

MONETISING CONTENT THROUGH DELIVERY OF ADVERTISEMENTS: THE CASE OF AD BLOCKERS

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Abstract: Websites using content as their main asset need to ensure a steady revenue flow from their digital projects. Along with the subscription models, this is mainly achieved by the efficient delivery of advertisements (ads) to their readers. Website users stand as an opposition to this initiative, protecting their privacy and trying to improve their user experience, often by using ad blocker software to block advertisement while browsing the internet. As an effect, content publishers are losing revenues directly related to the number of impressions of the advertisements. The aim of this article is to determine the opportunities for content publishers to effectively deal with this problem by looking at the types of advertisements being served and the response of publishers towards the use of ad blockers. This was achieved by using an empirical study of 105 websites from seven countries out of several categories, including the targeted audience segment and the type of the website (i.e., premium or non-premium). By using content analysis and descriptive statistics, the prevalent advertising formats were determined, the reaction of publishers towards people using ad blockers was analysed. Based on the identification of issues and problems, this article introduces opportunities for content publishers to monetize their content better through improved efficiency of delivering advertisements.

Keywords: Ad blockers, advertising revenues, content publishers, online advertising

1 Introduction

Publishers of digital content are looking for ways of increasing their revenues to sustain their businesses. There were numerous cases from the past when the publisher (medium) was not able to survive because of the changing user preferences and behaviors of its readership base, leading to necessary transformation challenges. As online advertising becomes a great part of the revenue stream, publishers are trying to display as much advertising as possible. They are also looking at alternative sources of income including the enhancement of their subscription models. Ensuring effective displaying of the advertisements (ads) they get from direct sales or through programmatic channels and different advertising networks, however, is key for their survival and development. This article deals with the topic of ensuring the effective delivery of advertisements by the digital content publishers, taking into account the change of users' preferences and their inclination towards a better ad-free browsing experience. The presented research reveals what types of advertising formats are displayed on the websites of selected publishers and what strategies the publishers use to address the issue of the increasing penetration of ad blockers by their readers.

2 Purpose and Methods

Publishing high-quality content requires significant resources. Print media have been experiencing a continuous decline in their readership and have transformed to the digital form (i.e., solely or in combination with print). In print, advertising was easy: The advertiser paid for the chosen format and it was included in the print edition. Readers were able to see it, skip it and ignore it, but they were not able to block it. In the digital form, however, readers of the website have the opportunity to avoid seeing ads completely by blocking them. Because of the nature of the advertising revenue stream, by losing the ad views and ad clicks, publishers also lose revenue from advertising.

Thus, the aim of this research is to determine the opportunities for content publishers to effectively deal with this problem by looking at the types of advertisements being served and the responses of publishers towards the use of ad blockers. Three sub-goals have been defined to support the achievement of the main research goal:

- Evaluate the number of ads on various websites and compare the data based on these two categories: (1) the target audience segment and (2) the website type (i.e., premium or non-premium).
- Detect the frequency of using various advertising formats to check if advertisers incline towards using user-friendly ads or push invasive ad formats.
- Determine how publishers deal with visitors having an ad blocker turned on and explore the various responses of publishers to this situation.

To achieve these goals, the authors have conducted an empirical study that focused on 105 websites from seven countries: U.S., Canada, UK, Netherlands, Spain, Germany and France. In every country, 15 websites were included in the research sample from various segments, such as: cars, entertainment, technology, gaming, lifestyle, movies, news, sports and weather. Each website was assigned a type from one of the two categories, either premium or non-premium, with 51% being premium and 49% being non-premium. A website was considered as premium if it had a parallel print version, it was created and maintained by a TV station or it was part of a larger group of local media. Data employed in the research was collected throughout the months of October and November 2017.

The method of content analysis was applied as a qualitative-quantitative method of analysis of website content, aimed at detecting the state of the art on the evaluated websites for these groups of parameters: (1) the number of ads on the homepage, (2) the types of ads used and (3) the solutions for targeting ad blockers and the response of publishers towards users with the ad blocker turned on. The number of ads on the homepage was determined by counting all the ad formats that were displaying any form of advertisement.

