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PERCEPTION OF INTRUSIVENESS AND ADVERTISING CLUTTER IN A MOBILE NEWS FEED

A Comparative Study of Native Advertising and Mobile Display Advertising

ABSTRACT: The mobile device is quickly becoming one of the most important advertising channels, due to its status as one of the most essential tools in our daily routine. However, mobile advertising is associated with a widespread advertising avoidance, mainly driven by the intrusiveness of ads and advertising clutter. Consequently, expectations for native advertising are sky-high, as this advertising format is widely assumed to be non-intrusive, which might contribute to a less cluttered environment. In the context of a mobile news feed, this thesis empirically investigated the assumed benefits of native advertising, by comparing this highly anticipated format with traditional mobile display advertising. An experimental study was conducted with the main purpose to examine whether the use of native advertising decreases consumers' perception of intrusiveness and advertising clutter to a greater extent than mobile display advertising.

Contrary to what has been assumed by several researchers and practitioners, the main findings indicated that native advertising does not seem to decrease consumers' perception of intrusiveness or advertising clutter in a mobile news feed. Instead, the results from an additional analysis suggested that main drivers of perceived intrusiveness and advertising clutter in mobile context are consumer-specific factors. These results imply that it is of crucial importance for publishers and advertisers to focus on understanding their audience.

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DEFINITIONS

Ad Blocking: "An ad blocker is a program that will remove different kinds of advertising from a Web user's experience online. These programs target certain kinds of ads, such as pop-ups, banner ads and other common forms of online advertisement, allowing a user to surf the Web without annoying distractions or interruptions" (Techopedia, 2017a).

Advertising Clutter: "The presence of a large amount of non-editorial content in an editorial medium. When the amount of advertising exceeds a consumer's acceptance level in an editorial media vehicle, it is viewed as clutter and is often perceived as an undesirable phenomenon by both advertisers and consumers" (Ha 1996).

Content Management System: "An interface that allows users to publish content directly to the Web" (Techopedia, 2017b).

High-Involvement Products: Products which consumers tend to evaluate deliberately and carefully, as their purchase might imply a greater perceived risk (Bart, Stephen, and Sarvary, 2014).

Mobile Display Advertising: "Small banner images displayed on a mobile phone's screen either in a web browser or in an application" (Bart, Stephen, and Sarvary, 2014).

Native Advertising: "Native advertising is a form of paid media where the ad experience follows the natural form and function of the user experience in which it is placed" (Sharethrough, 2017).

Teaser: A short section with a headline, sometimes a photo, with a caption referring to an article. A click takes the user to the article page (KNTNT, 2016).

Utilitarian Products: Products which are consumed to accomplish a functional or practical task, rather than consuming for the sake of an affective or sensory experience (Bart, Stephen, and Sarvary, 2014).

1. INTRODUCTION

1.1 Background

Activity on the internet using a mobile device surpassed that using a desktop device for the first time in November 2016, with mobile based web traffic accounting for 52% of total web traffic globally by April 2017 (StatCounter, 2017). The mobile device is rapidly becoming one of the most important advertising channels. The mobile advertising industry, as a result, is thriving, with mobile advertising estimated to account for nearly one-third of total advertising spending in the U.S. and predicted to be the most frequently used medium for advertising in the country by 2020 (eMarketer, 2016).

The proliferation of mobile advertising has resulted in an advertising takeover, with a myriad of advertising formats infiltrating our phones, compared to only a few years ago, when mobile sites and apps were free from advertising. This rapid development has resulted in that consumers' attitudes toward mobile and online advertising are more negative than for any other medium (Marketing Sherpa, 2017). As a consequence, mobile users have either learned how to disregard the ads or block them from their browser.

Mobile sites see three times more ad blocking[1] than desktop sites worldwide (BI Intelligence, 2016). The rise in mobile ad blocking has escalated the widespread ad blocking problem, which now has amounted to a total ad blocking rate of 32% globally. More than 600 million people worldwide, including some 2.5 million Swedes, are currently active users of ad blocking software (PageFair, 2017). With the risk of potentially losing billions of dollars of advertising revenue, the media industry is now keen to find ways to circumvent the avoidance behavior and reach out to the consumers.

What is actually causing this widespread advertising avoidance?

Desktop research shows two factors as the most important drivers of online advertising avoidance (Cho and Cheon, 2004). The first is related to an overall perception of the amount of ads in the medium. Simply put; as the amount of advertising increase in a medium, it will sooner or later exceed your tolerance level, and you will perceive what is referred to as advertising clutter[2] (Ha and McCann, 2008). As a consequence, a sense of irritation will lead you to avoid the advertising content (Cho and Cheon, 2004).

The second most important determinant of advertising avoidance has to do with the ad itself; the degree to which the advertisement disrupts, distracts and hinders your browsing. Most often, people are not browsing to see advertisements. You want to check Snapchat to see what your friends were up to last night, watch YouTube to look at funny clips and read the news to know what is happening in the world. For this purpose, advertising is impeding your aims, and the more

[1-2] See Definitions

it distracts you, the more you will avoid it (Cho and Cheon, 2004). Some ads are perceived to be more intrusive than others. Naturally, more intrusive formats cause greater goal impediment, which in turn leads to greater advertising avoidance (Cho and Cheon, 2004; Edwards, Li, and Lee, 2002).

Advertising avoidance and ad blocking pose a serious commercial threat to advertisers and publishers. In the light of the increasing avoidance behavior, the effectiveness of mobile and online advertising is under threat or at least in question.

Increasing the number and frequencies of messages to reach their target audience seems to have been one way many advertisers try to counter the decreasing attention to advertising (Rotfeld, 2006). However, this creates a vicious circle as the increasing amount of advertising is causing even more advertising avoidance. Given the huge demand for mobile presence and the high frequency needed to gain visibility, the mobile advertising landscape risks to become cluttered with advertising. This is a major problem for both advertisers and publishers and has been going on for decades in most channels, as the amount advertising has continued to increase (Ha and McCann, 2008). Besides considerably reducing advertising effectiveness, a cluttered environment could potentially have detrimental effects on the media in terms of churn, with users avoiding the media where they perceive the amount of advertising is excessive. Research on printed magazines has shown that too much advertising also leads to a decline in circulation (Ha and Litman, 1997).

Is it possible for the media to create an environment that consumers do not find intrusive without risking to lose millions of advertising revenue? And what can advertisers do to break through the clutter and deliver a message that actually gets through to consumers?

In recent years, a new type of advertising format has emerged online which is expected to overcome some of these obstacles (Wojdynski, 2016a). It is referred to as *native advertising*[3] and has quickly become a popular trend and a buzzword in the media industry. The term is used for a collection of advertising formats that are designed to mimic the format and style of the non-advertising content on the platform (IAB Sverige, 2014b; Wojdynski, 2016a). You may or may not have noticed it, but you have most certainly come across it, as native advertising appears in various forms on numerous different platforms, such as paid search on Google, recommended posts on Facebook, featured playlists on Spotify or sponsored articles on news sites. By providing content that resembles the editorial content on the platform, native advertising aims to reduce the traditional competition between the content sought by the consumer and the advertising that gets in the way (Wojdynski, 2016a). The native format is presumed to improve online and mobile advertising by being less intrusive than other advertising formats and delivering original content that consumers may consider engaging on its own merits (Lee, Kim, and Ham, 2016; Wojdynski, 2016a).

Native advertising has been embraced by publishers as, for them, it has opened a window of opportunity. With the circulation of print magazines slumping over the past decade, advertising is increasingly becoming the main source of revenue (Pew Research Center, 2016). Native advertising has become a crucial part of the business models for publishers, as they are able to charge more than display ads and it has enabled a new line of business (Contently, 2016; Wojdynski, 2016). In

[3] See Definitions

digital newspapers and magazines, native advertising takes the form of sponsored articles, commonly referred to as *premium native*. The New York Times, The Wall Street Journal, Forbes and an increasing number of publishers around the world are investing in in-house studios for premium native (Wojdynski, 2016). This raises the bar for advertising agencies, who have trouble competing with the editorial content produced by experienced journalists (Sparksheet, 2014). So far, premium native cannot be blocked by ad blockers as it is fully integrated with the publisher's content management system[4] (CMO, 2016). As a result, many publishers in the U.S. have made native advertising one of their main pillars in their financial strategy (Pew Research Center, 2016). Swedish publishers were also early adopters of this format. In an industry study from 2014, 63% of participating publishers had already included native advertising in their product portfolio, and 71% thought that it would be of considerable strategic importance for their business in the coming year (IAB Sverige, 2014a).

Mobile display advertising[5] has been the most frequently used mobile advertising format during the smartphone era, but it is increasingly being substituted by native advertising. Today, total spending in the U.S. on mobile native advertising has surpassed that of mobile display, and native's share of mobile advertising spending is expected increase further. By 2020, native advertising is estimated reach a $53 billion business and account for 63% of the total mobile advertising spending in U.S. To put this amount in context, it is more than the country's total spending on mobile advertising in 2016, which was approximate $42 billion (IHS Technology, 2016; eMarketer, 2016).

1.2 Problem Area

In short, advertising in the mobile medium is expected to increase substantially, with native advertising predicted to become the most widely used mobile advertising format. However, not much is known about how this development will be perceived by consumers. Will consumers regard the increased use of native advertising as something positive? Do consumers really perceive the advantages of the native format that practitioners assume it has to offer? Very little research has been conducted on the topic. Research around mobile advertising is still in its infancy. To the best of our knowledge, only one study has been published on mobile display advertising, and no study has tested the use of native advertising in the mobile phone (Bart, Stephen, and Sarvary, 2014). The current trends and large knowledge gap call for a comparison of advertising formats in the mobile context.

Much of the high expectations for native advertising lie in the two primary supposed benefits of the format. First of all, it has been widely assumed by both researchers and practitioners to be a non-intrusive advertising format (e.g. Cho and Cheon, 2004; Wojdynski, 2016a; Campbell and Marks, 2015; Lee, Kim and Ham, 2016). However, no academic study has yet empirically tested whether this is the case. It is thus unknown whether consumers really perceive it to be less intrusive than mobile display advertising. Secondly, its non-intrusiveness is also presumed to be a solution to advertising clutter (Wojdynski, 2016a; Rotfeld, 2006). This fact has not been empirically proved

[4-5] See Definitions

either. No study of advertising clutter has so far examined the effect of native advertising. What is equally important; to the best of our knowledge, advertising clutter has not yet been studied in the mobile medium. The identified knowledge gap is of significant practical importance as if the format really is perceived as less intrusive and contributes to the perception of a less cluttered environment, it could potentially create a more pleasant browsing experience for consumers worldwide, decrease the widespread problem of advertising avoidance and increase the profitability of mobile advertising for both advertisers and publishers.

Another interesting aspect of this knowledge gap is the potential effect that native advertising can have on publishers, who face a particularly difficult situation. As the demand for mobile advertising is substantial and an increasing number of publishers today manage to survive primarily due to advertising revenue, publishers might be tempted to increase the amount of advertising in their channels. In print media, most newspapers have a set policy for the maximum amount of advertising in each issue (Ha and Litman, 1997). However, to the best of our knowledge, there is no such industry standard for mobile news feeds. The problem arises from the fact that research on print media has shown advertising clutter to have considerable negative effects on the media vehicle and cause an overall decline in readership (Ha and Litman, 1997). It is yet unknown whether advertising clutter adversely affects the media in the context of a mobile news feed. If it does, the question remains; can native advertising positively affect the media by contributing to a less cluttered and intrusive environment? Is it really beneficial for publishers to invest in and employ native advertising in their portfolio?

1.3 Purpose and Research Question

The purpose of this thesis is tripartite. First, the main purpose is to examine whether the use of native advertising decreases consumers' perception of intrusiveness and advertising clutter to a greater extent than mobile display advertising.

Second, we aim to investigate whether consumers' perception of intrusiveness and advertising clutter in a mobile news feed negatively affects the media. The objective is to examine if consumers have more favorable behavioral intentions and evaluate the media vehicle more positively when native advertising constitutes the majority of the advertising in the mobile news feed.

Lastly, the quantity of advertising has shown to increase both consumers' perception of intrusiveness and advertising clutter, why we also aim to compare these advertising formats based on the quantity of advertising in the feed. More specifically, we want to examine if the potential difference in perceived intrusiveness and advertising clutter is greater when the quantity of advertising increases.

The tripartite purpose of this thesis culminates into the following research question:

Does the ratio of native advertising versus mobile display advertising in a mobile news feed have an effect on consumers' perception of intrusiveness and advertising clutter?

1.4 Delimitations

First and foremost, the study is delimited to research one type of media, a newspaper's mobile news feed, and is restricted to one actor within that category, Svenska Dagbladet. Examining contextual factors are beyond the scope of this thesis, although we are aware that these factors might impact perceived advertising clutter. In light of the chosen media, this study will only investigate one type of native advertising; premium native. When the term "native advertising" is used in the following sections, we strictly refer to premium native.

Following the purpose of this study, the focus is to investigate the overall perception of ads in the context of a news feed rather than examining how the survey respondent react to specific advertisements.

Moreover, the sampling is geographically limited to Sweden and Swedish consumers, which means that results are not applicable across the national border. Sweden is however a country at the forefront of digitalization; ranking second in The Boston Consulting Group's e-Intensity Index, a measure of the internet infrastructure quality; the expenditures on online retail and advertising; and how active sectors are embracing the internet within the country (The Boston Consulting Group, 2015). Digital trends in Sweden are therefore often seen in other national markets at a later stage.

Finally, our thesis is limited to constitute a static snapshot of reality at the point of the data collection.

1.5 Expected Contribution

As this is a hitherto unexplored area, we hope to provide further knowledge to the inchoate but growing field of mobile advertising research with regards to the differing impact of native advertising and mobile display advertising on consumers' perception of advertising clutter and intrusiveness. As the generalization of the findings should only be done with caution due to the scope and design of the study, we primarily hope to provide findings that can shed light on relevant areas for future research. We hope to raise the issue of advertising clutter and intrusiveness in the mobile phone and spur interest among academics to further research and compare these advertising formats. For practitioners, we hope that the results of our study can serve as an indication or suggestion of how to work with this type of advertising.

2. THEORETICAL FRAMEWORK

In the following section, we will explain and integrate past research from four academic areas to form our hypotheses. First, we will give a brief overview of the current research on native advertising and mobile display advertising. We will then go through research on intrusiveness, followed by the research on advertising clutter.

2.1 A Comparison of Native Advertising and Mobile Display Advertising

2.1.1 Native Advertising

The research on native advertising dates back only a few years and is largely focused on sponsored articles. Most of these studies focus on the question whether consumers recognize that native advertising is, in fact, paid advertising. In general, this understanding has been proven to be low (Wojdynski and Evans, 2016; Wojdynski, 2016b; Wu, et al., 2016). Critics of native advertising argue that the effectiveness of the format is due to the fact that a large number of consumers mistake it for editorial content, why the normal defense strategies that consumers usually apply for online advertising are not triggered to the same extent by native ads (Wojdynski and Evans, 2016; Wu, et al., 2016). However, a number of factors are shown to increase advertising recognition. Wojdynski and Evans (2016) studied the effect of disclosure characteristics on advertising recognition and found that using the labels "advertising" or "sponsored content" increases recognition, and that unclear labels, such as "presented by" or "brand-voice", can cause confusion. Advertising recognition has also been shown to be significantly influenced by the degree to which consumers are familiar with native advertising as an advertising format (Wojdynski, 2016b; Wu, et al., 2016). As consumers will grow more accustomed to the format, confusions of native advertising and editorial content are therefore predicted to decrease. Brand familiarity also seems to moderate advertising recognition. Wojdynski and Evans (2016) replicated their study on disclosure characteristics with a familiar brand to eliminate the likelihood that unfamiliar brands were partially causing low recognition rates. This second study proved advertising recognition to be significantly higher when using a familiar brand.

