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Privacy Protection Versus Advertising Revenues: The Case of Content Publishers

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ABSTRACT

Users as consumers of the content generated by publishers expect to receive a certain level of content quality and availability. However, consumers often do not accept the monetization schemes employed by publishers to ensure sufficient revenue streams to support their editorial work and infrastructure. To protect their privacy, a growing number of users utilize ad blockers that protect them from displaying third-party advertisements while browsing the internet and consuming the content. Content publishers are looking for ways of increasing their income through new subscription models and online advertising. In this paper, the authors introduce a framework that enables the publishers of digital content to utilize the potential of the online advertising revenue stream with respect to the preferences of their audience and the privacy protection practices applied by website users. An empirical research in the form of a case study analyzing 105 websites located in seven countries was conducted using the method of content analysis. The suggested framework consists of three main approaches that can be adopted by content publishers to optimize the effectiveness of their online advertising system and thus maximize the contribution of advertising sales revenues to the media budget.

Keywords: Advertising revenues, content publishers, privacy protection

EXTENDED ABSTRACT

Digitalization, virtualization and transformation of everyday activities into the digital environment amplified by the globalized barrier-free world has led to the evolvement and enhancement of products and services. Media publishers have been forced to transform their traditional publication processes, with the content being published not only in print but also on their websites. Consumers of content were used to paying for printed versions, however, they are often not used to- and more importantly - not willing to pay for content consumed on the internet. Thus, the only monetization model for online content is dependent on displaying advertisements in their various forms. Digitalization and technologically advanced processes allow for the tracking of user behavior, for the development and mining of user information, and for the utilization of the data for enhancing user experience on websites. Even if the publisher is not able to create this data by himself, it is possible to obtain it from a third-party company. However, the mined data often also contains some form of personal information about users, leading to the need for change in the current concept of privacy. Displaying advertisements efficiently using this data offers an acceptable monetization model for content publishers on the one hand and an enhanced user experience for consumers thanks to better targeting on the other. Media publishers employ various approaches in terms of banner advertisements, with some of them disrupting consumers of the content and invading their privacy. Users have developed banner blindness and are protecting themselves by utilizing ad-blocking software solutions. These create great obstacles for displaying banner advertisements and thus, negatively affect revenue streams of content publishers.

The main aim of this article is to introduce a framework that enables publishers of digital content to maximize the visibility of online advertising in its various forms across multiple devices. To achieve the main aim, three sub-goals were defined. The first sub-goal focuses on determining the situation in displaying advertisements of diverse types on websites of selected American and European publishers. The research unveils the current banner advertisement approaches in various markets and determines the reasons leading to the banner blindness phenomena and the increased usage of ad-block software. The second sub-goal aims at determining what type of information marketing subjects possess about their users and how this is utilized. The research focuses on cookie files which represent a powerful source of information for advertisers, yet can be controversial when it comes to data privacy

and protection. The third sub-goal aims at introducing components of the framework usable for maximizing the income from advertising. The framework can be employed by every digital content publisher struggling with ensuring a sufficient revenue stream from online advertising.

To achieve these goals, the authors have used empirical research in the form of a case study analysing 105 websites located in seven countries across North America and Europe. The research sample was selected by using purposive sampling and the websites were placed into one of these categories: cars; entertainment; technology; gaming; lifestyle — general, men, parenting, and women; movies; news — general and political; sports; and weather. These websites belong to the most visited websites in selected countries in terms of monthly real users and brand awareness. Furthermore, each website was assigned one of two categories, either premium or non-premium, with 51% being premium and 49% non-premium. The method of content analysis was applied to assess the content of each website with the focus on advertising formats, their frequencies, and responses to detecting an ad blocker. To secure a high relevancy and precision of research results, each website was visited at least ten times. The homepage of the website and one other page were visited five times each and analyzed. Both the homepage and the other page were visited three times with an ad blocker enabled and twice with an ad blocker disabled. Four different categories of advertisements were observed and assessed on each of the websites: standard banners, invasive banners, retargeting formats, and native advertising.

The article introduces a framework which, when implemented by publishers, should lead to increased advertising revenues by considering the current privacy protection issues of their readers and creating a platform for dialogue between them and the publisher. The framework contains three group actions which should be taken consecutively, focusing on the marketing approach, technical approach and conversational approach. The conducted literature review shows that published papers to date offer typically no or very limited solutions to address the consequences of increasing usage of ad-blockers and banner blindness both for users and publishers. Thus, this article introduces a very specific action scheme leading to improved user experience on content websites, while enhancing the online advertising monetization model as the main source of online content publishers' revenues.

INTRODUCTION

Over the past decade, publishers of periodicals have been forced to start the transition toward focusing on digital methods of content delivery. Every major publisher of a newspaper or magazine had to invest in its infrastructure, frontend web portal, and mobile applications to disseminate its editorial content more efficiently and foster an interaction between the medium and its readers. This transformation brought with it the advantage of accessing extended information about users and utilizing this information for marketing purposes. This shift has also required the modification of the classical payment system by introducing digital subscriptions or enabling access to the digital edition for print subscribers. Regardless of the model implemented, most of the income of the media in the digital world is generated from online advertising.

