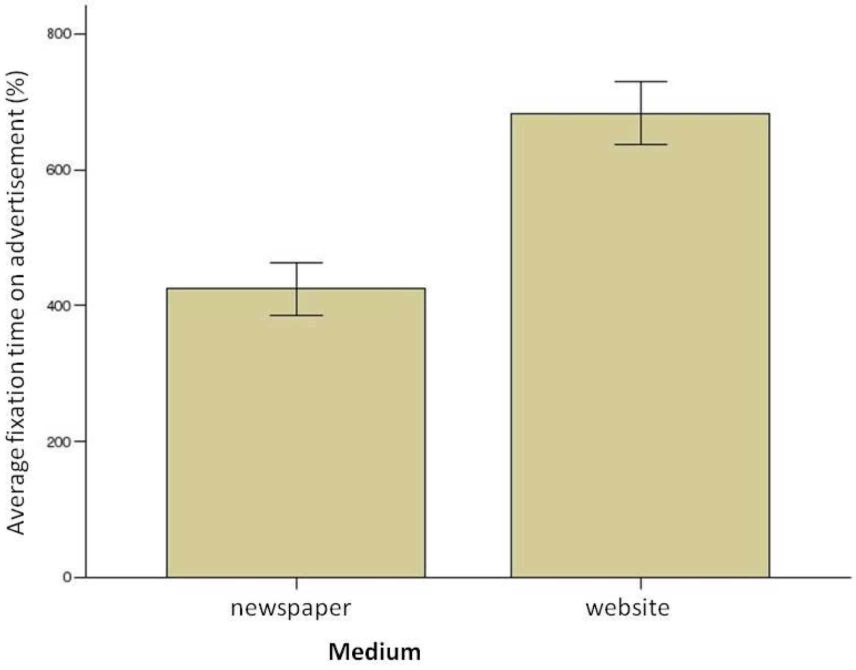


Figure 3. Effect of medium on fixation time of ads

Finally there is the effect of the medium on fixation time for the editorial environment of the ads. This has to do with fixation time for text, headings included. Fixation time for text in newspapers were longer than for websites (t(44)=2.293, p<.05) (see Figure 4).

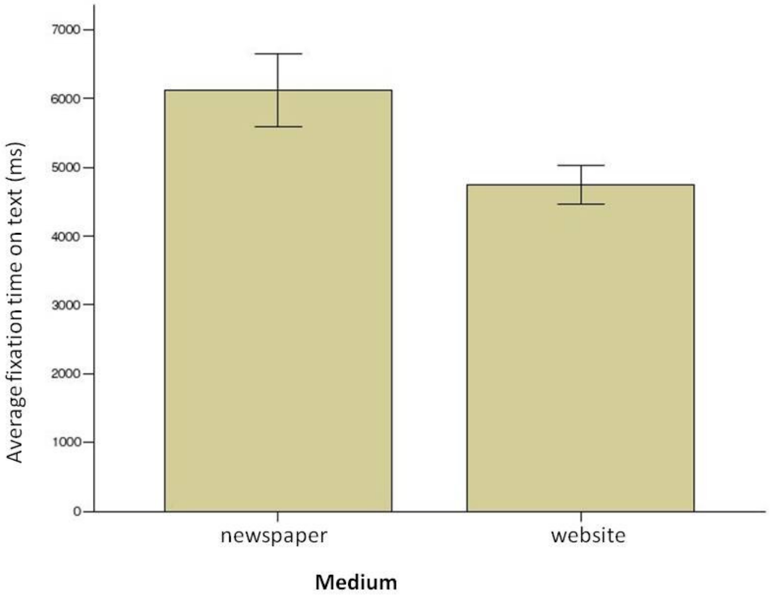


Figure 4. Effect of medium on fixation time of text

We have not found an effect of the medium on the number of fixated brand names nor the corresponding fixation time.

Involvement and location

Neither involvement with the advertised product nor the position of the ad on the page had noticeable effect on eye movements.

Medium experience

Frequency of Internet has an effect on fixation on ads. Respondents who made weekly use of the Internet fixated more often on ads on a website than those who made daily use of the Internet (t(42) =3.200, p<.005) (see Figure 5). The group that used the Internet less than once a week was too small to compare against the two other groups.