Brand familiarity appears to affect also the way native ads are evaluated. In a recently published conference paper, Cramer (2015) writes that native ads from well-known brands are regarded less annoying, more attractive and more trustworthy, than native ads from unknown brands. Cramer (2015) further shows that the quality of native advertisements can affect the consumer's overall perception of the quality of the media, which is positively affected if the site runs high-quality native ads and negatively affected if running low-quality native ads. Surprisingly though, sponsored articles with high *content relevance*, i.e. when the topic of the ad matches the editorial content on the site, leads to lower site quality perceptions. Without explaining this finding much further, Cramer (2015) suggests the stories told by sponsored articles should not be positioned too close to editorial stories on the same or a similar topic.

Research on native advertising in social media suggests that appreciation of this format is affected by user motivation. Consumers who are browsing a site to find information show more positive attitudes towards native advertising and higher intention to share it than consumers who are using a site to socialize (Lee, Kim, and Ham, 2016). This finding is in line with past research on *advertorials,*

which is the advertising format that can be regarded as the precursor of contemporary native advertising. Advertorials is another word for sponsored articles in print media that simulates the editorial style of the media by using a resembling typeface and layout (van Reijmersdal, Neijens, and Smit, 2005). As advertorials are commonly highly informational in nature, consumers who are using a medium to obtain information appreciate advertorials to a greater extent than when they are using a medium for relaxation or entertainment (van Reijmersdal, Neijens, and Smit, 2005). Advertorials, therefore, receive more attention, acceptance, and appreciation in magazines with high informational value than in magazines with high transformational value (van Reijmersdal, Neijens, and Smit, 2005).

2.1.2 Mobile Display Advertising

The only academic work that has been published on mobile display advertising is Bart, Stephen, and Sarvary's (2014) study of the effect of mobile display advertising on brand attitudes and purchase intentions. Their results showed that in many categories, mobile display advertising does not have an impact on attitudes nor purchase intentions. It can, however, be effective for products categorized as both high-involvement[6] and utilitarian[7]. De Sa, Navalpakkam, and Churchill (2013) have also researched mobile display advertising; however, their study has not yet been published. In a conference paper, they write that the majority of participants in their study barely noticed the advertisements, suggesting that the banner blindness phenomenon might be associated with mobile display advertising as well. *Banner blindness* is a term used to explain consumers' tendency to avoid looking at anything that seems to be a banner ad (Cho and Cheon, 2004).

To counter banner blindness, advertisers often increase the animation and visual appeal of display ads. It has been shown that bright colored animation and moving objects capture more visual attention than dull colored animation and static objects (Zhang and Kim, 2008; de Sa, Navalpakkam, and Churchill, 2013). Although animation might increase the visibility of the ads, it could potentially have negative effects, both for the advertiser and the media when used on mobile display ads. De Sa, Navalpakkam, and Churchill (2013) showed that animated mobile display ads lead to lower brand recall and recognition. It also causes a less pleasant and easy overall experience of using a medium.

Targeting, by *content-* or *user relevance*, is another commonly used tool to increase the attention to display advertising. De Sa, Navalpakkam, and Churchill (2013) show that when the topic of the mobile display ad is of personal relevance to the user (i.e. high user relevance), the media is evaluated more favorably in terms of user experience. In contrast to Cramer's (2015) findings on native advertising, content relevant mobile display ads do not have a similar positive effect on the user experience.

[6-7] See Definitions

2.1.3 Native Advertising vs. Mobile Display Advertising

In traditional media, several empirical studies have compared the effect of prominent and subtle advertising formats on consumers. These studies all show that consumers appreciate subtle formats more than prominent formats (e.g. Lord and Putrevu, 1998; Kim, Pasadeos, and Barban, 2001; van Reijmersdal, Neijens and Smit, 2005). Research on advertorials suggests that compared to traditional advertising, consumers regard advertorials to be less irritating, more amusing and more informative (van Reijmersdal, Neijens, and Smit, 2005).

The first study comparing contemporary native advertising to other advertising formats was done by Becker-Olsen (2003), investigating sponsored articles and banner advertising in an online environment. This study showed sponsored articles to be more favorably evaluated by consumers than banner advertising, with positive effects for both the advertiser and media. Compared to banner advertising, a sponsored article was shown leading to more positive brand attitude, brand beliefs, purchase intention, media attitude, perception of media quality, perception of media trustworthiness and media revisit intention. According to Becker-Olsen (2003), a sponsored article is evaluated more positively due to the fact that its processing will induce higher levels of positive affect than the processing of banner advertising. The study showed that cognitive elaboration is higher for sponsored articles. Becker-Olsen (2003) argued that the expended cognitive effort would be beneficial; the negative affect of increased processing time would be offset by the positive affect that comes from deeper learning, which would lead to more positive evaluations. Although a banner takes less effort to process, it would not gain the positive affect that is generated by increased knowledge.

Tutaj and van Reijmersdal (2012) conducted the second comparative study of sponsored articles and banner advertising to further develop Becker-Olsen's (2003) results by fully examining the differences in processing. Tutaj and van Reijmersdal (2012) proposed an alternative view to why sponsored articles are evaluated more favorably, by investigating the role of elements of *persuasion knowledge* in processing of banner ads and sponsored articles. They investigated three dimensions of persuasion knowledge; advertising recognition, understanding of persuasive and selling intent and ad skepticism. Consumers are less susceptible to persuasive messages and better at resisting commercial persuasion attempts when persuasion knowledge is high. The authors found that the banner format activates more persuasion knowledge in terms of all of the dimensions studied. They also found that advertising recognition and understanding of persuasive intent is related to irritation and that these mechanisms work differently for prominent and subtle formats. Subtle formats are less irritating for the viewer than the more prominent alternative. The study also tested the findings of van Reijmersdal, Neijens, and Smit (2005) in a desktop environment, showing results in line with the findings on advertorials; consumers perceived sponsored articles as less irritating, more amusing and more informative than banner ads.

2.2 Intrusiveness

Intrusiveness is defined as "a psychological reaction to ads that interfere with a consumer's ongoing cognitive process" by Li, Edwards, and Lee (2002). Consumers may perceive intrusiveness whenever cognitive processing is interrupted such as by advertising. This could be due to the

physical elements of a particular advertisement (e.g. size or length) or to an overall impression of the total amount of advertisements in a medium as excessive. Conceptually, it should be regarded as the psychological reaction that occurs when ads are disturbing and be distinguished from emotional or behavioral reactions that might result. Intrusiveness cause feelings of irritation, which can lead to advertising avoidance (Li, Edwards, and Lee, 2002). The negative relationship between the intrusiveness of advertisements and consumer response can be explained by *psychological reactance theory* (Ha, 1996). According to this theory, individuals like to maintain an independence to evaluate an object. When an individual experience a threat to their behavioral independence, a reactance effect will occur, and they will resist persuasion. In advertising contexts, the psychological discomfort caused by ads impeding consumers' media use can be perceived as threatening to their behavioral independence. Consumers try to re-establish their freedom and control by perceiving the advertisements as intrusive and evaluating them negatively (Ha, 1996; Lee, Kim, and Ham, 2016)

Edwards, Li, and Lee (2002) tested the drivers of perceived intrusiveness of pop-up ads and found a number of factors which later have been established as common antecedents of intrusiveness. First of all, the viewer's mental engagement with an activity will affect the extent to which that viewer perceives intrusiveness. A more focused viewer will perceive greater intrusiveness than a non-focused viewer.

The other identified antecedents of intrusiveness are related to the characteristics of a specific advertisement. As mentioned, all ads are not perceived as equally intrusive. Perceived intrusiveness will increase if an ad is incongruent with a viewer's ongoing cognitive activities or expectations, as added mental processing demands will be created by the activation of divergent knowledge structures. In an online advertising environment, incongruence between ads and the editorial content will increase intrusiveness. On the other hand, ads that are congruent with ongoing cognitive activities and expectations will be perceived as less intrusive, since these ads might be regarded as more valuable to the user.

Finding an ad valuable or useful is thought to have a dampening effect on intrusiveness. More specifically, it has been found that ads that are perceived as informative are perceived as less intrusive. Entertaining ads can also decrease intrusiveness, as long as the entertainment is welcome and cognitive goals are not interrupted. Last, the physical attributes of ads can have a moderating effect (Ha and McCann, 2008). More specifically, it has been found that intrusiveness will increase the more immediate and forceful the advertising exposure (e.g. a pop-up ad) and the more centrally located and the larger the size of the ad (Ha and McCann, 2008).

Several researchers have assumed that native advertising is a non-intrusive advertising format (e.g. Cho and Cheon, 2004; Wojdynski, 2016a; Campbell and Marks, 2015; Lee, Kim, and Ham, 2016). however none of these studies discussed why or tested the matter per se. It is our belief that the findings of Edwards, Li, and Lee (2002) are applicable in the context of a mobile news feed, and that the characteristics of the mobile display format embed a number of factors making it more intrusive than native advertising. As native ads in shape, style, and tone match the surrounding context, this format should induce less of an interference with cognitive processing as it is more congruent with current cognitive activities. In addition, by taking the form of an article, this

advertising format is naturally of higher information value than a mobile display ad, which typically contains very little information and is limited to communicating short messages due to its small size (Wojdynski, 2016b; Bart, Stephen, and Sarvary, 2014).

Furthermore, as mentioned above, Tutaj and van Reijmersdal (2012) showed that banner ads are perceived as more irritating than sponsored articles. Li, Edwards, and Lee (2002) describe intrusiveness as "the mechanism by which ads evoke negative emotional reactions, such as irritation". The close connection between intrusiveness and irritation was also shown in their research, as irritation was highly correlated with intrusiveness. We, therefore, expect that the irritation shown in Tutaj and van Reijmersdal's (2012) study was a result of the psychological reaction to the banner as intrusive. We believe that these results are relevant in the context of a mobile news feed and that the mobile display format should consequently be perceived as more intrusive. Therefore, we hypothesize that:

H1: A mobile news feed with a high proportion of native advertising is **perceived as less intrusive** than a mobile news feed with a high proportion of mobile display advertising

2.3 Advertising Clutter

Ha (1996) defines advertising clutter as "the density of advertisements in a media vehicle." Perceived advertising clutter increases as the amount of non-editorial content in an editorial medium surpass a consumer's acceptance level (Ha, 1996; Ha and McCann, 2008). As the acceptance level is a subjective concept, perceived advertising clutter is affected by individual judgment, in addition to the physical attributes of the ads in the medium.

The combined body of research in this field has shown that consumers' perception of advertising clutter is produced by the aggregate effect of multiple factors (Ha and McCann, 2008). Ha and McCann (2008) propose a conceptual framework of advertising clutter that distinguishes the factors related to the consumer's subjective perception (*consumer-centered analysis*) from the factors comprising objective physical attributes of ads (*media-centered analysis*). A distinction between the subjective and objective factors that affect the perception advertising clutter is vital for practitioners as it highlights which aspects of ad clutter that are beyond the advertiser's control (Ha and McCann, 2008).

A number of factors have been identified within the consumer-centered paradigm that works to increase perceived advertising clutter. First, a consumer's attitude towards advertising in general will mediate the extent to which clutter is perceived (Ha and McCann, 2008). For example, it has been found that consumers with a high degree of advertising skepticism perceive greater advertising clutter as they regard every advertisement as irrelevant and irritating. Also, attitudes towards advertising tend to be more negative among *past-oriented* consumers, who value the past and tradition. Accordingly, it has been shown that this group perceives clutter to a greater extent (Ha and McCann, 2008).

The extent to which consumers perceive advertising clutter depends on the medium, as attitudes towards advertising and expectations about the advertising environment vary greatly across

channels. Elliott and Speck (1998), showed that consumers perceived more ad clutter on TV than in magazines and newspapers, although the average quantity of advertising in magazines constituted 50% of the total medium and only 25% for TV.

Consumers' tolerance level for advertising clutter differs within the category of a single medium as well. Ha and Litman (1997) studied the effect of advertising clutter on circulation for two different types of magazines. They categorized magazines with regards to their editorial orientation; *news-oriented magazines* (i.e. magazines where the editorial content mostly consists of hard news and factual information) and *entertainment-oriented magazines* (i.e. magazines where the emphasis is placed on pictures and entertainment). Results showed that readers of news-oriented magazines were more tolerant of clutter than readers of entertainment-oriented magazines. For both magazine types, high advertising clutter had a diminishing effect on circulation. However, this effect was shown to be much stronger for entertainment-oriented magazines, where increasing the amount of advertising led eventually to negative returns on circulation. When both magazine types had a clutter level of 50%, circulation of entertainment-oriented magazines dropped, while circulation of news-oriented magazines continued to grow at a diminishing rate. Ha and Litman (1997) suggested that the reason why news-oriented magazine readers are more tolerant of clutter might be because they are more likely to perceive an informational value from ads.

As the last point on factors within the consumer-centered paradigm, perceived advertising clutter is affected by the consumer's task orientation, whether one is using the media to shop, explore, obtain information or entertainment (Ha and McCann, 2008). Research has shown that perception of advertising clutter is highest when consumers are using a medium for entertainment or to search for information. In these situations, advertising will deter the process of information seeking or be a nuisance as it disrupts the flow of entertainment.

As the primary aim of this thesis is to examine whether the perception of intrusiveness and advertising clutter will decrease by using native advertising rather than mobile display advertising, this thesis will perform a media-centered analysis. This perspective has been of great interest to practitioners and central in most studies of advertising clutter since the outset of this field (Ha and McCann, 2008). Studies within this paradigm have shown that objective physical attributes of advertising constitute advertising clutter. First of all, the level of advertising clutter depends on structural elements of the ad itself; such as size, location, and format. In general, the more visible the ad, the greater the advertising clutter (Ha and McCann, 2008).

Three factors that regard consumers' overall perception of all advertisements in a medium have been central within this paradigm. First, the quantity of advertising, referring to the proportion of advertisements in a media vehicle, or *advertising-editorial ratio* (Ha, 1996; Ha and Litman, 1997). Perception of clutter increases as the number of ads in the medium increases, explained by the *information overload theory* (Ha, 1996). When the amount of advertising in a medium is excessive, consumers are overloaded with a large quantity of information and therefore unable to process all of it due to limited memory capacity. The second central factor in within this paradigm has been the competitiveness of advertisements, which includes the level of similarity of advertising messages or advertised products and the proximity between competitive ads from brands within the same product category (Ha, 1996). Both factors work to increase consumers' perception of

advertising clutter. The third central factor that constitutes advertising clutter is the intrusiveness of advertisements. Ha and McCann (2008) note that intrusive ads cause a perception of advertising clutter, but a high frequency of ads in a medium can also cause a perception of intrusiveness (Li, Edwards, and Lee, 2002). From reviewing the literature, we regard the perception of intrusiveness and the perception of clutter as two distinct processes that are evaluated separately, although in parallel. We do not argue for a specific hierarchy but acknowledge that the concepts are interrelated and influence each other.