Thus, ensuring an effective cross-platform delivery of advertising formats by digital content publishers is the key to streamlining the advertising income. The online environment allows the utilization of personal user information to target the delivery of advertisements. This utilization of obtained data is often justified by factors such as an enhanced user experience, added value based on targeted content and personalized offer of companies' products and services. However, many users do not agree with such arguments and try to protect their data. This represents a challenge for the media because of the protection options that enable the users/readers to block the advertisements on all or certain pages. These options are used by more and more users due to negative attitudes towards advertisements on web pages and the increased efficiency of technological solutions provided to block advertisements. Based on these facts, the main aim of this article is to introduce a framework that enables publishers of digital content to maximize the visibility of online advertising in its various forms across multiple devices. To support the main goal, these sub-goals have been defined:

- To identify the situation in displaying advertisements of diverse types on websites of selected American and European content publishers.
- To determine what type of user data are processed by online marketing entities and how are they utilized for marketing purposes.
- To introduce components of the framework usable for maximizing the income from advertising for digital content publishers. The framework shall include the processes of assessing the status of technical solutions for blocking ads

and their use by the readers, the efficiency of these blockers, and the introduction of various marketing concepts supporting the effective delivery of advertisements.

Content Publishers Depend on Revenue from Online Advertising

The transformation of content publishers over the past decade has occurred with the adaptation of traditional revenue models. There are two main categories of revenue that publishing houses generating periodical content work with:

- Conventional business models adapted to the online environment
- Internet-specific business models

The conventional business models include subscription-based and print advertising revenue, including sponsor or partner-type revenue. For most of the premium publishers, the circulation- or subscription-based revenue's share of overall revenues is decreasing, and the same is happening with advertising revenues. Thus, publishers need to focus on revenue streams as well as streamlining the processes and cutting costs. Within the advertising revenue stream, digital advertising revenue usually trends positively while print advertising revenue tends to decline. This is true of the New York Times, one of the top premium content publishers. Online advertising revenue's share of the overall advertising revenues increased from 21% in 2011 to 36% in 2016 (Malik, 2017).

Nicholas (2017) has created a taxonomy of the available digital revenue stream sources, including eight different forms or channels: web and email banner advertising, sponsored downloads, sponsored webinars, resource directories, job boards, sponsored channels, sponsored content, and custom newsletters. Using personal information stored in any form in one or more of the mentioned channels might contribute to the enhancement of user experience during each website visit. Despite the variety of options, traditional advertising formats, including conventional banners, Facebook ads through Facebook Audience Network, Google ads (Google Display Network) or other advertising formats delivered via a diverse range of channels and advertising networks, are generating most of the advertising revenues. Initially, banners distributed through the mentioned channels were displayed only to random users with preferred frequency defined by the advertiser. To enhance user experience on the website or online platform, publishers have begun to mine and

utilize data about users. Every user leaves a digital trail by every single activity conducted in the online environment. According to the IBM study, "the data we produce every single day totals an unfathomable 2.5 quintillion bytes (that's '25' followed by 17 zeros). We're producing it so fast that it's estimated 90% of data in the world right now was created in just the last two years" (Darren, 2015). The most widely-used technique of gathering user data is utilizing cookies, small files with online behavior information about users stored in every single electronic device and website browser. With these files, online entities are able to determine user online behaviour, deduce information preferences and to tailor banner advertisements to these preferences. Hence, data applied in banner advertisement approaches might lead to an enhanced user experience and added value for advertisers in terms of improved banner relevancy for the target group hit by the ad. However, cookies might be considered as a private property of every user, thus utilizing cookies without permission could be illegal and might lead to legal action.

Publishers earn part of their revenue from the distributed content too. This includes the third-party platforms owned by Facebook, Google, and Snapchat. However, premium publishers are facing a challenge here when creating their content distribution and monetization strategies. Platforms like Facebook and Google can drive traffic to their websites. However, they also offer their platforms for content distribution — Facebook Instant Articles, Google AMP or Snapchat Discover. Thus, publishers need to assess whether it makes more sense for them to monetize the traffic coming from Facebook or Google on their sites or leave the monetization on the mentioned platforms and not drive the traffic to their websites. Technological companies like Facebook and Google dispose an enormous amount of information about their users who have agreed to use their personal information for advertisement purposes. On the one hand, the disposal of personal information invades users' privacy, but on the other hand, it has the potential to help companies prepare a more targeted and thus more effective content delivery.

