TURNING ADBLOCKERS INTO UNBLOCKERS

An Explorative Study Into The Mind Of Adblockers And Whitelisting

Digital advertising spending has been rapidly rising over the past years. As the level of advertising on the Internet becomes increasingly excessive, more people are looking for ways to avoid it. The most popular one is to install an adblocker that effectively removes most advertising on the Internet. While adblock improves the online experience of its users, it poses a threat to websites that are dependent on advertising revenue.

Even though research about online advertising avoidance exists, this does not necessarily apply to the use of adblock. The main purpose of this thesis is to explore the use of adblock, more specifically the concept of whitelisting and its relation to previous research. Whitelisting means pausing the adblock-function for a certain website, enabling it to show advertising. This is a concept that has not been researched yet and this study sets a first step in exploring it.

Five qualitative interviews with adblock-users were conducted to create an initial understanding of the matter. This was followed by a web-based survey of 978 Swedish adblock-users. Through an experimental design, it is shown that by exposing adblock-users to a message, asking them to whitelist, website owners can increase adblockers' likeliness to whitelist. The quantitative study further investigated which specific factors influence the decision to whitelist. The results suggest that the likeliness to whitelist is influenced by the perceived goal impediment, perceived ad clutter, attitude towards website, perceived credibility of the website, perceived quality of editorial content, attitude towards online advertising and advertising in general.

Furthermore the results reveal that the majority of adblock-users has whitelisted before and over 75% would consider whitelisting again. This is an encouraging result and should motivate website-owners to actively tackle this problem.

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1 Definitions

Since the reader might not be familiar with all the terms used in this thesis, the most important concepts are clarified below.

Adblock (plugin/extension/software):

Is a form of mechanical ad-avoidance, which allows users to blend out online advertising. This includes all advertising such as banners advertising, pop-ups, advertising on social media such as Facebook and YouTube. Internet users can install it as a plugin (extension) on their web browser (Chrome, Firefox, …) and also on some mobile devices (Android). The most popular browser extensions are Adblock Plus and Adblock. In this thesis the word "adblock" includes all the different plugins available.

To whitelist:

Most adblock plugins allow users to pause their adblock on certain websites. This is often referred to as "whitelisting". When users whitelists a website, they make a conscious choice of allowing this website to show them advertisements.

2 Introduction

Digital ad spending has been steadily increasing in the double-digit area over the past years, has topped the $100 Billion mark in 2012 and the forecast shows that it is expected to reach $137 Billion in 2014 (E-Marketer, 2014). Online advertisers are in a constant struggle to reach their audiences with new ways of advertising and increase the effectiveness of advertisements. However the online advertising industry is facing decreasing click-through rates that are currently at an all-time low. Li and Leckenby (2007) point out that the click-through rates (CTR) of banner ads declined from an average of 3% in the mid-1990s, to 0.5% in the early 2000s and to 0.28 percent in the first quarter of 2003. Statistics from 2009 show that the CTR has dropped even further to around 0.1% (DoubleClick, 2010). Furthermore, the proliferation of online advertising and the introduction of more intrusive advertising formats such as pop-up advertising and take-over ads has increased the desire for people to find ways to avoid advertising online. Plugins for the web-browser that block out advertising completely are the most convenient way for Internet users to do so.

2.1 Blocking Ads on the Internet

"Surf the Web without annoying Ads" – this is the slogan used by the most popular browser extension Adblock Plus, which allows Internet users to block advertising when browsing the Internet. This tool gives users the choice of blocking all ads, or whitelist certain websites, allowing it to show "acceptable ads". Figure 1 shows what happens to the Aftonbladet.se when Adblock Plus is installed on the web browser.

Figure 1: Aftonbladet.se with and Without Adblock

In 2007, Adblock Plus was considered a *"niche product for a niche browser"* (Cohan, 2007) and was only available for Mozilla's Firefox browser. Moving forward to 2014, it is available to install on

the most popular browsers such as Firefox, Chrome, Safari, Internet Explorer, Opera and also on mobile phones that operate with Android. Adblock Plus has become increasingly popular and recently seen download numbers of 2 million per week (Business Wire, 2013). It is the most downloaded browser add-on of all time and was downloaded over 250 million times by the end of 2013 (ibid). According to a recent interview with the co-founder of Adblock Plus, Till Faida, the plugin surpassed the 300 million download mark in March 2014 and currently has between 50 and 60 million monthly active users (Lunden, 2014). A user survey (n= 1471) conducted by Adblock Plus showed that users are mainly male (87,3%) and the majority between 20 and 39 (57,5%) (Adblock Plus Blog, 2011).

However, these numbers only show the usage of one single add-on. Adblock Plus is one of many browser add-ons that allow users to block advertising on the Internet. The second most popular is called Adblock and according to their website it has more than 20 million users (Adblock Website, 2014). Apart from these two, there are many more general adblock-plugins and specialized ones, which only block advertising on certain platforms such as YouTube and Facebook.

Statistics about the use of adblock are relatively hard to obtain. A report by Clarity Ray (2012) suggests that around 10% of Internet users in Europe and the USA were blocking online advertising at that time. Their findings show that the rate of adblocking is highest on tech- and news-websites (15-20%) and reaches up to 50% on some sites. A more recent report by PageFair (2013) collected data from 220 different websites and found an average adblock-rate of 22.7%, ranging from 1.5% up to 65%. However, the reliability of these sources may not be the best, since both companies provide services for websites that struggle with this issue. Still, an interview with Roger Åberg (2014), editor in chief at the Swedish tech-blog Feber.se, revealed that the website has a blocking-rate of about 40%, which provides support for the reports.

2.2 Theoretical Background

If ads are perceived to be unpleasant, the consequences can be avoidance and irritation (Abernethy, 1991; Kennedy, 1971; Krugman, 1983). Advertising avoidance is defined as *"all actions by media users that differentially reduce their exposure to ad content"* and can occur in different ways: cognitive, behavioral and mechanical (Speck & Elliot 1997). Banner blindness is an example of cognitive advertising avoidance and suggests that Internet users do not see graphics that they perceive to be advertising (Benway, 1998). An example of behavioral ad-avoidance is someone leaving the room to do something else during a commercial break on television.

Mechanical ad avoidance includes advertising avoidance made possible through technical advances. This can happen with VCRs by zipping and zapping through television commercials (Stafford & Stafford, 1996), through the use of digital video recorders (Wilbur, 2008) and more recently with adblock plugins that allow users to block advertising online. Speck & Elliot (1997) researched advertising avoidance in broadcast media and found that avoidance is highest for television and that the attitude towards advertising in a medium explained the most variance.

Advertising avoidance has been a popular research topic in the past but has not yet received as much attention when looking at the online environment. This is especially the case when it comes to mechanical ad avoidance in online media with the use of adblock plugins. In general, the Internet is believed to be a convergent medium that combines features from different media such as newspapers and television (Miller, 1996). Cho & Cheon (2004) explored antecedents of online advertising avoidance and according to their model, it is caused by "Perceived Ad Clutter", "Perceived Goal Impediment" and "Prior Negative Experience" (see figure 2). These dimensions make people intentionally ignore online advertising and this in turn leads to banner blindness and low click-through rates. Perceived Goal Impediment happens when the level of ads creates too much noise and hence hinders the user's navigation of a website. "Perceived Ad Clutter" is defined as "*one's belief that the amount of advertising in a medium is excessive*" (Speck & Elliot, 1997). "Prior Negative Experience" describes a user's previous experience with the utility of online advertising.

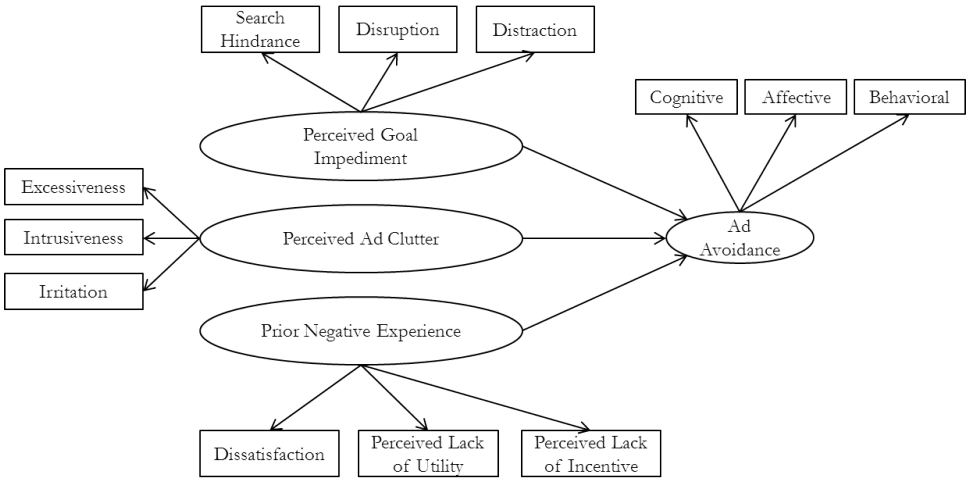

Figure 2 Model of Advertising Avoidance Online, Cho & Cheon (2004)

Furthermore, early research suggests that the Internet has a different task orientation than traditional media (Chen & Wells, 1999; Li et. al, 2002). Ha & McCann (2008) developed a conceptual model of perceived ad clutter and suggest that it can lead to advertising avoidance,

memory reduction and lower perceived editorial quality. Furthermore, they also theorize that the possible consequences of ad clutter depend on the task orientation in media consumption. A user who is looking for specific information on the Internet is expected to have a more negative reaction to perceived ad clutter than a user that is in exploratory task orientation, with no specific goal. Li et al. (2002) looked at antecedents and consequences of pop-up ads and provide evidence that an increased perceived intrusiveness of ads can lead to advertising irritation and avoidance in an online environment. When it comes to personalized advertising, increased perceived privacy concerns and ad irritation lead to a higher level of advertising avoidance, whereas perceived personalization has the adverse effect (Baek & Morimoto, 2012).

The most popular psychological explanation of advertising avoidance is reactance theory. Reactance theory describes people's resistance when they feel that their freedom is threatened (Brehm, 1966). In terms of online advertising, this would mean that users would try to restore their freedom if it feels forced upon them and that this might lead to negative consequences. This might be the case especially for more intrusive advertising such as pop-up ads where the user is forced to react to it (Li et al., 2002). The means of mechanical ad avoidance give people the choice of blocking out advertising that they do not want to see and decide which advertising is acceptable to be exposed to.

2.3 Problem Area

Adblock-users disrupt the functionality of the two-sided market. Websites that show advertising are platforms that are considered to operate in a two-sided market. A two-sided market is characterized by network externalities, where two distinct sides benefit from interacting through a platform (Rochet & Tirole, 2003). Rochet & Tirole (2004) also point out that the choice of business model is a key success factor for platform providers: a lot of times one side of the platform is treated as a "profit center" and the other side as a "loss leader". In the case of online newspapers, blogs or other websites that provide free content, the reader is seen as the "loss leader" and the profit center is made up by different advertisers that chose to advertise on the platform. "*Consequently, the media industry sells a joint product two different categories of buyers: the medium itself to advertisers, and the medium content to media consumers" (*Anderson & Gabszewicz, 2005). Hence, depending on the payment model adopted, websites in such markets are somewhat dependent on advertising revenue. This is especially true for websites that provide free content – advertising is their main (only) source of revenue. However, as soon as a user blocks the advertising on a website, they are effectively not paying for their consumption of the content. This creates an imbalance in the two-sided market model.

The increased popularity of adblock extensions for web browsers puts online media companies into a tricky situation. As soon as someone installs an adblocker all or most advertising gets blended out, depending on what plugin they use. A pre-study, which will be described later, suggested that even though the possibility to pause adblock for certain websites exists, adblock-users do not think about it and it is not top-of mind. In some cases, people start using adblock only because of certain websites that have very intrusive advertising, but the negative consequences persist for all websites.

Academic research about the use of adblock plugins for web browsers is very limited. The existing research about online advertising avoidance explores consequences of intrusive advertising and research exists that explains why people avoid advertising online and which characteristics influence advertising avoidance. In a time where advertising revenue from print is plummeting and the importance of online advertising is rising, it is important to look more closely of the phenomenon of online adblocking.

2.4 Purpose of the Study

The main purpose of this thesis is to explore the concept of whitelisting. To understand why people pause adblock for certain websites, it is also necessary to understand the reasons why people use adblock. First, this study aims to explore basic adblock behavior and general opinions of adblock users through a small qualitative pre-study. This is a crucial step, which will help to identify target characteristics that affect someone's likeliness to whitelist certain websites. In the second part, a quantitative study will test the findings in a bigger sample. The characteristics analyzed in the study are *1) perceived goal impediment 2) perceived ad clutter 3) perceived relatedness between advertising and website content 4) attitude towards websites 5) perceived quality of editorial content 6) perceived credibility of website 7) attitude towards online advertising 8) attitude towards advertising in general.* Furthermore, it will be investigated whether it makes sense for websites to expose their users to a message asking them to whitelist. The following research questions will be answered by a combination of a short qualitative pre-study and a more extensive quantitative main study.

1. *Why do people use adblock software?*
2. *What factors influence adblock-users' likeliness to whitelist?*
3. *Can a message increase the likeliness to whitelist?*

2.5 Intended Knowledge Contribution

There is a great lack of research in the area of advertising avoidance when it comes to the use of adblock-plugins for web browsers. Even though advertising avoidance has been a popular research topic in the past and research that explores online advertising avoidance exists, this research does not necessarily apply to adblocking. Adblock-rates have been increasing over the past years, but no recent studies covers adblocking and whitelisting.

This study will contribute in the area of advertising avoidance in several ways. First, it will investigate why people use adblock and whether these reasons are in line with previous research about advertising avoidance. This is an important first step, which will help in understanding the concept of whitelisting. In comparison to advertising avoidance, whitelisting is a new topic in academic research. The ambition of this study is to contribute to the world of academia by closing this research gap and create a greater understanding of the subject.

By reading this thesis, media companies and website owners can gain a deeper understanding of the use of adblock. This insight can potentially be used in the context of a website to convince users to turn off their adblock.

2.6 Delimitations

This thesis has certain delimitations due to limited resources and time. Since the pre-study only constitutes the first and smaller stage of the thesis, more time was devoted to the quantitative study. Hence, only five semi-structured interviews were conducted in order to gain a basic understanding of adblock-use. This was also due to the fact that behavioral patterns already started emerging within the first interviews. The scope of the quantitative study is limited to adblock users within Sweden. Furthermore the sample was recruited from only one source: adblock-users that visited the website Feber.se. Still, the sample has a size of 978 participants and it shows strong similarities to previous demographical statistics of adblock-users.

Since it was important to reach a big sample of adblock users, the main study was carried out via an online survey. To ensure that participants would know the websites used in the experiment, two well-known Swedish news-websites were chosen. This means that the scope of this study does not cover other types of websites.

As outlined in 2.2., the perception of online advertising is dependent on the task orientation of the user. The task orientation relates to the browsing behavior and is different depending on the

website. This study will not explore the potential effects of task orientation on whitelisting behavior.