The consumer-centered paradigm and media-centered paradigm are connected in the sense that perception of advertising clutter is created by the combined effect of these factors. Although several studies have shown that structural factors alone are drivers strong enough to constitute advertising clutter, the degree to which these factors trigger a perception of advertising clutter is dependent on the context and the viewer (Ha, 1996). Ha (1996) argues that there is no common high-clutter level, and consumer-specific factors are sometimes more influential. As no study has investigated advertising clutter in the mobile medium, it is yet unknown how much each dimension impacts in this context. It is, however, our belief that structural factors are enough to trigger a perception of advertising clutter in a mobile news feed. We argue that the physical characteristics of native advertising and mobile display advertising would imply that perception of advertising clutter differs between these two formats. As we hypothesize the native format to be less intrusive than mobile display advertising, following the relationship between intrusiveness and advertising clutter we also hypothesize that the native format will induce a lower perception of advertising clutter. Moreover, as mobile display advertisements usually contain elements that aim to increase visual appeal (see section 2.1.2), this format should be more visible than native advertising, thus contributing to increased perception of clutter. In light of this discussion, we hypothesize:

H2: A mobile news feed with a high proportion of native advertising decreases the **perceived advertising clutter** compared to a mobile news feed with a high proportion of mobile display advertising

2.4 Effects of Advertising Clutter and Intrusiveness

Past research on advertising clutter has examined its effect across various media in both online and offline environments (e.g. Elliott and Speck, 1998; Ha, 1996; Cho and Cheon, 2004). Advertising clutter has several negative effects on advertising effectiveness, including advertising avoidance, lower memory of ads, and lower overall attitude toward advertisements in a media vehicle (Cho and Cheon, 2004; Mord and Gilson, 1985; Ray and Webb, 1986; Pillai, 1990; Ha, 1996). The following section will, however, focus on effects on the media, as this thesis partially aims to investigate whether consumers' perception of intrusiveness and advertising clutter in a mobile news feed affects the media negatively.

In a longitudinal analysis examining the cumulative effects of increasing the advertising-editorial ratio on magazine's circulation and advertising revenue, Ha and Litman (1997) showed that advertising clutter has a diminishing effect on circulation. Their explanation for this observation is that past research on advertising clutter suggests that clutter leads to a lower perception of media quality. Circulation can be considered a proxy for consumers' satisfaction with the quality of a

magazine, as dissatisfied readers will stop purchasing the magazine. Thus, they mean that as advertising clutter increases, the perception of media quality decreases, followed by diminishing circulation.

Although Ha and Litman (1997) did not specifically show that advertising clutter caused lower perceptions of media quality, they showed evident negative effects on the media as a result of increasing advertising clutter. It is our view that advertising clutter in a mobile news feed can negatively affect the media as well, and we will use the Elaboration Likelihood Model (ELM) to develop predictions for how consumers' overall perception of the media will be affected.

The ELM has been drawn upon in recent studies on mobile display advertising and is one of the most cited models in advertising research (Bart, Stephen, and Sarvary, 2014; Shankar and Balasubramanian, 2009; Kitchen et al. 2014). The ELM is a model of information processing theorizing the way by which persuasive stimuli can change attitudes and intentions (Petty and Cacioppo, 1984). The model recognizes two different routes of information processing leading to attitudinal change. Conceptually, however, these routes should be regarded as the end points on a continuous dimension going from low to high elaboration likelihood. Under higher elaboration, information is processed through the *central route*, involving a higher level of cognitive evaluation. In contrast, information processing under lower elaboration requires relatively little cognitive effort. Under the *peripheral route*, information is processed in a more affective manner, relying on simple heuristics. Peripheral processing may occur when conditions limit a person's motivation or ability to process information thoroughly. Such conditions might be distractions or that the information is perceived as personally unimportant.

Ha (1999) suggests that advertising clutter is perceived peripherally. Furthermore, a number of characteristics of the mobile medium are presumed to affect processing ability negatively, e.g. the mobile device is frequently used in distracting environments and users are often not focused on processing advertisement as they are conducting a primary task (Bart, Stephen, and Sarvary, 2014; Wang and Lin, 2011). We, therefore, argue that in the context of browsing through a mobile news feed, people perceive advertising clutter due to an overall feeling or general impression, rather than cognitively evaluating the amount of advertising in the feed. We argue that the feelings of irritation caused by intrusiveness and advertising clutter will result in a more negative evaluation of the media, following the predictions made by the ELM model. As we hypothesize that mobile display advertising entails a higher perception of both intrusiveness and advertising clutter, we argue that this format causes more negative evaluation of the media and consequently less favorable behavior intentions.

H3: A mobile news feed with a high proportion of native advertising leads to a more favorable **attitude toward the media**, compared to a mobile news feed with a high proportion of mobile display advertising

H4: A mobile news feed with a high proportion of native advertising leads to higher **perception of media quality** compared to a mobile news feed with a high proportion of mobile display advertising

H5: A mobile news feed with a high proportion of native advertising leads to more positive **behavioral intentions**, compared to a mobile news feed with a high proportion of mobile display advertising

2.5 Moderating Effect of Advertising-Editorial Ratio

The quantity of advertising, or advertising-editorial ratio, is arguably the most central dimension of advertising clutter and has been the focus of the media industry and most studies within this research field (Ha and McCann, 2008). Increasing the quantity of advertising in a medium has been shown to both increase perception of advertising clutter and perceived intrusiveness in several media (Ha and McCann, 2008; Li, Edwards, and Lee, 2002). We believe that these findings are applicable to the mobile medium and that increasing the advertising-editorial ratio in a mobile news feed will elevate the perception of intrusiveness and advertising clutter. Therefore, we hypothesize that the effect of advertising format on the hypotheses above is moderated by the advertising-editorial ratio. We argue that if the use of native advertising or mobile display advertising is perceived differently by consumers, these differences should be smaller when the advertising-editorial ratio is low.

H6: When the advertising-editorial ratio is low(high), the effect of a high proportion of native advertising on **a) perceived advertising clutter**, **b) perceived intrusiveness**, **c) attitude toward the media**, **d) perception of media quality**, **e) behavioral intentions** is low(high)

3. METHOD

In this section, we will demonstrate the design of our study and give a detailed account of the research process. We will furthermore discuss alternative designs and explain how research quality was ensured.

3.1 Choice of Scientific Approach and Method

As this study combines the inchoate academic research area of mobile advertising with more thorough research on advertising clutter and intrusiveness, we had different possibilities when choosing scientific approach and research method. The unexplored research area permits exploratory research, why a qualitative study could have served as the basis for this research. However, we chose to use a quantitative approach as it is the most common procedure to test advertising clutter (e.g. Ha, 1996; Ha and Litman, 1997; Elliott and Speck, 1998; Pillai, 1990).

The research of this study is based on a deductive approach, using established theories to deduce our hypotheses (Bryman and Bell, 2011). To confirm or reject our theoretically anchored hypotheses, empirical research was employed (Snieder and Larner, 2009). As the main purpose of this thesis is to examine the relationship between the two advertising formats studied and perceived intrusiveness and advertising clutter, the research can additionally be characterized as causal (Bryman and Bell, 2011). Since the objective of a causal research is to infer a cause-and-effect relationship, the environment of the study has to be fairly controlled in order to limit the possibility of extraneous variables affecting the dependent variables (Malhotra, 2008). Therefore, the laboratory experimental study design serves as a good basis for the analysis (Malhotra, 2008).

3.2 The Setting of the Experiment

3.2.1 Study Design and Structure

In order to test our hypotheses a 2(advertising-editorial ratio: high vs. low) × 2(advertising format: high native vs. high mobile display) experimental design was employed. The four treatment conditions will henceforth be referred to as the abbreviations shown in Figure 1.

Figure 1. Study Design Matrix

		Advertising format in majority	
		Native	**MDA**
Advertising-editorial ratio	**High**	High Ad / High Native	High Ad / High MDA
	Low	Low Ad / High Native	Low Ad / High MDA

Each survey respondent was exposed to a news feed consisting of a mixture of the two advertising formats, with either a majority of native ads (High Native) or a majority of mobile display ads (High MDA). An alternative design would have been to compare feeds consisting exclusively of one or the other ad format. However, we compared mixed feeds in this study since most publishers today use a mixture of advertising formats. The ratio between the formats was exaggerated to create a distinct difference in the manipulation. Moreover, we chose to further examine two different

advertising-editorial ratios since the aim of this study is partially to compare these advertising formats based on the quantity of advertising in the news feed.

The experiment was conducted with an online questionnaire created in the survey software program Qualtrics. First, all subjects read a scenario in an attempt to set all participants in a similar mindset when observing the manipulation, as task orientation can impact perceived advertising clutter (see section 2.3). The key message of the scenario was to briefly browse through the content of the news feed in order to get an update of recent events. Following, each subject was randomly assigned to one of the four experimental conditions in an attempt to minimize the risk of confounding effects affecting the validity of the study. After scrolling through the assigned news feed, subjects completed the questionnaire.

The questionnaire consisted of five blocks with a total of 42 questions (see Appendix 7.1). Participants answered questions regarding; behavioral intentions, reading experience and attitude towards Svenska Dagbladet, perceived intrusiveness and advertising clutter, user experience, and finally, questions about the demographics of the respondents. The disposition of the survey was based on the importance of the questions for the analysis, using more important questions first to increase the accuracy in answers as respondents tend to be more focused early on (Malhotra, 2008). Although being the most central questions of the study, the items of *perceived intrusiveness* and *perceived advertising clutter* were placed after the attitudinal and behavioral questions to minimize the risk that the respondents would understand the objective of the research and consequently answer the questions accordingly.

In an attempt to minimize the deviation in the data set and increasing the internal reliability, similar questions and statements were presented sequentially in the questionnaire when needed in order to facilitate the respondent's understanding of the questions answered.

3.2.2 Choice of Media Vehicle

Within the category of mobile news feeds, the focus of this study is solely on *editorial driven news feeds*, i.e. mobile news feeds in which content is developed by an editorial board of journalists, in contrast to the user generated content of social feeds. Moreover, we adopted Ha and Litman's (1997) distinction of magazine type with regards to editorial orientation in order to characterize the editorial news feed employed in the study. Within the subcategory of editorial driven news feeds, we have chosen to delimit our study to news-oriented mobile news feeds only, due to the scope of this thesis. This focus was chosen as readers of news-orientated magazines are shown to be more tolerant of advertising clutter (see section 2.3), indicating that the result of this study might also apply for readers of entertainment-oriented mobile news feeds as well.

One publisher was selected for the study, Svenska Dagbladet (SvD), a Swedish morning paper with national coverage. Among Swedish publishers, its mobile news feed is one of the most visited in the country, with nearly 1.2 million unique visitors per week (Schibsted, 2017; Kantar Sifo, 2017). As one of the leaders in the category, SvD was deemed to be representative of news-orientated mobile news feeds, and therefore an appropriate subject for the study. Moreover, in contrast to several other actors within its category, SvD publish only one type of native advertising, fully-

integrated in-feed ads, all of which are created by their in-house bureau. This fact simplifies the study since it ensures a consistent level of quality for all native ads (see section 3.2.3). All native ads published by SvD are also labeled in accordance with Wojdynski and Evans (2016) recommendations, thus decreasing confounding effects of low advertising recognition (see section 2.1.1).

3.2.3 Selection of Advertisements

All advertisements and articles used in this study were print screens of authentic material that were either running live during the period of 5th - 12th of April 2017 or accessed online through SvD's open archive. A random selection of SvD's native advertisements was made, but based on the criteria that we found a corresponding mobile display advertising from the same brand, to ensure that the differences between conditions are only attributable to the use of a different advertising format and avoid potential confounds. Although the pair of ads originated from the same brands, they naturally did not contain the same key message as the native format is more informative and editorial. Although there are slight differences between the ads, we believe that the respondents browsed through the feed with low attention and did not process the ads in detail given the scenario asking them to briefly look through the feed. Therefore, the modest differences between the messages are not believed to have had a significant impact. In total, we used 10 pairs of ads from 10 different brands in 5 different categories. Since the sampling of ads was picked from the actual site during a limited period of seven days, the small sampling frame could entail limitations by potential sampling bias.

Using authentic material from SvD was beneficial, both as it added realism to the experiment and allowed us to control for the potential moderating effects that quality differences between native ads could have on the perception of media quality, which has been detected in a desktop setting (see section 2.1.1).

All mobile display advertising contained a similar set of colors (black, gray, blue and white), aiming for even visual attention (see section 2.1.2). Due to technical limitations, all mobile display advertising used were static images. This decreases resemblance to reality, as nearly all mobile display ads that were print screened included a moving feature. All ads were of comparable size, including two sizes of each format, one small (320x160 px) and one large (320x320 px) to avoid the potential confounding effect of ad size (see section 2.2; section 2.3).

The study only used brands that can be considered well-known in Sweden, as brand familiarity can potentially increase advertising recognition (see section 2.1.1). Using well-known advertisers do however imply a risk that the survey respondents harbor strong emotions towards the brands employed, which in turn might affect their answers. Randomization of the ads addresses this problem to some extent, which will be discussed further in section 3.2.4. However, as all the ads originate from the real site, it possible to argue that the same strong feelings would accrue in a real world setting as well, hence increasing the ecological validity and leading to more representative results (Bryman and Bell, 2011).

Lastly, the topics of all ads were unrelated to the topics of the surrounding editorial content in the feeds to control for potential moderation from content relevance (see section 2.1.1; section 2.1.2). Although both Cramer (2015) and de Sa, Navalpakkam, and Churchill (2013) conducted their studies in a desktop setting, we chose to control for content relevance as it might be possible that the results of their studies could apply in a mobile setting as well.

3.2.4 Development of the News Feed

We constructed four different news feeds, one for each treatment condition (see Appendix 7.3 - 7.6). To determine the level of advertising-editorial ratio, five ratios were pre-tested. Following results from the pre-study (see section 3.3), a ratio of 40% was employed in the high-quantity condition, and 20% in the low-quantity condition. As for the ratio between the advertising formats, we specified levels of low proportion and high proportion after much consideration and research of advertising practice. Today, SvD uses a ratio of approximately 55% mobile display advertising and 45% native, which we believed to be a far too moderate difference in order to get an effect. We ultimately decided the level for high use of a format to be 80% of all advertisements. Respectively, 20% was used for the low condition.

In past research on advertising clutter in magazines, advertising-editorial ratio is measured by the proportion of advertising pages in the total number of pages of the medium (Ha and Litman, 1997). We developed this measurement with regards to the specific characteristics of the mobile news feed. A mobile news feed is typically composed of teasers[8] and advertisements. These are often varying in size. As the size of ads moderates the perception of advertising clutter (see section 2.3), we argue that an appropriate measurement of advertising-editorial ratio would be the proportion of total advertising space in the total space of the news feed. Therefore, all content was weighed by the amount of space being occupied on screen to account for the size differences. We constructed a system of weights based on the three different sizes of content in SvDs news feed, see Figure 2.

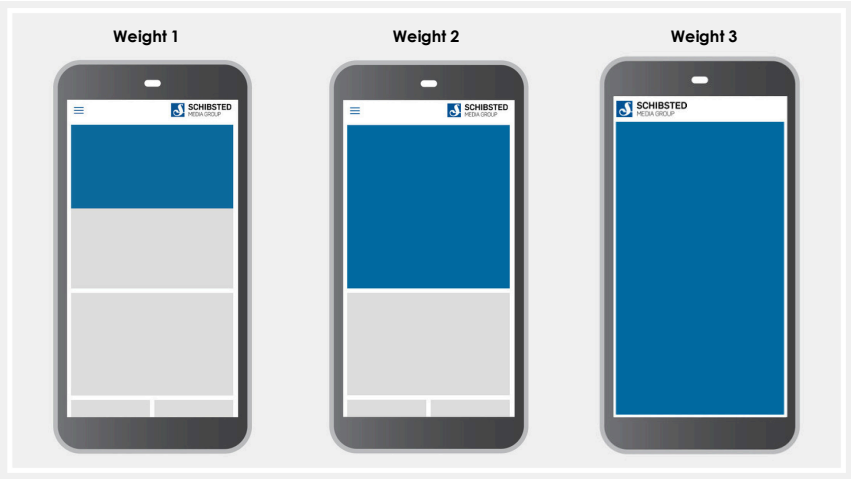


Figure 2. An illustration of the system of weights

[8] See Definitions

The total amount of space in the medium was calculated by the weighted sum of teasers and advertisements. The advertising-editorial ratio was in turn calculated by the weighted sum of advertisements divided by the total amount of space in the medium. See Table 1 for the calculation of the number of ad placements in the main study.

