



DEGREE PROJECT IN COMPUTER SCIENCE AND ENGINEERING,
SECOND CYCLE, 30 CREDITS
STOCKHOLM, SWEDEN 2020

Acceptable Ads guidelines, its effect on user experience and ad-noticeability

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Abstract

The Acceptable Ads Standard is a set of guidelines developed by the biggest ad-blocker company Adblock Plus as an attempt to alleviate the largest need for ad-blocking programs; ads being annoying, irrelevant, and too intrusive. The guidelines inflict rules regarding how ads can be presented in order to be acceptable, thereby not disturbing the consumer. If a website follows these guidelines, their ads will not get blocked.

The terms ad-avoidance and ad-irritation has been established by Cho et al. and Baek et al. [4]. The term ad-noticeability was added to these in order to express the behavior of seeing an ad, but not necessarily understanding what it's trying to mediate.

This study aims to examine the Acceptable Ads guidelines' effect on user experience and ad-noticeability through a quantitative and qualitative study. The two studies were conducted with the help of two specially made test suites in the form of two websites, one with acceptable and one with non-acceptable ads. All participants went through the same set of tasks on the websites. In the quantitative study, data regarding what ads the participants' had seen and what their experiences' had been like was collected. Through the qualitative study, it was possible to get more elaborate answers to why certain ads were seen or missed and to get more in-depth answers regarding the participants' experiences.

Through the study, it was found that there is a difference in ad-noticeability and the user experience of ads between websites that contain either acceptable or non-acceptable ads. The results suggest that the Acceptable Ads guidelines affect user experience positively, i.e. leading to less ad-irritation or annoyance, but also affect ad-noticeability negatively. It was also found that cognitive ad-avoidance was greatly affected by task-oriented focus, both in cases with and without ads following acceptable ads.

Sammanfattning

The Acceptable Ads Standard är en samling med riktlinjer utvecklade av det största företaget inom ad-blockers, AdBlock Plus. Dessa riktlinjer utvecklades som ett försök att motverka de största anledningarna till att konsumenter installerar ad-blockers: att reklam är irriterande, irrelevant, eller för påträngande. Dessa riktlinjer skapar regler för hur onlinereklam ska presenteras för att vara acceptabelt, och därmed inte störa konsumenterna. Om en hemsida följer dessa regler är tanken att deras reklam inte ska bli blockerad av installerade ad-blockers.

Termerna ad-avoidance (“*reklamundvikelse*”) och ad-irritation (“*reklamirritation*”) har blivit etablerade av Cho et al. och Baek et al [4]. Termen ad-noticeability (att notera reklam) har blivit tillagt till dessa för att uttrycka beteendet att se reklam, utan att nödvändigtvis förstå den.

Denna studie riktar sig till att undersöka Acceptable Ads påverkan på användarupplevelse och hur mycket reklam som noteras genom en kvantitativ och en kvalitativ studie. Dessa två studier genomfördes med hjälp av två specialtillverkade testsviter i formen av två hemsidor: en hemsida med acceptabel reklam och en med oacceptabel reklam. Alla testdeltagare gick igenom samma uppgifter på dessa hemsidor. I den kvalitativa studien fanns ett fokus på att samla in data gällande vad testdeltagare sett och upplevt. Genom den kvalitativa studien var det möjligt att få mer djupgående svar på varför viss reklam hade missats och hur deltagarna hade upplevt reklamen.

Genom studien hittade man att det var skillnad på hur mycket reklam som noteras och på hur testdeltagare upplever reklam på hemsidor med acceptabel kontra oacceptabel reklam. Resultaten föreslår att riktlinjerna från Acceptable Ads påverkar användarupplevelsen positivt genom att minska irritation men också att de har en negativ påverkan på hur mycket reklam som noteras. Det visade sig också att kognitiv reklamundvikelse var mycket påverkat av ett uppgiftsorienterat fokus, både i fall med och utan acceptabel reklam.

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KEYWORDS

Acceptable Ads; Ad-noticeability; Ad-irritation

1. INTRODUCTION

The use of online ads is very common on many websites today. It's a great way for companies to advertise their products or services and a simple way for publishers (i.e. website owners) to gain revenue through website views. Along with the rise of the use of online ads, there has also been a backlash against this kind of advertisement in the form of ad-blockers. Ad-blockers are tools, typically called 'extensions', which can be installed in web-browsers such as Google Chrome, Firefox, and others. These extensions prevent a web page from showing its ads, and by doing

so the consumer never sees any ads on any website. If the consumer doesn't see the ads, the advertiser doesn't get any views or clicks and the publisher doesn't get paid.

The reason for using ad-blockers vary as shown in a study by the GlobalWebIndex from 2018. The study shows that around 47 percent of internet users globally use ad-blockers. 42,000 ad-block users were asked which their top motivations for using an ad-blocker were and over 44 percent of the participants answered that ads were annoying, irrelevant, too intrusive, or just too numerous in general [1].

To alleviate the need for ad-blocker programs the company behind the biggest ad-blocker, Adblock Plus, developed a set of guidelines named "*Acceptable Ads*" in 2011. The goal of the Acceptable Ads guidelines is to allow ads following the guidelines to pass through the ad-blocking programs' filters. The idea is that if an ad is following the guidelines, it won't be considered annoying, intrusive, or in other ways irritating by the consumer, meaning that it should be okay to show even though the consumer has an ad-blocker installed. The consumer has the option to decide whether ads considered acceptable should be shown or not via an option in the ad-blocking extension, but the acceptable ads are allowed by default. As of the year 2020, the Acceptable Ads committee reports that over 150 million users are allowing acceptable ads across four different ad-blocking extensions; Adblock Plus, AdBlock, uBlock, and Crystal [2].

The purpose of this study is to investigate how the Acceptable Ads guidelines affect the consumer's experience and how the guidelines affect how many ads the consumer sees. This will be done through a quantitative and qualitative study composed of participatory user tests. To benefit both consumers and publishers, the guidelines should have a positive effect on the user experience while not affecting the ad message mediation negatively.

Studies investigating the effect of the Acceptable Ads guidelines have been done where websites containing acceptable and unacceptable ads have been compared, for example by Walls et al. [3]. The study by Walls et al. has used different websites with different use cases and content and compared these to each other. However, since use cases, website designs, and content may differ from website to website, different websites may not be directly comparable to each other. Because of this potential difference between websites, this study uses two websites with the exact same look, feel, and content, but with different ad designs. With this approach, it is possible to isolate and compare acceptable and non-acceptable ads without the potential error source of comparing websites which may impinge the consumer differently.

2. BACKGROUND & RELATED RESEARCH

The background and related research part of this paper will firstly focus on two different terms which will be important to understand in this study: *ad-noticeability* and *ad-irritation*. With these terms, the research questions can be defined. Secondly, previous research regarding the Acceptable Ads guidelines and online ads in general will be presented.