2.7 Thesis Outline

The thesis follows an exploratory sequential mixed methods research design where a qualitative study facilitates the formulation of hypotheses (see figure 3). In chapter three, a discussion of the general research design of this thesis is followed by a short pre-study that aims at generating a basic understanding of why and how people use adblock and whether people whitelist websites. The results are presented in chapter four. In chapter five, the authors look into existing theories and research to find parallels and put it into the context of the findings of the pre-study. This process leads to the formulation of several hypotheses. In chapter seven, the main-study, including methodology, preparatory work, analytical tools and data quality, will be presented. The main study is split up into one part dedicated to hypotheses testing and one part that gathers additional results. This will be followed by a chapter about results and analysis for the main study, with a discussion for each part. The thesis is concluded with a chapter that includes a general discussion, limitations, managerial implications and directions for future research.

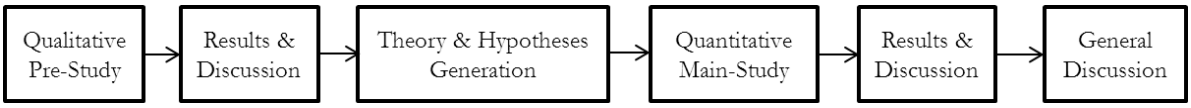

Figure 3: Thesis Outline

3 Methodology Pre-Study

This chapter will start with initial work and choice of topic. Then it will provide an overview of the general research design and the pre-study, which aims to explore the use of adblock. More importantly, it will generate insights into the concept of whitelisting. With regards to the quantitative study, this is the first step of the research process and helps as a basis for hypotheses generation.

3.1 Initial Work and Choice of Topic

The idea to conduct research in the area of adblocking and whitelisting was sparked by the increasing public discussion about the use of adblock-software. As outlined in the introduction, the use of adblock is becoming increasingly popular. Since both of us have been using different plugins to avoid online advertising for several years, there was also a strong personal interest in this subject.

An extensive research in online databases and libraries revealed that there is lack of research in this area. Several discussions and an interview with Roger Åberg (2014) demonstrated that the use of adblock software poses a threat to websites that are dependent on advertising revenue. This further inspired us to focus our research in this field.

Finally, we decided to limit the area of research to reasons to the use adblock and whitelisting. The latter was of special interest to us, since it was a new concept that had not been explored yet. Therefore, we decided to investigate factors that influence the decision to whitelist and explore how websites can convince their users to pause their adblock.

3.2 General Research Design

The structure of this research is based on an "Exploratory Sequential Mixed Methods Design" (Tashakkori & Teddlie, 2010). At first, a qualitative pre-study is used to facilitate the formulation of hypotheses. Qualitative research methods are useful when exploring a new phenomenon in order to gain more in-depth knowledge. The research design follows the "confirm and discover" rationale by Bryman & Bell (2006), where the results from the first method are used to generate hypotheses for the second method. The pre-study is followed by an extensive quantitative study, which aims at generating more generalizable results.

This research structure was chosen because of the limited research on the topic of adblocking and to explore the concept of whitelisting. An exploratory sequential design is useful when

variables need to be identified for the quantitative study (Creswell et. al, 2003). Since no guiding framework exists for the concept of whitelisting, this research structure was deemed appropriate.

3.3 Qualitative Research Design

According to Rowley (2012) interviews are useful when *"research objectives center on understanding experiences, opinions, attitudes, values, and processes"*. Therefore, it was decided to conduct interviews as a first step in the overall research process. The interviews were conducted in a semi-structured manner (Bryman & Bell 2011), making sure that all interviewees answered the same questions, but at the same time allowing for exploration into the main areas of interest and motivation of each interviewee. Open-ended questions allowed for longer discussions, sometimes with the insertion of new questions to force elaborations.

An interview guide was carefully prepared in order to provide guidance that could be used across all interviews (see Appendix 1). It was ensured that the interview guide was not over-scripted in order to leave room for discussion. Two initial "trial interviews" were made in order to perfect the interview guide and rephrase questions. The interview guide was not sent out prior to the preparer interviews in order to ensure an open discussion without prepared answers.

Two interviewers were used for all interviews in accordance with the recommendations from Bechhofer et al. (1984). One interviewer asked the questions and took down brief notes, while the other "passive" part kept an eye on the topic, took more extensive notes and intervened with questions when needed. The interviews lasted between 15 and 45 minutes. The longest one, with Madeleine von Post, continued as a more informal discussion after the official interview was over. This discussion was also recorded and transcribed. The interviews were conducted in English because of the interviewers' different nationality and Swedish-skills, even if the native language of all the interviewees was Swedish. All interviewees expressed their fluency and comfort in speaking English prior, and showed no problem expressing their thoughts.

Locations were chosen from a convenience-perspective for the interviewed, but with the reservation that they had to be quiet and without interruptions as suggested in Bryman & Bell (2011).

3.4 Qualitative Data Sampling

To find people that use adblock, initially a convenience sample of around 20 people was asked whether they used an ad-avoidance extension when they browse the web. From this a purposive sample of five adblock users was selected. They had different knowledge and experience with the use of adblock and thus enabled the analysis of a wider range of usage situations. Using a convenience sample meant that an informal interviewee-interviewer relationship existed in all cases. In theory, this could lead to information being omitted, partly because of previous discussions around the subject. This emphasized the importance of using an interview guide and great care was taken to receive answers to all questions, even those that were repeated from previous non-recorded discussions.

Already after the second interview, it was possible to observe certain behavioral patterns. Because of this and the time and resource constraints of this thesis, not more than five people were interviewed for the pre-study. The interviews was recorded with a smartphone and later transcribed.

Name	**User since**	**Age**	**Occupation**
Madeleine Von Post	4-5 years	29	Employed
Madeleine Johansson	< 1 year	24	Employed
Adam Altmejd	12 years	25	Student (PhD)
Daniel Platt	6 years	27	Employed
Adrian Levander	3-4 years	28	Employed

Table 1: Interview Participants

3.5 Analytical Tool

To be able to develop concepts and ideas from the data collected in the qualitative research, the authors decided to follow the coding process suggested in Bryman & Bell (2011). Coding began after the first interviews, since the first data can serve as a foundation for further data collection (Corbin & Strauss, 2008). After transcribing the interviews, key concepts were highlighted in different colors. These concepts were ordered under which research questions they fitted. According to Strauss & Corbin (2008), this should be considered open coding - *"the process of breaking down, examining, comparing, conceptualizing and categorizing data"*. Comments repeated in several interviews were noted down, and categorized under the different concepts.

3.6 Data Quality

When assessing the data quality of the pre-study it is important to consider that only five people were interviewed. The theories of Lincoln & Guba (1985) were used to assess the data quality of the pre-study. Since the results of the pre-study will be tested in the main-study, only certain aspects of the data quality are important to consider. The credibility and truthfulness of the results will be further validated in the quantitative study.

3.6.1 Dependability

In qualitative research, Lincoln & Guba (1985) explains dependability as the amount of consistency employed in the survey. Would a second researcher come to the same conclusions with the same (or equal) respondents, and in the same (or equal) context? An interview guide and transcription of all interviews is key to ensure this consistency, together with a coding manual that shows aspects used to connect the interviews to concepts and hypotheses. However, total reliability is impossible in qualitative research since the result is dependent on interpretation of the data, which undoubtedly will be subjective to some degree.

3.6.2 Transferability

Lincoln and Guba (1985) emphasize the importance of *transferability,* and how *applicable* the research is. The qualitative findings will naturally not be applicable to all adblockers, and one reason to add the quantitative study is to increase the transferability. Lincoln and Guba (1985) further suggest *Purposive sampling* as a way to increase the applicability. We used purposive sampling to ensure differences in demographics and knowledge about adblock, to increase the chances of capturing a broad spectrum of ideas and opinions.

3.6.3 Confirmability

Confirmability concerns the neutrality of the authors, and the degree to which the findings are shaped by the respondents, and not by researcher biases (Lincoln and Guba, 1985). Open questions and the absence of leading questions further ensured that the answers actually belonged to the respondents and not the interviewer, and transcripts exist to ensure the legitimacy.

4 Observations and Findings – Pre Study

Through the coding process, it was possible to identify concepts that are outlined below. Even though only five interviews were made, several patterns were observed. The most prevalent and relevant are depicted in this section. Below, the categories are split up into reasons for people to use adblock (Research Question 1), factors influencing the decision to whitelist (Research Questions 2 & 3) and other findings.

4.1 Reasons for People to Use Adblock

When looking into the reasons why people started using adblock, two distinct groups were identified. The first one installed the plugin themselves and the decision to start using it was more active. The second group was a bit more passive in their decision process. They started using the plugin because it was either installed or recommended by a friend.

Madeleine Johansson	*"I think it was like 6 months ago, I heard of it from a friend. Then another friend helped me install it."*

Still, when asked, all of the interviewees stated very similar reasons why they use adblock. Below the main reasons are stated:

4.1.1 Intrusiveness of Advertising

Adam Altmejd	"*Back then, I didn't think very much about it, but ads were annoying so I found out that there was a Firefox extension that removed them*"

Across the interviews, the intrusiveness of advertising was mentioned in different ways by all interviewees. Other adjectives used by the interviewees were *"obnoxious"*, *"irritating"*, *"intrusive"*, *"irrelevant"* and *"falsely targeted"*. This shows that there are different dimensions to consider when it comes to the perception of intrusiveness.

4.1.2 Improves Navigation and Experience

The quality of advertising also relates to convenience. As the use of advertising on a website gets more excessive, it gets harder to navigate around websites. The ads are distracting, as they try to divert the focus from the content.

Adrian Levander	"*(...) because they* [adblock software] *make it easier to look at websites and not being exposed to too much advertising."*
Daniel Platt	"*I think it generally makes websites a lot easier to navigate around, less stuff pop up all the time. It's easier for the eyes. I can get to the content I want faster."*

4.1.3 Goal Impediment

This is also closely related to the dimension of goal impediment. Some people are using adblock because of certain kind of advertising forms: pop-up advertising, take over ads and ads of YouTube are just some examples. The user is forced to watch something before being able to access the actual content of the website. In some cases, it is necessary to close the advertising, or click to forward to the content. Such advertising not only diverts the attention from the content, but even adds an additional step the user has to take before being able access the content.

Adrian Levander	*"It [online advertising] annoys me most of the time, but it depends on the context. But I hate windows popping up and I'm not really a big fan of advertisement on Facebook, it just bothers me."*
Madeleine Von Post	*"It [Advertising on YouTube] is really annoying... it's like forcing you to see stuff that you didn't really want to see in the first place."*

4.1.4 Certain Websites - Pirate Bay, Streaming Websites

Certain websites have advertising that is a lot more intrusive than the average, more serious homepage. Still, these are websites that are regularly frequented by Internet users: Pirate Bay and websites for streaming movies were named in the qualitative study. The advertising is so intrusive, that these sites were named as a distinct reason to use adblock by most interviewees. Moreover, these websites sometimes employ advertising that is inappropriate to users.

Adam Altmejd	*"And then there is the whole different thing with more shady websites for whatever reasons like Pirate Bay or a weird gaming sites. There are tons of shady sites. Then you need it to not get viruses or super annoying pop-ups. That's one reason in itself."*

4.1.5 Privacy

Some interviewees also stated privacy related issues as a reason to use adblock. Within the interviews, this was either related to the extent personalized advertising can evoke the feeling of privacy invasion, but also how advertising within social media (Facebook) is invading the personal space.

Adrian Levander	*"Yeah, the issue is that I always feel that it's a reminder about how much they know about me, how much information they save about me."*
Madeleine Von Post	*"It* [Advertising on Facebook] *just feels a little bit personal. Like it's invading my personal space."*

4.1.6 Advertising's Effect on Computer/Mobile Phone Performance

A last reason that came up in the interviews was that online advertising can have a negative effect on the performance and bandwidth when using the computer or mobile phones.

Daniel Platt	*"And I hate using the internet because of obnoxious, like irritating ads, especially those that take a lot of computer power."*

4.2 Factors Influencing the Decision to Whitelist

Two of the five people interviewed did not know about the possibility of whitelisting before. Two had whitelisted before and one generally knew about whitelisting, but never had done it before. Depending on the situation interviewees were either asked about previous experience with whitelisting or which websites they would consider whitelisting and why? The factors that influence the user's decision to whitelist are partially in line with the reasons to use adblock. If the reasons why someone started using adblock are still perceived to be in place, this will influence the willingness to whitelist. The following factors were the ones most mentioned:

4.2.1 Depends on Website

All of the interviewees mentioned that the decision to whitelist highly depends on the website in some way. With regards to the website there were several different factors that were relevant.

4.2.1.1 Attitude towards the website

Attitude towards the website was an important factor in all the interviews. The results indicate that a positive attitude towards a website seems to be positively correlated with taking this action.

Adam Altmejd	*"I liked this site and I liked it so much that I wanted to support it, I don't mind seeing some ads. Maybe they decreased my positive experience a little bit, but the negative experience of that website not existing, because it didn't get enough money to be financed, is much worse. Then it is more like a positive experience from whitelisting that makes it feel like I'm contributing"*

4.2.1.2 Perceived quality of content

A second important factor is the perceived quality of content of the website. The results from the pre-study indicate that a higher perceived quality of (editorial) content leads to an increased willingness to whitelist.

Adrian Levander	"(…) *It's so much information for free… so much good news. There I also wouldn't mind having advertisement on the side."*

Madeleine Von Post	"*To see and ad that's not too invasive or too intrusive or blinking too much. That is of a related game for example... that might be useful. So I could consider whitelisting like good game websites.*"
Madeleine Johansson	"*Well for that specific magazine, I would. I know DN and I think it's a good magazine.*"

4.2.1.3 Perceived credibility of the website

The credibility of the websites was implicitly mentioned as influencing variable. This is related to one of the reasons to use adblock mentioned before. Certain sites such as Pirate Bay are known to have very inappropriate, intrusive and potentially dangerous advertising. The findings indicate that a website's credibility influences the decision to whitelist.

Daniel Platt	"*Yeah if it would be like Pirate Bay-ads, like hot nude Russian chicks. Then I would feel like this is not something I would want to see surfing a site.*"

4.2.2 Perceived Quality of Advertising

Four of the five interviewees specifically stated that the perceived quality of advertising is an important factor when considering whitelisting. This is in line with the reasons to use adblock. This shows that people might be interested in whitelisting certain websites if they expect ads to be at an acceptable level, not as intrusive or relevant to them.