Table 1. Construction of the feed to the main study (in number of placements)

Feed	Total space of the feed	Ad-editorial ratio	Total advertising space	Native	MDA
High Ad / High Native	40	40%	16	11	5
High Ad / High MDA	40	40%	16	5	11
Low Ad / High Native	40	20%	8	6	2
Low Ad / High MDA	40	20%	8	2	6

We placed the teasers in a constant order in all feeds (see Appendix 7.2). After studying the placement of advertisements in SvDs real news feed at multiple times, we could conclude that placements vary and the frequency increase as users scroll further down the feed. However, to make all conditions as equal as possible, we chose to place the advertisements evenly. We recognize that this might impact the perception of intrusiveness and advertising clutter as one would probably get a stronger sense of advertising clutter when suddenly exposed to a higher frequency of advertising. Furthermore, we only had a limited number of ads, some of which were from competitive brands. Therefore, we could not fully account for the competitiveness of advertisements in the feed (see section 2.3).



Figure 3. An illustration of the construction of the stimuli

At every ad placement (see Figure 3) one ad of the given format was selected randomly, as this entails that extraneous variables tend to be evenly spread across the treatment groups. Randomization will therefore provide the greatest assurance of equality between the treatment conditions (Lynn and Lynn, 2003)**,** thus minimizing the chance that differences in the advertisements will affect the dependent variables (e.g. quality of the ad and attitudes towards the advertiser). Moreover, since the aim of the study is not to investigate how a placement of a specific ad affects the evaluation of the publisher, a randomization of the ads will further minimize the risk that we will examine something that this study does not intend to investigate.

3.2.5 Dependent Variables

Perceived Advertising Clutter - Perceived advertising clutter was measured as an index. The items of the index were in accordance with Cho and Cheon's (2004) operationalization of perceived advertising clutter and included; *I think the amount of advertising is excessive*, *I think the amount of advertising is irritating,* and *I think SvD is exclusively an advertising medium*. The respondents were asked to rate the statements on a 5-point Likert scale, with response categories ranging from strongly disagree (1) to strongly agree (5).

Perceived Intrusiveness - The measurement of perceived intrusiveness was derived from Li, Edwards, and Lee's (2002) seven-item scale of intrusiveness. Due to the scope of the survey, we adopted three of the seven variables to compose an index; *interfering, disturbing* and *intrusive*. This can have affected the reliability of the measure; however, their items were nearly indistinguishable causing us to believe that the difference would have been minor. In the same manner as perceived advertising clutter, all items were answered using 5-point scales with response categories ranging from strongly disagree (1) to strongly agree (5).

Overall Perception of Media Quality - To measure overall quality of the media the question *What is your overall perception of the mobile news site?* was answered on a 5-point bipolar semantic differential scale ranging from low quality (1) to high quality (5).

Overall Attitude Towards the Media - Overall attitude towards the media was measured by three items on a 5-point bipolar semantic differential scale. Respondents answered the question *"What is your overall opinion of SvD?"* with *bad/good, unfavorable/favorable* and *positive/negative*, the same three items used by for example Grossbart, Muehling, and Kangun (1986) and Becker-Olsen (2003).

Behavioral Intentions - In order to test how the use of advertising formats influence behavioral intentions four behavioral measurements were applied, together creating an index; the likelihood to *stay on on the site*, *revisit the site*, *recommend the site* and *try new services in the future*. The chosen items were specific to our study and adapted to fit the context of a mobile news feed.

3.2.6 Sampling

The target population was defined as Swedish male or female smartphone users, with the time period under consideration limited to the period of the survey. This definition was selected since the study aims to investigate Swedish consumers. The only criterion of particular importance was if the consumer in question had access to and could use a smartphone, as people with no smartphone user experience might have trouble completing the survey. More specifically, we defined "Swedish" as being Swedish-speaking, since only Swedish-speaking respondents would be able to understand the content of the news feeds. The sample size was influenced by the average sample size of similar studies and set to a minimum of 200 respondents, to ensure that parametric testing was viable (Malhotra, 2008).

The sampling process was executed at the Stockholm Central Station where participants were recruited by intercept using judgmental sampling. The participants were approached while waiting for their transport, limited to those we judged to be smartphone users. People at the Central Station were given a flyer kindly asking them to partake in a survey for a bachelor thesis. To participate, the reader was instructed to enter the domain www.storttack.se or scan a QR-code with a mobile phone, which both forwarded them to the online survey. Buying a domain simplified the distribution process considerably, as it allowed easy access to the survey. To increase the response rate, 3 SEK was donated to The UN Refugee Agency as a reward for participating. A total of 500 flyers were handed out during four hours on the 13th of April 2017. In sum, 257 people participated, leaving us with a sufficient response rate of 51.4% (Nulty, 2008). After adjusting for incomplete questionnaires and respondents who did not answer the control question correctly, 213 valid respondents remained over the four conditions, ranging from 52-55 respondents in each group.

Although judgmental sampling has some serious limitations by potential sources of selection bias and inability to generalize to any definable population (Malhotra, 2008), the sampling technique was selected due to accessibility and financial limitations. We are aware that this could have distorted the results and affected the statistical significance of the tests. To limit sources of selection bias, intercept at the Central Station was deemed to be a more suitable distribution method than private messaging via social networks. The location was chosen in order to include a variety of ages, genders, and backgrounds (Modig and Rosengren, 2013).

3.3 Pre-study

Before assembling the data for the main study, a pre-study was conducted to test if the manipulation was successful. More specifically, the aim was to examine whether variations in the manipulated variable resulted in mean differences in the examined dependent variables. As mentioned, the intention was further to establish the most appropriate advertising-editorial ratio to employ as the high and low condition in the main study. In addition, if the construct of the manipulation would not have had the desired effect, a pre-study would enable alternations of the manipulation before collecting the data of the main study.

3.3.1 Method and Result of the Pre-study

Since the objective of the pre-study was to examine perceived advertising clutter based on the advertising-editorial ratio, only one advertising format was used. Five feeds were created with differing levels of mobile display advertising, testing ratios of 10%, 20%, 30%, 40% and 50% advertising (see Appendix 7.7 - 7.11). The advertising used in the pre-study consisted of 30 mobile display ads, including the 10 ads used in the main study. Likewise the main study, the ads were randomly distributed across the advertising placements in the feeds. The number of ads in the different treatment groups is reported in Table 2 on the next page.

Table 2. Construction of the feed to the pre-study (in number of placements)

Ad-editorial ratio	Total space of the feed	Total advertising space
10%	20	2
20%	20	4
30%	20	6
40%	20	8
50%	20	10

The pre-study used a convenience sample consisting of 100 people. Respondents were approached using online messaging tools, as a consequence the majority of the respondents were students. The message included a link to the online questionnaire created in Qualtrics. Out of the 100 people receiving the message, 76 people completed the survey, resulting in a 76% response rate.

The dependent variables examined in the pre-study included a small selection of variables, including the most central variables of the main study. As in the main study, the participants first read a scenario, identical to the one in the main study. Next, they were randomly exposed to one of the five different versions of the news feed. Following this, the respondents were asked questions regarding their behavioral intentions, perceptions of the advertising and attitudes towards SvD. All questions were measured on a 5-point scale due to limitations of the interface of a smartphone. First, the respondents' intention to *revisit* and *recommend* the mobile site was measured, next their *overall attitude towards media* and lastly their *perceived advertising clutter* and *perceived intrusiveness.* Aside from only using two out of four behavioral items, the same items as in the main study were used to construct the dependent variables of the pre-study (see section 3.2.5). In Table 3 the results of the pre-study are presented.

Table 3. Pre-study

Variables	10%	20%	30%	40%	50%
Advertising Clutter	1.89 (0.82)	2.26 (0.68)	2.53 (0.81)	2.90 (0.81)	3.42 (0.53)
Intrusiveness	2.09 (0.92)	2.34 (0.74)	2.66 (0.95)	2.97 (0.93)	3.56 (0.76)
Revisit intention	3.93 (1.07)	3.78 (1.07)	3.53 (1.39)	3.15 (1.28)	2.37 (1.41)
Recommend intetntion	3.89 (0.99)	3.56 (1.30)	3.33 (1.26)	2.74 (1.21)	2.52 (1.16)
Overall attitude	3.30 (0.77)	3.21 (0.69)	3.13 (0.64)	3.01 (0.66)	2.84 (0.79)

Note: The percentages in the columns referred to the advertising-editorial ratio in the different treatment conditions

Based on the results presented above, ratios of 20% and 40% advertising were chosen for the main study. Although the advertising-editorial ratio of 50% was perceived as more cluttered and intrusive, the 40% ratio was selected as we argue that this level is closer to what could be expected in reality. We calculated the advertising-editorial ratio of SvD's mobile news feed at multiple times during a one-week period, and the average ratio amounted to 22.9%. We believe that the experiment would be less realistic with a 50% ratio as this level is very uncommon in practice.

3.4 Data Analysis Tools

All statistical analyses were performed in the software program SPSS Statistics and were conducted at 5% significance level, meaning that results above this level were not considered to have empirical support.

First, as most of our dependent variables were based on multi-item questions, designed to create indexes, Cronbach's alpha Reliability Tests were performed in order to test if all multi-item measurements gave acceptable results ($\alpha > .70$).

Furthermore, a bivariate correlation analysis that measures Pearson's correlation coefficient was used to determine if there existed a relationship between variables and further used as a tool to examine construct validity in measurements.

At last, in order to test our hypotheses, mean comparisons served as a basis. Since all the groups analyzed included more than 30 respondents, the mean comparisons were conducted using two-tailed independent sample t-tests.

3.5 Data Quality

Assessing measurements for reliability and validity is crucial in order to assure quality of the data. Measurements must be valid if research is to be considered truly scientific (Paul Peter, 1979).

3.5.1 Reliability

Paul Peter (1979) define *reliability* as "the degree to which measures are free from error and therefore yield consistent results". There are a number of general classes of reliability estimates. In this study, we assessed internal consistency reliability for four out of five dependent variables. Following Paul Peter (1979), scale reliabilities were estimated using Cronbach's alpha. In all four constructs, Cronbach's alpha exceeded the standard rule of .70 for acceptable internal consistency. Perceived intrusiveness was measured with three items: *interfering, disturbing* and *intrusive*, $\alpha = .94$. Perceived advertising clutter was measured with three items: *excessive*, *irritating* and *exclusively an advertising medium*, $\alpha = .83$. Overall attitude toward the medium was measured with three items: *good/bad*, *like/dislike*, *negative/positive*, $\alpha = .94$. Behavioral intention was measured with four items; the rated likelihood to *stay on the site, revisit, recommend* and *try new services*, $\alpha = .81$. However, we acknowledge that behavioral measures are rarely completely reliable (Paul Peter, 1979).

Overall perception of media quality was measured with a with a single-item scale; *low/high*. Reliability could therefore not be measured for this construct. However, a single-item scale can be used for concrete constructs (Bergkvist and Rossiter, 2007). Constructs can be considered abstract if they are comprised of two (or more) components or by a set of constituent sub-objects. If the attribute of the construct is formed from two or more components or is reflected as a series of mental activities, it is also to be regarded abstract (Bergkvist and Rossiter, 2007). Our measure of media quality can, therefore, be considered concrete, which supported our use of a single-item scale. We acknowledge that a disadvantage of a single-item scale is that we cannot test it for reliability. The reason for choosing this variable was because we wanted to measure the overall perception of quality, seeking to investigate more subconscious influences and emotional processing rather than analytical attitude constructions based on the content.

3.5.2 Validity

Reliability of the measurements is a necessary, but not sufficient, condition for validity. *Validity* is defined by Paul Peter (1979) as "the degree to which instruments truly measure the constructs which they are intended to measure".

We examined validity in terms of *construct validity*. According to Churchill (1979), construct validity can be established by determining whether a measure behaves as anticipated in relation to other constructs. As literature show intrusiveness and advertising clutter to be two distinct but highly related constructs, our measure of perceived advertising clutter has high validity if it is correlated with perceived intrusiveness. We measured perceived intrusiveness following the same scale developed and validated by Li, Edwards, and Lee (2002), which we, therefore, assumed to be valid in our study as well. The correlation coefficient between perceived intrusiveness and perceived advertising clutter was $r = .78$ ($p < .01$), meaning that the scale used for measuring perceived advertising clutter is valid.

As for our measure of overall attitude toward the medium, using semantic differential scales to measure overall attitude is commonly done by researchers. The scale used in this study (*good/bad*, *like/dislike*, *negative/positive*) is a traditional scale validated by several researchers in the past (Maio and Haddock, 2009). We, therefore, assumed that this scale is valid.

Previous research has shown strong relationships between behavioral intentions and overall attitudes (Rosenberg and Hovland, 1960; Bagozzi, 1981; Kim and Hunter, 1993), why the correlation coefficient of $r = .536$ ($p<.01$) between our behavioral intentions index and overall attitude index serves as a predictor of high validity of our scale.

The validity of a single-item scale can be measured in terms of *predictive validity*, the degree to which a scale can accurately predict future behavior (Bergkvist and Rossiter, 2007). Predictive validity can be assessed by either comparing the simple bivariate correlation or the R-squares from a multivariate regression between the predictor and the subsequent targeted behavior (Bergkvist and Rossiter, 2007). Unfortunately, this was not possible with our set of variables, and we could therefore not test for the validity of our measure for overall perception of media quality.

4. RESULTS & ANALYSIS

The results from our study will be presented and analyzed in the section that follows. We refer back to the main theories on which we built our hypotheses, and conclude by stating whether or not the hypotheses are empirically supported.

4.1 Characteristics of the Survey Respondents

In Table 4 below, descriptive statistics of the survey respondents are presented. The respondents are evenly distributed between treatment conditions, ranging from 52 to 55 subjects in each group. There is a wide spread of age groups within the sample, ranging from 15 to 72 years old, with a similar spread within respective treatment groups. The most prominent difference we can see between the groups is that the group exposed to the Low Ad/High Native condition is characterized by notably more men than women. In sum, the characteristics of survey respondents show only minor differences between the groups, which implies that the findings in the following analyses are most likely not affected by the differences among the groups.