2.1 Annoyance & Ad-Noticeability

In this study, the terms “*annoyance*”, “*ad-irritation*” and “*ad-noticeability*” are used frequently to describe two main areas of focus: how a consumer perceives an ad and how many of the ads on a website a consumer sees.

Annoyance, e.g. an ad being annoying, will in this study describe the feeling of an ad annoying the consumer. This term is closely related to the term *ad-irritation* used in previous studies by Cho et al. and Baek et al. [4, 5]. Important to note is that an ad can be noticed without being considered annoying if the user does not associate negative emotions with the phenomenon.

Ad-noticeability is a term used in this study to describe how many of the ads on a website a consumer sees. Ad-noticeability is considered better or higher the more ads a consumer is able to notice during a visit to a website. Important to note is that in this study, the consumer must not have understood what the ad tried to communicate in order for the ad-noticeability to be high. It is possible for a consumer to notice that an ad exists, without noting which brand is advertised.

With these definitions it is possible to define optimal scenarios for different stakeholders:

- Publishers would wish for a website to have good ad-noticeability and non-annoying ads since that would lead to both good user experience and high value for advertising companies.
- A consumer would most likely care about ads not being annoying since the user most likely wants to have a good user experience.
- The company behind an ad would most likely care about high ad-noticeability in order for their ads to reach as many users as possible.

With these terms defined the research question of this study can be split into two different parts:

Question 1: How do the Acceptable Ads guidelines affect the consumers’ feeling of annoyance towards ads?

Question 2: How do the Acceptable Ads guidelines affect ad-noticeability?

2.2 Ad Types & the Acceptable Ads Standard

There are different kinds of online ads that can be grouped into different categories. The Acceptable Ads Standard is a set of guidelines that regulate how ads within the different categories can look and behave [2].

2.2.1 Ad Types

Three common types of online ads that can be found on many websites today are text, display, and native ads. Most internet

users who aren’t using some kind of ad-blocker are very likely to encounter these types of ads on a daily basis. [3, 4, 6, 7, 8]

A text ad is an ad that appears in a free-flowing text format. This type of ad is for example common on online blogs where the blogger can write a blog post about a product or company and provide a link to the advertised entity in the text itself [6].

Display ads, also called banner ads, are ads that are put on the sides, above or below the main content on a webpage. These ads are usually in image, video, or animated form. Animated meaning a moving image with a repeating movement pattern [6, 8].

There are also so-called native ads. Campbell and Marks [7] describes native ads in the following way:

“...*native advertising is a term used to describe a spectrum of new online advertising forms that share a focus on minimizing disruption to a consumer’s online experience by appearing in-stream*” [7].

This means that native ads can appear to be part of the normal content of a webpage. Common usage of these kinds of ads can be found on social media websites such as Facebook or Instagram where ads looking like regular user-made content appear in the user’s feed of posts [7].

Different kinds of ads are often used to various extents depending on the type of website. A social media platform may for example utilize both native and display ads, while a news website may only feature display ads. In this study, the focus lies mainly within the area of display and native ads which are both common on social media platforms such as Facebook.

2.2.2 The Acceptable Ads Standard

The “*Acceptable Ads standard*” [2] (often referred to as “*Acceptable Ads guidelines*” in this study) is a set of rules and guidelines which regulate the presentation of different kinds of ads. These guidelines apply to all different kinds of ads and affect things such as the placement, size, distinction, and behavior, i.e. the “*execution*” of an ad. The rules relevant to this study are the following:

- In-feed ads (e.g. native ads) are allowed in between entries as long as they are not significantly larger than other elements.
- Collectively, all visible ads shown when the page initially loads are not allowed to occupy more than 15 percent of the visible portion of the webpage. If placed lower on the page, ads must not occupy more than 25 percent.
- Animated ads are ads which consist of moving pictures or animated short films, often playing on repeat. These kinds of ads are not allowed in any shape or form.
- Video ads are allowed as long as they follow the other rules and are not played automatically when a webpage loads.

2.3 History of Online Ads & Ad-Blockers

Online ads date back to 1994 when the first ad was created by Hotwire, an online news outlet. This ad was sponsored by the company AT&T and was in the form of a banner ad promoting seven museums. Since then, the use of online ads has exploded

and been the fastest growing ad medium ever. By 2016 online ads were estimated to represent one third of all ad spendings in the US, and this number continues to increase [10].

It all started with banner ads, but soon other kinds of ads started to appear in different forms and with the possibility of saving user data, ads started to become personalized. Native ads emerged as an answer to the so called "banner-blindness" phenomenon, a phenomenon which started to appear as consumers became more and more used to online ads, thereby becoming more affected by cognitive ad-avoidance [10, 16]. The online ads eco-system continues to grow while at the same time adapting to both technological and social changes. With time it has also gotten easier for publishers to feature ads on their websites, and easier for advertisers to showcase their products across different platforms, leading to an ever growing use of online ads [4, 10, 17].

As a response to the growing number of ads consumers started installing ad-blockers, something which has had a huge impact on the online ad eco-system. In a study by Malloy et al. it has been shown how the use of ad-blockers has affected the ten largest publishers in the US, showing potential losses of up to 3.9 million USD per month [17]. Ad-blockers has been around for over a decade and with such large potential effects, publishers have tried many different ways of counteracting the use of these programs. Some publishers establishing subscription models which lets consumers pay in order to not see ads, and some going so far as to outright hindering ad-block users from visiting their website. The fact that ad-blockers are a problem for publishers is clear, and in order to find a good middle ground between ad-blocking consumers, publishers and ad providers, the Acceptable Ads standard was created in 2011 [9, 10, 17].

2.3 User Perception of Online Ads

There have been many different studies regarding consumers' perception of online ads and terms which often occur within this subject are invasiveness, irritation, and avoidance. There is often a general focus and assumption that ads are, in one way or another, something that can affect the consumer's experience negatively. This may derive from the nature of ads as not being something the consumer chooses to see, rather it's something that is forced upon the consumer [3, 4, 5, 8, 9, 11]. In this part, there will be an explanation of what these negative effects originate from, with a focus on the terms ad-irritation and ad-avoidance.

2.3.1 Ad-Irritation & Ad-Avoidance

Ads being irritating or annoying is a considerable factor that leads to negative attitudes towards online ads. As seen in a study made by the GlobalWebIndex regarding the use of ad-blockers, 47 percent of ad-block users, use ad-blocking software because they think that ads are annoying and irrelevant [1].