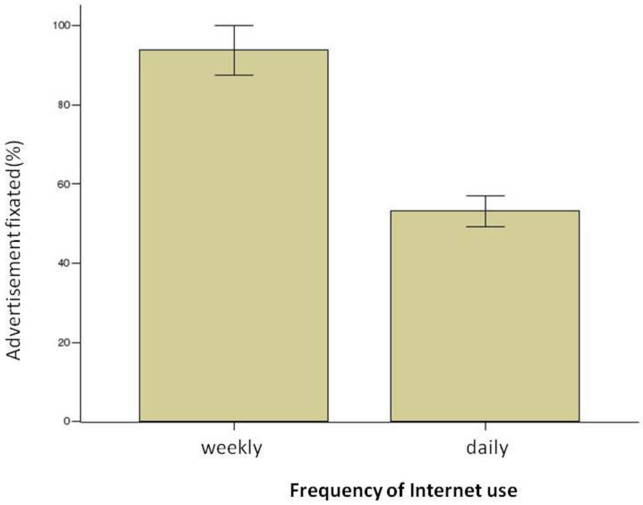


Figure 5. Effect of frequency of Internet use on percentage fixated ads

No effect on eye movements was found for frequency of reading the tabloids Sp!ts and Metro.

Cognition

Medium effect

The medium not only had an effect on eye movements, but also on recognition. Advertisements in newspapers were more often recognized than advertisements on websites (t(44)=2.184, p<0.05) (see Figure 6).

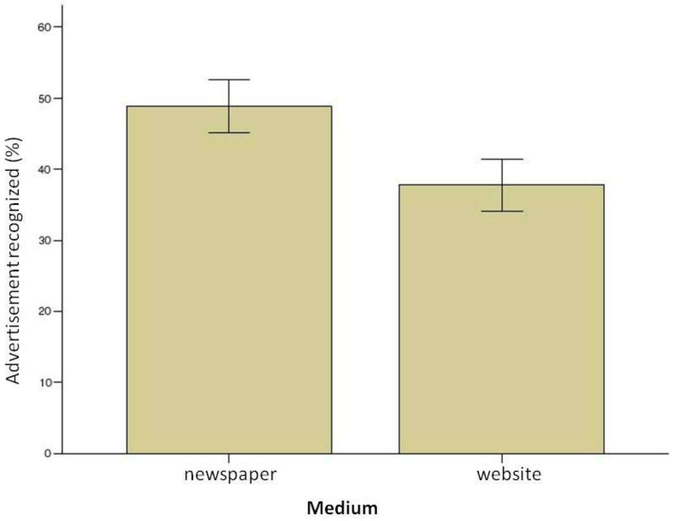


Figure 6. Effect of medium on percentage correctly recognized ads

The medium had no influence on recall of ads.

Involvement and location

Neither the involvement with the advertised product nor the position of the ad on the page had an effect on recall of brand names and recognition of ads.

Experience

People who read Sp!ts and Metro more than once a week recognized more ads than those who read less frequently (F(2,42)=3.516, p<.05)(see Figure 7). Post hoc Bonferroni analysis showed that the significant difference can be ascribed entirely to the difference between the groups ‘several times a week’ and ‘a few times a month’.

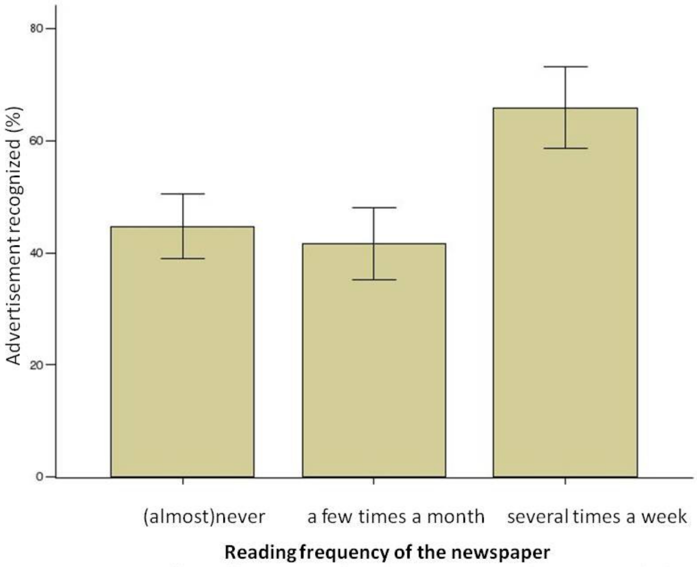


Figure 7. Effect of frequency of reading on % correctly recognized ads

Results Experiment B

Cognition

There was no difference in spontaneous recall or correct recognition between the two forms of presentation. Respondents who read the newspaper from the screen of the eye tracker had an equally good memory of the ads as those who had to read the paper version.