Table 2. Characteristics of Survey Respondents (N = 213)

		Low Advertising-Editorial Ratio		High Advertising-Editorial Ratio	
	Sample Population	***High MDA*** *(n=53)*	***High Native*** *(n=55)*	***High MDA*** *(n=52)*	***High Native*** *(n=53)*
Gender					
Men	**97 (45,5%)**	27 (50,9%)	35 (63,6%)	26 (50,0%)	27 (50,9%)
Women	**115 (54,0%)**	26 (49,1%)	20 (36,4%)	26 (50,0%)	25 (47,2%)
Other	**1 (0,5%)**				1 (1,9%)
Age					
Mean	**35,94**	36,7	35,76	36,35	34,96
Median	**32**	32	32	32,5	32
Max	**72**	66	70	72	65
Min	**15**	15	17	17	16
Occupation					
Student	**38 (17,5%)**	12 (22,6%)	9 (16,4%)	8 (15,4)%	9 (17%)
Working	**150 (70,4%)**	36 (67,9%)	41 (74,5%)	34 (65,4%)	39 (73,6%)
Job applicant	**4 (1,9%)**	1 (1,9%)		4 (7,7%)	
Superannuate	**6 (2,8%)**		3 (5,5%)	1 (1,9%)	1 (1,9%)
Other	**15 (7,0%)**	4 (7,5%)	2 (3,6%)	5 (9,6%)	4 (7,5%)

4.2 The Effect of Advertising Format on Perceived Intrusiveness

Edwards, Li, and Lee (2002) identified that consumers' perception of intrusiveness decreases if an advertisement is congruent with ongoing cognitive activities or expectations and if the advertisement is perceived as informative. The authors also showed that intrusiveness is closely connected to feelings of irritation. Tutaj and van Reijmersdal (2012) found that in a desktop setting, consumers perceive banner ads as more irritating than sponsored articles. Therefore, we investigated whether consumers perceive a high proportion of native advertising as less intrusive than a high proportion of mobile display advertising in a mobile news feed. An index of three statements together created the measure of perceived intrusiveness. The agreement of the statements was measured on a 5-point scale ranging from strongly disagree (1) to strongly agree (5). The following analysis was performed to investigate the main effect of advertising format, i.e. grouping the High Ad/High Native with Low Ad/High Native and, respectively, the High

Ad/High MDA with Low Ad/High MDA. We will henceforth refer to the grouped conditions as *Combined Native* and *Combined MDA*.

Table 5. Mean Comparison of Percieved Intrusiveness

Variables	**Combined Native M (SD)** *(n = 108)*	**Combined MDA M (SD)** *(n = 105)*	**Difference**	**Significance**
Interfering	3.03 (1.40)	2.98 (1.38)	0.05	0.806
Disturbing	3.03 (1.39)	2.91 (1.37)	0.12	0.550
Intrusive	3.34 (1.38)	3.22 (1.27)	0.12	0.520
Perceived Intrusiveness	***3.13 (1.31)***	***3.04 (1.28)***	***0.09***	***0.606***

Note: Percieved intrusiveness is calclated as the averages of the three items presented above

Using an independent sample t-test, the result showed no significant mean differences in perceived intrusiveness between the respondents in the Combined Native condition and the Combined MDA condition. In other words, we found no empirical evidence that the use of native ads or mobile display ads in a mobile news feed has an impact on perceived intrusiveness, which leads to the following outcome in the hypothesis testing:

H1: A mobile news feed with a high proportion of native advertising is perceived as less intrusive than a mobile news feed with a high proportion of mobile display advertising **- Empirical evidence not found**

4.3 The Effect of Advertising Format on Perceived Advertising Clutter

The intrusiveness of advertisements has been shown by researchers to be a central factor increasing consumers' perception of advertising clutter (Ha and McCann, 2008). Consequently, we examined whether consumers also perceive a mobile news feed with a high proportion of native advertising as less cluttered than a mobile news feed with a high proportion of mobile display advertising. In the same manner as perceived intrusiveness, perceived advertising clutter was constructed by three statements measured on a 5-point scale ranging from strongly disagree (1) to strongly agree (5). The results are presented below:

Table 6. Mean Comparison of Percieved Advertising Clutter

Variables	**Combined Native M (SD)** *(n = 108)*	**Combined MDA M (SD)** *(n = 105)*	**Difference**	**Significance**
Excessive	2.72 (1.21)	2.64 (1.19)	0.08	0.661
Irritating	2.75 (1.33)	2.65 (1.32)	0.10	0.573
Exclusively an advertising platform	3.71 (1.04)	3.54 (1.04)	0.17	0.151
Perceived Advertising Clutter	***3.06 (1.06)***	***2.94 (1.03)***	***0.12***	***0.406***

Note: Perceived Advertising Clutter is calclated as the averages of the three items presented above

In accordance with the results in Table 5 of the mean comparison of perceived intrusiveness, the results in Table 6 display a very modest ($M_{\text{Combined Native}} = 3.06$ versus. $M_{\text{Combined MDA}} = 2.94$) and non-significant mean difference in perceived advertising. Therefore, the hypothesis testing leads to the following outcome:

H2: A mobile news feed with a high proportion of native advertising decreases the perceived advertising clutter compared to a mobile news feed with a high proportion of mobile display advertising **- Empirical evidence not found**

4.4 Effects on the Media

Past research has shown that advertising clutter has a diminishing effect on circulation for magazines and can negatively affect consumers' perception of media quality (Ha and Litman 1997). On that account, we studied whether a mobile news feed with a high proportion of native advertising leads to; a more positive attitude toward the media, higher perception of media quality, and more favorable behavioral intentions. Hypotheses 3 through 5 were tested by comparing the mean values of the treatment group Combined Native with the Combined MDA.

Table 7. Mean Comparison of Effect Variables

Variables	**Combined Native M (SD)** *(n = 108)*	**Combined MDA M (SD)** *(n = 105)*	**Difference**	**Significance**
Overall Attitude Towards the Media	3.63 (0.78)	3.44 (0.90)	0.19	0.099
Perception of Overall Media Quality	3.43 (0.98)	3.16 (1.00)	0.26	0.053
Behavioral Intentions	3.04 (0.95)	2.96 (0.91)	0.08	0.556

As shown in Table 7, no significant mean differences were found. Although, two of the variables are toeing the line of being significant, and would have been considered significant if using a more forgiving confidence level of 90%. The group exposed to the Combined Native condition evaluated the media slightly more favorably with regards to overall attitude towards the media ($M_{\text{Combined Native}} = 3.63$ versus $M_{\text{Combined MDA}} = 3.44$), overall media quality ($M_{\text{Combined Native}} = 3.43$ versus $M_{\text{Combined MDA}} = 3.16$). However, since applying a 95% confidence interval in this thesis, the differences are concluded not significant, leading to the following outcome in the hypothesis testing:

H3: A mobile news feed with a high proportion of native advertising leads to a more favorable attitude toward the media, compared to a mobile news feed with a high proportion of mobile display advertising **- Empirical evidence not found**

H4: A mobile news feed with a high proportion of native advertising leads to higher perception of media quality compared to a mobile news feed with a high proportion of mobile display advertising **- Empirical evidence not found**

H5: A mobile news feed with a high proportion of native advertising leads to positive more positive behavioral intentions, compared to a mobile news feed with a high proportion of mobile display advertising **- Empirical evidence not found**

4.5 Moderating Effect of Advertising-Editorial Ratio

Increasing the advertising-editorial ratio in a medium has been shown to cause a greater perception of both advertising clutter and intrusiveness (Ha and McCann, 2008; Li, Edwards, and Lee, 2002). Therefore, we investigated whether the total amount of advertising in the news feed would moderate the extent to which a high proportion of native advertising is perceived as less intrusive

and cluttered, and therefore also the effect on attitude toward the media, perception of media quality and behavioral intentions. Hence, instead of comparing the Combined Native condition with Combined MDA, the comparisons were based on the advertising-editorial ratio. In the light of the purpose to investigate if the potential difference in perceived intrusiveness and advertising clutter between the advertising formats is greater when the quantity of advertising increases, two separate t-tests were performed in order to compare the mean differences between separate variables. The first t-test compared High Ad/High Native and High Ad/High MDA (Table 8), followed by a comparison of Low Ad/High Native and Low Ad/High MDA (Table 9).

Table 8. Mean Comparison of Subjects Exposed to a Feed With High Advertising-Editorial Ratio

Variables	**High Ad/High Native M (SD)** *(n = 53)*	**High Ad/High MDA M (SD)** *(n = 52)*	**Difference**	**Significance**
Perceived Advertising Clutter	2.82 (1.00)	2.87 (1.01)	0.05	0.782
Perceived Intrusiveness	2.94 (1.27)	3.02 (1.33)	0.08	0.766
Overall Attitude Towards the Media	3.65 (0.85)	3.4 (0.97)	- 0.25	0.162
Perception of Overall Media Quality	3.36 (1.08)	3.06 (1.02)	- 0.30	0.144
Behavioral Intention	2.96 (0.96)	2.81 (0.93)	- 0.15	0.434

Table 9. Mean Comparison of Subjects Exposed to a Feed With Low Advertising-Editorial Ratio

Variables	**Low Ad/High Native M (SD)** *(n = 55)*	**Low Ad/High MDA M (SD)** *(n = 53)*	**Difference**	**Significance**
Perceived Advertising Clutter	3.30 (1.06)	3.01 (1.06)	- 0.29	0.166
Perceived Intrusiveness	3.31 (1.34)	3.06 (1.23)	- 0.25	0.310
Overall Attitude Towards the Media	3.61 (0.71)	3.48 (0.84)	- 0.13	0.372
Perception of Overall Media Quality	3.49 (0.88)	3.26 (0.98)	- 0.23	0.210
Behavioral Intention	3.12 (0.88)	3.11 (0.98)	- 0.01	0.977

Overall, the study failed to uphold any significant differences between the advertising formats in both the high and low ad-editorial ratio condition.

Based on these findings, we get the following outcome:

H6: When the advertising-editorial ratio is low(high), the effect of a high proportion of native advertising on a) perceived advertising clutter, b) perceived intrusiveness, c) attitude toward the media, d) perception of media quality, e) behavioral intentions is low(high) **- Empirical evidence not found**

4.6 Discussion of Non-Significant Results

The results of this study show that the manipulation did not lead to any significant differences in the perception of intrusiveness or advertising clutter, nor did it affect the evaluations of the media or behavioral intentions. As discussed in section 2.3, consumers' perception of intrusiveness and advertising clutter are also moderated by consumer-specific factors. Based on our findings, we believe that in the context of a mobile news feed, the perception of intrusiveness and advertising clutter is driven by personal factors to a greater extent than the use of these particular advertising formats. As the aim of this study was partly to investigate whether consumers' perception of intrusiveness and advertising clutter in a mobile news feed negatively affects the media, we adopted the perspective of the publisher and therefore conducted a media-centered analysis. As a

consequence, factors related to the consumer-centered paradigm were not included as dependent variables. Following the results from our pre-study, where the manipulation successfully led to differences in both the perception of intrusiveness and advertising clutter, we moved on with the main study and expected to see results in line with the pre-study. The number of respondents was, however, insufficient to do parametric statistical tests. Thus we were not able to establish if the differences in the pre-study were significant.

Moreover, it is our belief that the result in the pre-study could have varied from the one in the main study because of the fact that the composition of respondents in the pre-study differed from the respondents in the main study. As the purpose of the pre-study was to establish the levels of advertising-editorial ratio to employ in the main study, the questionnaire did not include demographic or consumer-specific variables, why we could not do a thorough analysis of the differences between the respondents. We do however know that the greater part of the respondents were students in the early twenties, whereas the spread of age groups in the main study ranged from 15 to 72 years. As the pre-study sample mainly consisted of students who either are writing or recently were writing their thesis, it is our belief that this group might be more prone to answer according to what they think is expected, why the pre-study might have prompt more apparent response bias than the main study. It is possible that our convenience sample in the pre-study consisted of subjects that are more likely to generate the desired results.

Touching upon differences between the pre-study and the main study, it is worth noting that there were structural differences in the study design. The feeds in the pre-study were 20 placements long, that is half of the number of placements in the main study and consequently half the number of advertisements. The number of ads might have entailed differences in how the feeds were perceived.

4.7 Additional Analysis

In light of the discussion in the previous section, we conducted an additional analysis of our data to elaborate with personal factors that might cause a perception of intrusiveness and advertising clutter in a mobile news feed. Furthermore, we investigated whether intrusiveness and advertising clutter, regardless of treatment condition, affects the media in a mobile context.

4.7.1 Investigating Subjects with High User Experience

The degree to which a respondent was an experienced user of the medium is one consumer-specific factor that we deemed suitable to test. The variable used to measure *user experience* was "*How often do you visit mobile news sites on average*?". The question was measured with five response categories; several times per day (5); one time per day (4); a couple of times per week (3); one time per week (2) and more seldom (1). Using an independent sample t-test, we investigated whether subjects with a high user experience perceived intrusiveness and advertising clutter differently than subjects with a low user experience, regardless of treatment condition. Subjects visiting mobile news sites on average a couple of times a week or more were categorized as having high user experience, thus using the cut-off point of the grouping variable as 3.

Table 10. Mean Comparison of Subjects With High and Low User Experience

Variables	**High User Experience M (SD)** *(n = 183)*	**Low User Experience M (SD)** *(n = 30)*	**Difference**	**Significance**
Percieved Advertising Clutter	3.07 (1.03)	2.59 (1.05)	0.48	0.024*
Percieved Intrusiveness	3.16 (1.26)	2.62 (1.39)	0.54	0.034*

Note: The High User Experience group consists of subject answering 3 or higher on the question "How often do you visit mobile news sites?", meaning that they consume news trough the mobile a couple of days a weeks or more.
**p<0,05*

As seen in Table 10, statistically significant mean differences ($p<.05$) were found when grouping the data based on user experience rather than the actual manipulation. Subjects with a greater user experience perceived the news feeds more intrusive ($M_{High\ user}=3.16$ versus $M_{Low\ user}=2.62$) and more cluttered ($M_{High\ user}= 3.07$ versus $M_{Low\ user}=2.59$). The findings confirmed our supposition; that in the context of a mobile news feed, personal factors seem to affect the perception of intrusiveness and advertising clutter more than the two advertising formats tested.

To further investigate this evidently more sensitive group of experienced users, we wanted to examine if their perception of intrusiveness and advertising clutter differed depending on advertising format. Furthermore, we deemed it interesting to study whether their media evaluations and behavioral intentions also varied between advertising formats. Therefore, we selected the subjects with high user experience and performed a t-test on the combined conditions (Table 11).

Table 11. Mean Comparison of Subjects With High User Experience for Dependent Variables

Variables	**Combined Native M (SD)** *(n = 87)*	**Combined MDA M (SD)** *(n = 96)*	**Difference**	**Significance**
Percieved Advertising Clutter	3.09 (1.05)	3.05 (1.00)	0.04	0.754
Percieved Intrusiveness	3.14 (1.30)	3.18 (1.23)	- 0.04	0.840
Overall Attitude Towards the Media	3.68 (0.71)	3.47 (0.86)	0.21	0.071
Perception of Overall Media Quality	3.48 (0.89)	3.23 (0.95)	0.25	0.724
Behavioral Intentions	3.17 (0.88)	3.12 (0.87)	0.05	0.070

Note: The sample only includes subjects with high user experioence (i.e subject answering 3 or higher on the question "How often do you visit mobile news sites?", meaning that they consume news trough the mobile a couple of days a weeks or more.

The data showed no significant mean differences when comparing the combined conditions. However, differences were close to significant for overall attitude towards the media ($p=.071$) and behavioral intentions ($p=.070$), suggesting that if further examining this group based on advertising-editorial ratio significant differences might occur.

Consequently, two more t-tests were conducted based on advertising-editorial ratio. The first test compared the formats in the Low Ad (Table 12) conditions and the second in the High Ad conditions (Table 13).

Table 12. Mean Comparison of Subjects With High User Experience and Exposed to a Feed With Low Advertising-Editorial Ratio

Variables	**Low Ad/High Native M (SD)** *(n = 51)*	**Low Ad/ High MDA M (SD)** *(n = 43)*	**Difference**	**Significance**
Percieved Advertising Clutter	3.26 (1.09)	3.14 (1.05)	0.12	0.582
Percieved Intrusiveness	3.26 (1.36)	3.23(1.21)	0.03	0.913
Overall Attitude Towards the Media	3.62 (0.72)	3.57 (0.81)	0.05	0.732
Perception of Overall Media Quality	3.51 (0.86)	3.40 (0.98)	0.11	0.552
Behavioral Intentions	3.20 (0.89)	3.28 (0.84)	- 0.09	0.620

Note: The sample only includes subjects with high user experioence exposed to a feed with the low Advertising-Editorial Ratio (i.e subject answering 3 or higher on the question "How often do you visit mobile news sites?", meaning that they consume news trough the mobile a couple of days a weeks or more.
**p < 0,05.*

As one can see in Table 12, there are no significant differences in any of the dependent variables when comparing the formats in the low advertising-editorial condition.