Baek et al. present in their paper the term "*perceived ad-irritation*" which is defined as: "*consumers' perceptions of the extent to which advertising is causing displeasure and momentary impatience*" [5]. Ad-irritation is presented as being greatly affected by both the content and execution of the ads. Irritating types of content are described as ads being untruthful, exaggerated, or confusing, while ads being too numerous, too big, or too frequent are examples of how the execution of ads can

provoke the same feelings [4, 5]. The appellation ad-irritation is in this study often implied by an ad being considered annoying.

According to Baek et al. ad-irritation can cause a known side effect labeled as "*ad-avoidance*". Ad-avoidance is identified as one of the greatest obstacles for advertisers and it is split into three different categories: cognitive, behavioral, and mechanical. Cognitive avoidance is produced unconsciously, the consumer does not act to avoid ads, instead the ads are automatically filtered out as the consumers' vision adapts to avoid ads. Behavioral and mechanical avoidance comes from the consumer's conscious decision where mechanical can be the act of installing an ad-blocker and behavioral can be the act of clicking an ad away or leaving a website [4, 5, 11, 12].

The possibility of mechanical and behavioral ad avoidance was completely removed in this study since the ads used could not be blocked and not actively removed. Previous research such as the study done by Baek et al. and Cho et al. suggests that a possible effect of increased ad-irritation is increased ad-avoidance [4, 5].

2.3.2 Goal Impediment

According to Cho et al. and Li et al. internet usage is an area where the consumers may be more goal-directed than they are within other types of media [4, 12]. Goal impediment is described by Cho et al. as one of the biggest causes of ad-avoidance and ad-irritation [4]. What goal impeding ads entail differ between cases and it can include anything which the consumer perceives as hindrance. It can for example be an ad that is directly in the way, an ad drawing the consumer's focus, or ads hindering the consumer's search for specific information [4, 12].

2.4 Delimitations

With the research questions defined and the background to the project given it is important to note a few delimitations. This study is made from the perspective of the consumer with focus on banner ads and native ads. The consumers' perceptions of ads can be many, therefore this study is delimited to focus mostly on discussion and results within the terms of ad-noticeability, ad-avoidance, and ad-irritation. It is also important to note that this study does not take into account how ad *content* affect user perception, instead it's solely focused on the presentation of the ads.

3. METHOD

In order to answer the research questions, a study with two main parts was made, one focused on collecting quantitative data, and one focused on collecting qualitative data. The participants of the quantitative study (Study A) will henceforth be referred to as Group A and the participants of the qualitative study (Study B) will be referred to as Group B.

Both groups interacted with a test suite. After interacting with the test suite, group A was sent to answer a questionnaire while group B partook in a semi-structured interview and an open discussion. The test suite had two different versions and the study was designed as a between-group study where groups A and B were divided into two sub-groups each (A1, A2, B1, B2). These sub-groups were given one version of the test suite each. During tests conducted with group B, the participants' screens and voices were recorded. These recordings were annotated and analyzed through thematic analysis [13].

3.1 Test Suites

The test suite was made in two versions. Both versions had the exact same content and ads, the only difference being in how the ads were executed. One test suite contained ads following the Acceptable Ads guidelines (Test Suite 1), and the other had ads designed to go against the guidelines (Test Suite 2)

3.1.1 Test Suite Design

The test suite developed for the user tests were designed as a website resembling the social media website Facebook. It was designed this way to make sure all participants would feel comfortable navigating through the website. It was confirmed that all participants in the study had used Facebook before.

Since it is always possible to break the Acceptable Ads more or less in regards to the size of an ad, a general design principle was applied. This design principle entailed that in order to keep the page structure the same for both test suites, the size differences of banner ads only affected the height of the ads. This decision was made because primary content¹ and ads were aligned, which meant that changing the width of the ads between the two test suites would have offset the position of the primary content.

The test suite featured two different pages: a front page and a profile page. These pages were populated by posts from seven different artificial users, simulating a regular social media feed. The profile page changed depending on which user the participant visited. The ads used for the two sites were of the same brands and consisted of both videos and images.

All ads were of well-known brands and it was important to make sure that all participants were familiar with the brands shown. If a participant were to be unfamiliar with a brand, it could be assumed that the participant would not notice it, simply because the ad was not understood. In order to make sure that all brands were known, all brands featured were of big worldwide known companies. A pilot study was conducted with four participants to make sure that all brands were familiar. In addition, both study A and B included questions that confirmed that all test participants were familiar with all brands shown.

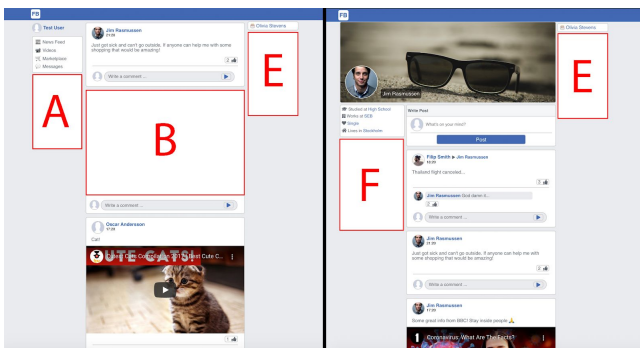


Figure 1: Image of Front Page and Profile Page in Test Suite 1.

Figure 1 shows an image of test suite 1. Not seen in the image are ads C and D (see table 1), these ads were native ads placed in the feed just as ad B.

¹The main content of a website. In this case, the main content consists of posts, profile information, images, and the like.

Upon entering the test website the participant did not know which version of the test suite they were in, neither was the participant aware that two versions existed. The only instructions the participant got was that he/she should follow a list of tasks which were shown on the website.

3.1.2 Ad Types & Difference Between Versions

To keep as much of the look and feel of Facebook as possible, the ad types were chosen to resemble the ads which are used by Facebook. Facebook mainly uses native and banner ads in both video and image form. The test suite featured a total of six ads, three native ads, and three banner ads. One native ad was in the form of a video.

Table 1: Ads used in test suite.

Ad Identifier	Type	Guideline Violations in Test Suite 2
A	Banner - Image	Combined size of ads*
B	Native - Video	Ad is bigger than a normal post. Video ad is playing automatically on initial page load. Combined size of ads*. Ad appearing first in the user feed.
C**	Native - Image	Ad is bigger than a normal post.
D**	Native - Image	Ad is bigger than a normal post. Ad has animation.
E	Banner - Image	Combined size of ads*. Ad has animation.
F	Banner - Image	Size of ad was increased but no rules were broken.

* Combined size refers to the combination of ad A, B and E covering more than 15 percent of the screen upon initial page load

** Can't be seen in figure 1.

Table 1 shows a legend of the different ads featured in the test suite. All ads were of known brands and a control question in the study made sure that the brands shown were brands known by the participants. None of the rules listed in the Acceptable Ads guidelines were violated in Test Suite 1.