Within the second group, various ad formats were detected according to their type across the website, including the homepage and the article page. Standard banners represent ads that have their defined size and are not defined as invasive (e.g., popups, banners changing their dimensions – which are hard to close by users – etc.). Also, retargeting was detected because if in place, it can improve the user's experience as banners are displayed that are relevant to content people have viewed before. Native advertising was detected, too, as it represents a form that users tend to accept more because it usually offers information interesting to the readers. Moreover, the detection was made without the ad blocker turned on. Thus, the following four parameters were used in this group: (1) use of standard banners, (2) use of invasive banners, (3) retargeting used for advertising and (4) use of native advertisement.

Within the third group of observed parameters, the attitude of publishers towards users with ad blockers was analysed. The aim was to detect if the system (i.e., website technology) detects that a user has an ad blocker turned on and how the publisher responds to this information. One possible approach is educating the readers and explaining to them why they need the advertising revenues and, thus, having their ad blockers turned off. The second approach uses persuasion, which is more intense (e.g., through pop-ups) and informs the user more visibly and frequently. Introducing a special offer is another option where the user gets to choose a discount from the subscription, an ad-free or ad-limited version of the website after fulfilling some criteria. Lastly, some publishers would use threats of blocking the access to the website or content completely if the person does not turn the ad blockers off. The following parameters were checked with the ad blocker turned on: (1) ad block detection and (2) publisher's response to detecting the ad blocker being turned on (i.e., education, persuasion, special offer or threat).

The results were processed using coding with yes and no answers to all parameters except for the number of ads displayed, where an integer number was used. After coding,

results were processed using a spreadsheet editor, and descriptive statistics was used to detect the differences between segments and types of websites and to provide answers to questions defined in sub-goals supporting the main research goal.

Important parameters relevant to the data collection and coding of the results to ensure the future replicability of the methodology are:

- Virtual private network (VPN), which was used to access websites from an IP address of a particular country to get results as close to real situations as possible.
- Each website was visited at least five times with the ad blocker, which includes at least three visits of the homepage and two visits of a particular article.
- Each website was visited at least five times with the ad blocker turned off.
- Browsing data was deleted before visiting websites of another country.
- Browsing data were deleted before switching the ad blocker on and off.
- A subscription pop-up was not considered as an invasive format.
- Mostly leader boards with a fixed position, which overlaid the website content, were considered as invasive formats.
- Recommendation widgets (e.g., Taboola, Outbrain, Livefyre, Plisa, Ligatus, Por, Revcontent, etc.) were considered as native ads.
- A pop-up window with a message was considered as a detection of the ad blocker.
- The Chrome extension, Ad-Block, was used as the ad blocker software solution.

3 Research Background

3.1 Penetration of Ad Blockers

Over the past years, the solutions to block ads on websites have developed, both technically and quantitatively. There are numerous popular applications that can be used to partially or completely block all ads. Internet users are looking for these solutions in attempt to improve their online experience. A growing number of different ad formats on websites and their aggressiveness is causing this trend, too. As Blanchfield (2017) notes, users continue to employ ad blockers as the protection against ads that intrude on security, invade privacy, interrupt user experience, slow pages and expend bandwidth. According to Mozilla (2017), some of the most popular ad blockers include: AdBlocker Ultimate, uBlock Origin, AdBlock for Firefox, Popup Block or Webmail Ad Blocker. The latter deals specifically with ads displayed in an email client, such as Gmail, Hotmail, Yahoo or Outlook.com. Ad blockers can be installed easily by adding an extension to the web browser, and, because of their simplicity and efficiency, the number of people using them has grown significantly. The efficiency of ad blockers is improving; however, both Wills and Uzunoglu (2016) and Malloy, McNamara, Cahn and Barford (2016) have found out that users are still exposed to a number of ads despite having the ad blockers turned on.

According to data from the 2017 Ad Block Report (Cortland, 2017), 616 million devices now use an ad blocker solution, 11% of the global internet population is blocking ads on the web and the ad blocker usage grew 30% globally in 2016. The trend is positive, with 380 million mobile devices and 236 million desktop computers using an ad blocker. The penetration of ad blockers differs from country to country, with regions having similar characteristics. The world highest percentage of users using ad blockers is in Indonesia, where 58% of people access the internet with an ad blocker turned on.