Table 13. Mean Comparison of Subjects With High User Experience and Exposed to a Feed With High Advertising-Editorial Ratio

Variables	**High Ad/High Native M (SD)** *(n = 45)*	**High Ad/ High MDA M (SD)** *(n = 44)*	**Difference**	**Significance**
Percieved Advertising Clutter	2.90 (1.00)	2.95 (0.96)	- 0.05	0.807
Percieved Intrusiveness	3.00 (1.22)	3.13 (1.26)	- 0.13	0.646
Overall Attitude Towards the Media	3.76 (0.70)	3.38 (0.90)	0.38	0.030*
Perception of Overall Media Quality	3.44 (0.94)	3.07 (0.90)	0.37	0.356
Behavioral Intentions	3.14 (0.88)	2.70 (0.88)	0.17	0.047*

Note: The sample only includes subjects with high user experioence exposed to a feed with the high Advertising-Editorial Ratio (i.e subject answering 3 or higher on the question "How often do you visit mobile news sites?", meaning that they consume news trough the mobile a couple of days a weeks or more.
**p < 0,05.*

However, significant differences ($p<.05$) emerged between the High Ad/High Native and High Ad/High MDA (Table 13). Experienced users exposed to the High Ad/High Native condition showed more positive overall attitude towards the media ($M_{\text{High Ad/High Native}} = 3.76$ versus $M_{\text{High Ad/High MDA}} = 3.38$) and more favorable behavioral intentions ($M_{\text{High Ad/High Native}} = 3.14$ versus $M_{\text{High Ad/High MDA}} = 2.70$). Although not significantly influencing the perception of intrusiveness and advertising clutter for experienced users, the native format seems to have a positive effect on overall attitudes towards the media and behavioral intentions.

4.7.2 Investigating Subjects Perceiving High Intrusiveness and High Advertising Clutter

As the analysis of experienced users indicated that consumer-specific factors might drive perception of intrusiveness and advertising clutter, we considered it interesting to do a more detailed investigation of the subjects who reported high intrusiveness and high advertising clutter in our study. More specifically, we wanted to determine whether structural factors impacted their perception of these variables, or if this group displayed no reaction to advertising formats or advertising-editorial ratios.

The parting line used to distinguish high and low perception was set to 3 for both variables, as this allowed the evenest distribution of the respondents. Scores over 3 were considered high (i.e. low intrusiveness / low advertising clutter ≤ 3). We selected the group experiencing high intrusiveness and ran two t-tests, grouping the output based on advertising-editorial ratio in the first run and in the second test based on advertising format. The same procedure was then conducted on the group experiencing high advertising clutter. A total of four t-tests were conducted.

Tables 14 and 15 show the comparison of advertising-editorial ratio for subjects perceiving high intrusiveness and high advertising clutter.

Table 14. Mean Comparison of Subjects Experiencing High Intrusiveness

Variables	**Low Ad M (SD)** *(n = 41)*	**High Ad M (SD)** *(n = 56)*	**Difference**	**Significance**
Percieved Advertising Clutter	3.64 (0.79)	3.94 (0.75)	0.30	0.069
Percieved Intrusiveness	4.33 (0.61)	4.36 (0.53)	- 0.03	0.778

Note: Sample includes only those subjects who answered a high perception of intrusiveness (i.e. on average higher than 3 on the three variables included in the Percieved Intrusivenedd Index

Table 15. Mean Comparison of Subjects Experiencing High Advertising Clutter

Variables	**Low Ad M (SD)** *(n = 54)*	**High Ad M (SD)** *(n = 41)*	**Difference**	**Significance**
Percieved Advertising Clutter	4.01 (0.60)	3.86 (0.51)	0.15	0.190
Percieved Intrusiveness	3.99 (0.92)	3.98 (0.94)	0.01	0.984

Note: Sample includes only those subjects who answered a high perception of advertising clutter (i.e. on average higher than 3 on the three variables included in the Advertising Clutter index)

When examining the group experiencing high intrusiveness and comparing the subjects who were exposed High Ad versus Low Ad (Table 14), we found no significant differences in their degree of perceived intrusiveness or advertising clutter. Not surprisingly, when performing the same test on the group perceiving high advertising clutter (Table 15), no significant differences were found.

Tables 16 and 17 includes the comparison between Combined Native and Combined MDA for subjects perceiving high intrusiveness and high advertising clutter.

Table 16. Mean Comparison of Subjects Experiencing High Intrusiveness

Variables	**Combined Native M (SD)** *(n = 46)*	**Combined MDA M (SD)** *(n = 37)*	**Difference**	**Significance**
Percieved Advertising Clutter	3.86 (0.73)	3.77 (0.83)	0.09	0.580
Percieved Intrusiveness	4.28 (0.61)	4.41 (0.53)	- 0.13	0.301

Note: Sample includes only those subjects who answered a high perception of intrusiveness (i.e. on average higher than 3 on the three variables included in the Percieved Intrusivenedd Index

Table 17. Mean Comparison of Subjects Experiencing High Advertising Clutter

Variables	**Combined Native M (SD)** *(n = 46)*	**Combined MDA M (SD)** *(n = 40)*	**Difference**	**Significance**
Percieved Advertising Clutter	3.99 (0.58)	3.91 (0.58)	0.08	0.541
Percieved Intrusiveness	4.07 (0.84)	3.84 (1.04)	0.23	0.267

Note: Sample includes only those subjects who answered a high perception of advertising clutter (i.e. on average higher than 3 on the three variables included in the Advertising Clutter index)

Alike the preceding analysis, no significant differences were detected in this analysis.

In conclusion, the perception of intrusiveness and advertising clutter in this sensitive group are not derived from the quantity of advertising in the mobile news feed, nor is there any signs that the two advertising formats examined triggered the perception of intrusiveness or advertising clutter.

4.7.3 Effects of Intrusiveness and Advertising Clutter

We wished to further investigate the theoretical mechanism proposed; that the feelings of irritation caused by the perception of intrusiveness and advertising clutter would negatively affect the media, following the predictions of the Elaboration Likelihood Model. Therefore, we tested whether higher perceived intrusiveness and advertising clutter resulted in more negative evaluations of the media and less favorable behavioral intentions, regardless of advertising format.

We conducted two independent sample t-tests, first grouping the subjects based on the level of perceived intrusiveness, followed by grouping the subjects based on perception of advertising clutter. The parting line used to distinguish high and low perception was set to 3 for both variables, as in the previous analyses (see section 4.7.2). The result from the independent t-tests is presented in the following tables:

Table 18. Mean Comparison Between Subjects Percieving High and Low Intrusiveness

Variables	**Low Intrusiveness M (SD)** *(n = 124)*	**High Intrusiveness M (SD)** *(n = 89)*	**Difference**	**Significance**
Overall Attitude Towards the Media	3.77 (0.72)	3.21 (0.89)	0.56	0.00**
Perception of Overall Media Quality	3.51 (0.89)	3.00 (1.07)	0.51	0.00**
Behavioral Intentions	3.26 (0.86)	2.64 (0.90)	0.62	0.00**

*Note: ** p<0,01*

Table 19. Mean Comparison Between Subjects Percieving High and Low Advertising Clutter

Variables	**Low Advertising Clutter M (SD)** *(n = 122)*	**High Advertising Clutter M (SD)** *(n = 91)*	**Difference**	**Significance**
Overall Attitude Towards the Media	3.77 (0.69)	3.23 (0.94)	0.54	0.00**
Perception of Overall Media Quality	3.54 (0.82)	2.97 (1.12)	0.57	0.00**
Behavioral Intentions	3.24 (0.84)	2.68 (0.95)	0.56	0.00**

*Note: ** p<0,01*

As seen in Table 18 and 19, significant mean differences ($p<.01$) between groups with high and low intrusiveness were identified for all three dependent variables. The group with lower perceived intrusiveness (Table 18) evaluated the media more favorably with regards to; *overall attitude towards the media* ($M_{Low\ intrusive}= 3.77$ versus $M_{High\ intrusive}= 3.21$), *overall perception of media quality (*$M_{Low\ intrusive}= 3.51$ versus $M_{High\ intrusive}= 3.00$) and *behavioral intention (*$M_{Low\ intrusive}= 3.26$ versus $M_{High\ intrusive}= 2.64$).

As expected, the comparison based on high and low perceived advertising clutter (Table 19) exhibited the same pattern; *overall attitude towards the media* ($M_{Low\ ad\ clutter}= 3.77$ versus $M_{High\ ad\ clutter}= 3.23$), *overall perception of media quality (*$M_{Low\ ad\ clutter}= 3.54$ versus $M_{High\ ad\ clutter} = 2.97$) and *behavioral intentions* ($M_{Low\ ad\ clutter}= 3.24$ versus $M_{High\ ad\ clutter} = 2.68$) scored significantly higher for the group perceiving the feeds less cluttered.

In other words, the mean values of the dependent variables are consistently and significantly higher for the groups who perceived the news feeds less intrusive and less cluttered. Based the findings in Table 18 and 19 it is possible to conclude that perceived intrusiveness and advertising clutter have a significant negative effect on behavioral intentions and the evaluation of the media. These results confirm the theoretical mechanism which we hypothesized.

5. DISCUSSION & CONCLUSION

In this section, the results from our study are clarified, interpreted and discussed in relation to past research. This is followed by conclusions and ensuing practical implications. Lastly, the methodological limitations of our study are discussed with suggestions for further research.

5.1 Perception of Intrusiveness and Advertising Clutter in a Mobile News Feed

In line with previous research, our findings confirm that the perception of advertising clutter and intrusiveness are highly related also in the mobile context (e.g. Ha, 1996; Ha and McCann, 2008; Li, Edwards and Lee, 2002; Cho and Cheon, 2002). The variables show a high positive correlation ($r = .78$, $p<.01$), with similar mean values of the two variables throughout our analyses.

Perception of intrusiveness and advertising clutter are highly related but are not influenced in the way which was originally hypothesized. The results from our study show no significant differences in perceived intrusiveness nor advertising clutter between the respondents exposed to news feeds with mainly native advertising compared to news feeds with mainly mobile display advertising (Table 5 and 6). In other words, a high proportion of native advertising did not decrease consumers' perception of advertising clutter, nor was it perceived as less intrusive. We also aimed to compare these advertising formats based on the quantity of advertising in the news feed but found no significant differences in this comparison (Table 8 and 9).

In the context of a mobile news feed, matching the advertisement to the surrounding platform does not seem to lessen the interference with cognitive processing, which has been repeatedly assumed by researchers (e.g. Cho and Cheon, 2004; Rotfeld, 2006; Wojdynski, 2016a; Campbell and Marks, 2015; Lee, Kim, and Ham, 2016). We based our hypotheses on findings from past research on intrusiveness and advertising clutter in a desktop setting. The results of our study indicate that the drivers of perceived intrusiveness and advertising clutter in a mobile news feed might not correspond with those in a desktop environment. Tutaj and van Reijmersdal (2012) found that the banner format caused a higher sense of irritation than sponsored content. Our results suggest no such difference between mobile display advertising and native advertising, as we found no significant differences in perceived intrusiveness. The results also indicate that the informational value of the native format does not make it less intrusive to consumers in a mobile context, as is suggested by Edwards, Li, and Lee (2002) in a desktop environment.

When analyzing the differences between online and offline media, Ha and McCann (2008) argue that consumers' perception of advertising clutter can be moderated by the extent to which the user is in control of a medium. For example, a viewer has relatively high level of control over a television screen, and can easily avoid or ignore advertising by changing channels or leaving the room during commercial breaks. We suggest that user control might account for the difference in perceived advertising clutter and intrusiveness between the mobile device and desktop. In a mobile context, users have greater control as they can easily skip ads by scrolling past them with only the touch of a finger. The desktop medium is more captive, as the larger screen size allows for exposure to multiple ad formats simultaneously and more effort is needed to avoid the advertising (Ha and

McCann, 2008). Therefore, the characteristics of the mobile device can potentially make viewers less sensitive to advertising clutter and intrusiveness than in the desktop environment.

In the mobile context, consumers' perception of intrusiveness and advertising clutter might be mainly driven by something other than the structural factors hypothesized. Based on our limited analysis, we are tempted to form the hypothesis that in the context of a mobile news feed, consumer-specific factors have a greater impact on the perception of intrusiveness and advertising clutter than structural factors. We found that consumers who frequently or primarily use their mobile device to consume news experienced significantly more advertising clutter and perceived greater intrusiveness than the subjects with lower user experience (Table 10). We would, therefore, suggest that it might be possible to conclude that experienced users are more sensitive to intrusiveness and advertising clutter. This could potentially be due to a higher degree of information seeking than the other respondents (see section 2.3), as this task orientation is likely to be their habitual behavior when exposed to a mobile news feed. We interpret user experience as an indication of the prominence of personal factors and acknowledge that several other consumer-specific factors may have influenced the result. Unfortunately, these variables were not included in the survey and were therefore never tested.

When further examining the respondents who perceived high intrusiveness and advertising clutter, we saw that neither quantity nor advertising format caused any significant differences in their perception of intrusiveness or clutter (Table 14 - 17). It is clear that their perception of intrusiveness and advertising clutter has more to do with who they are than what they were exposed to. As is suggested by Ha (1996), some users are so hostile toward advertising that they consider any arrangement of ads as interfering. Based on these findings, consumers who perceive a high level of intrusiveness and advertising clutter seem to be difficult to influence. Yet this group is crucial to understand.

5.2 The Effect of Perceived Intrusiveness and Perceived Advertising Clutter on the Media

This study further aimed to investigate whether consumers' perception of intrusiveness and advertising clutter in a mobile news feed leads to negative behavioral intentions and evaluations of the media. Our findings support the theoretical mechanism we propose; following the elaboration likelihood model, the negative sense of irritation caused by the perception of intrusiveness and advertising clutter negatively affects the media. Results in Table 18 and 19 show that subjects who experienced higher intrusiveness and advertising clutter had more negative attitudes towards the media, lower perception of media quality and less favorable behavioral intentions. These results are in line with the findings by Ha and Litman (1997) and indicate that consumers' perception of intrusiveness and advertising clutter in a mobile context can be damaging to the media vehicle.

The objective was however also to examine if consumers evaluate the media vehicle more positively when native advertising constitutes the majority of the advertising in its mobile news feed. The initial analyses showed no sign that type of format should impact the evaluation of the media or behavioral intentions (Table 7 - 9). However, when splitting the data based on user experience, a significant mean difference emerged. Respondents with high user experience who were exposed to

the High Ad/High Native condition expressed more positive attitudes towards the media and showed more favorable behavioral intentions (Table 13). Drawing on past research on native advertising on desktop and advertorials in magazines to understand this outcome, we acknowledge that information oriented readers tend to show greater appreciation for native advertising than readers with other motivations (Lee, Kim, and Ham, 2016; van Reijmersdal, Neijens, and Smit, 2005). In the previous section, we argued that experienced users might be more oriented towards information seeking. It is worth noting the two possible outcomes of this task orientation; it could potentially make these users more sensitive to advertising clutter, and make them more appreciative of the informational value of native advertising. The results showed that the advertising formats did not moderate their perception of intrusiveness or advertising clutter (Table 11 - 13), however, we believe that the informative nature of the native format could potentially create more value for these users, which in turn could spill over to more positive attitudes towards the media.