3.2 Task Design

Nine tasks were shown on the right-hand side of the website and with the help of the tasks, it was possible to control that every participant was exposed to the same least amount of ads. Upon finishing a task it was checked off a list, that way the participant knew when each task was finished. Once the last task was finished group A answered a questionnaire and group B participated in an interview.

The tasks were designed to be finished in a certain order which made sure that the participants would navigate through all of the

website's different parts while at the same time promoting scrolling through the feed of posts, going to different profiles, and shifting focus between the left, center, and right side of the screen. The tasks were split into three categories: navigation, reading and finding, and writing. These categories were chosen to try and simulate common social media use cases. Table 2 shows how many tasks were of which type as well as showing a few examples of what the tasks could entail. None of the tasks had anything to do with the ads themselves. A pilot study conducted with four participants confirmed that all tasks were easy to follow.

Table 2: Tasks used in test suite.

Type	Amount	Examples
Navigation	4	<p><i>“Click the logo in the top left to go back to the main page”</i></p> <p><i>“Go to the profile of user Jim Rasmussen”</i></p>
Reading and finding	3	<p><i>“Read and Like the post written by Sara Jonsson”</i></p>
Writing	2	<p><i>“Write a post about anything you want”</i></p> <p><i>“Write a birthday message to user Olivia Stevens”</i></p>

3.3 Questionnaire

After going through the tasks in the test suite the test participants of group A were sent to a questionnaire. The purpose of this questionnaire was to collect quantitative data about what the test participants had experienced while going through the tasks. The questions were directed at answering the following four main areas:

- Did the user complete the tasks and understand the website?
- How many ad messages did the participant pick up on?
- How many ads did the participant notice?
- Which ads did the participant notice?
- How did the participant perceive the ads?

To understand which emotions the participants connected with the ads in the test suite two different questions were used. First, a question asking what emotion a participant connected with an ad based on the eight primary emotions presented by Robert Plutchik [15]. To these eight emotions (joy, trust, fear, disgust, anger, anticipation, sadness, surprise) the two emotions *“annoyance”* and *“indifference”* were added. Annoyance was added since it has a close relation to the term ad-irritation and indifference was added to give an option for participants who either did not care about or did not see any ads. In addition to this question, the participants were also asked to rate their level of annoyance on a 1-5 likert scale and give an answer to the more open multiple-choice question: *“I thought the ads were...”*.

Ad-noticeability was measured through three different questions. Two multiple-choice questions where the participants were first asked to mark which brands they had encountered throughout the website and second a question where participants were asked to mark where on the website ads had been seen. In the last question,

the participants were asked to evaluate how noticeable the ads on the website had been on a 1-5 likert scale [14].

All questions using likert scales were analyzed with the help of an unpaired t-test to conclude if the answers were significantly different between the two groups or not.

3.4 Interview & Discussion

After going through the test suite, participants of group B participated in an interview and a discussion. The interview was semi-structured and the discussion was open-ended in order to give the participant the possibility to reflect, explain, and elaborate as much about the experience as possible. The purpose of the interview was to discuss the following main topics:

- Was the participant able to navigate through the different tasks?
- Which ads did the participant notice and which were missed?
- How did the participant perceive the ads and why?

During the interviews the participants were asked to answer the same likert scale questions about annoyance and noticeability as the participants of study A. They were also asked to point out where ads had been seen and which brands they had noticed. In addition, they were also asked to reflect and explain their thought process around these answers.

After the interview, the participant was asked to go back to the test website. While doing so, the participant engaged in an open discussion with the test supervisor and was asked to further explain how the different ads had been perceived. During this part, the participant was also able to confirm which ads had been seen and which had been missed. This discussion was the last part of the study for group B.

3.5 The Covid-19 Situation

This entire project was conducted during the Covid-19 pandemic of 2020. Because of this, all participatory user tests were conducted online. The quantitative study (study A) would have been conducted remote by participants using their own computers regardless of the covid-19 situation, the situation did however affect the qualitative study (study B). All the interviews of study B were made online with help of the video conferencing tool Zoom², a tool which made screen sharing and audio/video recording possible.

If the situation would have been different, it would have been possible to conduct the interviews of study B in person. This would have made it possible to use the same devices (most importantly the same computer) for all participants which would have resulted in a higher level of control and fewer possible error sources.

² <https://zoom.us/>

4. RESULTS

The results are split into two major parts: results of study A and results of study B.

4.1 Quantitative Study - Study A

The quantitative study (study A) was answered by a total of 46 participants (group A), divided into two groups: group A1 and group A2. Group A1 participated in the test containing acceptable ads, i.e. Test Suite 1. Group A2 participated in the test containing non-acceptable ads, i.e. Test Suite 2. The 46 participants were assigned to either group at random.

Table 3: Participants of Group A.

Group A	Male	Female	Age AVG	Age SD
Group A1	19	4	26,8	7,52
Group A2	15	8	26,0	5,55

Table 1 shows the data of the participants in the quantitative study. Since group assignment was completely random and the quantitative tests were unsupervised, an even distribution between the two groups was not possible. The participants were all volunteers recruited either through the social media platform Facebook or through a tech company. All participants were urged to use a desktop computer or a laptop for the test through an informative text which was shown before the test started.

The data from the quantitative study was provided through an online questionnaire. A control question regarding what posts the participant had seen was asked at the beginning of the questionnaire. The purpose of the question was to make sure that all participants had gone through the tasks correctly, if a participant failed the question their answers would be seen as inconclusive and the answers would therefore be removed. As it turned out, no participants had to be removed because of this issue.

What brands were seen

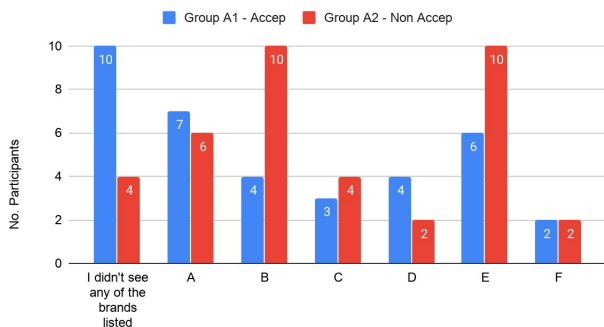


Figure 2: Answers to the question: “What brands did you see on the website?”.

Figure 2 shows the answers to the question “What brands did you see on the website?”. From the data it can be distinguished that more brands were seen by group A2 in general. The biggest differences being for ad B and E. It was more common for participants of group A1 to not recognise any brands at all.