A report from the premium publisher trade body Digital Content Next (DCN) claims that the (mean) average premium publisher generated $7.7 million in revenue by distributing their content on third-party platforms in the first half of 2016 — equivalent to about 14% of their overall revenues in the period (O'Reilly, 2017). Each of the platforms has its monetization challenges. However, YouTube represented the most significant individual source of revenue for premium

publishers, according to available data from the first half of 2016 (Moses, 2017), followed by Facebook, Twitter, and Snapchat. It is expected that this will change as the new platforms and their features turn into meaningful revenue streams. In general, the revenues from these third-party platforms are not considered adequate, and thus the revenue models need to be constantly reviewed and updated. To update revenue models, as part of the monetization strategy, publishers need to focus on maximizing the financial effect of the traffic coming to their websites, regardless of the source (organic search, paid search, social media, other referrals, etc.). In addition to the threat of ad blockers, the Interactive Advertising Bureau is calling for a shift toward charging by viewable impression, which, according to available information, could cut the revenues by up to 50% because of not charging for showing the ads below the fold (Wang, Kalra, Zhou, Borcea, & Chen, 2017). Another risk is connected to the shift of publishers from banners toward other forms of advertising, e.g. video ads. Despite the evidence that the banner blindness phenomenon is as intense as expected (Hervet, Guerard, Tremblay, & Chtourou, 2011) or that it can be decreased by showing task-relevant ads not detracting from the user's experience (Resnick & Albert, 2016), the lower impact of banners on achieving communication and marketing goals of advertisers is generally accepted or confirmed, posing another threat to already suffering revenue streams. Ensuring the effective delivery/display of advertisements on a publisher's own website and on mobile applications is vital to increasing the advertising revenues. Whether the income is based on CPM (Cost per Mile) or CPC (Cost per Click), displaying the advertisements to as many people as possible is crucial.

Behavior of Content Consumers

On the consumer side, there are the users and readers of the publisher's website consuming content and trying to minimize the impact of advertisements on their user experience. While some of the users do not think that advertising bothers them, the majority of them would love to read the content ad-free. Indeed, this desire on the part of the users is meeting the different expectations of publishers. They believe consumers need to get used to paying for quality content as they would pay for any other goods. Matthias Streitz, managing director of Spiegel Online, notes: "Imagine a customer walking into a bar, ordering a daiquiri and then smugly refusing to pay for it. If you consume our content, you must allow us some means of monetisation." (Streitz & Tynan, 2016) To find the required balance, some of the publishers often

offer an ad-free version as part of their subscription model. They should also consider different types and formats of ads because they are not all the same in terms of their impact on users. According to recent research by HubSpot, online pop-ups and ads on the mobile phone are the two most disliked advertising forms, followed by pre-video YouTube ads and online banner ads (An, 2016). Because of the absence of a mutually agreed procedure for opting out of advertisements, many users resort to ad-blocking software solutions (Garimella, Kostakis, & Mathioudakis, 2017).

With the development of new software applications, it is now easier to block the display of the advertisements either in a web browser or mobile application. These usually enable blocking diverse types of ads, including pop-ups and banner ads. There are various software solutions and tools available, each with a different efficiency. The study by Wills and Uzunoglu (2016) proves that on average, ad blockers provide only a modest range reduction of 13–34% in the set of third-party domains retrieved in each category compared to not employing any ad blocker. This was confirmed by Malloy, McNamara, Cahn, and Barford (2016) who found that even though a user may have an ad blocker installed, they were still exposed to a significant number of ads. The massive spread of ad blockers is considered a threat to the 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. As Jalbă, Olteanu, and Drăghici (2016) argue, a solution needs to be found so that the internet will continue to give us an enormous amount of free information which requires the preservation of the online advertising revenue stream for content publishers.

Despite the fact that there are ways for web developers to detect counter ad blockers (Post & Sekharan, 2016), for content publishers, it is not only important to implement technical solutions enabling the detection of ad blockers and decreasing their efficiency but also to know their users' attitudes toward ads and try to find a solution that would be beneficial for both sides. Mining, processing and utilizing personal information might lead to a greater awareness of the target group visiting the website and the attitudes of these users. Private users' information should be treated anonymously and used only in bunches to develop an acceptable website environment including displaying relevant advertisements. The research of An (2016) shows that there is a group of people using ad blockers who would never turn off the

blocker for the websites (32%). However, others would consider it under different circumstances: if they were blocked from accessing the website (30%), the website would use only non-intrusive ad formats (28%); it would offer fewer ads if the user turns off the ad blocker (24%); or it would display fewer ads if the user pays for a subscription (12.5%).

Each publisher needs to develop a strategy for dealing with ad blockers to promote the effective delivery of advertisements to their readers. One of the factors a publisher should consider is using less intrusive ad formats. Sixty-eight percent of respondents to the HubSpot survey stated that they are happy to help cover the costs of the website and see the ads if they are not annoying (An, 2016). Including more retargeting campaigns or focusing on native advertising may be important to publishers because these ad formats are more accepted by users and are much more interactive compared to standard banner ads (Mansfield, 2017). This is in line with the findings of Forrester Research which predicts that digital media spending will account for 46% of all advertising by 2021. However, marketers will increasingly demand high-quality brand experiences, often instead of volume-oriented ad campaigns (VanBoskirk, 2017). All the retargeting and native strategies, which utilize private data, need to be set up in a very sensitive way so as not to invoke the impression of misuse of personal information. Otherwise, the enhanced user experience could be inadvertently replaced by mistrust, leading to the growing utilization of ad-blocking software.