5.3 Conclusion

The findings of this study indicate that using native advertising to a greater extent than mobile display advertising in a mobile news feed does not decrease consumers' perception of advertising clutter, or intrusiveness. We did not either find any significant differences in advertising clutter and intrusiveness when comparing the formats based on the quantity of advertising in the feeds.

Instead, the results suggest that personal factors have a greater impact on the perception of intrusiveness and advertising clutter in the mobile context. Some subjects were shown to be very sensitive to these variables and experienced high intrusiveness and advertising clutter no matter which format or advertising-editorial ratio they were exposed to.

Furthermore, we found that subjects who experienced a high degree of intrusiveness and advertising clutter also had more negative behavioral intentions and evaluations of the media. These findings confirm that consumers' perception of intrusiveness and advertising clutter in a mobile news feed seem to negatively affect the media. However, we found no empirical evidence that these negative effects were derived from the advertising formats.

In conclusion, the answer to the posed question for the research is:
No, the ratio of native advertising versus mobile display advertising in a mobile news feed does not have an effect on consumers' perception of intrusiveness and advertising clutter.

5.4 Implications

The results of this study indicate that consumers do not necessarily perceive the benefits of native advertising that practitioners hope for. If consumers neither perceive it as less intrusive than mobile display advertising nor experience the browsing environment as less cluttered, the primary advantages of this format might be overestimated. This study suggests that the increased use of native advertising will not contribute to a more pleasant browsing experience or decrease the problem of advertising avoidance.

The results indicate that advertising clutter and intrusiveness can, in fact, have detrimental effects on the advertising platform. If the perception of advertising clutter and intrusiveness is indeed mainly driven by personal factors, the primary focus of the publisher should be to better understand their users. Due to technological advancements, it is now possible for the media to track users and easily access information about them and their preferences. This could possibly provide important insights, potentially allowing the media to adapt their advertising to the preference of each user. Users insensitive to clutter and intrusiveness could effectively receive an increased amount of advertising without risk of churn. To gain further knowledge and understanding of their audience could thus allow the publisher to optimize the balance between editorial content and advertising.

That importance of understanding the target audience is probably one of the most valuable implications of this study. It is of crucial importance to advertisers as well, as if the target customer has a hostile predisposition towards mobile advertising and displayed a sensitivity to intrusiveness and advertising clutter, using a high quantity of advertising to reach this consumer might be damaging rather than beneficial.

It is our belief that a consumer-focused advertising strategy could allow publishers to adapt both format, message, and quantity of advertising to each unique user. For example, insights about the reading behavior of users could create the possibility of targeting native ads based on interests. If a user is frequently reading articles about sports, increasing exposure to sponsored content on this particular topic of interest would probably raise attention to advertising. We posit that a greater focus on user preferences could potentially increase advertising attention and create a more pleasant browsing experience. Rather than hoping that new advertising formats will solve the problem of advertising avoidance, a consumer-centered strategy might be the solution.

As the results of this study question the non-intrusiveness of the native format, its primary benefit should perhaps instead be considered the fact that premium native is resistant to ad blockers. However, it is questionable whether this is a long-term advantage, as ad blockers for premium native could potentially be developed in the near future. Although native advertising is not perceived as less intrusive than mobile display advertising, other benefits might surface if comparing these formats based on other variables. For example, it is possible that a high-quality native ad on a topic of interest could derive value for the reader and potentially lead to more positive attitudes towards the advertiser than a traditional display ad.

As a concluding remark, the results indicate that it is very important for practitioners to understand how these advertising formats are perceived by consumers. With the surge in mobile advertising, future research is needed to better understand the most commonly used advertising formats. Academics could, no doubt, play a great role in this process adding more depth and broader understanding as a complement to the market research undertaken by commercial research firms.

5.5 Critique and Limitations

We underline that the generalizations of the findings should be done with caution, and we, therefore, emphasize that the results of this study should at best highlight relevant areas for future research.

The delimitations of this thesis limit the external validity of the results. There are several different types of native advertisements; however, we delimited our study to sponsored articles, more specifically premium native. Therefore, our results are not applicable for other native formats. Moreover, the study is conducted on an editorial driven news feed, why the findings cannot either be generalized to entertainment-oriented news feeds or social feeds.

As previously discussed, the inconsistent results of the pre-study and the main study is an evident weakness. As a consequence, we did not see signs of the importance of consumer-specific factors. Hence, a clear limitation of this study, in light of the final results, was the lack of personal factors included in the survey of the main study. If this study were to be replicated, we would suggest including variables like advertising skepticism or overall attitude towards advertising.

Furthermore, the generalization of our findings is further limited by our study design and stimuli of the experiment. The laboratory environment of the study might have caused the respondents to behave differently than they would in a real-world setting. We cannot rule out the possibility that viewers were not equally focused on the task. It is worth noting that the potential effect of advertising format on perceived intrusiveness and advertising clutter could have been understated as a result of low attention level of the survey respondents. The somewhat contradictory results in Table 8 and 9, where low advertising-editorial conditions scored higher mean values of perceived intrusiveness and advertising clutter than the high conditions, is suggesting that the subjects have not fully paid attention to the advertisements in the feed. If respondents paid little or no attention to the ads, it is plausible that they based their response on their overall attitude towards advertising rather than what they were exposed to. We argue that potential low level of attention from the respondents could be attributed to the scenario in the survey. The respondents were specifically asked to skim through the headlines in the news feed. As previously argued, this was done in an attempt to ensure a similar task orientation for all respondents, and further aimed to resemble a real situation when consumers quickly browse through a mobile news feed to get an update of the latest news. This specific request to focus on the headlines could have led to advertising avoidance as a consequence of selective attention (Desimone and Duncan, 1995). When asked to perform this specific task, it is possible that the respondents allocated more attention to the editorial content in the feed (i.e. the teasers), and since an individual's attentional resources are limited respondents might have neglected the advertisements. Nevertheless, it is equally possible that respondents might have paid low attention to advertisements as a result of habitual avoidance behavior, as advertising avoidance is a common subconscious behavior for many consumers when searching for information online.

Additionally, there are several limitations attributed to the stimuli that could further have understated the difference in perceived intrusiveness and advertising clutter. First, in a real world setting mobile display ads typically contain moving features and load slower than the editorial

content in the feed, which inhibits smooth browsing and is likely to be a nuisance to viewers. As the display ads used in this experiment were static images, the respondents might have perceived them as less intrusive than real mobile display ads. Furthermore, as stated in the method section, the frequency of advertisements commonly accelerates as users scroll further down the feed. Suddenly experiencing a higher frequency of ads could possibly trigger the perception of intrusiveness or advertising clutter. The fact that we placed the ads evenly across all feeds could thus have decreased the degree to which consumers perceived intrusiveness and advertising clutter.

Furthermore, using a single item scale, we were not able to establish the reliability or validity of the measurement for overall perception of media quality. The fact that we were not either able to ourselves test the validity of our measures of perceived intrusiveness, or overall attitude is also a clear disadvantage. Finally, questions about the main variables of this study, the perception of intrusiveness and advertising clutter, were posed in the middle of the questionnaire. Not asking questions regarding the manipulation directly after the exposure could reduce the subjects' ability to remember their reactions towards the stimuli, which might have affected the accuracy of their reported response to the manipulation (Perdue and Summers, 1986).

5.6 Future Research

In light of the methodological limitations, to test whether our findings can be generalized, we suggest that this experiment should be replicated in a real-world setting. Performing an AB-test of different formats and quantities of advertisements in a news feed could effectively avoid several of the limitations associated with the manipulation. Furthermore, as this study indicate that consumer-specific factors are of important consideration when investigating advertising clutter in the mobile context, further research on this topic should include these factors. As the mobile medium contains such a vast amount of platforms, we would further suggest that an interesting subject for future research would be to investigate contextual impact on this topic of research. For example, comparing the use of native advertising on social feeds versus editorial driven feeds, or at mobile news feeds that differ in degree of credibility.

6. REFERENCES

Bagozzi, R.P., 1981. Attitudes, intentions, and behavior: A test of some key hypotheses. *Journal of personality and social psychology*, **41**(4), pp. 607.

Bart, Y., Stephen, A.T. and Sarvary, M., 2014. Which Products Are Best Suited to Mobile Advertising? A Field Study of Mobile Display Advertising Effects on Consumer Attitudes and Intentions. *Journal of Marketing Research,* **51**(3), pp. 270.

BCG Perspectives, 2015. *The 2015 BCG e-Intensity Index.* [Online]. Available at: https://www.bcgperspectives.com/content/interactive/telecommunications_media_entertainment_bcg_e_intensity_index/ [Accessed May 10, 2017].

Becker-Olsen, K.L., 2003. AND NOW, A WORD FROM OUR SPONSOR. *Journal of Advertising,* **32**(2), pp. 17-32.

Bergkvist, L. and Rossiter, J.R., 2007. The predictive validity of multiple-item versus single-item measures of the same constructs. *Journal of Marketing Research,* **44**(2), pp. 175-184.

BI Intelligence, 2016. *Mobile ad blocking is a clear and present threat.* [Online]. Available at: http://nordic.businessinsider.com/mobile-ad-blocking-is-a-clear-and-present-threat-2016-9?r=US&IR=T [Accessed May 10, 2017].

Bryman, A. and Bell, E., 2011. *Business research methods.* USA: Oxford University Press.

Campbell, C. and Marks, L.J., 2015. Good native advertising isn't a secret. *Business horizons,* **58**(6), pp. 599.

Cho, C. and Cheon, H.J., 2004. WHY DO PEOPLE AVOID ADVERTISING ON THE INTERNET? *Journal of Advertising,* **33**(4), pp. 89-97.

Churchill, G.A. Jr., 1979. A paradigm for developing better measures of marketing constructs. *Journal of Marketing Research,* **16**(1), pp. 64-73.

CMO, 2016. *Is Sponsored Content Antidote To Ad Blocking?.* [Online]. Available at: http://www.cmo.com/features/articles/2016/5/6/cwtk-could-sponsored-content-be-the-antidote-to-ad-blocking.html#gs.GqeAPbc [Accessed May 10, 2017].

Contently, 2016. *Fixing Native Ads: What Consumers Want From Publishers, Brands, Facebook, and the FTC.* New York City: Contently.

Cramer, H., 2015. Effects of Ad quality & content-relevance on perceived content quality. In: Association for Computing Machinery, *33rd Annual CHI Conference on Human Factors in Computing Systems, CHI 2015*. Seoul, Republic of Korea, 18-23 April 2015. New York City: Association for Computing Machinery.

De Sa, M., Navalpakkam, V. and Churchill, E.F., 2013. Mobile advertising: Evaluating the effects of animation, user and content relevance. In: Association for Computing Machinery, *31st Annual CHI Conference on Human Factors in Computing Systems: Changing Perspectives, CHI 2013*. Paris, France, 27 April - 2 May 2013. New York City: Association for Computing Machinery.

Desimone, R. and Duncan J., 1995. Neural mechanisms of selective visual attention. *Annual review of neuroscience,* **18**(1) pp. 193-222.

Edwards, S.M., Li, H. and Lee, J., 2002. Forced exposure and psychological reactance: Antecedents and consequences of the perceived intrusiveness of pop-up ads. *Journal of Advertising,* **31**(3), pp. 82-95.

Elliott, M.T. and Speck P.S., 1998. Consumer perceptions of advertising clutter and its impact across various media. *Journal of Advertising Research,* **38**(1), pp. 29-41.

eMarketer, 2016. *Digital Ad Spending to Surpass TV Next Year.* [Online]. Available at: https://www.emarketer.com/Article/Digital-Ad-Spending-Surpass-TV-Next-Year/1013671 [Accessed May 10, 2017].

Grossbart, S., Muehling, D.D., and Kangun, N., 1986. Verbal and visual references to competition in comparative advertising. *Journal of Advertising*, **15**(1), pp. 10-23.

Ha, L., 1999. A model of magazine advertising clutter and advertising effectiveness. *Gallup Research Journal,* **2**(1), pp. 157-184.

Ha, L., 1996. Observations. Advertising clutter in consumer magazines: dimensions and effects. *Journal of Advertising Research,* **36**(4), pp. 76-84.

Ha, L. and Litman, B.R., 1997. Does advertising clutter have diminishing and negative returns? *Journal of Advertising,* **26**(1), pp. 31-42.

Ha, L. and McCann, K., 2008. An integrated model of advertising clutter in offline and online media. *International Journal of Advertising,* **27**(4), pp. 569.

IAB Sverige, 2014a. *En realtidsstudie av Native Advertising i Sverige.* Stockholm: IAB Sverige.

IAB Sverige, 2014b. *Riktlinjer för native advertising.* Stockholm: IAB Sverige.

IHS Technology, 2016. *The future of mobile advertising is native.* London: IHS Technology.

Kantar Sifo, 2017. *ORVESTO INTERNET.* [Online]. Available at: https://www.kantarsifo.se/rapporter-undersokningar/rackviddsmatningar/orvesto-internet [Accessed May 10, 2017].

Kitchen, P.J., Kerr, G., Schultz, D.E., McColl, R., and Pals, H., 2014. The elaboration likelihood model: review, critique and research agenda. *European Journal of Marketing,* **48**(11/12), pp. 2033-2050.

KNTNT, 2016. *Branded content, native advertising och advertorials förklarande.* [Online]. Available at: https://www.kntnt.se/branded-content-native-advertising-och-advertorials-forklarade/8660 [Accessed May 10, 2017].

Kim, B., Pasadeos, Y. and Barban, A., 2001. On the Deceptive Effectiveness of Labeled and Unlabeled Advertorial Formats. *Mass Communication and Society,* **4**(3), pp. 265-281.

Kim, M.S. and Hunter, J.E., 1993. Relationships Among Attitudes, Behavioral Intentions, and Behavior A Meta-Analysis of Past Research, Part 2. *Communication research*, **20**(3), pp. 331-364.

Lee, J., Kim, S. and Ham, C., 2016. A Double-Edged Sword? Predicting Consumers' Attitudes Toward and Sharing Intention of Native Advertising on Social Media. *The American Behavioral Scientist,* **60**(12), pp. 1425-1441.

Li, H., Edwards, S.M. and Lee, J., 2002. Measuring the intrusiveness of advertisements: Scale development and validation. *Journal of Advertising,* **31**(2), pp. 35-46.

Lord, K.R. and Putrevu, S., 1998. Communicating in Print: A Comparison of Consumer Responses to Different Promotional Formats. *Journal of Current Issues & Research in Advertising,* **20**(2), pp. 1-18.

Lynn, A. and Lynn, M., 2003. Experiments and quasi-experiments: Methods for evaluating marketing options. *The Cornell hotel and restaurant administration quarterly,* **44**(2), pp. 75-84.

Maio, G.R. and Haddock, G., 2009. *The psychology of attitudes and attitude change*. Thousand Oaks: SAGE Publications Inc.

Malhotra, N.K., 2008. *Marketing research: An applied orientation, 5/e*. Upper Slade River: Pearson Education.

MarketingSherpa, 2017. *Advertising Chart: The types of ads consumers dislike the most (and the least).* [Online]. Available at: https://www.marketingsherpa.com/article/chart/most-disliked-ad-types [Accessed May 10, 2017].

Mord, M.S. and Gilson, E., 1985. SHORTER UNITS-RISK RESPONSIBILITY REWARD. *Journal of Advertising Research,* **25**(4), pp. 9-19.

Nutly, D.D., 2008. The adequacy of response rates to online and paper surveys: what can be done? *Assessment & evaluation in higher education,* **33**(3), pp. 301-314.