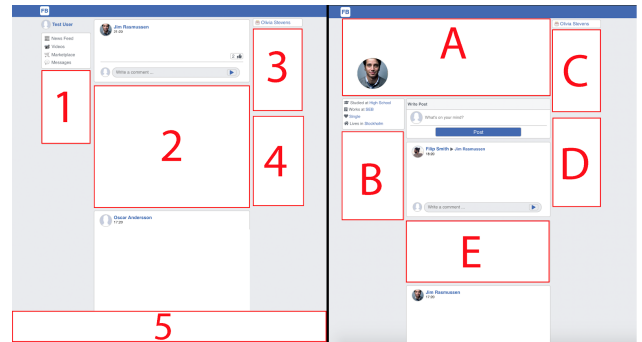


Figure 3: Images provided for the question “Where on the website did you see ads?”.

Figure 3 was provided with two questions asking where on the main page (left side) and profile page (right side) the participants saw ads. The participant did not need to remember what brand they saw in a given place, just if they saw an ad at all.

Ads seen on Main Page

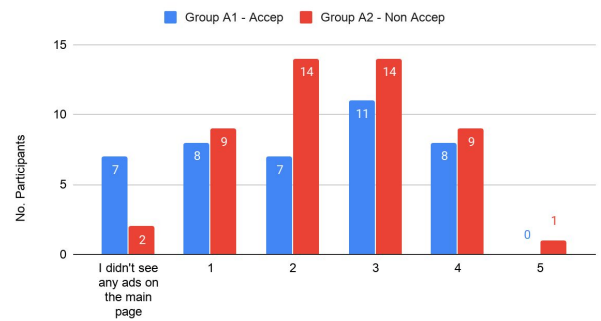


Figure 4: Answers to the questions “Where on the Main Page did you see ads?”.

Ads seen on Profile Page

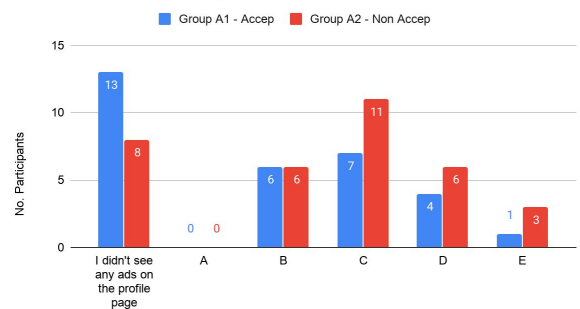


Figure 5: Answers to the questions “Where on the Profile Page did you see ads?”.

The answers to the questions regarding where ads were observed can be seen in figures 4 and 5. To note is that the ads with notations 4, 5, A, D, and E were false i.e. there were no ads in these positions. From the answers, it can be deduced that more participants saw ads in Test Suite 2 (group A2) overall. The biggest difference being the native ad “2”, the banner ad “3”, and banner ad “C”. Banner ad 3 and C were the same ad, represented by ad-identifier E in table 1.

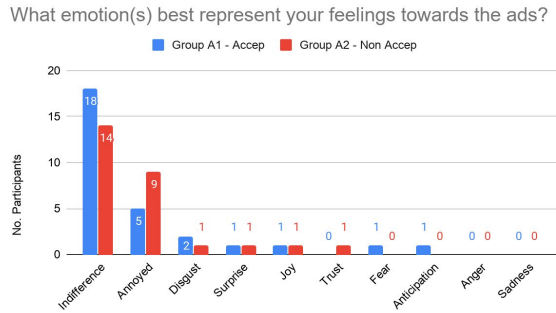


Figure 6: Answers to the question “What emotion(s) best represent your feeling towards the ads?”.

The answers to the questions “What emotion(s) best represent your feeling towards the ads?” can be seen in figure 6. The question was multiple-choice and from the answers it is possible to note that most participants felt either indifferent or annoyed. 5 participants in group A1 and 9 participants in group A2 felt annoyed and 18 participants in group A1 and 14 participants in group A2 either felt indifferent or didn’t see any ads at all.

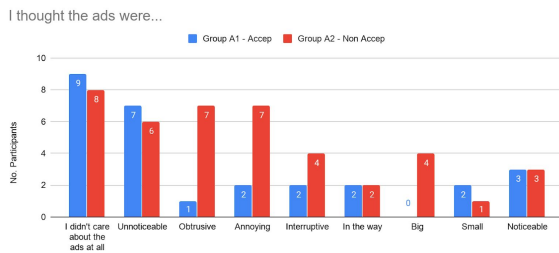


Figure 7: Answers to the question “I thought the ads were...”.

Figure 7 shows the answer frequency of statements for the question “I thought the ads were...”. The question was multiple-choice and participants could choose from nine predefined statements or write their own. It is especially notable that the difference between group A1 and A2 is substantial for the statements “Obtrusive”, “Annoying”, and “Big”. Important to note is that a few participants in both group A1 and A2 has chosen the alternative “I didn’t care about the ads at all” combined with other alternatives such as “Noticeable”, “Obtrusive”, and “Big”. Suggesting that they still thought something about the ads, even though they did not care about them.

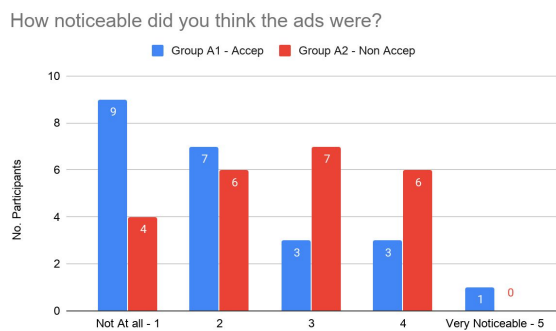


Figure 8: Answers to the questions “How noticeable did you think the ads were?” where 1 = Not at all and 5 = Very Noticeable.

Figure 8 shows the answers to the question “How noticeable did you think the ads were?”. The participants answered the question by selecting a number on a 5 step likert scale where 1 represented “Not noticeable at all” and 5 represented “Very noticeable”. Group A1 gave an average of 2,13 (SD = 1,21) and group A2 gave an average of 2,65 (SD = 1,07). The answers did not pass the unpaired t-test (p = 0,13) meaning that the answers cannot be seen as significantly different.

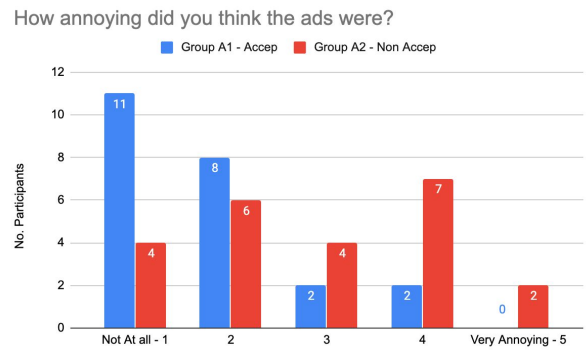


Figure 9: Answers to the questions “How annoying did you think the ads were?” where 1 = Not at All and 5 = Very Annoying (follow up unpaired t-test gives p = 0,0023).