4.2.2.1 Intrusiveness

Daniel Platt	"*Main reason for previously whitelisting: they asked nicely, and looking at it, ads were not that obnoxious.*"
Madeleine Von Post	"*But it still would be a matter of... if the ads were really badly made or just awful games, I would probably regret that decision* [to whitelist]"

4.2.2.2 Relevancy

Adrian Levander	*"I guess if it's relevant for the context. I mean this is really unspecific. But if I go on a fashion website and there is a fashion advertising around it, somehow relevant in the context, I might click on it because it's something that I'm interested in anyways because it's really specific."*
Madeleine Von Post	*"But then again I think angling ads not towards the reader but after the content that's on the website… if I go on a science report or news website I would like to have related ads if any ads."*

4.2.3 The Message

Of all the people interviewed, two of them had whitelisted a website before. When further investigated it was discovered that in both cases it was a reaction to a message on the website that asked them to pause their adblock for the site. The idea of whitelisting does not seem to be top-of mind. Either people do not know about it or are not actively thinking about it. Thus, it seems necessary to expose Internet users to some kind of message asking them to whitelist.

Daniel Platt	*"Yeah there was one site that had a text saying… we are funded by ads, and would appreciate if you would consider whitelisting us. And I liked this site and what they are doing and thought they needed money."* *"It's a little bit like when I used to eat meat, didn't think about it a lot. Only rarely that I was reminded, and then I thought about it. Maybe somewhere along the road I came to the realization that it was wrong. But it's so seldom that I get subjected to it that I don't think about it*

4.3 Other Findings

4.3.1 Good Conscience When Using Adblock

During the interviews, people were asked whether they have a bad conscience about using adblock and surprisingly none of them had. In general, users felt that it should be their choice whether they want to see ads or not. However, when explaining the dilemma that websites are dependent on advertising revenue in order to provide free content to the interviewees, they all showed understanding. Still throughout the sample, it was mentioned that this is not something that is top-of mind.

Adam Altmejd	*"I'm taking part of content that is financed by ads but I don't see any ads. I guess that's in some sense immoral or scheming or whatever. But I don't think about it that way."*
Adrian Levander	*"No, I haven't had because I haven't been thinking about it. But when you pose the question like that... Yeah, because I know… especially when it comes to the newspaper industry. They have no chance to survive if they don't have advertisement because we just think news should be for free now and we don't want to pay... And in that context I definitely think I should have a bad conscience. I don't think about it enough, that I have it right now. But I definitely see a point there"*

4.4 Discussion - Pre-Study

The goal of the pre-study was to provide initial insights into the use of adblock. It gives first indications about the main reasons why people use adblock. The results are in line with Cho & Cheon's (2004) research about antecedents of advertising avoidance. At least "Perceived Ad Clutter" and "Perceived Goal Impediment" can be paralleled to the use of adblock. More interesting is the fact that certain websites (e.g. Pirate Bay) are named as a specific reason to avoid advertising, since they have very intrusive advertising. Since most adblock-plugins automatically block advertising throughout the Internet, these websites negatively affect other sites that have less intrusive advertising. In comparison to previous research about advertising avoidance, two new reasons to use adblock seem to be important: Privacy and advertising's effect on computer performance.

Moreover, the results show what factors are potentially important to users when they consider whitelisting a homepage: the relation to the website itself and the perceived quality of advertising. Most importantly it shows that that the concept of whitelisting is not something users are aware of when browsing a website. This is especially important, since it emphasizes the need to expose users to a message, asking them to pause their adblock.

5 Theory & Hypotheses Generation

This chapter aims at generating several hypotheses related to the concept of whitelisting. The qualitative findings are put in the context of related literature and theory as far as possible. By looking at theoretical fields related to the observations made, several hypotheses are formulated that will later be tested in the quantitative study.

5.1 Likeliness to Whitelist

Whitelisting describes the process of pausing the adblock-plugin for certain websites, allowing them to show advertising. Because of the novelty of this concept, there is no previous research that covers it. The pre-study indicates that adblock-users are willing to whitelist certain websites. By whitelisting, a user makes a personal choice of being exposed to advertising on a certain website and in a way contributes to the website's success. Further research suggests that when advertising is consumed as a personal choice, it is perceived as more positive (Grusell, 2006).

Adam Altmejd	*„I liked this site and I liked it so much that I wanted to support it, I don't mind seeing some ads. Maybe they decreased my positive experience a little bit, but the negative experience of that website not existing, because it didn't get enough money to be financed, is much worse. Then it is more like a positive experience from whitelisting that makes it feel like I'm contributing.*

Whitelisting could be measured in two ways: self-reported and by observing behavior. This thesis will employ self-reported measures to investigate the adblock-users' likeliness to whitelist.

5.2 The Message Makes A Difference

The results of the pre-study indicate that it is necessary to expose adblock users to some kind of message, asking them to whitelist. The concept of whitelisting is not something users are aware of and thus it is important to remind them of it. In the pre-study, both of the cases that had whitelisted before were exposed to a message.

In practice, this is what some websites have tried already, but the effect of this has not been researched. Various website have exposed their users to a message asking them to pause their adblock. In the summer of 2013, a group of respected German newspapers collectively exposed their users to a message (Rentz, 2013). This action triggered a public discussion about the use of adblock and the websites experienced a huge negative backlash. Another example is the dating

site OkCupid, who got positive feedback for their campaign with adblockers (Constine, 2012). The actual success of these measures is not known, since it was not possible to receive conversion rates of the cases known. Looking at the results from the pre-study, exposing users to a message should have a positive effect on a user's likeliness to whitelist that website. Thus, we hypothesize:

H1: Users who are exposed to a message asking them to whitelist a certain website are more likely to whitelist a website, than users who are not exposed to a message.

5.3 Perceived Quality of Advertising

The qualitative study shows that the perceived quality of advertising on a certain website plays an important role in the decision process of whitelisting. The quality of advertising has different dimensions. When it comes to the use of adblock, the pre-study showed that this mainly depends on how much focus the ad takes from the actual task. A second important factor related to the quality of advertising were take-over and pop-up ads, which could be seen as the extent to which an ad hinders content consumption. These findings have strong parallels to previous research about advertising avoidance. Ad avoidance is one of the negative reactions that consumers can have when advertising interrupts their goal (Krugman, 1983). According to Cho's model (2004), online advertising avoidance is caused by "Perceived Ad Clutter", "Perceived Goal Impediment" and "Prior Negative Experience". Especially the first two are in line with the findings of the pre-study. The perceived measures are not objective and represent a subjective evaluation of advertising clutter (Elliot & Speck, 1998). Every person has a different perception about the extent to which advertising on a medium is excessive and thus it is important to analyze perceived measures. Ha (1996) defines the three dimensions of ad clutter as quantity, intrusiveness and competitiveness. Furthermore, advertising clutter can be regarded as irritating by both advertisers and Internet users (Ha, 1996).

In this thesis we therefore hypothesize that if the reasons why someone initially started using adblock-software are perceived to still be persistent on a certain website, they will be more reluctant to whitelist that site.

H2.1: A higher perceived goal impediment decreases the likelihood of a person whitelisting that website.

H2.2: A higher perceived ad clutter decreases the likelihood of person whitelisting that website.

A third important factor that was mentioned by several interviewees is the degree to which the advertising on a website is related to the content. Most interviewees felt that advertising that is related to the content is more acceptable in the context of that website. Cho (1999) first explored information processing of advertising on the Internet and showed that users are more likely to click an ad if it's related to the content of the website. As users are interested in the content of the vehicle, they will be more interested in ads if they are matched to the content. This is also consistent with other recent research that states matching advertising to the website's content can lead to a higher purchase intent of users (Goldfarb & Tucker, 2009; Wilbur et. al, 2009) and limit perceived intrusiveness for pop-up advertising (Li et. al, 2002). Thus we hypothesize that adblock users will be more likely to whitelist a website when they expect advertising to be related to the content.

H2.3: A higher perceived relatedness between website content and advertising, increases the likelihood of a person whitelisting that website.

5.4 Attitude towards the Website

The pre-study indicates that the willingness to whitelist depends on the website on different levels. Some of the interviewees specifically mentioned that they would be more likely to whitelist websites they liked and that provided high quality content for free. Looking at existing literature, attitude towards the website is a measure that has become more important in research as the role of online advertising is becoming more important. Chen & Wells (1999) first introduced the measure "attitude towards the site" as an extension of the measure "attitude toward the ad". Stevenson et al. (2000) analyze the construct "attitude towards the website" in context of the advertising hierarchy of effects and show that the "the attitude towards the website" has a positive impact on several variables in the advertising hierarchy of effects: attitude toward the ad, brand attitude and purchase intention. The study of Bruner & Kumar (2000) further proves these findings with a more representative sample and more generalizable results and shows that a positive attitude towards a website most notably has a positive effect on attitude towards the ad. This could also be paralleled to the concept of attitudinal loyalty, which describes a consumers' desire to maintain a relationship with a brand (Czepiel & Gilmore, 1987).

A person's decision to pause their adblock effectively means that this person accepts to see ads. Since a positive attitude towards a website is an indicator for a more positive attitude towards an ad shown on that website, this might also have a positive effect on the willingness to whitelist.

From a loyalty standpoint, a consumer that has a stronger attitudinal loyalty towards website might have a higher commitment and thus feel more inclined to whitelist. Thus, we hypothesize:

H3.1: A positive attitude towards the website, increases the likelihood of a person whitelisting that website.

H3.2: A higher perceived quality of editorial content, increases the likelihood of a person whitelisting that website.

Furthermore, the pre-study indicated that the credibility of the website plays a role in the decision process of whitelisting. Websites with low credibility are expected to have more intrusive or even dangerous (viruses) advertising. Choi & Rifon's (2002) research about web advertising credibility shows that website credibility enhances ad credibility and purchase intention. Thus, a higher credibility of a website is hypothesized to have a positive impact on the dependent variable.

H3.3: A higher perceived credibility of a website, increases the likelihood of a person whitelisting that website.

5.5 Attitude towards Advertising (Online/General)

A lot of research about the effectiveness and processing of online advertising examines the consumer's attitude towards (online) advertising. Most research shows that a positive attitude towards online advertising leads to higher advertising effectiveness (Cho, 1999; Li et al., 2002) Ad skepticism describes a general negative attitude towards online advertising and is defined as a *"tendency towards disbelief of advertising claims"* (Obermiller & Spangenberg, 1998). Obermiller et al. (2005) further suggest that ad skepticism can lead to less attention to and a lower reliance on advertising. Advertising avoidance is likely to be related to the consumer's attitude towards advertising (Speck & Elliot, 1997). Moreover, research suggests that the consumer's attitude towards advertising also differs between different media contexts (Ha, 1996; Grusell 2007). Therefore, it is necessary to both look at attitude towards advertising in general and attitude towards online advertising. Thus, we hypothesize:

H4.1: A more positive attitude towards advertising in general increases the likelihood of a person whitelisting a website.

H4.2: A more positive attitude towards online advertising increases the likelihood of a person whitelisting a website.

6 Methodology Main Study

This chapter will explain the methodology of the main study. This includes the study design, preparatory work, sampling, questionnaire design and data quality. It will conclude with an overview and discussion of the analytic tools used in the analysis.

6.1 Quantitative Study Design

The main purpose of the quantitative study is to test the hypotheses thoroughly and create a satisfactory external validity that could be generalized to a larger population. The results will be used to create a better understanding of whitelisting and the use of adblock and validate the findings of the qualitative study to a greater extent. The quantitative study is split up into two parts. The first part will test the hypotheses and answer research questions 2-3. The second part will further answer research question 1 and generate additional insights into whitelisting.

The dependent variable in the study is a user's "Likeliness to Whitelist" a certain website. An experimental set-up was chosen, to test whether exposing the participants to a message caused variation in the dependent variable (H1). Participants are subjected to either one of two messages, or no message at all. The experimental set-up follows a posttest-only control group design (Malhotra, 2010). The variables are measured after the subjects are exposed to the stimuli and participants are randomly assigned to one of the groups, to ensure that they are as similar as possible in terms of pretreatment measurement.

H2-4 investigate the relationship between the dependent variable "Likeliness to Whitelist" and the independent variables outlined in the chapter Hypotheses Generation. To effectively test H2-4, it was decided to embed the messages in the design of two different websites (Dagens Nyheter and Aftonbladet). The manipulations of the websites are set up in order to ensure variations in the independent variables. Since H2-4 are not tested through the experimental set-up, the data from the different groups will be combined for the analysis.

In conclusion, six surveys in total are created (see figure 4): four treatment groups (2 messages x 2 websites) and two control groups (2 websites x no message).

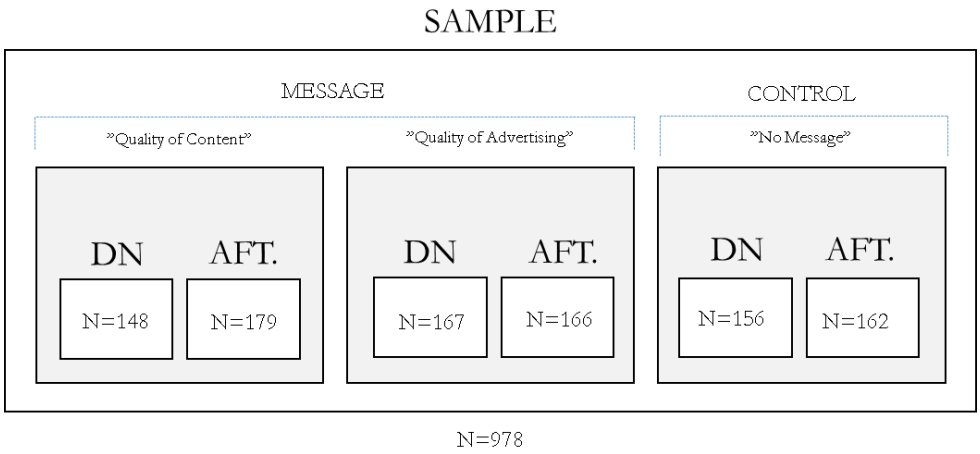

Figure 4: Sample

Since adblock users are a very specific and fairly small part of the Swedish society, a challenge was to obtain a big enough sample. Web-based surveys have the advantage of easy access to specific participant populations and large samples (Reips, 2000). Therefore a web-based survey was deemed the most effective way of conducting the main study.

A collaboration with Feber.se was set up, who agreed to post the survey on their website. Respondents arrived at the survey by clicking a banner-link, only visible for adblock users on Feber.se. This way it was possible to minimize the risk of non-adblock users answering the survey and negatively influence the results. The survey was created using the survey tool Qualtrics (www.qualtrics.com). A built in randomizer assigned the respondents to one of the six surveys.

Each participant in the treatment groups was exposed to one of the messages, which was embedded into the original website design of either DN.se or Aftonbladet.se (see Appendix 2 for designs). The design of the messages was inspired by real cases that had used similar messages before. This was done in order to simulate a situation as close as possible to reality. Respondents, who were randomized to the control group, were exposed to one of the two websites without a message.

6.2 Preparatory Work

6.2.1 Choice of Messages

The results from the qualitative study indicated that the concept of whitelisting is not something users are aware of and that they need to be reminded about it. Furthermore, some interviewees indicated different factors that are important when it comes to the message. For the quantitative test it was decided to focus on the following three: the moral aspect, the quality of advertising and the quality of content.