The form of presentation does affect the time it takes to read the 12 pages of the newspaper (see Figure 8). Reading the paper version took more time than reading from screen (t(59)=11.622, p=.000).

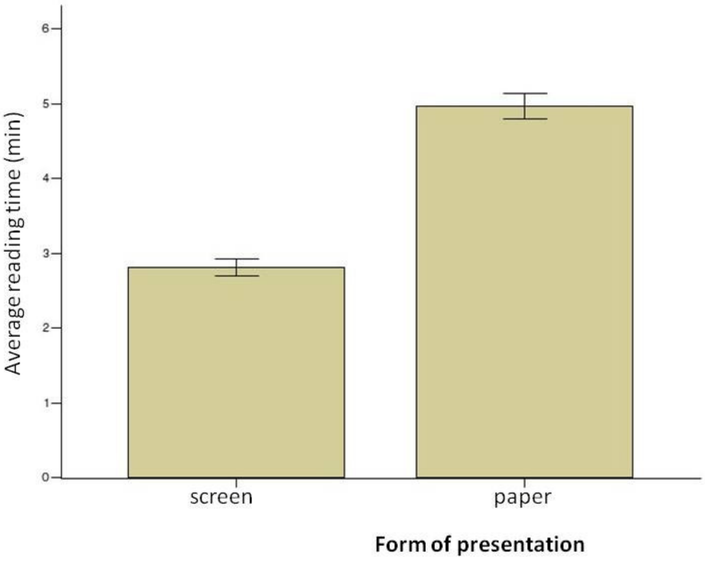


Figure 8. Effect of form of presentation on the time to complete reading the newspaper

Conclusion

The results of Experiment A showed that lay-out (tabloid or website) has a significant effect on the way people look at advertisements. Ads on websites have more and longer lasting eye fixations than the same ads in tabloids. This is mainly caused by the editorial text surrounding the ads in tabloids. Reading text needs more time than looking at pictures. This may well be the reason that it takes more time to read a newspaper page than a web page. On the other hand ads in tabloids are more often correctly recognized. The explanation is that ads have more contrast with tabloid content (mainly text) than with webpage content (text and pictures). Ads in websites compete for attention with pictures.

The frequency of use of the Internet has a negative impact on the memory for ads, while frequency of reading has no effect on correctly recognizing ads.

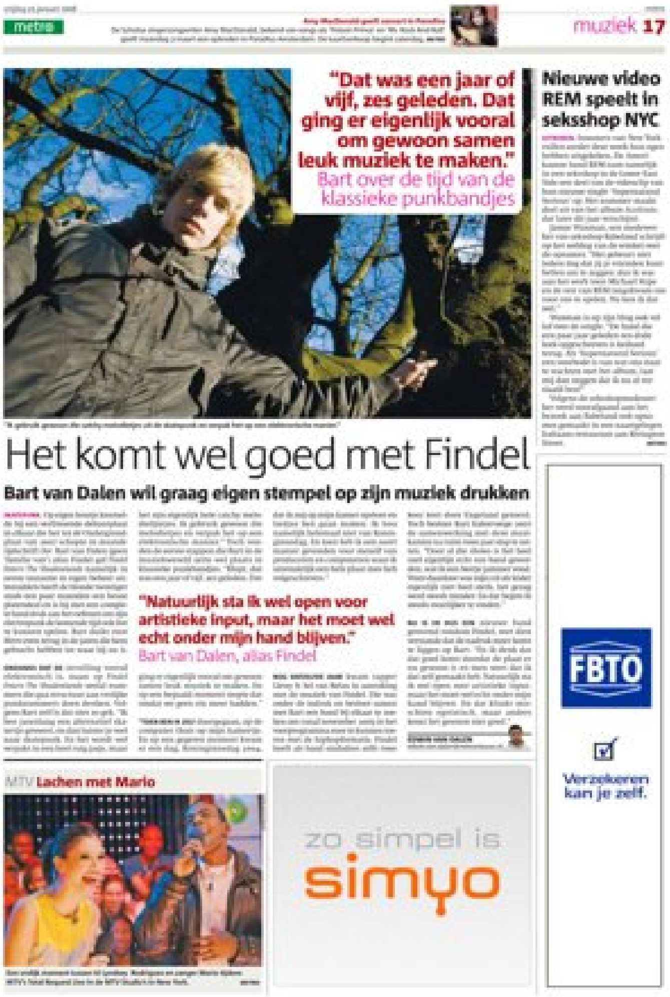
Neither involvement (high or low) with the advertised product nor location of the ad (at the top or at the bottom of the page) had a significant effect on eye movements.