Figure 9 shows the answers to the questions “How annoying did you think the ads were?”. The 5-point likert scale went from 1 representing “Not at all” to 5 representing “Very annoying”. Group A1 scored an average of 1,78 (SD = 0,95) and group A2 scored an average of 2,87 (SD = 1,29). The follow up unpaired t-test gave a p-value of 0,0023. These results suggest that group A2 found the ads to be more annoying than group A1.

4.2 Qualitative Study - Study B

Table 4: Participants of Group B.

Group	Male	Female	Age AVG	Age SD
Group B1	6	2	28,9	12,17
Group B2	5	3	27,5	12,4

The qualitative study (study B) was answered by a total of 16 participants (group B), divided into two groups: group B1 and group B2. Group B1 participated in the test containing acceptable ads, i.e. test suite 1. Group B2 participated in the test containing non-acceptable ads, i.e. test suite 2. The 16 participants were assigned to either group at random. Table 2 shows the age distribution of the participants in the study B. The youngest participant was 20 years old and the oldest was 58. All participants had general social media experience and were comfortable with using the social media platform Facebook.

Through the thematic analysis performed on the interviews and discussions made with the participants, three main themes were found: difference between noticing and understanding ads (Theme 1), participants seeing only a few ads (Theme 2), participants seeing many ads (Theme 3).

4.2.1 General Questions

The qualitative study contained general questions used to determine if the test suites met the following criterium:

- The ads should contain brands which were familiar to the test participant.
- The test suite should feel familiar to the participant.
- The tasks should be easy to follow and the test suite should be easy to navigate through.

Through the interviews it was determined that all of the criterias were met by all participants.

4.2.2 Theme 1: Noticing & Understanding

All of the participants talked about the difference between noticing and understanding the ads seen in the test suite. What emerged through the interviews was that the participant would notice that ads existed, even though they may not have picked up on what the ad was trying to mediate. This concept of seeing ads but not noticing their messages was acknowledged by all participants of both groups B1 and B2, no matter how many or how few ads they actually saw.

“I remember seeing them [ads], but I don’t remember what they were of. I’m so used to seeing ads that I just filter them away, I just don’t care about them.” - Participant of Group B2

When asked what the participants thought caused this behavior, a few different answers emerged. The fact that the test suites were designed to look like the social media webpage Facebook was mentioned by two participants, one from each group. The reason being that they were used to seeing ads on Facebook and were therefore used to ignoring them. Another reason for this behavior which was mentioned by 14 of the 16 participants was that the focus on completing tasks made them search for specific things such as names of artificial users or specific posts, therefore ignoring everything else.

“I didn’t think too much about the ads. I saw the [Ad Identifier: A] ad in the beginning, but other than that I didn’t notice much. I think I was really focused on solving the tasks. Since I was concentrated I didn’t really look for anything else.” - Participant of Group B1

“The ads were very distinct in the beginning so I noticed the first ads that I saw. When I got more into the tasks I was pretty concentrated, it was like I saw ads but didn’t think about them.” - Participant of Group B2

4.2.3 Theme 2: Few Ads were Seen

The second theme that emerged through the thematic analysis was participants who saw very few, or no ads at all. This theme covers those who:

- Saw no ads at all and therefore saw no brands.
- Saw one ad and one brand.
- Saw one brand, but noticed that more ads were on the page

Six participants of group B1 and four participants of group B2 belong to this theme. Out of these eight, one participant from group B1 and one participant from B2 saw no ads at all. Common

for participants in this theme was that they seemed to miss the ads for two main reasons: complete focus on the tasks or a realization that there were ads on the page, and then filtering the rest out.

Two participants of group B1 and one participant of group B2 described how it felt like the eyes got “*trained*” to filter out ads once they realized that there were ads on the page. A participant of group B2 specifically mentioned seeing ad “E” at the beginning of the test, which caused all other ads to “*disappear*”. One of the participants of group B1 gave the following quote regarding the same type of behavior caused by ad “A”:

“I remember seeing the [Ad Identifier: A] at first but I don’t remember much more than that. I may have seen some other ad but I’m not sure. It’s as if you get a trained eye and just filters the rest away” - Participant of Group B1

The two participants who didn’t notice any ads at all explained how the tasks may have affected them. The one participant from group B2 who saw no ads described the experience in the following way:

“I didn’t see any ads at all. I usually don’t notice ads and now I was really focused on the tasks so that may have had something to do with it as well” - Participant of Group B2

4.2.4 Theme 3: Many Ads were Seen

The third theme covers participants who saw several ads on the website. This theme covers participants who saw at least two brands.

Two participants from group B1 and four participants from group B2 belong to this theme. These participants described two distinctly different experiences. The first kind of experience was described by the two participants of group B1 and by two participants of group B2. They describe how they saw ads, but describe them with terms such as discrete, minimalistic, and “*not very noticeable*”.

“I saw ads on the first page. They were very minimalistic though. They were discrete and didn’t take up much space, but I saw them. I feel like it’s usually worse on other pages” - Participant of Group B1

“I only recognized two brands but may have seen some more ads. I thought the ads were pretty discrete overall” - Participant of Group B2

The other type of experience described came from the two other participants of group B2. These participants described the ads as very noticeable, yet not too bothersome.

“The ads were very noticeable but not very bothersome. They were there, but it didn’t bother me too much.” - Participant of Group B2

4.2.5 Further Analysis of Interview Data

Group B2 noticed more ads than group B1 (theme 3). In total, group B2 was able to see 15 brands and noticed 22 ads across all participants, while group B1 was able to see 9 brands and noticed 11 ads (table 5). Group B2 also seems to rate the noticeability as higher in general (B1 average: 2.5, B2 average: 1.75) which can be seen in figure 10. However, the follow-up t-test was not passed

($p = 0,12$) and the answers cannot be seen as significantly different. Group B2 also has an even spread across the numbers 1-4 implying that the answers were not unanimous when rating noticeability on a scale from 1 to 5.

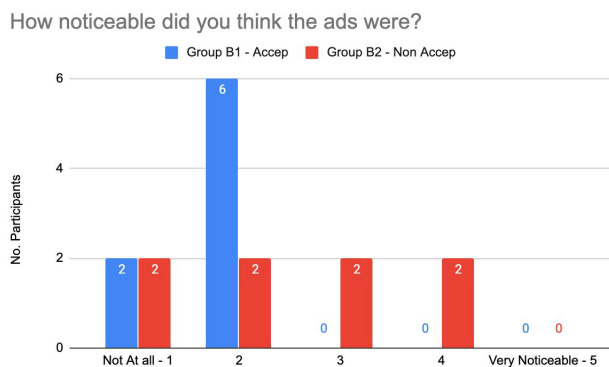


Figure 10: Answers to the question “How noticeable did you think the ads were?” on a scale from 1 = Not at all to 5 = Very Noticeable.