The moral aspect was included in both messages by reminding people that the use of adblock was hurting the website. The two messages differed when it came to the other two factors. Message one, "Quality of Content", indicates that the money lost from adblockers could further improve the quality of content on the site, since more journalists could be hired (see figure 5). Message two, "Quality of Advertising", is related to the intrusiveness of advertising and promises the user that advertising will be kept at a minimum level in the future (see figure 6).

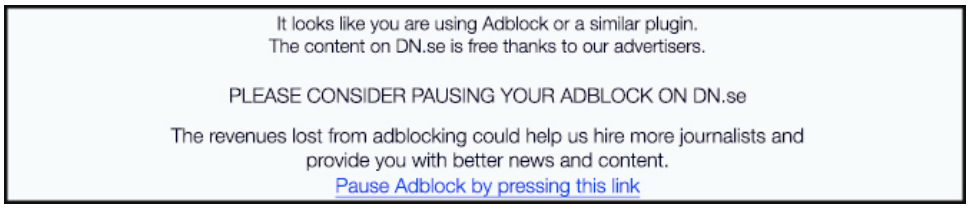

Figure 5: Message 1 – Quality of Content

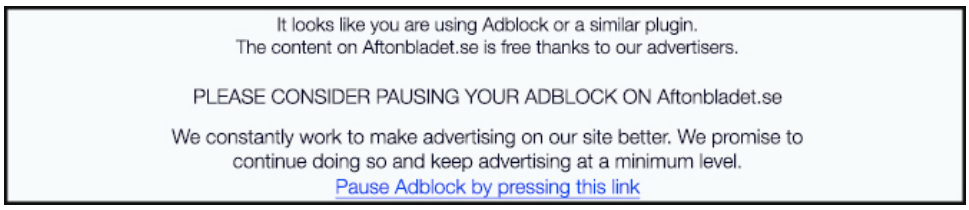

Figure 6: Message 2 – Quality of Advertising

6.2.2 Collaboration with Feber.se

Initially, two companies were contacted via e-mail and telephone: Schibstedt & Bonnier. The companies were chosen based on their size and the authors' contacts with the companies. The goal was to create an understanding of how managers think about adblock, and potentially establish a collaboration with one of them.

Peder Bonnier (Head of Digital at Bonnier Tidskrifter) recommended us to talk Roger Åberg, founder and head of Feber.se. The website is a Bonnier-owned blog/news site with focus on technology.

An initial interview with Mr. Åberg (2014) showed that:

1. *He considered adblock to be an important strategic issue at Feber.se*
2. *Around 40% of Feber visitors use adblock*
3. *He felt that our research area was very interesting*
4. *He was willing to help us in obtaining a large sample by posting the survey on the Feber website.*

Hence it was decided to collaborate with Feber. . The survey was posted on Feber.se on April 2, 2014 and kept up until Monday April 7, 2014. At this time, the response rate had dropped significantly and the number of total responses (n=978) had surpassed initial expectations.

6.2.3 Choice of Websites

The choice of websites for the main-study was made with great care. The pre-study gave strong indications that the likeliness to whitelist depends on the website. Hence it was important to choose two websites that were viewed differently by the sample to create variation in the independent variables. At the same time, it was necessary that the websites were known to the sample to make the responses more reliable.

The ten Swedish media-websites with the highest reach were chosen from the KIA-Index (2014). To determine which websites to use, 18 people were asked to rate the perceived quality of content of these sites. This factor was chosen since it was one of the most important ones mentioned in the qualitative findings and is fairly easy to measure. The perceived quality of the websites was rated on a 7-point bipolar scale, ranging from *very bad* to *very good*. A convenience sample, consisting of fellow students and friends, was selected. The mean for each site was calculated and the results showed DN.se to be the site with highest perceived quality (6.00) and Aftonbladet.se to have the lowest perceived quality (2.67)(see Appendix 3 for complete table). These sites were on place #3 and #1 respectively on the KIA-index, and hence satisfied the requirement of being well known to a majority of the sample.

6.2.4 Pre-Testing the Questionnaire

The survey was initially created in English. Since the survey was only sent out to the Swedish population, it was later translated to Swedish. The formulation and translation of the questionnaire was done with great care. Still, as recommended by Bryman & Bell (2011), it was deemed important to pre-test it. Five people, including our tutor Sara Rosengren, were asked to go through the survey and give comments about the coherence and understandability of the survey. Errors were eliminated and phrasing that could be misinterpreted was changed. This process helped create a better flow and quality of the survey.

6.3 Quantitative Data Sampling

According to Bryman and Bell (2011), at least 30 respondents on each survey are needed to receive generalizable results, making 180 responses for six surveys. During the five days a total of 978 responses were collected after removing unfinished surveys. Unfinished surveys were removed if less than 80% of the questions were answered. Surveys answered in less than three minutes were also removed since all of them showed evidence of being answered untruthfully.

An incentive of two gift cards to SF Cinema of 500SEK each was used to ensure a large and less biased sample. The survey was kept fairly short with an average of about 8 minutes in initial tests, to ensure that people finish the survey. Furthermore, a progress bar was added to further minimize the number of dropouts and respondents were reminded to fill in missing fields before they could continue with the survey.

The number of respondents for each survey differs slightly since not all assigned participants finished the surveys and some results were dismissed when cleaning the data sets. For the hypotheses testing, 146 respondents, who never visit the websites they were exposed to, were removed from the analysis.

The sample consists of 95% male participants and the age of the respondents is centered around 18-34 years, with one fifth of the respondents older than 34 years. A user-survey made by AdBlock Plus (2011) shows similarities between the sample of this survey and adblock-users. Adblock Plus' user base is 87% male and the majority of users is between 20 and 39 years old. This indicates a fair representation between the sample of this study and adblock-users in general.

6.4 Questionnaire

The surveys only differed minimally between the six groups. This was mainly due to the different stimuli and the resulting difference in phrasing of a few questions (see Appendix 4 for survey). The questionnaire had two sections and served two purposes. The first section was dedicated to questions that were related to the hypotheses testing and the second section was dedicated to additional questions.

The first section included measures for the dependent variable *"Likeliness to Whitelist"* and independent measures *"Perceived Goal Impediment"*, *"Perceived Ad Clutter"*, *"Relatedness Between Ads and Content of Website"*, *"Attitude towards Website"*, *"Perceived Quality of Content"*, *" Perceived Credibility of Website"* and *"Opinion about Advertising (Online/General)"*.

Questions were adapted from various sources to fit the research questions of this thesis. A seven-point scale was used to ensure sufficient information and deter respondents from being too neutral in their responses (Colman et. al 1997).

6.4.1 Measures for dependent variable

6.4.1.1 Likeliness to Whitelist

The dependent variable in the experiment *"Likeliness to whitelist"* aimed at testing how likely the respondent would be to pause their adblock. The concept was tested by two questions, which were formulated in accordance with our Tutor, Sara Rosengren. Due to the novelty of this concept, no existing measures could be found.

> *How likely is it that you will react to the message by…*
> *...pausing your adblock.*
> *...accepting to see ads on this website.*

Each question was measured on a 7-point Likert scale, ranging from "very unlikely" to "very likely". An index of "likeliness to whitelist" was created in SPSS with a Cronbach's alpha of 0.804.

6.4.2 Measures for Independent Variables

6.4.2.1 Perceived Goal Impediment

The Perceived Goal Impediment was measured with three statements used in previous research about advertising avoidance by Cho & Cheon (2004). An index measuring goal Impediment was created with a Cronbach's Alpha of 0.807. (7 point Likert scale - "strongly disagree"/"strongly agree)

> *Imagine that you decide to surf Aftonbladet/DN without blocking the ads. What would be your expectation with regards to that experience? I would expect...*
>
> *...ads to disrupt the reception of desired content on Aftonbladet/DN.*
> *...ads to intrude on my search for information on Aftonbladet/DN*
> *...ads to disrupt my viewing of Aftonbladet/DN.*

6.4.2.2 Perceived Ad Clutter

Perceived Ad Clutter was adopted from the same source (ibid). An index measuring the goal Impediment was created with a Cronbach's Alpha of 0.769. (7 point Likert scale - "strongly disagree"/"strongly agree")

> *[Question: see "Perceived Goal Impediment"]*
>
> *...advertising on Aftonbladet/DN to be excessive*

...advertising on Aftonbladet/DN to be irritating

6.4.2.3 The advertisement's relatedness to content

Whether or not the website is expected to have advertisements that are related to the content is measured with three statements. These were adapted from previous research by Mantel & Kellaris (2003) about the cognitive processes and congruence. An index from the statements was created with a Cronbach's Alpha of 0.807. (7 point Likert scale - "strongly disagree"/"strongly agree")

[Question: see "Perceived Goal Impediment"]

...advertising to be relevant to the content of the website.
...advertising to be match the content of the website.
...advertising to be appropriate for the website.

6.4.2.4 Attitude towards Website

The Attitude towards Website was measured on two different levels: cognitive and credibility. The cognitive dimension was measured with three statements that were used in previous research about website viewer attitudes by Bruner & Kumar (2000). An index measuring the attitude was created with a Cronbach's Alpha of 0.769. (7 point Likert scale - "strongly disagree"/"strongly agree")

To what extent do you agree with the following messages?

I like website Aftonbladet/DN
I think Aftonbladet/DN is a good website
I think Aftonbladet/DN is a nice website

6.4.2.5 Perceived Credibility of Website

The perceived credibility of the website was measured with three bipolar items (7 point scale), which were adopted from Bruner (2009, p. 200). An index measuring the credibility with a Cronbach's Alpha of 0.953 was created.

What is your general opinion about Aftonbladet/DN?

Untrustworthy - Trustworthy
Not Credible - Credible
Not Reputable – Reputable

6.4.2.6 Perceived Quality of Content

Perceived Quality of Content was measured with three bipolar items (7 point scale). These were adapted from research about users' attitude towards websites (Chen & Wells, 1999) to fit the variable perceived quality of content. An index was created with a Cronbach's alpha of 0.969.

What do you think about the quality of editorial content on Aftonbladet/DN?

Bad - Good
Dislike - Like
Low – High

6.4.2.7 Attitude towards Advertising (Online/General)

The attitude towards advertising was measured both for online advertising, and advertising in general, using two sets of similar bipolar items (7 point scale). The statements were adapted from previous research (Bruner, 2009). Two indexes were created from the statements, with a Cronbach's alpha of 0.906 (online) and 0,938 (general).

What is your general opinion about (online) Advertising?

Dislike - Like
Bad - Good
Unfavorable - Favorable
Annoying – Interesting

6.4.3 Additional Questions

The second section included more general questions that aimed at generating insights about adblock users and validate the findings from the pre-study. The additional questions were not part of the experimental design. Survey participants were asked about:

(a) Reasons to use adblock
(b) Previous whitelisting behavior
(c) Basic demographic measures

Analytical Tools

This section will look at the analytical tools used in the main-study. To analyze the data we used IBM SPSS 22.0 and Microsoft Excel.

6.4.4 Distribution of Dependent Variable "Likeliness To Whitelist"

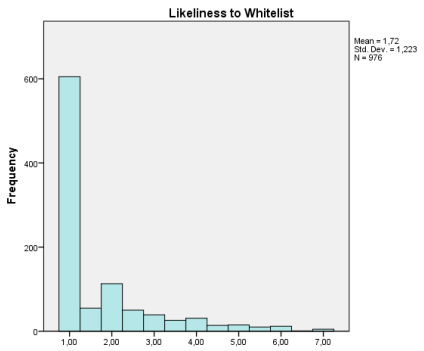

Figure 7: Histogram of dependent variable

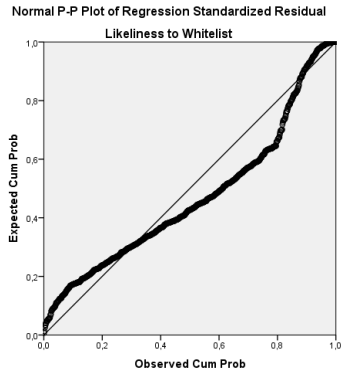

Figure 8: Distribution of residuals

Looking at the histogram (see figure 7), one can see that the dependent variable is extremely skewed towards the lower scores, with 60.2% answering 1 (not likely at all). Clearly, the data does not follow a normal distribution. To investigate further, a Shapiro-Wilk test was performed, testing the null-hypothesis whether the data is normally distributed. Results (Statistic=0.655), showed that the null-hypothesis was rejected at the significant 0.01-level (0.000). Hence we conclude that the variable is non-normally distributed.

The distribution of the residuals (see figure 8) was also tested for normality, and a Shapiro-Wilk test showed both where non-normal with a significance at the 0.01-level (0.000). Furthermore, the dependent variable is non-ordinal with 14 steps (INDEX=2*7point Likert scale/2). Therefore it was decided that a non-parametric test (Kruskal-Wallis H-test) and a logistic regression with a dichotomized dependent would be e better fit than an ANOVA and a linear regression.

6.4.5 Kruskal-Wallis H-Test

H1 (the message makes a difference) investigates differences between respondents exposed to the messages in the experimental setting. The hypothesis was tested with a Kruskal-Wallis H-test. Since this only tests whether a difference exists between any of the three medians, a post-hoc analysis of pairwise comparisons was added, comparing all groups to each other. Null hypotheses where rejected for significance levels below 0.05.

6.4.6 Logistic Regression (H2.1-H4.2)

A logistic regression was used to assert the effects of Hypothesis H2.1-H4.2. Considering the weaknesses of linear regressions when handling a discrete and bounded dependent variable with a non-normal distribution, such coefficients would most certainly be biased. Hence it was decided to dichotomize the dependent variable and use a logistic regression instead. The new dependent variable was divided into "Not likely at all" and "more likely", with 1 on the 7-point Likert scale belonging to the first and 2-7 belonging to the second (see 6.5.3.1: "Dichotomization"). A logistic regression does not produce a R^2-value that gives a clear understanding of the explanation value of the particular model. However, a Pseudo R^2- value called Nagelkerke R^2 of 25.5% is hereby mentioned for transparency, though it should not be perceived as an accurate description of the explanatory value derived from the model.

A similar issue arises with the analysis for each independent variable. The logistic regression does not provide a coefficient that gives an immediate interpretation of how much a 1-point change in the independent value changes the dependent. Instead, an *odds ratio* is used, representing the probability of being "more likely" happening over being "not likely at all". The Exp(B) coefficient reported below represent the change in the odds ratio that each dependent variable will have. An independent variable with an Exp(B) of 1.5 indicates that an increase of 1 point in this variable would increase the odds of being in the group "more likely" by 50%. However, these coefficients should be interpreted with care. What the model will give us is an indication of the most important factors, not an exact number of how much change they create in "likeliness to whitelist"

6.4.6.1 Dichotomization

As mentioned above, it was necessary to dichotomize the dependent variable for the purpose of the analysis. The dependent variable "likeliness to whitelist" was split at 1.99, thus creating two groups. The first group is defined as "not likely at all", derived from the fact that respondents belonging to this group answered 1=not likely at all on at least one of the two questions that create the index "likeliness to whitelist" and maximum 2 on the other. The second group is defined as "more likely" and shows a higher likeliness to whitelist in comparison to the first group. This group is defined as being more open to the possibility of whitelisting. The change distribution of responses can be seen in figure 9.