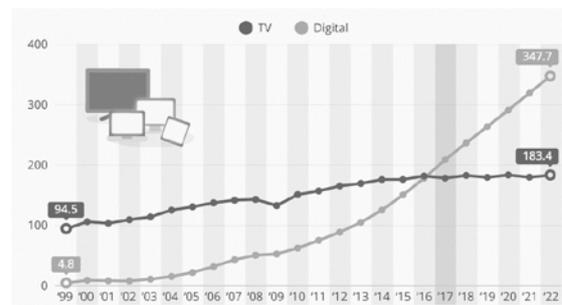
Other studies document the critical relationship of the trend of using ad blockers to the whole online advertising industry. According to Dwoskin (2015), ad blocking software was expected to lead to nearly \$22 billion in lost advertising revenue in 2015, representing a 41% rise from 2014. Jalbă et al. (2016)

argue that a solution needs to be found so that the internet will continue to give us an enormous amount of free information that requires the preservation of the online advertising revenue stream for content publishers.

3.2 Online Ad Revenues as a Significant Income Stream

Digital advertising has been performing well for two decades, showing a constant growth. Its continual growth, along with the change of content consumption patterns, has led to the situation where digital ad spending outperformed the TV ad spending for the first time in 2017. Thus, in the future, the growth is expected to trend upward in favor of digital ad spending (see Figure 1).

Figure 1 Comparing worldwide digital and TV ad spending (in millions of USD)



Source: Loesche (2017)

An analogous situation can be observed when looking at the global advertising expenditure in comparison of newspapers and the Internet. The ad spending in newspapers was higher than the digital ad spending until late 2012; since that time, however, digital ad spending continues to rise (Richter, 2011).

There are many reports, relevant to publishing houses, confirming the decline of the revenue stream generated by print and the rise of the digital revenue stream of content publishers' websites. Malik (2017) states that the share of online advertising revenue has increased from 21% in 2011 to 36% in 2016. Recent statistics from Australia, represented by the News Media Index—which takes data from the NewsMediaWorks' foundation members, News Corp Australia, Fairfax Media and West Australian Newspapers—who represent around 90% of the news media sector, have confirmed this trend. When comparing the third quarter of 2017 with the third quarter of 2016, the year-to-year change on print revenues has been -14.3% with the print revenues totaling \$365.1M whilst the year-to-year change on digital revenue stream was +8.5% with the revenues per quarter totaling \$119.6M (Bennett, 2017). From these stats, it can be calculated that the share of online advertising revenues on the total budget has been almost 24%. However, for smaller publishers and especially purely online publishers, the revenue from advertising is crucial for survival.

3.3 Solutions Applicable by Publishers

Both publishing houses operating a digital content delivery platform and pure online content publishers need to do everything for maintaining or increasing their online advertising revenue stream. To ensure this, they have a number of options that can be executed as part of one coherent strategy. This can help publishers maximize the potential of monetizing the displaying of ads on their websites as a reaction to the growing popularity of ad blockers. It can include two fundamental types of measures:

1. The use non-invasive advertising formats – publishers should shift the focus towards eliminating invasive banners and increasing the share of retargeting formats and native ads that are considered less intrusive by content consumers (Resnick & Albert, 2016). This can help the publishers to fight the banner blindness phenomenon (Hervet, Guerard, Tremblay & Chtourou, 2011) and help all websites on the

internet. Also, it can help an individual website in regard to improving their negotiation position in combination with the second measure.

2. Actively dealing with ad blockers – publishers should consider possible deals with ad blocker software developers to place them on a whitelist, so their ads are displayed despite the users' ad blocker. Alternatively, they can use technical solutions to detect ad blockers on the side of their users (Post & Sekharan, 2016) and, then, target these users with a specific action. These actions can have various forms, including education (i.e., communicate with their audience and inform them about the necessity to display ads), persuasion (i.e., ask them to remove the ad blocker without an incentive or offer them benefits for doing so) or a threat.