Experiment B showed that form of presentation (on screen or on paper) has no effect on recall or recognition of ads, although respondents spent significantly more time reading the paper version. Overall Experiment B indicates that the findings of Experiment A are not affected by using a digitized page of a newspaper for comparison with a web page.

To summarize:

Our experiments show that, even though respondents spend almost twice as much time reading the paper version, if you put a print title online unchanged, it does not affect the recall and recognition of the ads in the title. If you put the same ads in print and on a website , it does however make a difference. The ads on the website are viewed more often, and for a longer time, but the more experienced surfers have the tendency to avoid ads. The ads in the newspaper environment have a much better recognition.

Appendices



metro
muziek 17

"Dat was een jaar of vijf, zes geleden. Dat ging er eigenlijk vooral om gewoon samen leuk muziek te maken."
Bart over de tijd van de klassieke punkbandjes

Het komt wel goed met Findel

Bart van Dalen wil graag eigen stempel op zijn muziek drukken

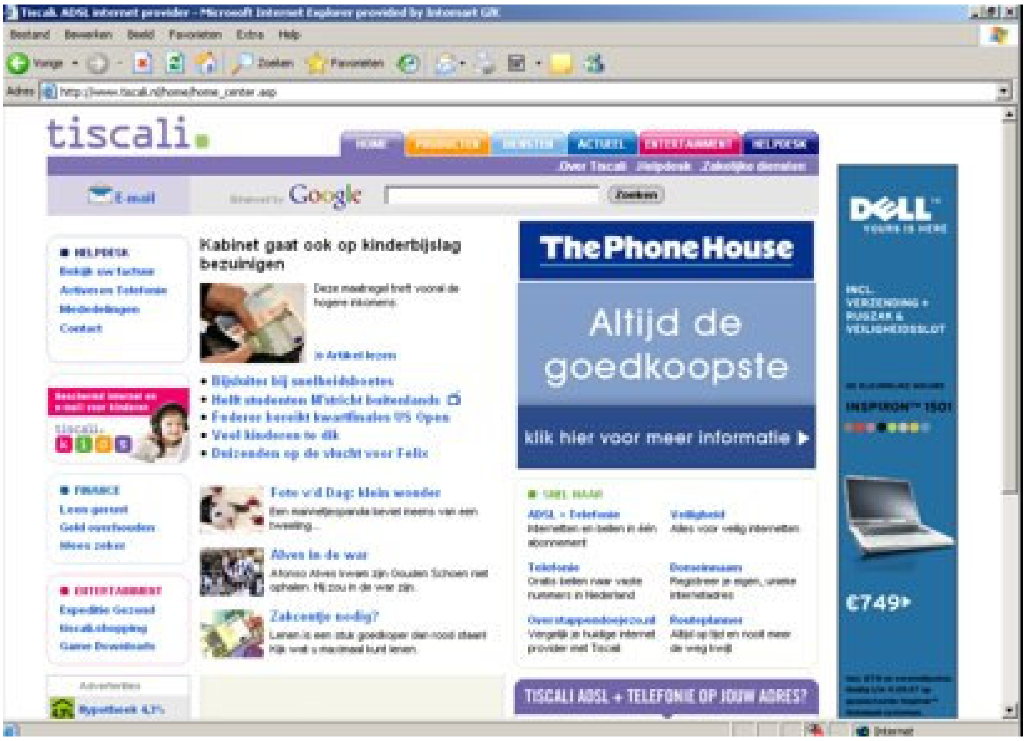
"Natuurlijk sta ik wel open voor artistieke input, maar het moet wel echt onder mijn hand blijven."
Bart van Dalen, alias Findel

Nieuwe video REM speelt in seksshop NYC

MTV **Lachen met Mario**

FBTO
Verzekeren kan je zelf.

zo simpel is simyo



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- Bijdrage bij snelheidsboetes
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- Federer bereikt kwartfinales US Open
- Veel kinderen te dik
- Duizenden op de vlucht voor Felix

Foto v/d Dag: klein wonder
Een reuzenpanda baart voor het eerst van een tweeling...

Alves in de war
Afonso Alves kwam zijn Gouden Schoen niet ophalen. Hij zou in de war zijn.