PageFair, 2017. *The state of the blocked web 2017 Global Adblock Report.* Dublin: PageFair.

Paul Peter, J., 1979. Reliability: A review of psychometric basics and recent marketing practices. *Journal of Marketing Research,* **16**(1), pp. 6-17.

Perdue, B.C. and Summers, J.O., 1986. Checking the success of manipulations in marketing experiments. *Journal of Marketing Research,* **23**(4), pp. 317-326.

Petty, R.E. and Cacioppo, J.T., 1984. The elaboration likelihood model of persuasion. *Advances in Consumer Research,* **11**, pp. 673-675.

Pew Research Center, 2014. *State of the News Media 2014: Paying for News: The Revenue Picture for American Journalism, and How It Is Changing.* Washington, D.C.: Pew Research Center.

Pillai, S., 1990. Impact of clutter on advertising viewership and recall: An Indian experiment. *Journal of the Market Research Society,* **32**(2), pp. 187-196.

Ray, M.L. and Webb, P.H., 1986. 3 PRESCRIPTIONS FOR CLUTTER. *Journal of Advertising Research,* **26**(1), pp. 69-76.

Rosenberg, M.J., and Hovland, C.I., 1960. Cognitive, Affective and Behavioral Components of Attitudes. In: Rosenberg, M.J. and Hovland, C.I., eds. 1960. *Attitude Organization and Change: An Analysis of Consistency Among Attitude Components*. New Haven: Yale University Press.

Rotfeld, H.J., Understanding advertising clutter and the real solution to declining audience attention to mass media commercial messages. *The Journal of Consumer Marketing,* **23**(4), pp. 180-181.

Schibsted, 2017. *Annonswebb.* [Online]. Available at: http://annonswebb.schibsted.se/sv-se/brands/svd-176 [Accessed May 10, 2017].

Shankar, V. and Balasubramanian S., 2009. Mobile marketing: a synthesis and prognosis. *Journal of interactive marketing,* **23**(2), pp. 118-129.

Sharethrough, 2017. *The Official Definition of Native Advertising.* [Online]. Available at: https://support.sharethrough.com/hc/en-us/articles/204686805-The-Official-Definition-of-Native-Advertising [Accessed May 10, 2017].

Snieder, R. and Larner, K., 2009. *The art of being a scientist: A guide for graduate students and their mentors.* Cambridge: Cambridge University Press.

Sparksheet, 2014. *What's the Deal with Content Studios?.* [Online]. Available at: http://sparksheet.com/whats-deal-content-studios/ [Accessed May 10, 2017].

StatCounter. n.d. *Mobile internet traffic as percentage of total web traffic in February 2017, by region.* Statista. Accessed 11 May, 2017. Available at: https://www-statista-com.ez.hhs.se/statistics/306528/share-of-mobile-internet-traffic-in-global-regions/

Techopedia, 2017a. *Ad Blocker.* [Online]. Available at: https://www.techopedia.com/definition/23090/ad-blocker [Accessed May 10, 2017].

Techopedia, 2017b. *Content Management System (CMS).* [Online]. Available at: https://www.techopedia.com/definition/24075/content-management-system-cms [Accessed May 10, 2017].

Tutaj, K. and van Reijmersdal, E., 2012. Effects of online advertising format and persuasion knowledge on audience reactions. *Journal of Marketing Communications,* **18**(1), pp. 5.

Wang, A. and Lin, C., 2011. Effects of content class with endorsement and information relevancy on purchase intention. *Management Research Review,* **34**(4), pp. 417-435.

Wojdynski, B., 2016a. Native advertising: Engagement, deception, and implications for theory. In: Brown, R., Jones, V.K., and Wang, B.M., eds. 2016. *The New Advertising: Branding, Content and Consumer Relationships in a Data-Driven Social Media Era.* Santa Barbara: Praeger/ABC Clio. pp. 203-236.

Wojdynski, B., 2016b. The Deceptiveness of Sponsored News Articles. *The American Behavioral Scientist,* **60**(12), pp. 1475-1491.

Wojdynski, B., and Evans, N.J., 2016. Going Native: Effects of Disclosure Position and Language on the Recognition and Evaluation of Online Native Advertising. *Journal of Advertising,* **45**(2), pp. 157-168.

Wu, M., Huang, Y., Li, R., Bortree, D.S., Yang, F., Xiao, A., and Wang, R., 2016. A Tale of Two Sources in Native Advertising. *The American Behavioral Scientist,* **60**(12), pp. 1492-1509.

van Reijmersdal, E., Neijens, P., and Smit, E., 2005. Readers' Reactions to Mixtures of Advertising and Editorial Content in Magazines. *Journal of Current Issues and Research in Advertising,* **27**(2), pp. 39-53.

Zhang, P. and Kim, Y., 2008. Web advertising: What do we know about its acceptance and impacts? - A meta-analysis of the literature. In: Association for Information Systems,*12th Pacific Asia Conference on Information Systems: Leveraging ICT for Resilient Organizations and Sustainable Growth in the Asia Pacific Region, PACIS 2008*. Suzhou, China, 3-4 July 2008. Atlanta: Association for Information Systems.

7. APPENDICES

7.1 Main Study: Questionnaire



Hej! Vi är två studenter från Handelshögskolan i Stockholm som skriver vår C-uppsats. Vi är därför oerhört tacksamma att du tar dig tid till att svara på vår enkät.

Dina svar är självklart *anonyma* och kommer enbart användas i forskningssyfte.

Tack för din hjälp och medverkan!

Efter att du klickat dig vidare kommer du att få läsa ett kort scenario och sedan exponeras för ett nyhetsflöde från en tidning.
Lev dig verkligen in i scenariot när du studerar nyhetsflödet och ha det i åtanke när du sedan besvarar frågorna.

Om en fråga känns svår, svara gott du kan. Inget svar är fel svar!
Lycka till!

Föreställ dig nu att du precis genomfört din vardagliga morgonrutin och att du har några minuter över innan du behöver lämna bostaden.
Du tar upp din mobiltelefon, går in på Svenska Dagbladet (SvD) och scrollar igenom flödet på deras mobilanpassade sida för att snabbt uppdatera dig om vad som hänt.
För att göra detta skummar du igenom rubrikerna på artiklarna i flödet.

Exposure to manipulation

När du besvarar frågorna nedan, utgå från upplevelsen du precis hade när du skrollade igenom flödet på SvD.

Hur lång tid skulle du vilja stanna på SvDs mobila nyhetssajt? *Ange i minuter.*

Hur sannolikt är det att du skulle klicka dig vidare på artiklarna i flödet?

Inte alls sannolikt ○ ○ ○ ○ ○ Mycket sannolikt

Hur sannolikt är det att du skulle besöka SvDs mobila nyhetssajt igen?

Inte alls sannolikt	○ ○ ○ ○ ○	Mycket sannolikt

Hur sannolikt är det att du skulle prova nya tjänster från SvD framtiden?

Inte alls sannolikt	○ ○ ○ ○ ○	Mycket sannolikt

Hur sannolikt är det att du skulle rekommendera SvDs mobila nyhetssajt till vänner och bekanta?

Inte alls sannolikt	○ ○ ○ ○ ○	Mycket sannolikt

Vad är ditt övergripande intryck av SvD?

Dålig	○ ○ ○ ○ ○	Bra
Gillar inte	○ ○ ○ ○ ○	Gillar
Negativt	○ ○ ○ ○ ○	Positivt

Baserat på din senaste läsning på SvD, vilken är din allmänna uppfattning av kvaliteten på den mobila nyhetssajten?

Låg kvalitet	○ ○ ○ ○ ○	Hög kvalitet
Sämre än konkurrerande mobila nyhetssajter	○ ○ ○ ○ ○	Bättre än konkurrerande mobila nyhetssajter

Baserat på din senaste läsning på SvD, hur beskriver följande adjektiv din läsupplevelse?

	Beskriver väldigt dåligt				Beskriver väldigt väl
Angenäm	○	○	○	○	○
Tråkig	○	○	○	○	○
Intressant	○	○	○	○	○

Underhållande	○	○	○	○	○
Njutbar	○	○	○	○	○
Uppfriskande	○	○	○	○	○
Störande	○	○	○	○	○
Viktig	○	○	○	○	○
Informerande	○	○	○	○	○
Relevant	○	○	○	○	○
Trovärdig	○	○	○	○	○
Vinklad	○	○	○	○	○
Saklig	○	○	○	○	○

Nu vill vi att du tar ställning till några påståenden kopplade till annonseringen på SvDs mobila nyhetssajt.

Hur väl instämmer du i följande påståenden, baserat på din senaste läsning?

	Instämmer inte alls				Instämmer helt
Annonserna påverkade hur jag läste nyheterna	○	○	○	○	○
Annonserna distraherade mig från innehållet jag läste	○	○	○	○	○
Annonserna förbättrade min läsupplevelse	○	○	○	○	○
Jag la knappt märke till annonserna	○	○	○	○	○
_____					
Jag tycker att mängden annonser var överdriven	○	○	○	○	○
Jag tycker att mängden annonser var irriterande	○	○	○	○	○
SvDs mobilsajt är en plattform enbart tillägnad marknadsföring	○	○	○	○	○

SvD är en komersiell nyhetskälla	○	○	○	○	○
SvD är en nyhetsredaktion som brinner för att rapportera nyheter	○	○	○	○	○
Jag tycker att annonserna var besvärande	○	○	○	○	○
Jag tycker annonserna var störande	○	○	○	○	○
Jag tycker annonserna var påträngande	○	○	○	○	○

Nästan klar. Nu återstår bara några snabba frågor om dig.

I genomsnitt, hur ofta konsumerar du nyheter?

- Flera gånger per dag
- En gång per dag
- Ett par gånger i veckan
- En gång i veckan
- Mer sällan

I genomsnitt, hur ofta besöker du mobila nyhetssajter?

- Flera gånger per dag
- En gång per dag

Ett par gånger i veckan

En gång i veckan

Mer sällan

Uppskattningsvis, hur stor andel av din totala genomsnittliga nyhetskonumtion står SvD för?

0 10 20 30 40 50 60 70 80 90 100

Andel i procent

Det här är en kontrollfråga. Var vänlig och välj Schibsted av svarsalternativen nedan.

Dagens Nyheter

Expressen

Aftonbladet

Schibsted

Det här är den sista delen i enkäten, tack för att du tagit dig tid att besvara hela!

Vad är din huvudsakliga sysselsättning?

Student

Anställd

Arbesstsökande

Pensionerad

Annat

Vad identifierar du dig som?

Kvinna

Man

Annat

Hur gammal är du? *Ange ålder i siffror.*

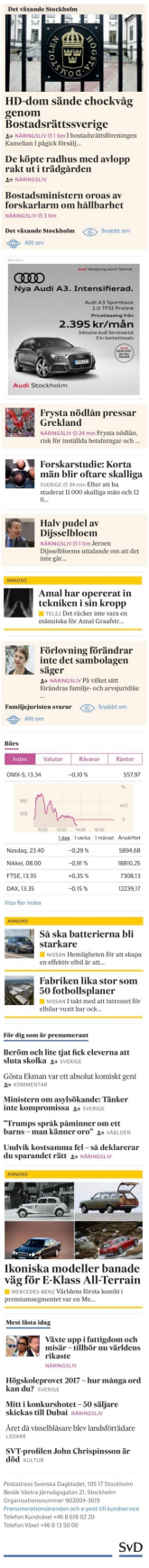
Tack för att du tog dig tid att göra denna undersökning.
Ditt svar har registrerats.

7.2 Placement of Teasers

SD
Trumps sanning
Läsa intervjun med Trump
Liven om
Välkommen till Sveriges
Nya Karolinska försenas
Nya Karolinska
Nya ideal
Vi måste bry oss
Det växande Stockholm
3 rubriker
Förlovning förändrar
Börs
För dig som är prenumerant
Mest lästa idag
Affärsbragd
Bussolycka
Mest delat idag
SvD Slut

7.3 Main Study: High Advertising-Editorial Ratio / High Native





7.4 Main Study: High Advertising-Editorial Ratio / High MDA



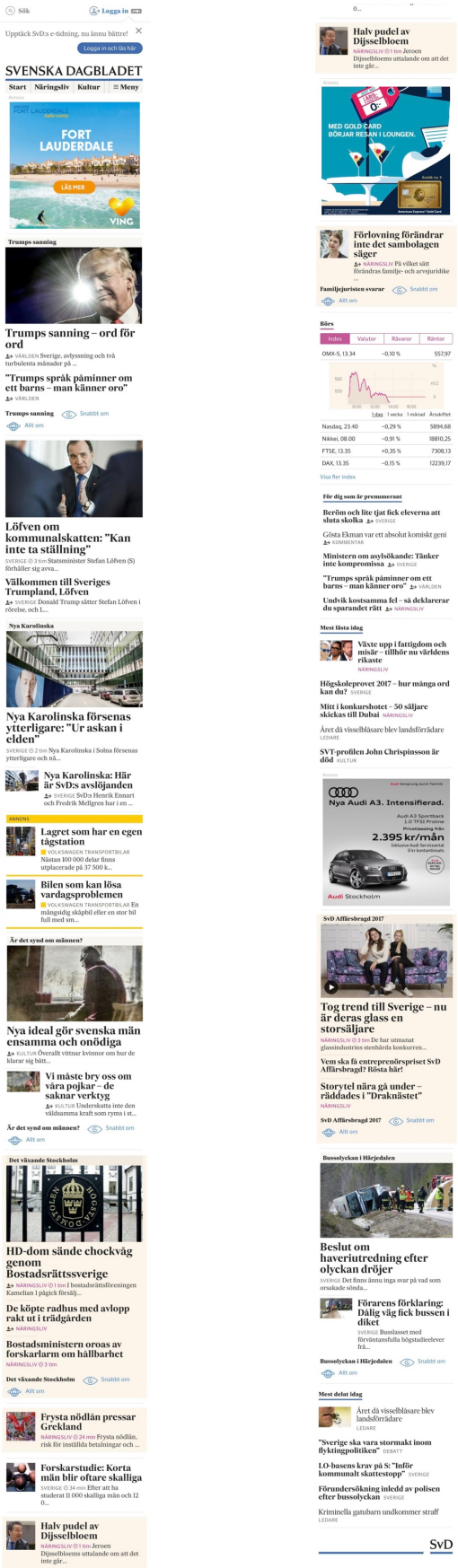


7.5 Main Study: Low Advertising-Editorial Ratio / High Native





7.6 Main Study: Low Advertising-Editorial Ratio / High MDA



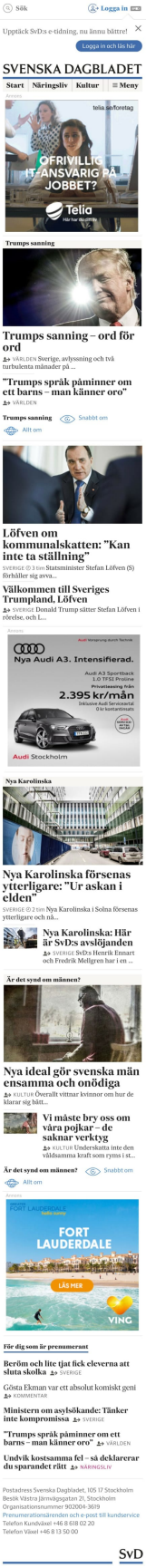
7.7 Pretest: 10% Advertising-Editorial Ratio



7.8 Pretest: 20% Advertising-Editorial Ratio



7.9 Pretest: 30% Advertising-Editorial Ratio



7.10 Pretest: 40% Advertising-Editorial Ratio



7.11 Pretest: 50% Advertising-Editorial Ratio