4 Research Results

As argued in the previous part of the paper, websites of content publishers need to display ads to secure a steady flow of advertising revenue. Internet users often complain about the number of ads they are bothered with in various forms. Thus, the question is: how many ads are actually being displayed on one page? In this research, the number of ads displayed on the homepage of 105 websites was detected. The results are depicted in Table 1.

Table 1 Number of ads on the homepage of analysed websites

Website Category	Premium	Non-Premium	Total
Cars	30	56	86
Entertainment	98	110	208
Gaming	16	22	38
Lifestyle	91	174	265
Movies	-	26	26
News	199	-	199
Sport	41	12	53
Tech	25	75	100
Weather	-	85	85
Grand Total	583	477	1060

Source: Authors' research

The total numbers can be better interpreted if the quantity of websites in each category (i.e., segment or type) is considered. Table 2 displays the average number of ads per website category.

Table 2 Average number of ads on homepage per website category

Website Category	Premium	Non-Premium	Category Mean
Cars	10.0	14.0	12.3
Entertainment	12.3	8.5	9.9
Gaming	8.0	4.4	5.4
Lifestyle	5.4	15.8	9.5
Movies	-	3.7	3.7
News	14.2	-	14.2
Sport	8.2	6.0	7.6
Tech	12.5	15.0	14.3
Weather	-	12.1	12.1
Category Mean	11.4	8.8	10.1

Source: Authors' research

This view on the data has discovered the interesting disparities amongst the categories, both individually—between types of websites in each segment (e.g., premium sites in the Lifestyle segment show three times less ads than non-premium websites in this segment)—and collectively (e.g., premium websites display more ads on average, or websites from the Tech segment display the most ads on average totalling 14.3 which is almost four times more than websites from the Movies segment with 3.7 ads on average per site).

On average, 10 ads were displayed on the homepage. The maximum value detected was 47 on the homepage of CHIP.de, which is a German website from the Tech segment in the non-

premium type category; whereas, some websites did not display any ads.

The focus of the research was to evaluate the situation in using the solutions included in the two main groups of measures applicable by publishers. Thus, this chapter is structured according these three main types of measures.

4.1 Use of Non-Invasive Advertising Formats

The research has revealed that 98 out of 105 websites (93.3%) had at least one standard banner position that displayed an ad. It has also confirmed the trend of removing invasive ad formats from the web as they are negatively perceived by internet users. Most of the sites were using retargeting (82.9%) and 67.6% of the websites featured a form of native advertising. The data is depicted in Table 3.

Table 3 Use of advertising formats according to the website category

	Standard banners	Invasive banners	Retargeting	Native advertising
Across the types	93.3%	7.6%	82.9%	67.6%
Premium	96.1%	5.9%	82.4%	72.5%
Non-premium	88.9%	9.3%	81.5%	61.1%

Source: Authors' research

The most apparent differences are in the use of invasive banners and native advertising. Premium websites use less invasive banners and utilise the potential of native advertising more than non-premium websites.

In Table 4, the frequencies are displayed according to the segment of the website. Some interesting findings can be observed. For example, only websites in two categories were missing standard banner positions. The biggest variety of values is visible in the use of native advertising. The lowest value of 24% was detected on Entertainment websites, and the maximum 100% on websites from the Cars category.

Table 4 Use of advertising formats according to the website segment

	Standard banners	Invasive banners	Retargeting	Native advertising
Cars	100%	14%	86%	100%
Entertainment	81%	10%	67%	24%
Gaming	100%	0%	86%	43%
Lifestyle	100%	7%	93%	79%
Movies	71%	14%	71%	43%
News	100%	7%	86%	71%
Sport	100%	0%	86%	43%
Weather	100%	0%	100%	29%

Source: Authors' research

There were significant differences in the use of native advertising between the countries. The frequencies are displayed in Table 5. For example, in Canada, only 33.3% of websites use native advertising, whereas in France it is 93.3%.