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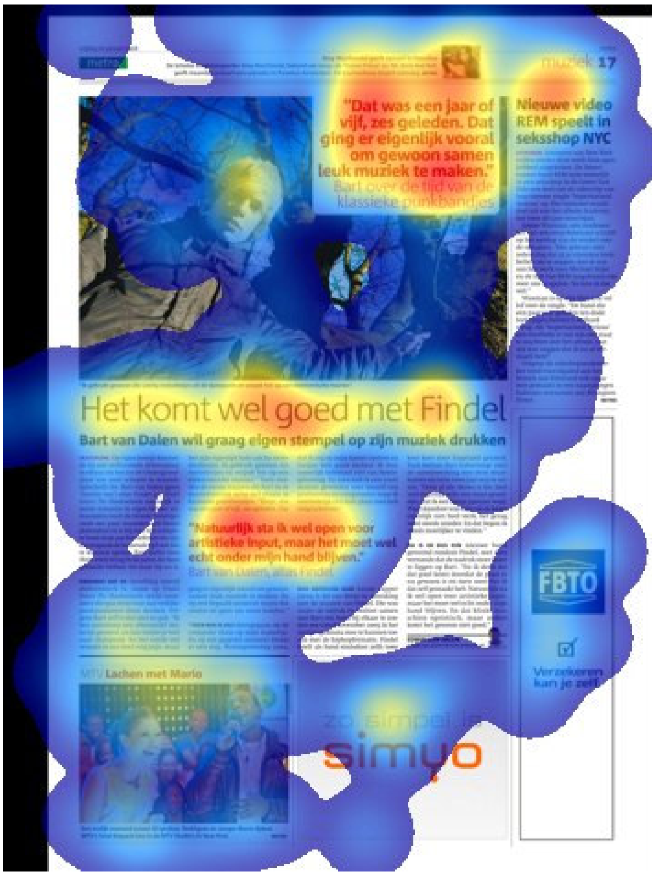
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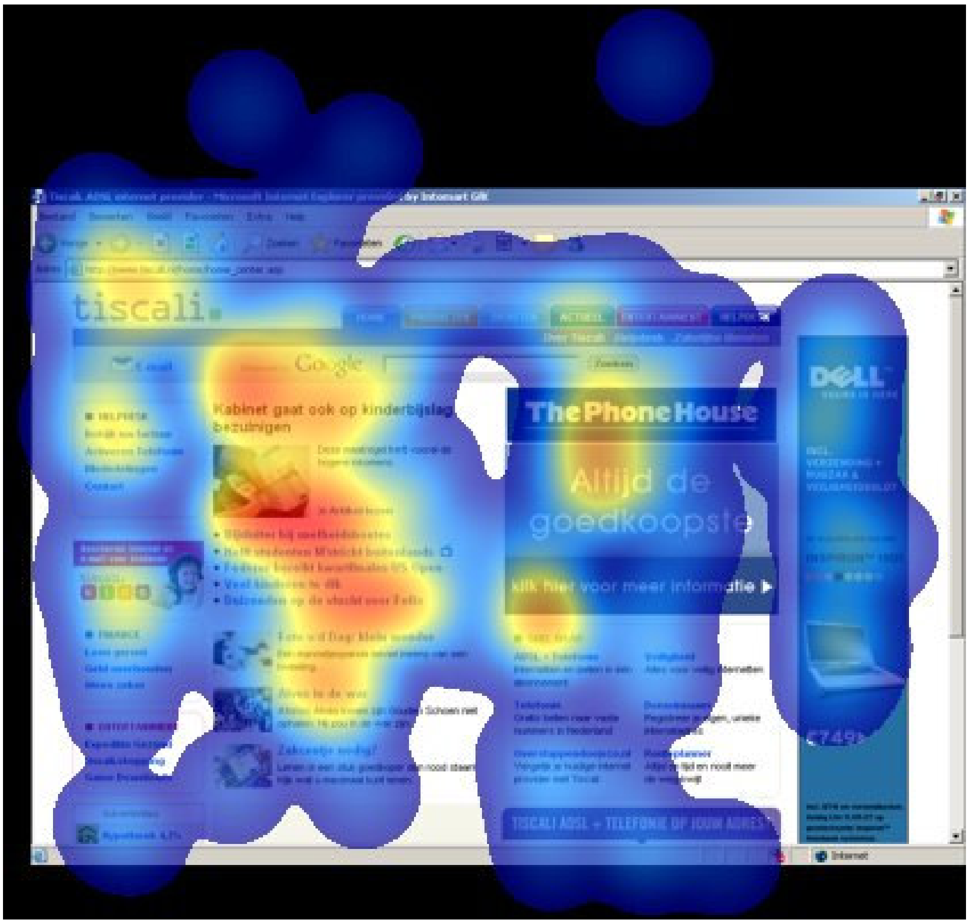
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