Similarities were found in regard to the overall feeling towards the ads. In general, participants of the qualitative study did not particularly care for the ads. The participants’ feelings towards the ads were most often described as the feeling of indifference. This was mentioned by five participants of group B1 and five participants of group B2. Out of the six participants diverting from this pattern four participants (two from each group) felt trust and joy towards the ads since they were of brands they liked. The last two (one from each group) felt anger and annoyance, explaining how they didn’t like ads overall and how they particularly didn’t like native ads since they were obtrusive and in the way.

The participants were asked to rate how annoying the ads were on a scale from one (1 = Not at All) to five (5 = Very Annoying) and they answered as seen in figure 11. The figure shows how participants of group B2 generally gave the answer 2 (average rating = 1,625) and group B1 generally gave the answer 1 (average rating = 1,25). It is however notable that these ratings are both low on the 1-5 scale which shows that neither group was particularly annoyed by the ads.

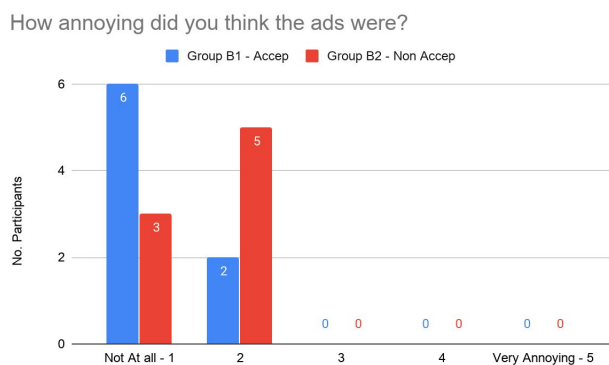


Figure 11: Answers to the question “How annoying did you think the ads were?” on a scale from 1 = Not at all to 5 = Very Annoying.

4.2.6 Open Ended Discussion

The interview session ended with the participants going back to the test suite in order to partake in an open discussion, further reflecting and explaining what ads the participant had seen and not seen. Through these discussions, the four participants who did not see any ads at all were able to confirm their standpoint further. Among the participants who identified that the page (all except for two, see theme 2) had ads, a majority saw ad A (10 out of 14) and ad E (9 out of 14) which can be seen in table 5. “Seen” refers to the act of noticing an ad in a position, even though the participant may not have noted what brand the ad showed. “Brand” refers to the act of recognizing the brand in the position.

Table 5: Number of participants who either saw brands or recognized an ad position

Ad Identifier	B1 - Seen*	B1 - Brand**	B2 - Seen*	B2 - Brand**
A	4	4	6	5
B	3	2	4	3
C	0	0	2	2
D	0	0	0	0
E	3	2	6	4
F	1	1	4	1

*Refers to seeing an ad in a position.

**Refers to the act of not only seeing an ad in a position, but also noticing which brand is advertised.

A and E are the two ads that have been seen the most. These two could be seen on the screen when the website loaded initially. Participants mentioned in the discussion and interview that this could have affected them, describing how they mostly saw ads in the beginning and filtered other ads out.

“I saw ads on the first page right when it loaded, but then when I started doing the tasks I just ignored the others” - Participant of Group B2 during the discussion

Ad B could be seen upon initial load by the participants of group B2. This ad was an autoplaying video ad (without sound) which half of the participants saw. The ad was not playing automatically in test suite 1 and none of the participants in group B1 realized that the ad was a video, thinking that it was a regular image instead.

“I didn’t realize it was a video! I saw the [brand] but I thought it was a regular image.” - Participant of group B1

Lastly, it was shown that the participants of study B were not especially affected by the other native ads, ad C and D. Almost all participants described that since tasks had them look for specific posts, posts which were not relevant (such as the native ad posts) were simply filtered out.

5. DISCUSSION

The discussion is split into four main parts, discussion of results, connection to previous research, method discussion, and future research.

5.1 Discussion of Results

This study was performed with a specially made test suite where the participant's behavior was directly affected through tasks to follow. The participants of study B got a chance to reflect over their experience and all of them mentioned how they were affected by the tasks to some degree (see theme 1). It can therefore not be assumed that the participants engaged in regular social media behavior, making it non-viable to generalize the participants' experiences as being true for specifically social media sites.

However, since the only thing that differs between the two use cases are the type of ads (either acceptable or non-acceptable ads) it is possible to generalize the results by saying that the Acceptable Ads guidelines do have an effect in general. Additionally, it should not be assumed that these results are only applicable to a task oriented situation such as this since the task focus showed great effect in both versions of the test suite. Since it was a factor in both versions, it can be assumed that the removal of this factor would affect both versions the same way, not necessarily an exact equal amount however.

The results of study A seem to suggest that there is a difference between a website using acceptable and non-acceptable ads. The participants who were exposed to test suite 2 (the test suite with non-acceptable ads) noticed more ads (figures 4 and 5), saw more brands (figure 2), and reacted more negatively (figures 6, 7, and 9). Study A also suggests that the ad-noticeability was negatively affected by the Acceptable Ads guidelines since fewer ads were seen in test suite 1 than in test suite 2.

These results suggest that the Acceptable Ads guidelines work in favor of the consumers since ads are perceived as less annoying. Unfortunately, this has come with the drawback that ads are seen by fewer consumers i.e. the ad-noticeability is lower. To benefit all stakeholders, the optimal result would have been that Acceptable Ads guidelines affect user perception positively while not negatively affecting the ad-noticeability.

The main purpose of the qualitative study was to try and understand what affected the participants the most. To see what caused the feelings of negativity, noticeability, and to get a further understanding of what ads were seen and why. The answers of the qualitative study did not seem to follow the quantitative study in all regards however, especially in regards to the feeling of annoyance. The annoyance rating showed that the participants of study A generally rated the level of annoyance higher than the participants in study B. The main difference between the two studies was that the participants of study B partook in an interview where they were asked to thoroughly reflect upon their experience. This may have had an effect on their answers, while the participants of study A may have acted more on intuition.

Through a combination of results from studies A and B it was interesting to learn where and how different ads were seen. The ads which stuck out the most were ad A and E, these had in common was that they could be seen on the first page when the site initially loaded. Acceptable Ads have guidelines which state that ads are only allowed to cover less than 15% of the screen

upon initial load, while allowed to cover 25% if the ads are further down on a page. While not stated by Acceptable Ads themselves, the reasoning behind this rule may be that ads are more likely to be seen if they are visible upon the first load, which the results from both studies A and B suggest as well. This pattern is also apparent for ad B which can be seen upon initial load in test suite 2. This and the fact that the ad was an autoplaying video ad (without sound) in test suite 2 may be the reason why ad B was seen by more participants in study A2 and B2 than in A1 and B1.