Table 5 Use of native advertising formats according to the country of origin of websites

Country		Native Advertising		Total
		No	Yes	
Canada	Count	10	5	15
	% within Country	66.70%	33.30%	100.00%
France	Count	1	14	15
	% within Country	6.70%	93.30%	100.00%
Germany	Count	2	13	15
	% within Country	13.30%	86.70%	100.00%

Netherlands	Count	7	8	15
	% within Country	46.70%	53.30%	100.00%
Spain	Count	7	8	15
	% within Country	46.70%	53.30%	100.00%
UK	Count	3	12	15
	% within Country	20.00%	80.00%	100.00%
U.S.	Count	4	11	15
	% within Country	26.70%	73.30%	100.00%
Total	Count	34	71	105
	% within Country	32.40%	67.60%	100.00%

Source: Authors' research

In Table 6, the results of the Chi-Square show that the alpha level of significance is 0.04, being smaller than the conventionally accepted significance level of 0.05.

Table 6 Chi-Square test for variables country/native advertising

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	19.138	6	.004
Likelihood Ratio	20.150	6	.003
N of Valid Cases	105		

Source: Authors' research

4.2 Dealing with Ad Blockers

Because of the increased use of ad blockers, serving non-intrusive banners is not sufficient; however, it can help publishers to deal with the people with an ad blocker. The most popular solution of content publishers is to have an agreement in place with ad blockers. Forty-four websites (41.9%) had a deal with ad blockers that enabled their site to be put on a whitelist and not be blocked, either completely or partially.

When assessing the measures taken by publishers to detect the use of an ad blocker, it has been found that only 17 websites (16%) had a detection solution in place. Consecutively, these websites were able to target these users. Other publishers were missing the ad revenues because of not being able to show the ads and, thus, the ad tracking system not counting these views. A comparison of the situation between the premium and non-premium websites is shown in Table 7.

Table 7 Agreements with ad blockers and detection of ad blockers

	Agreement with ad blockers	Detection of ad blocker	Any solution (subtotal)	No solution
Across the types	41.9%	16.2%	58.1%	41.9%
Premium	47.1%	21.6%	68.7%	31.3%
Non-premium	35.2%	11.1%	46.3%	53.7%

Source: Authors' research

Premium websites were doing better in having the agreements in place. They had more agreements with ad blockers (47.7% vs. 35.2%), so their banners were displayed more often despite the ad blocker being turned on by the visitor. There are significant differences in the existence of agreements with ad-blockers per country of origin, too. U.S. websites sit on one end of the scale, with only 2 websites having an agreement in place (13.3%). In France, however, such an agreement exists in 13 out of 15 cases (86.7%). The results are depicted in Table 8.

Table 8 Agreements with ad-blockers according to the country of origin of websites

Country	Agreements with ad-blockers		Total	
	No	Yes		
Canada	Count	11	4	15

	% within Country	73.30%	26.70%	100.00%
France	Count	2	13	15
	% within Country	13.30%	86.70%	100.00%
Germany	Count	7	8	15
	% within Country	46.70%	53.30%	100.00%
Netherlands	Count	11	4	15
	% within Country	73.30%	26.70%	100.00%
Spain	Count	8	7	15
	% within Country	53.30%	46.70%	100.00%
UK	Count	9	6	15
	% within Country	60.00%	40.00%	100.00%
U.S.	Count	13	2	15
	% within Country	86.70%	13.30%	100.00%
Total	Count	61	44	105
	% within Country	58.10%	41.90%	100.00%

Source: Authors' research

The Chi-Square test has confirmed the existence of significance at the alpha level of 0.02 (Table 9).

Table 9 Chi-Square test for variables country/agreements with ad-blockers

	Value	df	Asymp. Sig. (2-
Pearson Chi-Square	21.203	6	.002
Likelihood Ratio	22.795	6	.001
N of Valid Cases	105		

Source: Authors' research

Premium websites were better in detecting the ad blockers, too. The number of premium websites with a working ad blocker detection was almost double compared to non-premium websites. In total, 41.9% of the websites did not have any solutions in place, which equaled 31.3% of premium publishers and 53.7% of non-premium publishers.

Publishers that detected the presence of an ad blocker could take consecutive action; in this study, it was 17 publishers (16.2%). Other publishers could still have a piece of information displayed about their advertising policy and the importance of being paid for displaying ads; however, they could not specifically target those people who have their ad blocker on when accessing the page. The two most popular approaches of targeting the users were persuasion and education. Eight publishers utilized the educational approach and tried to explain to their audience why they needed to display the ads. Persuasion was the most prevalent approach with 10 websites displaying a more visible popup, reminding the users that they need to turn off the ad blocker. Only one website offered these targeted users a discount or a web with reduced number of ads if they decide to turn off the ad blocker. Three websites threatened the user to limit his access to the website, either partially or completely. The results are depicted in Table 10.