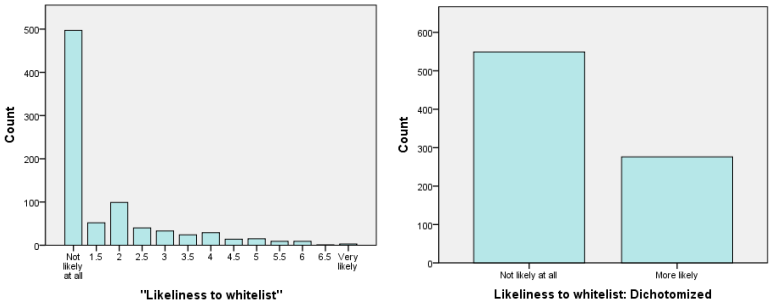

Figure 9: Change in distribution of responses

Dichotomizing variables comes with a number of limitations since it decreases the amount of information within the data (MacCallum et al., 2002). However, when the data is extremely skewed (Likeliness to whitelist: Skewedness 2.002), MacCallum states that it can be justified and should be used.

6.4.6.2 Model validation

There are a number of measures for the goodness of fit of logistic regression models. A table of the extent to which the model accurately predicts the dependent variables is available in (see Appendix 5). Furthermore, a Hosmer and Lemeshow goodness-of-fit test was performed (see table 2). This tests the null-hypothesis that the model is not a good fit.

Hosmer and Lemeshow Test			
Step	Chi-square	df	Sig.
1	10,412	8	,237

Table 2: Hosmer and Lemeshow goodness-of-fit test

The results show that the null hypothesis is not rejected; hence we conclude that the model is not a bad fit. Another common way to test the fit of a logistic regression model is a Receiver Operating Characteristic (ROC) curve (see Appendix 6). This shows a better fit than pure chance at the significant 0.01-level (0.000). Hence we conclude that the model is adequate.

6.5 Data Quality

According to Bryman and Bell (2011) it is important to ensure high data quality in research projects and validity and reliability are the most important ones to consider.

6.5.1 Reliability

Reliability refers to whether or not the results of a study are repeatable (Bryman & Bell, 2011). In quantitative research, reliability is measured in terms of stability over time, internal reliability and inter observer consistency (Bryman & Bell 2011).

Whether or not the results will be *stable* over time is hard to predict in a territory as uncharted as adblocking. Websites have just recently started to ask their visitors to pause their adblock. The questionnaire was tested on five people to ensure the quality of the questions. The survey itself was listed on Feber for 5 days (Wednesday April 2 - Monday April 7) to receive answers from a broad spectrum of Feber readers. However, the only true measurement of stability over time is to replicate the study in the future, which is beyond the scope of the thesis.

Internal reliability refers to whether respondents' answers correlate correctly across various questions. Questions were carefully translated to Swedish to ensure that the underlying meaning stayed the same. Furthermore, well-tested multi-item measurements from previous research were used, as suggested by Söderlund (2005). To further increase the internal reliability, a Cronbach's alpha was only accepted over 0.7.

Inter-observer reliability concerns the coding and categorization of data by the observers. Both authors were present in the coding and data analysis. Most of the coding was done directly by Qualtrics.com, with no manual coding involved, increasing the reliability further. The answers received through the open fields in the questionnaire were coded carefully with both authors present.

6.5.2 External Validity

External validity concerns the question whether the results can be generalized to a larger population than the sample (Bryman & Bell 2011). The study has a large sample of 978 respondents, with a gender and age distribution similar to AdBlock Plus users (AdBlock Plus Blog, 2011). The geographical spread is wide within Sweden, but the international validity could possibly be questioned. The use of one source for the sample, visited by mostly tech-savvy men, indicates limited generalization to the Swedish adblock-population. However, adblock-users are a somewhat homogeneous group made up of almost 90%, mostly tech-savvy, men (AdBlock Plus Blog, 2011). This indicates a satisfactory match between the sample and the entire population.

The smaller group of non-tech-savvy, passive adblockers who had it installed by someone else (indicated in pre-study), will on the other hand be limited in the sample since they don't visit Feber.se. A future study should consider picking up the sample from a more mainstream source, even if it would be harder to reach such a high percentage of adblockers.

6.5.3 Internal Validity

Internal validity concerns the question whether the observed effects on respondents' answers are caused by the independent variables rather than external factors. (Bryman & Bell 2011). Respondents were randomly assigned to one of the six surveys by a function in Qualtrics, which increases the internal validity of this study.

Furthermore it was decided not to use Feber.se as a website for the hypotheses testing. Since the survey was posted on Feber.se, there would have been a risk of receiving untruthful results. It was further explained to respondents that the study had no affiliation with the website other than them posting it. The survey length was kept short, to keep participants interested throughout the survey and minimize dropouts. An incentive of a 2x500SEK gift card was offered not only to increase the number of respondents but also to eliminate the potential of a non-response bias.

In addition, the use of multi-measurement items also increases the internal validity (Bryman & Bell 2011).

6.5.4 Conclusion of Data Quality

Considering all the reasons mentioned above and the fact that the research strategy follows a mixed methods approach, carefully combining qualitative and quantitative methods, the overall reliability and validity of this thesis should be satisfactory.

7 Results & Analysis

In this section the results from the quantitative study will be described, analyzed and discussed. The first segment is dedicated to testing the hypotheses formulated in chapter 5. The second segment will look into the additional questions from 6.4.3. that aim at quantifying the reasons to use adblock and look into previous whitelisting behavior of the survey participants. Each part is followed by a discussion.

7.1 Results – Hypotheses Testing

7.1.1 H1. The Message Makes A Difference

This segment will investigate both if a message makes a difference, and which message if any works best. Hypothesis H1 states that a message encouraging visitors to pause their adblock will influence their likeliness to whitelist. The null hypothesis in the Kruskal-Wallis H-test, that there is no statistically significant difference between the group medians, is rejected at the 0.05-significane level (p = 0.015). The median differences show that the message has a positive impact on the likeliness to whitelist (see table 3).

	"Quality of Content"	**"Quality of Advertising"**	**Control "No Message"**	**Statistic**	**Sig.**
"Likeliness to Whitelist"	**1,38**	**1,28**	**1,26**	**8365**	**0,015****

**Significant at the 0,05 level

Table 3: Median differences between messages

The post-hoc analysis with pairwise comparisons revealed statistically significant differences in likeliness to whitelist between Message 1 "Quality of Content" (*Median* = 1.38) and the Control "No Message" (*Median* = 1.26) (p = .013) as well as Message 1 and Message 2 "Quality of Advertising" (*Median* = 1.28) (p = .057). No significant difference between Message 2 and Control was found (p=0.28). Table 4 shows the medians for each message and the statistical significance at which the null hypothesis is rejected. Although the difference between Message 1 and 2 is not significant at the 0.05-level, it is on the edge of significance.

Message	"Quality of Content"	"Quality of Advertising"	Control	Median Difference	Statistic	Significance
Message 2 vs. Control		1,28	1,26	0,02	16288	0,362
Message 1 vs. Control	1,38		1,26	0,12	50762	**0,013 ****
Message 1 vs. Message 2	1,38	1,28		0,1	34474	**0,057 ***

** Significant at the 0,05 level, * Significant at the 0,1 level

Table 4: Post-hoc pairwise comparisons

In conclusion, these results show that a message can increase the likeliness to whitelist. However, only the "Quality of Content"-message increases the likeliness to whitelist on a significant level. Hence we conclude that a message related to improved content quality is more effective than a message related to better ad quality.

Since not both messages created statistically significant differences, H1 is partially supported.

H1: Users who are exposed to a message asking them to whitelist a certain website, are more likely to whitelist a website than users who are not exposed to such a message.

PARTIALLY SUPPORTED

Furthermore, a similar analysis is made for each website, to see if the likeliness to whitelist differs between the messages regardless of whether it is posted on Aftonbladet or Dagens Nyheter.

This is determined through a Kruskal-Wallis test, testing the null hypothesis that a message does not matter for neither Aftonbladet nor DN. The null hypothesis is rejected at the significant 0.01-level, showing that a message affects the likeliness to whitelist on both websites. A post hoc analysis further shows that the "Quality of Content"-message creates significant differences for the likeliness to whitelist both on Aftonbladet and on DN (see figure 10). On the other hand, the "Quality of Advertising" creates no significant differences compared to the control for neither website (see Appendix 7 & 8 for detailed tables).

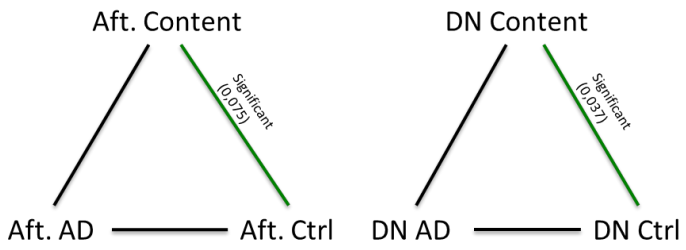

Figure 10: Differences in dependent variable between messages for each website

Hence we conclude that only the "Quality of Content"- message increases the likeliness to whitelist for visitors at both Aftonbladet and DN.

When comparing the six groups, the likeliness to whitelist is higher on DN than on Aftonbladet regardless of message. A Kruskal-Wallis H-test showed significant differences between the websites. Table 5 shows the medians for all groups, while a table of statistics and significances is found in Appendix 8. There is a significant difference between the websites between each of the messages and between the controls. This illustrates the website's influence on the likeliness to whitelist regardless of the message.

	DN			**Aftonbladet**		
	"Quality of Content"	"Quality of advertising"	Control	"Quality of Content"	"Quality of advertising"	Control
Median	1,62	1,42	1,39	1,25	1,19	1,17

Table 5 Medians for treatment groups and control – DN / Aftonbladet

7.1.2 H2-H4. Factors Influencing the Likeliness to Whitelist

A logistic regression was performed to ascertain the effects of 8 factors (H2.1-H4.2) on people's likeliness to whitelist. Of the eight predictor variables four were statistically significant: Perceived Ad Clutter, Attitude towards Website, Website Credibility and Attitude towards Online Advertising. Table 6 shows a summary of all variables and their influence on "Likeliness to Whitelist". In order to investigate potential issues with multicollinearity, bivariate correlations were checked (see Appendix 9). The results indicated that the non-significance of H2.1, H3.2 and H4.2 might be caused by multicollinearity.

Hypothesis	Variables	B	S.E.	Wald	df	Sig.	Exp(B)
H2.1	INDEX: Perceived Goal Impediment	0,006	0,064	0,01	1	0,922	1,006
H2.2	INDEX: Perceived Ad Clutter	0,355	0,088	16,323	1	0,000***	1,426
H2.3	INDEX: Ads related to Content	0,022	0,06	0,138	1	0,71	1,023
H3.1	INDEX: Attitude Towards Website	0,259	0,076	11,517	1	0,001***	1,295
H3.2	INDEX: Perceived Quality of Content	-0,009	0,097	0,009	1	0,925	0,991
H3.3	INDEX: Perceived Credibility	0,164	0,091	3,207	1	0,073*	1,178
H4.1	INDEX: General Opinion Online Adv.	0,443	0,081	30,14	1	0,000***	1,557
H4.2	INDEX: General Opinion Adv.	0,036	0,068	0,277	1	0,599	1,037
	Constant	-4,561	0,432	111,471	1	0	0,01
*** Correlation is significant at the 0.01 level.							
* Correlation is significant at the 0.1 level.							

Table 6: Logistic regression

To address this issue, a stepwise logistic regression was performed (see table 7). One variable at a time was introduced and the order was changed. H2.1, H3.2 and H4.2 were introduced before the variables they are correlated with. The step-wise regression shows three new significant variables: perceived goal impediment, perceived quality of content and attitude towards advertising in general.

Hypothesis	Variables	Step 1	Step 2	Step 3	Step 4	Step 5	Step 6	Step 7	Step 8
		Sig.	Sig.	Sig.	Sig.	Sig.	Sig.	Sig.	Sig.
H2.1	INDEX: Perceived Goal Impediment	.000***	.835	.848	,902	,851	,831	,849	,922
H2.2	INDEX: Perceived Ad Clutter		.000***	.000***	,000***	,000***	,000***	,000***	,000***
H2.3	INDEX: Ads related to Content			.359	,287	,403	,371	,567	,710
H3.2	INDEX: Perceived Quality of Content				,000***	,387	,900	,943	,925
H3.1	INDEX: Attitude Towards Website					,000***	,001***	,001***	,001***
H3.3	INDEX: Perceived Credibility						,236	,240	,073*
H4.2	INDEX: General Opinion Adv.							,000***	,599
H4.1	INDEX: General Opinion Online Adv.								,000***
	Nagelkerke R Square	.026	.101	.102	,143	,166	,169	,203	,248

Table 7: Stepwise logistic regression

In the following segment, we will look at each factor separately. Figures 11 to 18 show a graphical representation of the sample and their answers for each independent variable. The responses for each measure are split by the dichotomized groups "not likely at all" and "more likely". For the analysis of perceived goal impediment and perceived ad clutter the answers received were reversed (1=7, 2=5, ...) to allow direct comparison to other variables. See Appendix 10 for table of means and standard deviations for each variable.

7.1.3 Perceived Ad Quality

7.1.3.1 Perceived Goal Impediment

Hypothesis 2.1 states that a person's Perceived Goal Impediment on a website will influence their likeliness to whitelist that website. The stepwise regression shows that Perceived Goal Impediment affects likeliness to whitelist at the significant 0.01-level (significance=0.000). However, when introducing the variable Perceived Ad Clutter the effect is not significant anymore due to multicollinearity. Still, based on the stepwise logistic regression the hypothesis is supported.

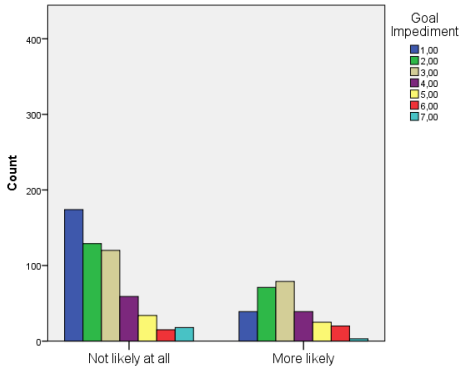

Figure 11: Perceived Goal Impediment – Distribution of Responses

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H 2.1 A higher perceived goal impediment decreases the likelihood of a person whitelisting that website.

SUPPORTED

7.1.3.2 Perceived Ad clutter

Hypothesis 2.2 states that if a person's perception of a websites ad clutter, will influence their likeliness to whitelist the same website. The null hypothesis in the regression (no impact) is rejected at a significance level of 0.01 (significance=0.000). The analysis show that if a respondent perceives a website to have low ad clutter, they are more likely to whitelist it. A 1-point increase in perceived ad clutter increases the odds of being in the "more likely"-group with 50% (Exp(B)=1.426).