Increasingly over the past few years, publishers and third party technological firms have utilized personal data in their advertisement processes. Programmatic buying is one of the most developed advertising platforms. Firms devoted to programmatic buying mine, process, segment, and utilize user data to enhance user experience of their banners. The mined data allows programmatic firms to categorize users into behavioural categories thanks to the behavioral patterns stored in cookie files. Crimtan, one of most well-known programmatic firms in the CEE area, disposes with 31 behavioral segments. All these segments can be targeted with advertisements. Segments include: academic education & languages; active youth, arts & culture; avid gamers; business decision makers; car buyer – new; car buyer – used; career minded; charities & good causes; committed couples; computer & home electronics; entertainment; environment & green issues; family and baby; fashion, grooming & beauty; getting married; health & fitness; home & garden;

home finance; leaving the nest; motor enthusiast; photography & video; pop culture & celebrities; property hunter; socially networked; outdoors; up-market; shopping; sport enthusiasts; hobby & crafts. Users fit into specific segments based on their online behavior and deduced preferences. Behaviorally targeted advertising enhances the effect of advertisements because the message contained in the banner has a greater chance of catching user attention due to its content being related to user preference.

In addition to focusing on the quality and non-intrusiveness of their advertising experience, publishers can adopt several other solutions, including offering an ad-free version, a version with limited ads to people adding an exemption to their ad blocker, or even completely blocking access to the website for people with ad blockers turned on. The last extreme step is not generally to be recommended. There is a large group of people who would consider turning the ad blocker off if there were a risk of being blocked from accessing the website (14% to 42%, depending on their ages); however, 28% of respondents confirmed they would stop going to the website instead of turning the ad blocker off (An, 2016).

Based on the above findings, the authors present a framework for publishers to maximize the efficiency of delivering advertisements to their readers and thus maximizing the income from this revenue stream.

AIM AND METHODOLOGY

Theoretical research based on the literature review related to the utilization of ad blockers, banner blindness, and online users' defensive attitudes toward advertisements unveils real threats to the monetization approaches of online content publishers. In this article, the authors conducted empirical research in the form of a case study analyzing 105 websites located in seven countries: the United States, the United Kingdom, the Netherlands, Spain, Canada, Germany, and France. The selected countries were picked randomly, albeit with regard to their similar level of economic and technological development. Within each country, 15 local websites segmented into 15 categories were included in the research sample as follows: cars; 3x entertainment; technology; gaming; lifestyle — general, men, parenting, and women; movies; news — general and political; sports; and weather. The selected websites belong to the most visited and well-known websites in terms

of monthly real users and brand awareness. Each website was assigned to one of two categories, either premium or non-premium, with 51% being premium and 49% non-premium.

The method of content analysis as a method on the edge of quantitative and qualitative research was applied to assess the content of each website with the focus on advertising formats, their frequencies, and responses to detecting an ad blocker. To secure a high relevancy and precision of research results, each website was visited at least ten times. The homepage of the website and one other page were visited five times each and analyzed. Both the homepage and the other page were visited three times with an ad blocker enabled and twice with an ad blocker disabled. The authors used a virtual private network to access the websites from an IP (Internet Protocol) address of a particular country to get the results as close to real situations as possible. Four different categories of advertisements were observed and assessed on each of the websites: standard banners, invasive banners, retargeting formats, and native advertising:

1) Standard banners: The presence of ad formats which do not overlap websites' content and are positioned mostly on the top right side or below the content.
2) Invasive banners: The usage of banners with greater visibility, overlapping websites' content and forcing users to act (mostly to hit the closing button) to disable the banner and return to the demanded content.
3) Retargeting formats: Banners showing the ads of those advertisers whose pages were recently visited by the user. Utilization of this feature is possible thanks to cooperation with third party entities who have the personal data of users and by remembering them, which assists in displaying advertisements in a more targeted and persistent way. This approach involves utilizing cookies which might interfere with users' privacy and lead to privacy invasion.
4) Native advertising: An adaptation of advertising formats blended with the other content of the website. The user is not interrupted while consuming the content, and the advertising might even be considered as an inherent part of the website.

To illustrate a banner situation and employed approaches of the website providers from a broader perspective, the research analyzes 15 websites originating in each of seven particular countries. During the research, the authors captured a total of 1060 banner positions on 105 websites located on the homepages of all websites. Data

employed in the research was collected throughout the months of October and November 2017. Based on the partial research results from monitoring the advertisement environment, and the behavior of advertisers toward users with ad blockers turned on, the authors designed a framework enabling content publishers to resolve the increasing monetization obstacles and thus increase the advertising revenue, thanks to improved efficiency of the delivery of advertisements and authorized utilization of private information.