Ads C, D, and F were seen the least. The reason for this behavior is explained thoroughly through the interviews and discussions of study B where participants explain how both the focus on the tasks and the realization that the website contained ads may have affected the results greatly (see theme 2).

It cannot be said that there is a difference between test suite 1 and 2 through the rating of noticeability (figures 8 and 10), it is however shown that more ads were noticed in test suite 2. This is confirmed by both study A and study B since both more brands were seen and more ad positions were noticed by groups A2 and B2. It has also been found that rating noticeability on a scale from 1 to 5 may not have been the best approach in a between-group study, which is especially evident for group B2 where the participants were unanimous in their answers (figure 10). This may be caused by participants having different opinions of what a 1 or a 5 would entail based on their previous experiences with ads.

The internet makes it possible to use a wide assortment of different ads, ranging from pre-roll video ads to simple images. This study has had a primary focus on banner and native ads which are two of the most common types of ads [7]. The findings of this study could be applicable to websites which feature the same kind of ads, for example news websites or blogs. However, since different ads may be of completely different forms, e.g. text ads or pre-roll video ads, it cannot be confirmed that these other ads follow the same exact patterns without further research. With that said, there are a few factors that seem to not be connected to the type of ad. An example of such a factor is when ads were seen e.g. upon the first load of the website. This phenomenon does not seem to be connected to a certain kind of ad since video ads, animated ads, and image ads were all noticed more if presented on the first page. Because of this, it can be assumed that other kinds of ads may follow the same patterns.

5.2 Connection to Previous Research

Both behavioral and mechanical ad avoidance was blocked out in this study since the test suites featured no ads which could be clicked away or removed and the use of ad-blockers had no effect on the ads. Therefore the avoidance that can be seen in this study is entirely of the cognitive variety.

As previously discussed, the combination of focus on tasks and an initial realization that ads exist on the page seem to cause participants to disregard many of the ads in the test suite. Study B confirms this notion as well as giving further insight into how the participants did not realize that they had missed many of the ads even though they were in sight. Since not a single participant of either study A or B saw all ads in the test suite, it can be assumed that all participants were affected by cognitive ad-avoidance. Baek et al. argue that it is possible for greater ad-irritation to lead to greater ad-avoidance, a hypothesis that is not supported through this study since that would suggest that participants would see

fewer ads in test suite 2. This can only be said regarding the cognitive type of ad-avoidance however[5].

Furthermore, Cho et al. and Li et al. presented the possibility that goal impediment would lead to further ad-avoidance and ad-irritation. Goal impediment was in this study characterized through the use of native ads which could possibly hinder the participant's search for specific posts. However, the data from study A (figure 2) and the interviews from study B showed that the participants were not greatly affected by the native ads. The hypothesis of Cho et al. and Li et al. is not contradicted however since different levels of hindrance may yield different results [4, 12].

5.3 Method Discussion

It is clear through the Acceptable Ads guidelines what is considered to be acceptable, and these guidelines were thoroughly followed in the test-suite used in this study. The contrary, i.e. what is not acceptable, is not well defined however. The ads used for the test suite 2 were designed to violate the guidelines, but there is always the possibility of violating the guidelines even more by making ads even bigger, animations more prominent, use sounds, and so on. It can therefore not be ruled out that a bigger or smaller difference between the ads of test suite 1 and 2 could yield different results. It would be interesting to conduct future research to test where limits may lay.

There is a difference between answers of study A and B in regards to ratings of noticeability and annoyance (figures 8, 9, 10, and 11). It is possible that this could have been caused by urging the participants of group B to reflect upon their answers thoroughly. The studies might have yielded more similar results if the participants of group B went through the exact same experience as group A, with an added interview and discussion at the end.

The test suites used in this study closely resembled the social media website Facebook. Because of this it would be interesting to conduct a similar study with another kind of website utilising the same kind of ads, such as an online news site. It has been discussed how the results of this study could be applicable to any site featuring the same type of ads, with that said however, the study would have benefitted from containing other types of websites as well in order to further justify the results and confirm the theories presented.

5.4 Future Research

Through the study, it has been shown that ads not following Acceptable Ads guidelines are more noticeable, and therefore more likely to be seen. With this information, it would be interesting to further delve into which of the rules broken affect ad-noticeability the most. Is it a video ad playing automatically? Is it an ad's size? Is it ads being put above primary content? To accommodate all stakeholders, the wish would be to find a balance between an ad not being annoying, while at the same time being presented in a way which makes the consumer notice it.

This study has been done on a specially designed website with a workflow controlled through tasks. Study B has shown that these tasks greatly affect the participants' focus, thereby affecting the users' behavior and ad-avoidance. It could, therefore, be interesting to conduct a study similar to this one, but with less control over the participants' workflow. This would be more representative of an everyday usage scenario.

6. CONCLUSION

This paper presents the results of a study of the Acceptable Ads guidelines. The purpose was to explore the guidelines' effect on user experience and ad-noticeability through a quantitative (study A) and qualitative (study B) study. The two studies were conducted with the help of two specially made test suites in the form of two websites, one containing acceptable (test suite 1) and one containing non-acceptable (test suite 2) ads.

The results of this study suggest that the Acceptable Ads guidelines make a difference in both how users perceive ads and how many ads the users see. Foremost it is suggested that ad-noticeability may be negatively affected if ads follow the Acceptable Ads guidelines. More ads were seen in test suite 2 where non-acceptable ads were used than in test suite 1 which contained only acceptable ads. This suggests that the use of non-acceptable ads affect noticeability positively. However, study A also suggests that the use of non-acceptable ads will affect the users' perception negatively, causing ad-irritation e.g. annoyance.

Study B also suggests that cognitive ad-avoidance is greatly affected by task-oriented focus both in cases with and without ads following the Acceptable Ads guidelines. This means that if a user is given a specific task, the user seems to be less likely to notice ads overall. It has also been found that ads are most likely to be seen upon the first load of a website. Cognitive ad-avoidance is then apt to impact the users, making them prone to miss ads appearing thereafter.

ACKNOWLEDGEMENTS

I would like to thank the amazing people of the company EdgeGuide AB for their valuable help of providing everything from helpful feedback to test participants, and a stimulating work environment. I would also like to reach out a thank you to all those who took their time to take part in the project as test participants. Their help and time has been invaluable.

Thank you Jan Gulliksen and Alexander Nordh for the feedback which made this report come together in the end. A special thanks is also given to my two supervisors Anton Lövmär and Adrian Benigno Latupeirissa for their valuable feedback throughout this entire project.

A last thank you is given to Louise Zetterlund, thank you for believing in me and giving me the energy to get through this project. This project would not have been finished in time without her unwavering support.

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