Hence the hypothesis H2.2 is supported.

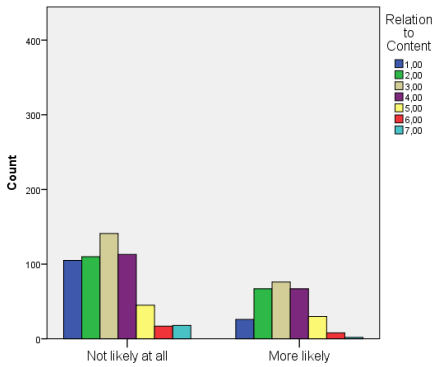

Figure 12: Perceived Ad Clutter – Distribution of Responses

H2.2: A higher perceived ad clutter decreases the likelihood of person whitelisting that website.

SUPPORTED

7.1.4 Relatedness between Content and Ads

Hypothesis 2.3 states that if a person perceives ads to be related to the content of a website, it will influence their likeliness to whitelist. The null-hypothesis in the regression model (no impact) is not rejected at a significant level (significance=0.710).

Hence the hypothesis H2.3 is not supported.

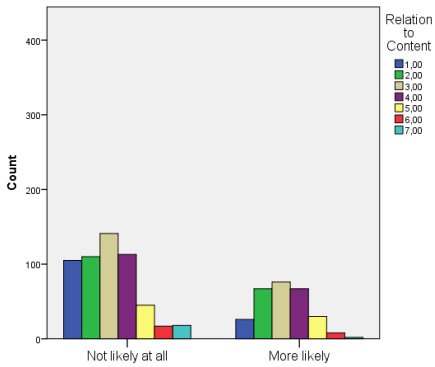

Figure 13: Relatedness between Content and Ads – Distribution of Responses

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H2.3: A higher perceived relatedness between website content and advertising increases the likelihood of a person whitelisting that website.

NOT SUPPORTED

7.1.5 Depends On Website

7.1.5.1 Attitude towards Website

Hypothesis 3.1 states that a person's attitude towards the website will influence their likeliness to whitelist that particular website. The null-hypothesis of the regression model (no impact) is rejected at the significant 0.01-level (significance=0.000). The model predicts a 1-point increase in positive attitude increases the odds of being in the "more likely"-group with 30% (Exp(B)=1.295).

Hence the hypothesis H3.1 is supported

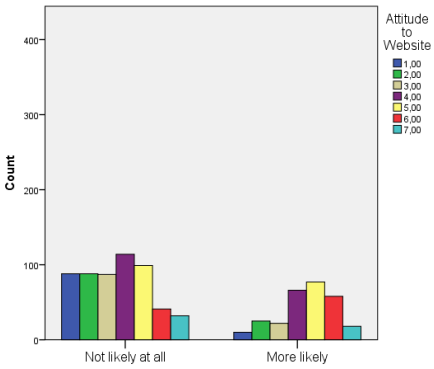

Figure 14: Attitude Towards Website – Distribution of Responses

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H3.1: A positive attitude towards the website increases the likelihood of a person whitelisting that website.

SUPPORTED

7.1.6 Perceived Quality of Editorial Content

Hypothesis 3.2 states that a person's perception of a websites' editorial quality will influence their likeliness to whitelist that particular website. The stepwise regression shows that Perceived Quality of Editorial Content affects likeliness to whitelist at the significant 0.01-level (significance=0.000). However, when introducing the variable attitude towards website the effect is not significant anymore due to multicollinearity. Still, based on the stepwise logistic regression the hypothesis is supported.

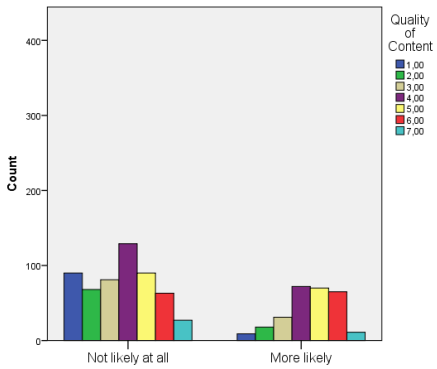

Figure 15: Perceived Quality of Editorial Content – Distribution of Responses

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H3.2: A higher perceived quality of editorial content increases the likelihood of a person whitelisting that website.

SUPPORTED

7.1.6.1 Credibility of a Website

Hypothesis H3.3 states that a person's perception of the credibility of a website will affect their likeliness to whitelist. The null-hypothesis in the regression model (no impact) is rejected at the significant 0.1-level (0.073). The model predicts a 1-point increase in perceived credibility to increases the odds of being in the "more likely"-group with 18% (Exp(B)=1.178). Hence the hypothesis is supported.

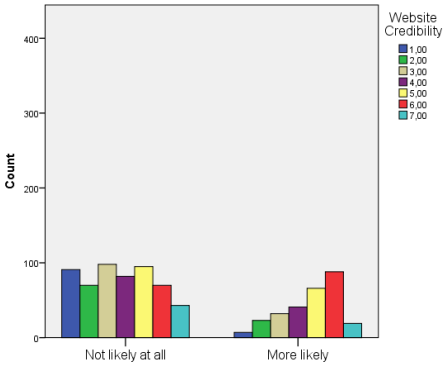

Figure 16: Perceived Credibility of a Website – Distribution of Responses

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H3.3: A higher perceived credibility of a website increases the likelihood of a person whitelisting that website.

SUPPORTED

7.1.7 Attitude Towards Advertising

7.1.7.1 Attitude towards Online Advertising

Hypothesis 4.2 states that a person's attitude towards online advertising will affect the willingness to whitelist. The null-hypothesis in the regression model (no impact) is rejected at the significant 0.01-level (0.000). A 1-point increase in attitude towards online advertising increases the odds of being in the "more likely"-group with 56% (Exp(B)=1.557). Hence the hypothesis is supported.

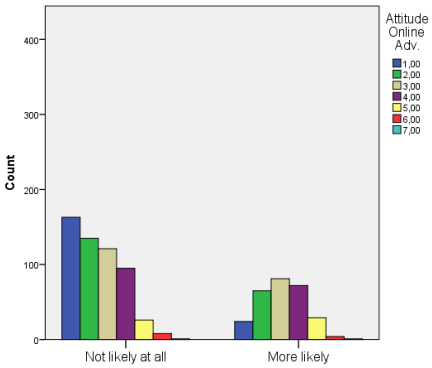

Figure 17: Attitude towards Online Advertising – Distribution of Responses

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H4.2: A more positive attitude towards online advertising increases the likelihood of a person whitelisting a website.

SUPPORTED

7.1.7.2 Attitude towards Advertising in General (Rank 5 of 8)

Hypothesis H4.1 states that a person's attitude towards advertising in general will affect their likeliness to whitelist. The stepwise regression shows that attitude towards advertising in general affects the likeliness to whitelist at the significant 0.01-level (significance=0.000). However, when introducing the variable attitude towards online advertising the effect is not significant anymore due to multicollinearity. Still, based on the stepwise logistic regression the hypothesis is supported.

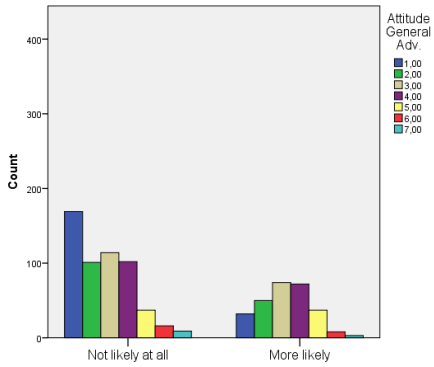

Figure 18: Attitude towards Advertising in General – Distribution of Responses

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H4.1: A more positive attitude towards advertising in general increases the likelihood of a person whitelisting a website.

SUPPORTED

RQ: Can a message influence the likeliness to whitelist?	
H1: Users who are exposed to a message asking them to whitelist a certain website are more likely to whitelist a website, than users who are not exposed to a message.	PARTIALLY SUPPORTED
RQ: What factors influence adblock-users' likeliness to whitelist?	
H2.1: A higher perceived goal impediment decreases the likelihood of a person whitelisting that website.	SUPPORTED
H2.2: A higher perceived ad clutter decreases the likelihood of person whitelisting that website.	SUPPORTED
H2.3: A higher perceived relatedness between website content and advertising, increases the likelihood of a person whitelisting that website.	NOT SUPPORTED
H3.1: A positive attitude towards the website, increases the likelihood of a person whitelisting that website.	SUPPORTED
H3.2: A higher perceived quality of editorial content, increases the likelihood of a person whitelisting that website.	SUPPORTED
H3.3: A higher perceived credibility of a website, increases the likelihood of a person whitelisting that website.	SUPPORTED
H4.1: A more positive attitude towards advertising in general increases the likelihood of a person whitelisting a website.	SUPPORTED
H4.2: A more positive attitude towards online advertising increases the likelihood of a person whitelisting a website.	SUPPORTED

Table 8: Hypotheses Summary

7.2 Discussion - Hypotheses Testing

The quantitative study gives empirical support to eight out of the nine hypotheses derived from the pre-study and theoretical foundation.

7.2.1 The Message Makes A Difference

H1 aimed at investigating whether exposing users to a message influences the decision to whitelist. Even though the likeliness to whitelist was generally low for Aftonbladet.se and DN.se, there were significant differences between participants that were exposed to a message in comparison to participants that were not. Out of the two messages, message 1 "Quality of Content" proved to be the most effective. Message 2 "Quality of Advertising" also increased the likeliness to whitelist in comparison to showing no message. However the difference was not statistically significant. This indicates that adblock-users are more likely to accept seeing advertising when they expect that it will improve the quality of content on that website. This might be explained by the fact that in contrast to message two, the first message promises adblock users a clear benefit: better content. A low level of advertising might not be incentive enough for an adblocker.

In general, people were more likely to whitelist DN.se than Aftonbladet.se, regardless of the message. This shows that the website itself plays a big role in a user's decision to whitelist.

7.2.2 Perceived Quality of Advertising

To some extent the model from Cho & Cheon (2004) about advertising avoidance can be paralleled to the concept of likeliness to whitelist. In our study, perceived ad clutter is supported to have an influence on a users' likeliness to whitelist. A lower perceived advertising clutter seems to positively influence the likeliness to whitelist. The measurement items used for the index of "Perceived Ad Clutter" were the extent to which advertising is perceived to be "irritating" and excessive". This suggests that websites that have a lower perceived level of advertising and advertising that is not as irritating, will have more success when asking their users to pause their adblock. Furthermore, H2.1 related to the "Perceived Goal Impediment" was also supported. The results suggest that a lower perceived goal impediment increases the likeliness to whitelist - if adblock users expect that advertising on a website will disrupt the reception of content, they will be less likely to whitelist that website.

H2.3 was not supported in this study. The expected relatedness of advertising and website content does not seem to affect the likeliness to whitelist. This suggests that the research stating

that matching advertising to a website's content increases advertising effectiveness (Goldfarb & Tucker, 2009; Wilbur et. al, 2009) does not apply to the concept of whitelisting. However, this might also be due to the websites used in the study. In comparison to special interest websites (e.g. Travel, Fashion, Technology), news websites such as Aftonbladet and Dagens Nyheter do not necessarily match advertising to their content. Hence this variable might be more important for other categories of websites.

7.2.3 Attitude towards Website

The results indicate that the likeliness to whitelist is influenced by the website in terms of attitude towards website (H3.1). First, this suggests that the measure attitude towards the site (Chen & Wells, 1999) can be paralleled to the concept of whitelisting. In previous research a positive attitude is said to have a positive impact on attitude towards the ad and purchase intention (Stevenson et. al, 2000; Bruner & Kumar, 2000). Our study suggests that a more positive attitude towards a website increases the likeliness to whitelist. The results of the study further indicate that the perceived quality of editorial content (H3.2) has an influence on the likeliness to whitelist. This suggests that people are more likely to accept seeing advertising in order to support a website, when they have a positive relation to the website and value the quality of editorial content.

H3.3 investigated the effect of perceived website credibility on likeliness to whitelist and was supported on a significant level. A higher perceived website credibility seems to increase the likeliness to whitelist. This is in line with Choi & Riffon's (2002) research, which shows that website credibility has a positive impact on ad credibility. Hence the benefits from website credibility can be paralleled to the concept of whitelisting.

7.2.4 Attitude towards Advertising (Online/General)

In this study both attitude towards advertising in general and attitude towards online advertising are shown to have an impact on the likeliness to whitelist. From all factors, attitude towards online advertising seems to have the strongest influence on the likeliness to whitelist. This might be explained by some people having a high degree of ad skepticism and who therefore would not consider to whitelist under any circumstance. This is especially well illustrated in the graph, showing the distribution of answers between the dichotomized groups (see figures 17 and 18)

The findings are in line with previous research about advertising effectiveness (Cho, 1999; Li et al., 2002) that shows that a positive attitude towards online advertising leads to a higher advertising effectiveness. We can now say that this is also applicable to the concept of whitelisting.

7.3 Additional Results

The additional results cover the questions that were not part of the hypotheses testing and which aim to add a better understanding of adblock and further answer the research questions. This section includes reasons to use adblock and previous/future whitelisting behavior. Several open fields were included to give participants the opportunity to list other options. An open field was only provided for certain answers and the response rate was lower since it was optional to answer. The answers were coded carefully in a similar manner to the pre-study.

7.3.1 Reasons to Use Adblock

Respondents of the survey were asked to rank six different reasons why they use adblock, with an additional field for other reasons. The six alternatives were taken from the pre-study. Looking at figure 19, we can see that the intrusiveness of ads stands out as the most important reason. This is followed by a negative attitude towards advertising and the irrelevancy of ads. The less important reasons that were mentioned were advertising's impact on PC/mobile performance, advertising on less credible websites such as Pirate Bay and streaming-websites and the least important reason was related to privacy concerns.

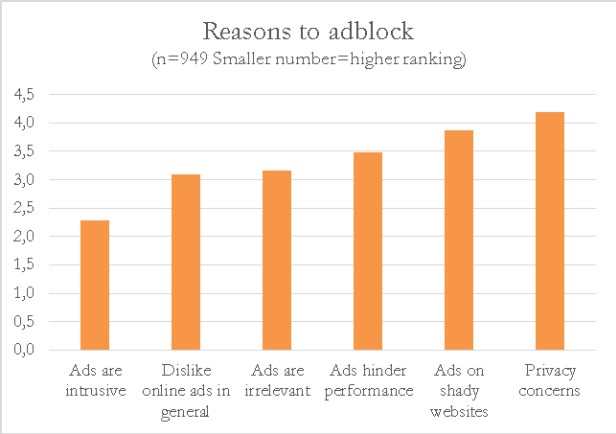

Figure 19: Reasons to Adblock; n=949

The open field, where respondents were asked to list additional reasons, provided some insights into what other factors could be important. These categories are not entirely mutually exclusive to the reasons listed above and build on some of them. Furthermore they cannot be compared to the reasons listed above, since response-rate in the open field was lower and not ranked. The most important additional reasons (more than 15 mentions) that were reported are (see Appendix 11 for all reasons):

1. Ads disrupt web-experience (61 mentions)
2. Advertising ruins design & layout (21 mentions)
3. Flash Advertising (18 mentions)
4. YouTube & Video-Streaming (17 mentions)

The first two relate to the intrusiveness of advertising, but were specifically mentioned again and emphasize this issue. Reasons three and four show that certain advertising is deemed especially irritating and are mentioned as specific reasons to use adblock: Flash advertisement and advertisement on YouTube/Video-Streaming Websites. In those cases, users are forced to view ads before they are able to access the content.