FINDINGS

Displaying the Advertisements by Content Publishers

Banner advertisements are currently the most crucial revenue source for most digital publishers. The conducted research maps the current situation with regard to the employment of banner approaches within digital content across several markets to unveil common patterns in the utilization of this monetization model based on displaying banners of various types.

Every single activity conducted in the online environment leaves a trail, which can be tracked by firms and utilized in subsequent online advertising. Cookies are the files which enable tracking and these are present in every electronic device and website browser. Cookies can be used for several purposes (Joanna, 2012): to help remember preferences on a website; to understand how visitors use a particular website; to store username and password information to enable automatic log in, and to unveil behavior patterns of users in the online environment.

Analytical tools processing cookie files can gather information such as name and physical address, email address, phone number, IP address, and geo-location data. A proper combination of this data allows very precise targeting of advertisements. This enables the provision only of ads somehow related to the user's cookie file. A revision of Google Chrome cookie settings on a private computer unveils that recently visited web pages store from one to 17 cookie files about the user of that device. Specialised software solutions can extract the abovementioned information from these cookie files. Obtained data are used for targeting of advertisements, especially for personalized standard advertisements, retargeting formats and, in some cases, also for the purpose of native advertising.

The current situation in approaches to advertising was examined by our own research, during which 1060 banner positions were detected on websites' homepages, with an average of ten banner positions per website. Captured banner positions include all types of advertisements from the categorization introduced in the Methodology part of this paper. The mean average of banner positions by country is displayed in Table 1. The highest number of banner positions per country was detected on the U.S. websites. Every website contained 13 banner positions on average, with websites from the entertainment, lifestyle, news, and weather categories featuring most highly. In contrast, websites in the Netherlands used 60% fewer banner positions than the U.S., averaging five. The mean number of banner positions on the homepages of the analyzed websites in other countries were around the already mentioned average.

To analyze the data more closely, the authors looked at the minimum and maximum frequencies of banner positions captured on homepages of websites for every country (Table 2). This can be an indication of the scale and intensity of banner communication in each of these countries. The greatest differences between the minimum and maximum number of banner positions were detected in Germany and the U.K. The standard deviation of values detected in these countries is 11, whereas the average standard deviation for all countries is 8. The opposite extreme was captured on the websites in the Netherlands, with the lowest standard deviation of 2.

A closer look at the advertising formats used reveals that 93% of all analyzed websites use standard formats. This high percentage is due to the relatively good acceptance by users and sufficient revenues from direct sales. The increasing tendency of consumers to use ad blockers is causing the utilization of invasive banners to cease, with only 8% of websites using ad formats overlapping the content on the website. However, it is predicted that this percentage will decrease to zero in the near future. According to Smith (2017), most significant drivers of this resolute change are, surprisingly, advertisement companies such as Google and Facebook who , along with the other major market players such as Microsoft, GroupM etc., are part of the Coalition for Better Advertising. The Coalition is reportedly considering entirely blocking the web's most interruptive, annoying, and intrusive advertising formats in browsers in favor of smoother content consumption. The Coalition also establishes rules in terms of user privacy. Utilization of private information is

necessary for creating the balance of advertising and users' preferences. However, there is a need for regulating companies which dispose the private data.

Currently, there are some institutions and laws which establish regulations in the online data privacy area. However the regulation entities differ from country to country, they utilize different toolsets, and apply different consequences to publishers or advertisers which do not comply with these regulations. For instance, Australia's Privacy Principles (APP) is a collection of 13 principles published in the form of a guide, giving information about the handling of personal information. There is also the Office of the Australian Information Commissioner (OAIC) which investigates complaints about personal data abuse. Brazil established the Brazilian Internet Act in 2014, which deals with policies regarding the collection, maintaining, treatment, and use of personal data on the Internet. Canada follows the Personal Information Protection and Electronic Data Act (PIPEDA), while in Chile the Act on the Protection of Personal Data was established in 1998. The United States does not have an institution specially dedicated to data privacy, however the area is partially covered by the Federal Trade Commission (FTC), the Health Insurance Portability and Accountability Act, the Children's Online Privacy Protection Rule (COPPA) and the California Online Privacy Protection Act (CalOPPA). The European Union follows the European Union Data Protection Directive of 1998, however, several countries also have their own regulations. For instance, Poland (a member of the European Union) follows the Act of the Protection of Personal Data established in 1997, Slovenia the Personal Data Protection Act etc. (Privacypolicies.com, 2018). In addition to this, every country has its own institution dedicated to the area of personal data privacy. Despite many different regulations and institutions, data privacy regulations are insufficient. The recently protracted Facebook scandal of the data leak of 87 million users can be used as an example (Dave, 2018). The General Data Protection Regulation (GDPR) represents a partial solution to the data privacy problem. It unifies data protection rules across all the EU members. GDPR ensures that all data protection laws are applied identically in every country within the European Union. It will protect online users from organizations (especially publishers and advertisers) using their data irresponsibly or without authorization. It came into force on 25th of May 2018 and also covers those organizations outside the European Union which utilize data about EU citizens (Joe, 2018).