Table 10 Dealing with users after detecting their ad blocker is on

Website Type	Education	Persuasion	Special offer	Threats
Across the types	8	10	1	3
Premium	7	8	1	3
Non-premium	1	2	0	0

Source: Authors' research

Thus, despite the low figures and the limited ability to generalize based on this data, the frequencies calculated per the website type show significant differences between the two categories of

websites according to their type. Almost all actions were taken by websites from the premium category (19 out of 22).

5 Discussion

Different publishers have different approaches to serving ads on their websites and ensuring their efficient delivery. A contrast can be already seen in the number of ads served. A few of the websites were not serving ads at all, while some had more than 40 ads on the homepage. Premium websites served more ads on average (11.4 per website) compared to non-premium websites (8.8 per website). This can be the effect of the pressure on the publishing house or owners to generate more revenue from online advertising, since the print revenues decline over time. On the other hand, these content publishers seem to understand that they should not bother their users with their ads too much. As the effect, they served less invasive or intrusive banners, compared to non-premium websites (5.9% vs. 9.3%). Also, they focused more on native advertising, with 72.5% of the premium websites having at least one native ad on their website, compared to 61.1% for non-premium. Further analysis has also shown that there are differences amongst the website segments, too. For example, all websites in the Cars segment were using native ads, whilst only 24% of the websites from the Entertainment segment had one or more native ads.

Regarding the course of action to directly influence the number of ads served to users with ad blockers, premium publishers were doing better in having an agreement with the developers of ad blockers. In fact, 47.1% of premium publishers had a deal in place that allowed their ads to be seen completely or partially, compared to 35.2% for non-premium publishers. Moreover, premium publishers were more efficient in detecting ad blockers. However, the number is low: 21.6% for premium versus 11.1% for non-premium websites. Thus, only every ninth non-premium publisher was using an ad blocker detection. In total, there were 31.3% of the premium websites and 53.7% of the non-premium websites that did not have any of these solutions in place.

If the publishers detected the ad blocker being turned on, they generally used one or more of the four described methods (i.e., education, persuasion, special offers and threats). From these, special offers are definitely the option with the most unused potential. Only one website was offering a benefit to users if they turn the ad blocker off. Educating users is a long shot process, while threatening the user might be counterproductive and can cause losing the user (and more users because of the word spreading), either temporarily or permanently. Persuading the user, by showing the appeal more visibly and more frequently, might be a working solution. However, if the user gets a tangible benefit for being exposed to the ads, then the persuasion can be way more effective.

6 Conclusion

The growing number of people protecting their privacy and improving the user experience while browsing the web has led to the increase of installing and using ad blockers. Content publishers have a number of tools available to tackle this problem that causes them to lose income from advertising. As shown in the results of the empirical research, publishers seem to be aware of these risks and already apply some of the available approaches. Reducing the number of invasive banners on the internet will help everyone; however, it will not have the effect of turning the ad blocker off on a particular website. Thus, it is necessary to have a deal with the ad blocker software developers and its users and beneficial to target those users with a specific action. As documented, there are still many opportunities for publishers to ensure a more efficient delivery of their advertising formats and increase the revenue generated from their digital presence.

Regarding the potential future research directions, the authors have identified several areas where another empirical study can extend the current state of knowledge and contribute to having a better picture of the effects of increased worldwide use of ad blockers on content publishers and their advertising revenues.

Firstly, future researchers should replicate the methodology of this study with a different research sample (e.g., include different countries, focus solely on one country and include all websites serving content and advertisements). Secondly, future researchers should target users with ad blockers and use qualitative and quantitative research to determine the factors that would persuade them to turn off the ad blocker. Finally, future researchers should target publishers and use qualitative and quantitative research to determine the reasons why they do not use any targeting methods to identify users with ad blockers, in addition to finding out more about their preferred courses of action once they detect the ad blocker.

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