7.3.2 The Majority of Adblock-Users Have Whitelisted Before

Part of the survey also aimed at generating information about previous whitelisting behavior. The goal was to find out about whether participants of the survey had whitelisted before and for which sites. Figure 20 shows that 52% of the participants have paused their adblock for a specific site before.

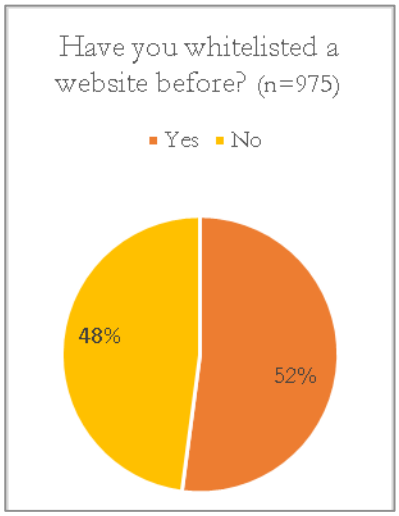

Figure 20: Previous Whitelisting Behavior

An open field in the question also provided interesting insights into the specific websites and sometimes reasons for previous behavior. Figure 21 shows the ten sites that were most mentioned in the open field (see Appendix 12) Apart from Facebook.com, Google.com, Reddit.com and Twitch.tv all the websites are Swedish. Since the survey was posted on Feber.se, this might explain the high value for Feber.se. Most of the websites can be seen as rather small and cater towards special interests: Sweclockers.com, Feber.se, Flashback.se, Fz.se, and Swedroid.se. Especially in contrast to the websites tested in the quantitative study, Aftonbladet and Dagens Nyheter, which are two of the biggest newspapers in Sweden. TVPLAY.se includes mentions from TV3 and TV4, which are both big Swedish TV Channels. In general, these results might indicate that smaller websites are more likely to be whitelisted than bigger websites.

Website	No. of mentions
Sweclockers.com	97
Feber.se	63
Flashback.org	20
TVPLAY.se	20
Twitch.tv	18
FZ.se	16
Reddit.com	14
Swedroid.com	7

Figure 21: Previously Whitelisted Websites

The second interesting finding relates to Hypothesis 1 "The Message Makes a Difference". When visiting the websites of Sweclockers.com, Flashback.org & TV4PLAY.se while having adblock turned on, one is actually exposed to a message asking the user to turn off their adblock (accessed on April 24, 2014). Also Feber.se has been experimenting with exposing adblock users to specially targeting advertising and images. This further supports the hypothesis, which was supported through the experiment.

Instead of naming specific websites, some participants also used the open field in the question to name specific reasons or situations when they whitelisted before. These are presented for reasons of completeness and because they can potentially be used in future research. The categories that were most mentioned (more than 15 mentions) are below (see appendix 13 for full table):

1. *I whitelist for small/niche websites that are dependent on advertising (21 mentions)*

This correlates with the findings about previously whitelisted websites. Adblock users seem to be more inclined to pause their adblock on smaller websites that are more dependent on advertising revenues.

2. *I whitelist websites that don't work when Adblock is turned on (18 mentions)*

Some websites do not work when adblock is turned on. This can happen because of various reasons, which were not mentioned. For example a site might not allow to access content unless adblock is turned off. It might also be that the functionality or experience of the site suffers when adblock is turned on.

7.3.2.1 The Majority of Adblock-Users Would Consider Whitelisting

Furthermore survey participants were asked whether they would consider whitelisting again, or whitelist a website in general. Combining Yes/Maybe shows that 77% of the participants would consider whitelisting a website. However, 23% would not consider whitelisting a website. This shows that even though a lot of people would consider whitelisting some websites, it is not an option for almost a quarter of the participants.

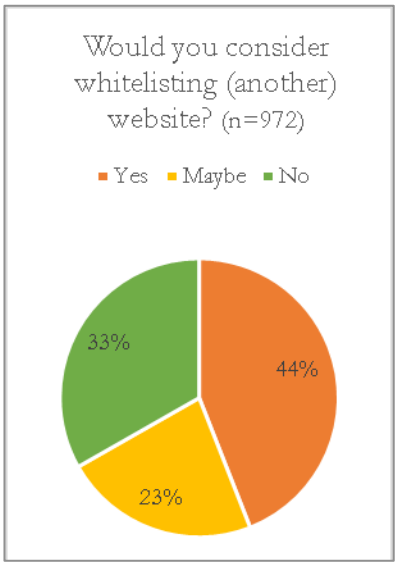

Figure 22: Future Whitelisting

7.4 Discussion - Additional Results

Understanding why people use adblock is a first step in determining what factors influence the decision to whitelist. For a website it is crucial to understand why Internet users started using adblock in the first place. The pre-study helped to understand the different dimensions that come into play when using adblock. The second part of the quantitative study tested these findings with bigger sample and put them into relation with each other by asking participants to rank the reasons. The first two reasons stated are "Ads are Intrusive" and "I Dislike Online Advertising" which emphasizes the importance of these factors.

Furthermore, the additional results provided interesting insights about whitelisting that go beyond the scope of the hypotheses testing. Considering the low likeliness of whitelisting reported for Aftonbladet.se & DN.se, one could conclude that only a fraction of adblock users would actually consider pausing their adblock. However, the additional results show that more than half of the participants have whitelisted before and 77% say that they would consider whitelisting in the future. The open field provided valuable insights into previous whitelisting behavior. There seems to be a pattern, which shows that smaller websites are whitelisted far more often. The most mentioned one, Sweclockers.com, is catering to a special interest and far smaller than Aftonbladet and Dagens Nyheter. This might indicate that the size of a website has an effect on the likeliness to whitelist. One possible explanation is that smaller websites are more dependent on advertising revenue than for example big news websites, which have other sources of revenue such as paywalls. The effect of the individual contribution from whitelisting might be perceived higher for websites with smaller audiences.

8 General Conclusion

The purpose of this thesis was to provide insights into the use of adblock-plugins for web browsers and investigate what factors influence the decision of whitelisting. The research questions presented in the introduction were: *1) Why do people use adblock? 2) What factors influence adblock-users' likeliness to whitelist? 3) Can a message increase the likeliness to whitelist?* These were answered by the combination of a qualitative pre-study and a quantitative main study. To some extent it was possible to validate previous research about online advertising avoidance for the area of adblocking and the concept of whitelisting. Furthermore the study found parallels to related theoretical fields such as online advertising effectiveness. Most of the findings from the pre-study were successfully validated in the main study and other findings were tested for a larger sample.

In conclusion, the results show that the main reasons to use adblock are comparable to advertising avoidance in other media. The level of online advertising is perceived to be intrusive, irrelevant and disrupts the surfing experience. This is fueled by a general dislike of online advertising among adblock-users.

In general, adblock-users are willing to whitelist certain websites. The majority of the sample has whitelisted before and would consider doing it again. The results indicate that the likeliness to whitelist is influenced by the perceived goal impediment, perceived ad clutter, attitude towards website, perceived quality of editorial content, perceived credibility of the website, attitude towards online advertising and advertising in general.

Furthermore the results show that websites can benefit from exposing adblock-users to a message, asking them to whitelist, as this will increase their likeliness to pause their adblock. However, the content of the message will make a difference.

8.1 Managerial Implications

As outlined in the introduction, the use of adblock-plugins is becoming increasingly popular. For certain websites this has financial consequences and puts their business model in danger. In practice, our results show that websites should actively try to convince adblock-users to whitelist. A message on the website, asking users to whitelist, is an important step in converting adblockers into unblockers.

However, the results show that the claim of the message matters. For the news-websites tested in this study, the most effective message reminded adblock-users of the financial impact of advertising avoidance and suggested that a lower rate of adblockers would improve the quality of content on the website. The moral aspect should be emphasized as the pre-study indicated that adblock users need to be reminded of the negative consequences of using adblock. However, for other websites the second claim could be reconsidered, as other drivers might be more important. For news websites the claim of improved quality of content turned out to be effective. For a travel-website, it could be more effective to promise special deals instead of a higher quality of content. For a fashion blog, the promise of relevant advertising could work better.

The results further indicate that the likeliness to whitelist is affected by the several website specific factors: perceived ad clutter, perceived goal impediment, attitude towards website, credibility and perceived quality of content. By understanding the website specific factors, managers can actively try to influence the perception of these factors and increase the likeliness to whitelist. Here it is important to understand the context and perception of the website. Depending on the website, some factors might be easier and less costly to influence than others. For example, decreasing the level of advertising on a website could in the long run have an effect on perceived ad clutter and perceived goal impediment. This could lead to higher conversion rates. However, the financial consequences from decreasing the overall level of advertising have to be outweighed by the positive impact of a lower adblock-rate.

The likeliness to whitelist is also influenced by a user's attitude towards online advertising and advertising in general. However, this factor is not in the managerial scope of website-owners and an issue for the entire industry.

Even though this study did not look at the possible consequences and negative reactions that can arise from posting a message, this is something that website-owners have to consider. As the real-life examples of OkCupid and the group of German newspapers illustrate, reactions towards a message can be really different depending on the context and the tone of the message (see 5.2). This negative reaction might be especially strong, if adblock users are not allowed to access the content at all.

8.2 Limitations

The fact that the dependent variable "Likeliness to Whitelist" was dichotomized due to the skewedness of the data results in certain limitations of the results presented. Amongst others, dichotomizing the dependent variable can possibly result in measurement ineffectiveness and the ignorance of individual difference (MacCullum et. al, 2002). Furthermore, the results from the logistic regression have to be regarded with caution, since they merely demonstrate an association between the variables, and not necessarily a causal relationship.

Looking back, Aftonbladet and Dagens Nyheter were not the most ideal websites for the study. As the results now show, it might have made a difference to choose at least one small/niche website. Still, those websites were chosen because of their high brand awareness within the sample and because of the results from the pre-study. Considering the sample size of 978, it would have been possible to use a less-known website.

Another limitation is that the study employed self-reported measurement of likeliness to whitelist instead of actually observing whitelisting behavior. This limitation especially concerns the control group that was not exposed to a message. As the pre-study indicated, in a real life setting adblock-users are not at all aware of the concept of whitelisting unless exposed to a message. Just asking participants about their likeliness to whitelist could be seen as a message itself. The difference between the groups would probably be more significant in a field experiment.

A point that also has to be addressed is the issue of self-selection, which should be considered in web-based experiments (2000). Because the link of the survey was posted on Feber.se, it is possible that participants, who had strong opinions about adblock and online advertising, were attracted. However, research by Germine et al. (2012) showed that the results from self-selected Internet samples had data quality comparable to lab-tested and traditionally recruited experiments.

Furthermore, some of the additional results are non-statistical. These questions were added to provide more insights into the mind of an adblocker, potentially enhance the statistical analysis and provide interesting areas for further research. These results were thus mostly presented in tables and charts.

8.3 Directions for Future Research

The goal of this thesis was to provide more insights into the area of online advertising avoidance through the use of adblock-plugins. If the popularity of adblock continues to grow at the current pace we expect that this research area will receive more attention in the future.

Instead of testing self-reported measurements, future studies should analyze observed behaviors. This would give a more accurate assessment of how whitelisting works in real life. A field experiment could build on the results from this study and investigate actual behavior. As mentioned in the discussion (4.2), this study did not look into possible negative reactions (e.g. comments in social media) of exposing adblock-users to a message, asking them to whitelist. A field study could potentially benefit from looking at this problematization.

One direction for further research would be to test a higher variety of websites and for example investigate the likeliness to whitelist more niche or smaller websites. The additional results of this study indicate that the likeliness to whitelist might be higher for such websites. Future studies should investigate whether the size of a website influences the likeliness to whitelist. Furthermore, this study only tested two different messages on two news websites. Further studies are needed to test similar and different messages in different settings, as the effectiveness of a message might depend on the context of the website. In practice some websites have denied access to adblock-users completely. It would be interesting to compare the effectiveness of such a measure to the effects tested in this study. Research shows that the frequency of banner exposure influences advertising effectiveness (Drèze & Hussher, 2003; Yaveroglu & Donthu, 2013). For further studies, it would be interesting to investigate the effect of repeated exposure of different messages on the likeliness to whitelist.

Another area for future research would be to analyze adblock-users' response when they are exposed to advertising. This could show to what extent it is desirable for advertisers to expose adblockers to advertising. An example would be to test an adblock user's click-through rate or purchase intentions when exposed to online advertising. Another possible direction would be to study whether certain advertising is more acceptable than other. This study gives indications about the undesirability of very intrusive advertising but does not look at what levels or kind of advertising are acceptable. As outlined in the theoretical background (2.2), the perception and effectiveness of advertising also depends on the task orientation of a user. This might also play a role in the decision to whitelist. Since the effect of task orientation on whitelisting was not within the scope of this thesis, future studies could include this concept.

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10 Appendices

Appendix 1: Interview Guide – Semi Structured Interviews

This guide creates a base for an open discussion. The most important questions are specifically outlined to give general guidance to the interviewers

1. Introduction to the thesis

2. Opinions about "ad blocking"

What's your opinion about ad block-software?

When did you first start using ad block software?

What are your main reasons for using ad block?

3. Opinion about online advertising

What's your general opinion about online advertising?

Is there certain advertising that is more acceptable to you than other advertising?

4. Whitelisting / Exceptions

Do you know about the possibility of whitelisting / making exceptions for certain homepages? (if not explain concept)

Does it matter which kind of website it is? (Favorite websites / websites you visit regularly)

Have you made any exceptions: Yes / No (Why? What factors are important?)

Can you name three websites that you would consider whitelisting?

Why?

What are your looking for in a good website?

5. Moral dilemma

A lot of websites are dependent on online advertising in order provide quality content. With that in mind, what is your opinion about the use of adblock?

Do you have a bad conscience to a certain extent?

Appendix 2. Messages: Aftonbladet/"Quality of Advertising"

DN/"Quality of Content"

Appendix 3. Results Pre-Study of Websites

On a scale from 1 (very bad) to 7 (very good), how do you perceive the quality of the following websites?		
Website	**Total Responses**	**Mean**
Aftonbladet.se	18	**2.67**
DN.se	18	**6.00**
SVD.se	18	5.39
Feber.se	18	4.22
Expressen.se	17	2.94
Nyheter24.se	17	3.18
DI.se	18	5.11
Veckorevyn.se	15	3.13
Thelocal.se	18	4.11

Appendix 4. Survey (English)

How likely is it that you will react to the message by…

	Very Unlikely						Very Likely
H: Whitelisting							
...pausing your adblock for this website?	○	○	○	○	○	○	○
...accepting to see ads on this website?	○	○	○	○	○	○	○

Imagine that you decide to surf the Aftonbladet website without blocking the ads. What would be your expectation with regards to that experience?