According to findings in the literature overview, retargeting formats and native advertising which utilize private information the most are generally more accepted

by users and have the potential to increase the engagement more than other formats. The findings of the presented research show that 83% of websites are using retargeting formats considered as helpful and non-intrusive by users. The utilization of native advertising was detected in 68% of cases. The overview of different advertising formats in all countries is shown in Table 3. The most apparent differences were detected in the use of native advertising. Websites in Canada, Spain, and the Netherlands utilize native advertising less than websites from the other countries. Along with Germany and France, these countries also have the highest usage of standard banners. The possible reasons for the slower adoption of native advertising in Canada, Spain, and the Netherlands might be the willingness of advertisers to pursue more traditional banner formats and the relatively high revenues of content publishers from the monetization of traditional banner formats. Verifying this assumption could be the subject of future research studies.

Constructing the Framework for Optimizing the Delivery of Online Advertising

The percentage of websites focusing on the adoption of advertising formats considered as non-intrusive (retargeting formats and native advertising) is on the rise. These advertising formats utilize big data and collected information about the users. Thus, the provision of private information to internet companies enables the developement of better user experience while consuming the internet content. However, almost every analyzed online content publisher still uses a large number of standard banners. Moreover, there is also a small, but not negligible, percentage of publishers using invasive banners. The results of the research have shown an increase in usage of ad blockers and users' banner blindness. In the unregulated online market, content publishers are the ones who are able to establish new advertising standards which will reflect the attitudes and needs of the consumers. There are various options for dealing with the current unpleasant situation, and the key is to find a proper balance between consumer satisfaction, the monetization approaches of available banner inventories on the websites and appropriate utilization of users' private information for advertisement purposes. Therefore, before putting extreme solutions into place, such as an extensive content paywall or denying access to content for users with ad blockers, publishers should consider less stringent solutions.

The authors have designed a framework for publishers to follow while addressing consumers' dissatisfaction with their digital platforms overcrowded with banners.

The framework contains three main approaches that might be adopted by content publishers to optimize the effectiveness of their online advertising system and thus maximize the contribution of advertising sales revenues to the media budget. The framework is shown in Figure 1. Each action of the introduced framework should be considered as a step toward the reduction of the significantly increasing usage of ad blockers on the website and to the reduction of banner blindness. The framework should be perceived as a design manual containing three consecutive actions whereby each action is dedicated to the particular approach. If the first action will not lead to an improvement of the revenue stream, a publisher should go to the second action and after that to the third. Details of the constructed three-action framework are as follows:

1) Action 1 – Marketing Approach:

The marketing approach amounts to a complete audit of the currently employed advertisement formats and their ratio. The research of this paper proves that standard banners and invasive banners could be replaced by retargeting formats and native advertising because of enhanced acceptance by the content consumers. Particular advertising formats within the marketing approach should be classified as follows:

- Standard banners: Advertising formats which are traded mostly by traditional direct approaches (direct negotiation between salespeople). However, these banners do not consider user behavior, and therefore the formats are displayed regardless of the user's presumed preferences. This results in disinterest, mistrust, and the already mentioned anti-banner phenomena.
- Invasive banners: Very invasive banners overlapping website content and requiring users' action in order for the banner to be closed has, on the one hand, potential for greater revenues because of higher prices, but on the other hand is the main reason for turning on ad blockers. The only intention of all publishers should be utilization and monetization of banner positions which are not aggressive and do not prevent users from taking desired actions on their websites.
- Retargeting formats: The literature overview provided in the first section of the paper proves that remarketing is considered as less intrusive and a more valuable banner form than other marketing formats. Publishers should allow usage of third-party tracking systems to utilize remarketing features for better user experience on websites and focus on anonymous utilization of the data solely for advertisement purposes.

- Native advertising: Paid elements, which blend in with the rest of the website content, do not disturb users; on the contrary, these elements are fully understood by users and even supported. Online content publishers should replace invasive formats with retargeting and native advertising, which are accepted by website visitors.

2) Action 2 – Technical Approach:

A technical approach might be employed when a marketing approach does not lead to the desired decrease of ad-blocker use and to the improvement of revenue streams. Actions dedicated to the technical approach operate directly with ad-block software and its providers and lead to evaluation of the current extent of ad-block application by the users.

- Detection software: In the age of ad blockers, every publisher should employ technology for detecting visitors with ad-block software turned on. In the online environment, every user leaves a digital footstep behind all actions on the internet and tools used during the visit can be traced. Publishers have access to all the information about the behavior and technical settings of each visitor. After the detection, there are various options for dealing with the situation, further described in Action 3.
- Ad-blocker deals: Even with the user who has the ad blocker turned on, there is the option of establishing communication with the ad-block provider. They can agree on the respective ad-block software displaying a certain percentage of banners on a particular website. These agreements are subject to payment from the publisher in most cases, and thus they contribute to increased costs to the publisher while not even allowing the display of all available banners. The ROI (Return of Investments) of this potential deal needs to be carefully assessed and this option cannot be recommended to all publishers

3) Action 3 – Conversation Approach:

The conversation approach serves as a tool for enhancement, or at least retention, of current income from digital advertisement. Frank conversation with the content consumer through one of the approaches described below ensures edification on the need for advertising and might lead to overall or at least partial acceptance of current monetization approaches.