	Strongly Disagree						Strongly Agree
I would expect...							
...ads to disrupt the reception of desired content on Aftonbladet.se	○	○	○	○	○	○	○
...ads to intrude on my search for information on Aftonbladet.se	○	○	○	○	○	○	○
...ads to disrupt my viewing of Aftonbladet.se	○	○	○	○	○	○	○
...advertising on Aftonbladet.se to be excessive	○	○	○	○	○	○	○
...advertising on Aftonbladet.se to be irritating	○	○	○	○	○	○	○
...advertising to be related to the content of the website	○	○	○	○	○	○	○
...advertising to be match the content of the website.	○	○	○	○	○	○	○
...advertising to be appropriate for the website.	○	○	○	○	○	○	○

How often do you visit Aftonbladet.se?

Never	Less than Once a Month	Once a Month	2-3 Times a Month	Once a Week	2-3 Times a Week	Daily
○	○	○	○	○	○	○

To what extent do you agree with the following messages?

	Strongly Disagree						Strongly Agree
I like Aftonbladet.se	○	○	○	○	○	○	○
I think Aftonbladet.se is a good website	○	○	○	○	○	○	○
I think Aftonbladet.se is a nice website	○	○	○	○	○	○	○
The content of Aftonbladet.se is relevant to me	○	○	○	○	○	○	○
Aftonbladet.se is an important source of information for me	○	○	○	○	○	○	○
I enjoy reading articles on Aftonbladet.se	○	○	○	○	○	○	○

What is your general opinion about Aftonbladet.se?

Untrustworthy	○	○	○	○	○	○	○	Trustworthy
Not credible	○	○	○	○	○	○	○	Credible
Not Reputable	○	○	○	○	○	○	○	Reputable

What do you think about the quality of editorial content on Aftonbladet.se?

Bad	○	○	○	○	○	○	○	Good
Dislike	○	○	○	○	○	○	○	Like
Low	○	○	○	○	○	○	○	High

What is your general opinion on online advertising?

Dislike	○	○	○	○	○	○	○	Like
Bad	○	○	○	○	○	○	○	Good
Unfavorable	○	○	○	○	○	○	○	Favorable
Annoying	○	○	○	○	○	○	○	Interesting

What is your general opinion on advertising?

Dislike	○	○	○	○	○	○	○	Like
Bad	○	○	○	○	○	○	○	Good
Unfavorable	○	○	○	○	○	○	○	Favorable
Annoying	○	○	○	○	○	○	○	Interesting

Have you ever paused your adblock for a website before?

- ○ Yes (specify if possible) [ ]
- ○ No

In general is there any other website you would consider whitelisting?

- ○ Yes (specify if possible) [ ]
- ○ Maybe (specify if possible) [ ]
- ○ No

What are the reasons for you to use adblock? Please rank them from most important reason to least important.

Ads are intrusive	
Privacy	2
Ads are irrelevant	
Ads' impact on performance (battery, bandwidth)	
Other (please specify) [ ]	
I dislike online advertising in general	
Ads on dubious websites (e.g. Piratebay, ...)	

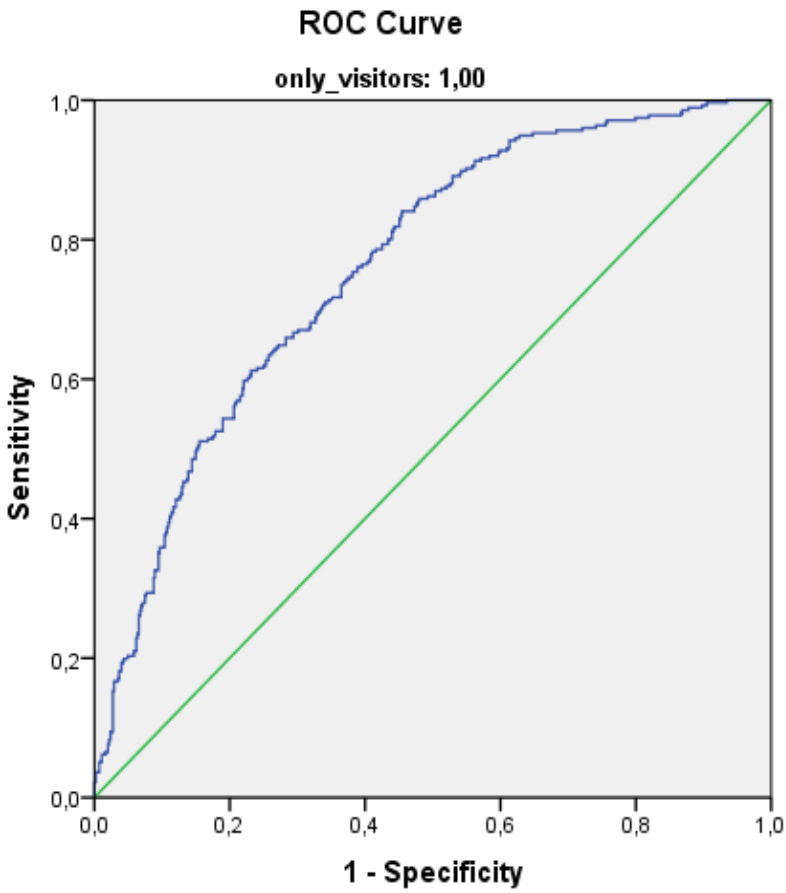
Appendix 5: Model Predictions, Logistic Regression

Classification Table[a]

Observed			Predicted		
			Dichotomized cutoff 1.99		Percentage Correct
			Not likely at all	More likely	
Step 1	Dichotomized cutoff 1.99	Not likely at all	584	71	89,2
		More likely	189	126	40,0
	Overall Percentage				73,2

a. The cut value is ,500

Appendix 6: ROC Curve



Diagonal segments are produced by ties.

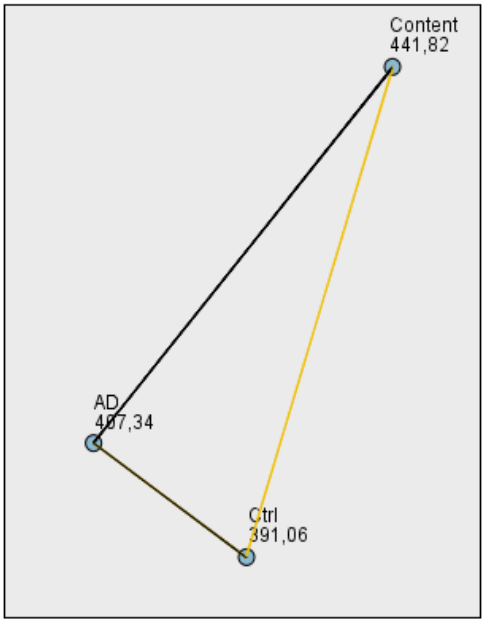
Area Under the Curve[a]

Test Resul Predicted probability

rs	Area
1,00	,761

Appendix 7 Pairwise Comparisons between Treatment/AD/Content

Pairwise Comparisons of Cont, AD, Ctrl



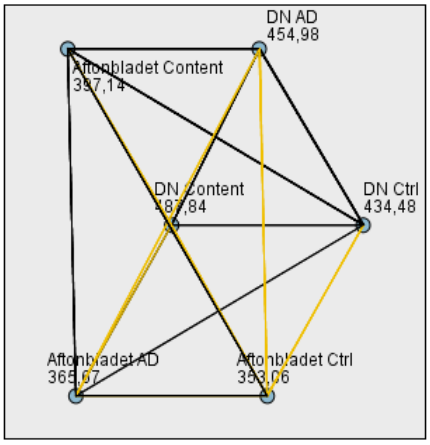
Each node shows the sample average rank of Cont, AD, C

Sample1-Sample2	Test Statistic	Std. Error	Std. Test Statistic	Sig.
Ctrl-AD	16,288	17,864	,912	,362
Ctrl-Content	50,762	17,864	2,842	,004
AD-Content	34,474	18,104	1,904	,057

Each row tests the null hypothesis that the Sample 1 and Sample distributions are the same.
Asymptotic significances (2-sided tests) are displayed. The signifi is ,05.

Appendix 8 – Kruskal Wallice H-Test. Pairwise Comparisons between all Response Groups

Pairwise Comparisons of Which survey was taken



Each node shows the sample average rank of Which survey was taken.

Sample1-Sample2	Test Statistic	Std. Error	Std. Test Statistic	Sig.
Aftonbladet Ctrl-Aftonbladet AD	-12,611	24,461	-,516	,606
Aftonbladet Ctrl-Aftonbladet Content	-44,083	24,780	-1,779	,075
Aftonbladet Ctrl-DN Ctrl	81,429	24,975	3,260	,001
Aftonbladet Ctrl-DN AD	101,920	25,342	4,022	,000
Aftonbladet Ctrl-DN Content	134,786	24,975	5,397	,000
Aftonbladet AD-Aftonbladet Content	31,472	25,104	1,254	,210
Aftonbladet AD-DN Ctrl	68,818	25,297	2,720	,007
Aftonbladet AD-DN AD	89,310	25,659	3,481	,001
Aftonbladet AD-DN Content	122,175	25,297	4,830	,000
Aftonbladet Content-DN Ctrl	37,346	25,605	1,459	,145
Aftonbladet Content-DN AD	57,838	25,964	2,228	,026
Aftonbladet Content-DN Content	90,703	25,605	3,542	,000
DN Ctrl-DN AD	-20,491	26,150	-,784	,433
DN Ctrl-DN Content	-53,357	25,794	-2,069	,039
DN AD-DN Content	32,866	26,150	1,257	,209

Each row tests the null hypothesis that the Sample 1 and Sample 2 distributions ar
same.
Asymptotic significances (2-sided tests) are displayed. The significance level is ,05

Appendix 9 – Bivariate Correlations

		Likelyness to whitelist	Perceived Goal Impedimen	Perceived Ad Clutter	Relatedness content & Ads	Attitude towards Website	Perceived Credibility	Quality of Content	General Opinion Online Adv.	General Opinion Adv.
Likelyness to whitelist	Pearson Correlation	1	,195**	,349**	,042	,274**	,265**	,257**	,282**	,193**
	Sig.		,000	,000	,232	,000	,000	,000	,000	,000
Perceived Goal Impedimen	Pearson Correlation	,195**	1	,524**	-,001	,093**	,116**	,110**	,106**	,087*
	Sig.	,000		,000	,979	,007	,001	,002	,002	,012
Perceived Ad Clutter	Pearson Correlation	,349**	,524**	1	,033	,265**	,317**	,302**	,128**	,129**
	Sig.	,000	,000		,349	,000	,000	,000	,000	,000
Relatedness content & Ads	Pearson Correlation	,042	-,001	,033	1	,033	-,019	-,005	,065	,050
	Sig.	,232	,979	,349		,340	,586	,887	,060	,153
Attitude towards Website	Pearson Correlation	,274**	,093**	,265**	,033	1	,742**	,735**	-,056	,021
	Sig.	,000	,007	,000	,340		,000	,000	,109	,540
Perceived Credibility	Pearson Correlation	,265**	,116**	,317**	-,019	,742**	1	,846**	-,086*	,040
	Sig.	,000	,001	,000	,586	,000		,000	,013	,255
Quality of Content	Pearson Correlation	,257**	,110**	,302**	-,005	,735**	,846**	1	-,059	,035
	Sig.	,000	,002	,000	,887	,000	,000		,091	,316
General Opinion Online Adv.	Pearson Correlation	,282**	,106**	,128**	,065	-,056	-,086*	-,059	1	,596**
	Sig.	,000	,002	,000	,060	,109	,013	,091		,000
General Opinion Adv.	Pearson Correlation	,193**	,087*	,129**	,050	,021	,040	,035	,596**	1
	Sig.	,000	,012	,000	,153	,540	,255	,316	,000	

APPENDIX 10: Table of Means & Standard Deviation – Dichotomized

Dichotomized cutoff 1.99		N	Minimum	Maximum	Mean	Std. Deviation
Not likely at all	Perceived Goal Impediment	549	1,0	7,0	2,572	1,5409
	Perceived Ad Clutter	549	1,0	7,0	1,679	1,0145
	Relatedness Content/Ads	549	1,0	7,0	3,016	1,5142
	Attitude towards Website	549	1,0	7,0	3,526	1,7254
	Perceived Credibility	549	1,0	7,0	3,727	1,8645
	Quality of Content	548	1,0	7,0	3,659	1,7312
	Attitude Online Adv.	549	1,0	7,0	2,544	1,3204
	Attitude General Adv.	548	1,0	7,0	2,745	1,5302
	Valid N (listwise)	547				
More likely	Perceived Goal Impedimen	276	1,0	7,0	3,021	1,4575
	Perceived Ad Clutter	276	1,0	6,5	2,351	1,2489
	Relatedness Content/Ads	276	1,0	7,0	3,136	1,2451
	Attitude towards Website	276	1,0	7,0	4,524	1,4597
	Perceived Credibility	276	1,0	7,0	4,726	1,5053
	Quality of Content	276	1,0	7,0	4,522	1,3879
	Attitude Online Adv.	276	1,0	7,0	3,219	1,1979
	Attitude General Adv.	276	1,0	7,0	3,331	1,3565
	Valid N (listwise)	276				

Appendix 11: Reasons to Adblock, Coded Answers from Open Field (full table)

Additional Reasons Mentioned	Mentions
Ads disrupts web-experience	61
Ruins design and Layout	21
Flash ads	18
Youtube & Streaming	17
Dislike all ads	14
Low Quality of ads	12
NSFW-ads	11
Pop-ups	10
I just rather not see ads..	7
Take-over ads	6
Paywall, already gives money	4

Appendix 12: Websites Previously Whitelisted (full table)

Website	Mentions	Website	Mentions	Website	Mentions
Sweclockers.com	97	Facebook.com	6	DN/AB/…	3
Feber.se	63	Youtube.com	6	Tjock.se	3
Flashback.org	20	Local News Sites	6	Dreamfilm.se	2
TVPLAY.se	20	Gamereactor	5	Freeride.se	2
Twitch.tv	18	Google.com	4	KANAL4PLAY	2
FZ.Se	16	Sporthoj	4	Banken	2
Reddit.com	14	Blocket.se	4	DuckDuckGo.com	2
Swedroid	7	Teamliquid	4	Wifog	2

Appendix 13: Reasons for Previously Whitelisting (full table)

Additional Reasons Mentioned	Number of mentions
Small/Niche websites that are dependent on advertising	21
Websites that don't work when Adblock is turned on	18
No Irritating/intrusive advertising	13
Ads are relevant/interesting	10
Sites I want to support	6
Websites that I like	4
High quality Content	1