- Education: There is a need to educate users that the banner positions are often the only source of revenues, securing the sustainability of future production of the content. Users often understand the situation and are willing to turn off ad blockers if the banner formats are not too invasive.
- Threats: One of the options is to resort to threats in the form of introducing content charges or even a complete ban on accessing the website for users with ad blockers.
- Persuasion: This tactic employs a combination of education and threats. When the ad blocker is detected, a pop-up window with an educational or a threat message is displayed. An example of the communicated message might be: "Advertisement is the only source securing production of content you are looking for. If you don't turn off ad-block software, we are forced to charge you for consuming the content on our website."
- Special offers: After detection of the ad blocker, the publisher offers a reward for the users to turn it off. An example of such a message is: "Advertisement is the only source of content production. If you turn off ad-blocker and watch one advertisement video spot, you will be granted a 30-minute ad-free experience on the website."

The introduced framework should serve as a pattern for online content publishers who need to resolve the problem of decreasing revenues from banner formats caused by the increasing number of ad-block users.

DISCUSSION AND CONCLUSION

The huge increase in internet users has brought about new monetization models based on banner placements, gradually overloading websites. The legitimate defensive reaction of users is to protect their privacy by utilization of ad-blocking software to block out the banners and to increase banner blindness. The most intrusive banner formats are standard banners and invasive banners. The results of this research show that 93% of publishers use standard banners interrupting users' web experience and leading to banner blindness because of the display of irrelevant messages within the banners. Invasive banners overlapping a website's content were detected in 8% of the cases, which is still a notable percentage. On the other hand, advertising formats acceptable for content consumers are on the rise, while still not reaching the utilization level of standard banners. Retargeting formats reflecting

users' previous behavior were spotted in 83% of the websites and native advertising blended with another website's content reached 68%. A recommendation for content publishers based on the research results is to replace standard and invasive banners with retargeting formats and native advertising to enhance user experience on websites. This crucial step might lead to lowering the percentage of users with ad blockers and also to the reduction of the banner blindness phenomenon.

The developed framework for optimizing the delivery of online advertising contains three approaches. When implemented by content publishers, these approaches will help optimize the effectiveness of their online advertising systems and modify advertisement formats ratio in favor of those accepted by users. Aside from the practical usability of the framework, it can be considered as a strategic approach to handling the situation of content publishers' decreasing revenues from classical revenue sources while fostering the increase of user-friendly online advertising formats and approaches that consider the preferences of users. While researched publications offer only partial solutions for publishers struggling with the monetization models, the introduced framework proposes complex instructions which have a great potential to create a balance between the monetization approaches and the users' comfort and privacy on visited websites.

Regarding future research, there is a great opportunity to extend the conducted research by including new countries and regions in the research sample. Future research might monitor and compare the situations in the online environment in various countries and further enhance the results presented in this article which were based on the analysis of 105 websites located in seven countries. Another course of action in future research could be the study of situations on various platforms — content consumption on desktop devices, mobile devices, and, specifically, via mobile optimized websites or native mobile applications. Studying the current situation in the application of the three approaches or steps of the framework by content publishers represents another opportunity for future research. While the framework is unique in its nature and complexity, content publishers are already implementing partial solutions to address the mentioned problems affecting their online advertising revenues. Knowing the willingness to use these partial solutions will shed more light into the current advertisement situation and might even result in enhancing the introduced framework or creating specific application guidelines for different industries or markets.

Businesses producing content have already been forced to focus on distribution of their products in the online environment. The situation was caused mainly by the massive expansion of daily internet users and by pressure to increase the comfort of the online content consumers using various channels. The easiest solution for monetizing online content was the utilization of banner advertisements. These were established quickly because of the companies' willingness to pay considerable prices for advertising. The desire for higher revenues led to boosting the number of banner positions and the development of data-mining approaches which began to disturb users, spoil user experience on websites and raise questions about the legal use of obtained private data. The wide-spreading utilization of ad blockers was a natural reaction. Online content publishers, despite the users' threats and ad-blocking obstacles, still display a great number of standard and invasive banners with a very low value to users. A solution to satisfying users' preferences and to retaining financial sources is to provide the users with added value represented by retargeting formats and native advertising. However, there is also a need to identify, educate, and persuade users already having a negative attitude to banners in order to gain their acceptance and to secure sustainability of the online advertising revenues and, subsequently, to produce new content.

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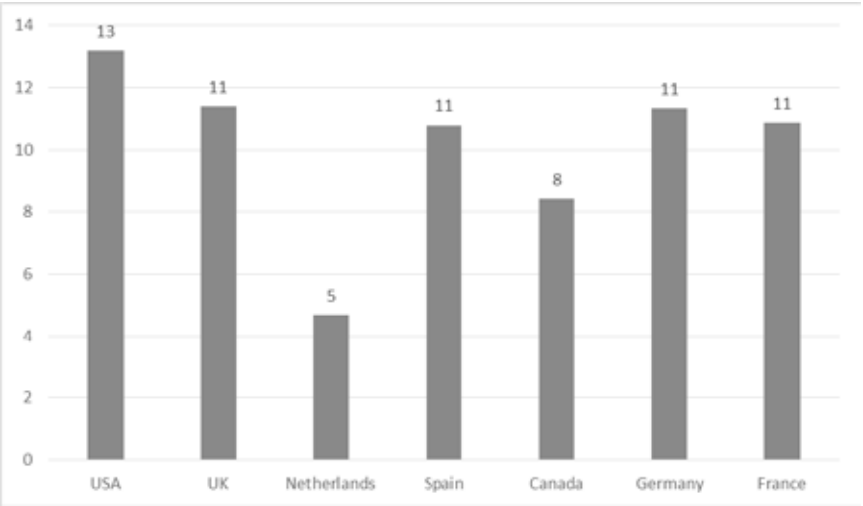
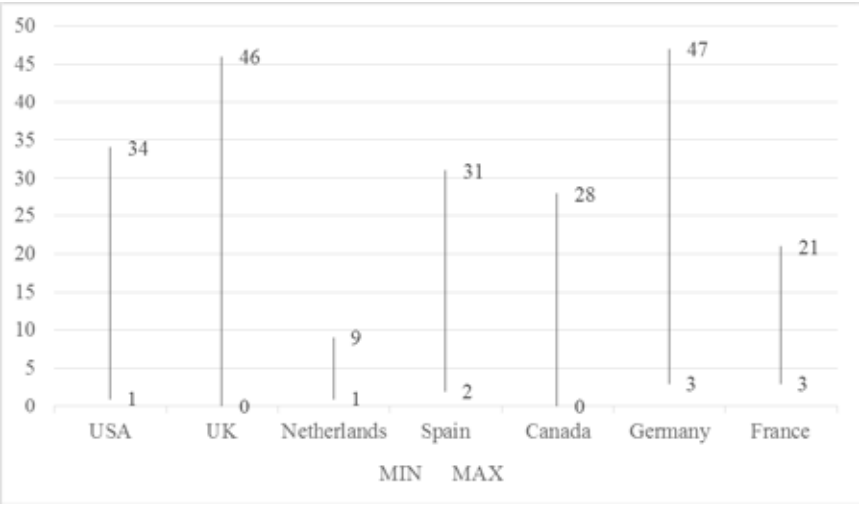
TABLES AND FIGURES

Table 1: Mean average number of banner positions per country



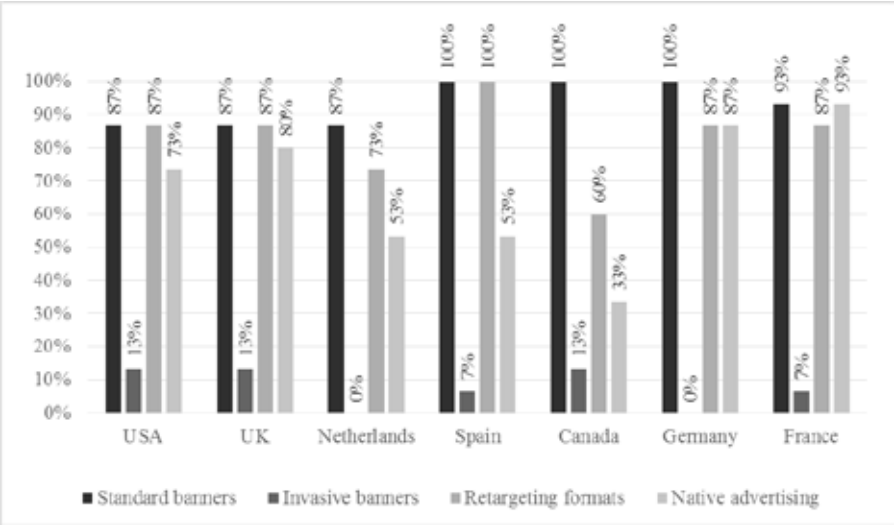
Source: Authors' research

Table 2: Minimum and maximum number of banner positions captured on homepages



Source: Authors' research

Table 3: Percentage of analyzed websites using selected advertising formats



Source: Authors' research

Figure 1: Framework for optimising the delivery of online advertising formats

Action 1	Action 2	Action 3
Marketing approach	**Technical approach**	**Conversation approach**
Standard banners		Education
Invasive banners	Detection software	Threats
Retargeting formats	Ad-blocker deals	Persuasion
Native advertising		Special offers

Source: Authors' research